

SPIRITUALITY DEMYSTIFIED

Understanding Spirituality
In Rational Terms

ROHANA ULLUWISHEWA

Legal Notes

Spirituality Demystified

Understanding Spirituality in Rational Terms

All rights reserved. No Reproduction, copy or transmission of this publication may be made without written permission.

The author has asserted his right to be identified as the author of this work in accordance with the New Zealand Copyright Act 1994.

First Published in 2015 by
Sairon Books Ltd
Palmerston North, New Zealand.

ISBN 978-0-473-33815-2

Dedication

TO MY MOTHER

*My first spiritual teacher who lived a spiritual life
for 105 years and left her physical body on the
day I completed this book.*

Contents

Preface

Introduction

Contents

Legal Notes

1. Understanding Our Reality

2. What Are We Designed To Be?

3. Why Are We Not What We Are Designed To Be?

4. Becoming What We Are Designed To Be:

Pathways To Spirituality

5. Does Spirituality Matter?

6. Ways Forward

Epilogue: Transforming Ourselves To Transform The World

References

Preface

In my nearly thirty-year career as a university academic and development consultant, my teaching and research have been centred around development, environment and sustainability issues.

As did others in my field, I believed external changes brought about by development could solve poverty, inequality, unsustainability and unhappiness. Towards the end of my career I began to realise external changes cannot solve these problems without inner changes; reduction of our self-centredness, fear and greed.

I came to see the root causes of the failure of conventional development to alleviate poverty, inequality, unsustainability and unhappiness lie within us, and are our spiritual underdevelopment being manifested as self-centredness, fear and greed.

In order to share the newly gained insight with other academics and development professionals I wrote my previous book: *Spirituality and Sustainable Development*, published in 2014 by Palgrave Macmillan in UK. In its concluding chapter, I wrote: “Many people in the modern materialist society are

not religious and have no faith in entities and theories taught by religions, such as God, soul, unconditional love, reincarnation and karma. Furthermore, traditional religious definitions of these terms give rise to doubts in the modern mind, which believes in science and scientific proofs. So, in order to encourage the non-religious majority towards the spiritual path, it is useful to find the truth of spiritual claims by scientific research and to redefine them in scientific terms.”

My new book is to meet this requirement. However, writing it has been a great challenge. Driven by my desire to present spirituality in scientific terms without depending on its conventional sources, I spent a substantial amount of time in familiarising myself with the basics of quantum physics, psychology and neuroscience, and in collecting information on the relevant issues from a range of books and journals written by scientists on various spirituality-related issues. What I did when writing this book was similar to solving a jigsaw puzzle; drawing scientific evidence from various sources and putting them in the right places in order to make a complete picture – a picture of spirituality in scientific terms. While doing so, I did my best to provide the sources of all information used. I hope my efforts will guide many readers on a clear path of purpose towards spirituality.

This book won the first prize of the Ashton Wylie Charitable Trust (AWCT) Unpublished Manuscript Awards 2015. Winning the prize and the subsequent

publicity was a great encouragement. I am grateful to all members of the AWCT, especially Adonia Wylie, the Trustee and the convener of judges, Tim Eddington, Awards Director and Mary Edger, a judge. It is with great respect and gratitude that I acknowledge the authors cited here, whose research findings and ideas inspired me.

D. V. Rao who read the manuscript and gave me valuable feedback and Ray Watchman, Budyong Hill, and Catherine Hayes who helped me edit the manuscript deserve a special note of thanks. I am grateful to Sean Johnson and Sumudu Samarawickrama for designing and typesetting the book. The most important resource I needed while I was writing this book was peace of mind and unlimited freedom from all family responsibilities. My wife Nandanie, ensured this. If not for her amazing love, patience, hard work and spirit of sacrifice, as well as her commitment and dedication to family, this book would not have been possible.

Rohana Ulluwishewa

25 March 2015
20 Heatley Avenue
Hokowhitu
Palmerston North 4410
New Zealand

Introduction

Spirit literally means that which gives vitality to a system. If so, that which gives vitality to all biological systems—all living beings including ourselves, is spirit. It is our essence, what we really are.

Spirituality is the state of being one with the spirit, or becoming who we really are. This is the purpose of our life as humans. This book, with the help of scientific evidence, shows our brain is hardwired to guide us to achieve this goal. However, the brain's neuroplasticity allows the self-centredness which dominates our society to be soft-wired in the brain. This makes our thoughts and actions selfish and obstructs us from following the hardwired brain. Nevertheless, the good news is that the same neuroplasticity allows us to dissolve the soft-wired neural circuits and to liberate ourselves from self-centredness if we so want.

The founders of all great religions have shown various pathways to achieving this goal of spirituality, and there are many science-based, non-religious

pathways as well. Though the options are many, following them is our choice. This book concludes with some policy measures that could help individuals to achieve the goal.

THE PURPOSE

Spirituality literally means being one with the spirit. Spirit, in general, refers to an ultimate reality which exists beyond the material realm. It is not to be confused with psychic phenomena. It cannot be observed or experienced directly through our physical senses. All religions claim to be expressions of spirituality. The religions dominating our society today originated well before the emergence of modern science. The founders who claimed to have experienced the spiritual reality either directly or through messengers, preached what that spiritual reality was like and what individuals should, and should not do if they wish to be one with the spirit and benefit from it. However, there was no way for them to objectively verify what it was. Therefore, for many, spirituality remained mystic, and is still taught in organised religions as a mystical phenomenon.

Most of what is being taught, e.g. God, soul, spirit, heaven, hell, karma, life after death etc, are presented as mystical phenomena. Most are inconsistent with modern science and rational thinking. Hence, to accept and practice what is taught as spirituality, demands a blind faith, a faith in God who is said to be seated in a mystical space called heaven and

therefore is incomprehensible to the scientific mind, a faith in scriptures of questionable authenticity, a faith in theories which have not been tested and proved by scientific means, a faith in various metaphysical elements which are unobservable, unscientific, irrational and illogical, and a faith in the preachers who do not practice what they preach.

In the modern scientifically trained human mind, such blind faith is almost non-existent. The modern mind tends to question every fact before accepting and putting into practice what has been learnt. Therefore, millions of men and women of such 'scientific mind' in modern society are deprived of the potential benefits of spirituality—benefits which could make their lives more successful, peaceful and happier. However, the good news is that recent discoveries in modern science, especially in quantum physics, biology, neuroscience, transpersonal psychology, and scientific studies on consciousness and near-death experience, are now beginning to shed light on spirituality and de-mystify some of its key elements. This book is based on such scientific information and presents spirituality in scientific terms in a way the modern mind can grasp and accept. It is expected that an understanding of spirituality in scientific terms will generate a new form of faith based not on beliefs, but on clear understanding. Such a faith is strong, firm and stable. Those who have such an informed faith are free from the heavy burden of unnecessary beliefs, rituals, traditions, customs and ceremonies performed by those who are driven by blind faith.

Motivated by faith based on scientific understanding, they know the meaning of each and every spiritual practice, how they work and how they contribute towards achieving their purpose in life. They can choose the practices that are necessary and relevant, and drop others. As long as spirituality remains a mystery and the seekers depend on organised religions for spiritual understanding, they can easily be misguided and misused by the leaders of one religion against another.

This is evident in many parts of the today's world. Hence demystifying spirituality can contribute to achieving world peace. It will also reduce the huge power of the leaders of some organised religions who misuse that power to achieve personal ambitions and to secure political, financial and social gains.

Clear understanding of spirituality in scientific terms will enable many people to see all religions as different pathways to the same goal, and to transcend religion and become global citizens, members of the global human family and an integral part of the universe. Thus, demystifying spirituality is a prime need of this era.

CONTENTS OF THE BOOK

The English word spirit has come from the Latin word *spiritus*, which means breath or that which gives life or vitality to a system. Spirituality literally means the state of being with spirit. This implies we are currently

not one with the spirit or remain separated from the spirit.

Chapter one 'Understanding Our Reality' begins with an inward microscopic journey which carries the reader into the body in search of inner reality. The journey ends with the realisation that we are nothing but energy constantly emanating from the quantum reality which is the ultimate source of everything. Everything around us—the air we breathe, the food we eat, the people we associate with, the plants, birds and all animate and inanimate things—are composed of spinning and vibrating energies, subatomic and atomic particles. Our sense organs recognise things around us at the energy level; it is the brain which processes the information it receives from our sense organs and recognises things as objects.

Drawing evidence from quantum physics, this chapter reveals that what we conventionally call spirit is the energy which fills the whole universe; this is the prime energy which is aware, conscious and 'thinks'; it is called the universal consciousness. In spite of its vastness, it functions as a single unified field in which there are no divisions or separations. Though we perceive ourselves as separate individuals, our ultimate reality is one. From the perspective of the universal consciousness, we all are one.

Based on evidence derived from recent discoveries in neuroscience and cell biology, chapter two 'What Are We Designed To Be?' describes the connection between the universal consciousness and our brain.

According to recent discoveries in neuroscience, qualities arising from the oneness of the universal consciousness, such as unconditional love, compassion and altruism, are 'hardwired' in our brain, and so we are designed to think, speak and act, not as separate individuals, but as integral parts of the universe. Some neuroscientists and cell biologists hold the view that the cells of our body and the brain, function as receptors which receive signals from the universal consciousness. Since the universal consciousness is one, brain and cells want us to act as one. This suggests the oneness of the universal consciousness hardwired in our brain guides us

- (1) to perceive our fellow human beings as ourselves, to feel their pain as our own pain and act to reduce their pain and make them happy; and
- (2) to perceive all other living beings, plants and the whole of nature as parts of us, to treat them with love and compassion and to live in harmony with them. It is the oneness of the universal consciousness that manifests through our brain as love; it is our innate tendency to be one with others and with nature.

Drawing evidence from recent discoveries in neuroscience, chapter three 'Why Are We Not What We Are Designed To Be?' points out that our innate tendency to be one with others is overridden by culturally constructed individuality, the sense of 'I' or

self that is soft-wired in our brain. It is this individuality which blocks the hardwired oneness.

With reference to the theory of neuroplasticity and attachments, this chapter elaborates in neurological terms how our sense of self or individuality is built up and how it overrides the hardwired oneness. Sense of oneness is strong during childhood, but as we grow the new neural connections developed in the brain in response to self-centredness, competitiveness and insecurity, give rise to a sense of separateness and individuality which eventually overrides the oneness.

In our life-long struggle to live in a competitive society, these new neural connections get further strengthened and established. However, recent scientific discoveries in neuroscience, neuropsychology and psychotherapy suggest that the sense of separateness and individuality soft-wired in the brain can be dissolved so that the hardwired oneness can emerge.

With the support of scientific evidence, this chapter explains if we free ourselves from the influence of the soft-wired brain we can be selfless, altruistic and happier people. Liberating ourselves from the soft-wired brain means spiritual growth. To liberate ourselves from the undesirable influence of false perceptions soft-wired in our brain, we should either dissolve those false perceptions or replace them with true perceptions.

Chapter four 'Becoming What We Are Designed To Be: Pathways To Spirituality' provides a comprehensive account of conventional and non-conventional pathways available to us to achieve this goal. For living in this material world we need the soft-wired brain. But we should not allow it to be our master. We should be the master and use it as an instrument. To achieve this goal, ancient oriental classics identify three pathways; (1) the path of wisdom (*Jnana Yoga*), (2) the path of action (*Karma Yoga*), and (3) the path of devotion (*Bhakti Yoga*). The path of wisdom calls for meditative intellectual discrimination between truth and untruth which helps us to differentiate the true self, the universal consciousness, from the false self, our sense of 'I' which is soft-wired in our brain.

Realisation of the falsehood in deep meditation will dissolve the neural circuits which form the false self. To achieve the same goal, the path of action emphasises serving others without expecting reward. Our brain is wired to act for rewards. Serving others without expecting reward will slowly re-wire the brain to make us less self-centred and more spiritual.

The path of devotion is a path of love and devotion to God. Those who follow this path surrender to God and accept everything that happens to them as God's will, believing God knows what they need better than they themselves. Instead of seeking what they like or want, they willingly accept whatever is given. Practising this way of life gradually dissolves the neural circuits that form our likes and dislikes and so

dissolves the self. All religions are on these paths. Those who are spiritual but non-religious follow various unconventional pathways. Some of these pathways include meditation, psychospiritual therapy, past-life regression therapy, music therapy, spiritually inspired service activities, spiritual workshops, study groups, seminars, conferences and studies of new-age scientific literature.

Chapter five 'Does Spirituality Matter?' highlights the practical value of spirituality for achieving a successful and happy life. What grows within us as we evolve spiritually is love, the force which keeps us together in harmony. Today we live in a world in which there is no harmony. We are witnessing lack of love everywhere at all levels, in families, communities, societies, countries and between the countries. That is why spirituality matters to us. However, there is a general misconception that spirituality is 'other-worldly' and does not benefit us in this life. This chapter points out, with the help of empirical evidence, that spirituality benefits individuals and societies in numerous ways. With the support of empirical evidence, it highlights the value of being spiritual as a way of achieving a higher level of happiness and inner peace at a lower cost. Scientific discoveries reveal the significant health benefits of spirituality. The positive benefits of incorporating spirituality into business, administration, management, education, governance and politics are also highlighted.

Spirituality involves personal inner transformation. No one can transform another, but can help others to transform themselves. It is possible for governments and organisations to help individuals to achieve their spiritual goals by adopting appropriate policy measures. Chapter six 'Ways Forward' provides such policy recommendations. Spirituality is no longer taught in secular educational institutions. Such institutions impart knowledge and skills necessary for living, but not the spiritual knowledge necessary for life; how to live our lives in harmony with others and with nature. The significance of incorporating spirituality into schools and higher educational institutions is highlighted. Spirituality appears to be slipping away from many contemporary religious institutions. They appear to instil in the minds of their members religious egoism—'only my religion is true, all others are false.' Instead of uniting humanity, institutionalised religions still seem to promote division and conflict. Hence, it is necessary to adopt appropriate policies to re-spiritualise religious organisations.

Some important services traditionally provided by religious institutions are now provided by professional secular organisations. It is recommended spirituality be incorporated into these organisations.

The world urgently needs a transformation, a spiritual transformation in individuals. The Epilogue emphasises the fact there is no external force which can bring such a transformation to the world. It points

out the only way to transform the world is to transform ourselves.

1. Understanding Our Reality

Reality means the state of things as they actually exist; it may be different from the idealistic or notional idea of them.

We perceive ourselves as individuals separate from each other and from the material world, and the material world as an assemblage of objects. This chapter, drawing evidence from quantum physics and scientific studies on consciousness and near-death experience, shows that contrary to the separateness we experience at the material level, at the quantum level we, others and the environment are not separate entities but an interconnected unified field of energy.

OUR INNER REALITY

Imagine you are at the entrance of a giant science exhibition. As you enter, you are attracted to an illuminated hall with a glowing signboard 'Find Your Inner Reality'. You enter the hall. You see an atomic

microscope. A scientist standing beside it is helping visitors to discover their inner reality through the microscope. You join the line waiting for your turn. When it comes, the scientist asks you to keep your thumb under the lens and turns the microscope on. You can see the image of your thumb on the screen, its flesh and tissues. Now the scientist speaks: "This is the inner image of your thumb. As you can see, it is nothing but a bundle of tissues. Now let me increase the power of the microscope and focus it on a single tissue so that you can see what tissues are made of." He focuses the microscope on a piece of tissue and increases the power. You now see the cells the tissue is made of. You hear from the scientist: "Cells are the basic building blocks of your body. Your body consists of trillions of cells. What you see here is a muscle cell. There are many other kinds of cells such as brain cells, bone cells, eye cells, and red blood cells. Each cell can survive independently if they are separated. Cells are conscious, they can 'think', they communicate with each other, make choices and decisions. They all act cooperatively for the well-being of your body."

"Okay, let's move on; let's see what we can see inside cells." The scientist focuses the microscope on a single cell. Now you see only one cell enlarged on the screen. The scientist describes the structure of the cell, what it contains and its functions. You hear amazing things about membrane, DNA and RNA etc. He tells you all these are made out of molecules. Now he further increases the power and you see all these

things as bundles of molecules, which he describes as chemically bonded groups of atoms. To carry you further in, he focuses the lens on a single atom. You see an atom on the screen. You hear his commentary: The “atom is the basic building block of everything in the material world.” Now we are at the border between the material realm and the non-material realm. “Let’s pop into the non-material realm of your thumb,” he says. He further increases the power of the microscope. You see an amazing view, like satellites orbiting the Earth. The scientist describes what you see as electrons whizzing around a nucleus, which is made out of neutrons and protons packed together. He says: “This is still not the absolute reality of your thumb. You can see the absolute reality when I further increase the power.” As he does so, the image on screen becomes bigger and bigger and totally disappears. “This is the absolute reality; the emptiness; 99% of an atom is empty, but this ‘emptiness’ is filled with energy which is invisible”, the scientist says. “This is the reality within you. You are a field of invisible energy.” The show ends.

Who we are, is energy. Our reality is energy. Then, what about the ‘alive’ feeling and the sensation of ‘me’ within us? It is also nothing but energy. Robert Lanza (2009), a leading American scientist, says:

it is, so far as science can tell, a sprightly neuro-electrical fountain operating with about 100 watts of energy, the same as a bright light bulb. We even emit the same heat as a bulb too, which is why a car rapidly

gets warmer, even on a cold night, especially when a driver is accompanied by a passenger or two.(p 191)

According to the laws of physics, energy is deathless; it cannot be created or destroyed. It only changes form. From this perspective, we are deathless, we are immortal beings. However, if we perceive ourselves only as a physical body, we expect that death is final. On the other hand, if we perceive ourselves as energy which is the sense of experience and sensations, we cannot die. So, however we perceive ourselves, our inner reality is energy, which is deathless.

OUR OUTER REALITY

Everything around us—the air we breathe, the food we eat, the people we associate with, the plants, birds and all inanimate things—are composed of spinning and vibrating energies, subatomic and atomic particles. The invisible energy within each atom gives rise to subatomic particles/waves which form atoms; the atoms get together to form molecules which form cells, cells form all living systems—humans, animals and plants. The same energy is the origin of all non-living material objects: In this case, the molecules, instead of forming cells, form basic elements such as carbon, hydrogen and oxygen etc. of which all material objects are formed. This energy is not only the basis of living beings and non-living objects, but also the basis of all other forms of energies, such as solar energy, electricity and geothermal energy, which originate from matter. So, this is the prime energy.

Though the reality within and around us is energy, we experience the external world as solid and three-dimensional. Why is it so? Actually, as pointed out by biologists and geoscientists, our senses are designed to capture information at the energy level. For instance, when we look at an object, what our eyes 'see' is not a solid object, but billions of atoms in vibration. It is our brain which produces the solid image. The colours we see around us are different frequencies of vibrating atoms. Our brain converts different frequencies of energy waves into colours.

Sound is an outcome of atoms colliding with one another emitting energy in different frequencies. What our ears detect is not sound but energy travelling in different frequencies. Our brain converts these different frequencies into different sounds. Similarly, what we experience as taste, smell, and softness or roughness of the objects we touch and feel are also different properties at the level of energy. With regard to taste, the taste buds of our tongue detect certain energy-level differences of food and send the information to the brain which interprets the information as different tastes. A molecule's scent is due to its vibrational frequency in the infrared. When this is detected by our nose and the information is sent to the brain, it interprets the information as different smells. Our skin, which is our largest sensory organ, has the capacity to detect properties such as heat, pressure and vibration of the objects we touch. At the level of energy, all these different properties are different frequencies.

Thus, our five sensory organs are frequency detectors. The brain interprets the detected information and creates perceptions accordingly. Theoretically speaking, if we stimulate by some artificial means the regions of the brain linked to each sense organ, we could make people see, hear, smell, taste, and feel as we wish. So, the material world we experience through our senses is not real, but an illusion being constantly created by the brain. Similarly, as discoveries in neuroscience suggest, our perception of separateness and individuality is also an illusion being created by the brain. It is the Orientation Association Cortex, a part of the brain in the left hemisphere of the cerebral cortex, which creates the perception that where our skin meets air is our physical boundary. This part of the brain also creates our perception of space and time, two aspects of individuality. If our Orientation Association Cortex is impaired and ceases to function, we would lose our perception of separateness and individuality.

This follows the argument that if the brain is damaged, or if we reduce its influence on our perceptions and feelings by meditative or other psychotherapeutic means, we would not be able to perceive the world as a space composed of solid entities, but as energy. Jill Bolte Taylor, a Harvard-trained neuroscientist, had a stroke on December 10, 1996, and it damaged the left side of her brain. Fortunately, she fully recovered after nine years. In her book *My Stroke of Insight* she describes how her damaged brain made her experience the world around her as

energy. Referring to the period she was in hospital, she writes:

My eyes could no longer perceive things as things that were separate from one another. Instead, the energy of everything blended together... I experienced people as concentrated packages of energy. Doctors and nurses were massive conglomerations of powerful beams of energy that came and went. (Taylor, 2006, p 72, 76).

It is amazing to read how she describes the new insight she gained after the stroke:

My entire self-concept shifted as I no longer perceived myself as a single, a solid, and an entity with boundaries that separated me from the entities around me. I understood that at the most elementary level, I am a fluid. Of course I am a fluid! Everything around us is made up of atoms and molecules vibrating in space. (p 71)

It was impossible for me to distinguish the physical boundaries between objects, because everything radiated from similar energy. (p 72)

I was the miraculous power of life...I was simply a being of light radiating life into the world. Regardless of whether or not I had a body or brain that could connect me to the world of others, I saw myself as a cellular masterpiece. (p 74)

Through her own experience, she realised we are energy and our natural state is not solid as our brain perceives it, but fluid; in this state of fluidity our skin cannot limit ourselves to the boundary where it meets air; we expand ourselves to the infinite, we are as big as the universe. She writes:

...my perception of myself returned to this natural state of fluidity. Clearly, we are each trillions upon trillions of particles in soft vibration. We exist as fluid-filled sacs in a fluid world where everything exists in motion. Different entities are composed of different densities of molecules, but ultimately every pixel is made up of electrons, protons and neutrons performing a delicate dance. Every pixel, including every iota of you and me, and every pixel of space seemingly in between, is atomic matter and energy. (p 72)

Her experience suggests that but for the brain, there would be no material world. Everything around us, all animate and inanimate objects, are composed of spinning and vibrating energies, subatomic and atomic particles and waves. This is further substantiated by research findings of Andrew Newberg (2002), an American neuroscientist. His research on the effects of meditation on the human brain has shown meditation can decrease the activity of the Orientation Association Cortex of the brain which creates our perception of the skin as our outer boundary. Once it is decreased, meditators begin to free themselves from the boundary and experience oneness with the universe. Thus, the material world we experience is not real, but, as already mentioned, an illusion produced by our brain. In other words, without living beings to observe, there is no material reality, but energy. For instance, if there are no healthy eyes properly connected with a healthy brain, there won't be material objects but energy; if there are no healthy ears properly connected with a healthy brain, there

won't be sounds but waves. If not a seer no seen, if not a listener no sound.

INTERCONNECTEDNESS OF INNER AND OUTER REALITIES

The prime energy, as discovered by quantum physicists, has the capacity to know. As already mentioned, it is conscious; it is aware of its existence and the existence of others. It can also 'think' and make choices. Energy can exist in two forms, either as particles such as protons, neutrons and electrons, or as waves. Whatever the forms the energy assumes, they are conscious. According to recent discoveries in quantum physics, the choice to be either a particle or wave is a conscious choice. Duane Elgin, an American author and speaker, has presented in his writings plenty of scientific evidence for this. (Duane Elgin, 2015).

Referring to the consciousness of electrons, he quotes Freeman Dyson, a theoretical physicist, as saying "Matter in quantum mechanics is not an inert substance but an active agent, constantly making choices between alternative possibilities. It appears that mind, as manifested by the capacity to make choices, is to some extent inherent in every electron". Using scientific evidence, he shows that consciousness is present in molecules consisting of no more than a few simple proteins. Philip Cohen, one of the researchers who made the discovery, has stated that "We were surprised that such simple

proteins can act as if they had a mind of their own.” Based on these evidences, Duane Elgin concludes that:

...our cosmos is subtly sentient, responsive, conscious and alive. The physicist Freeman Dyson thinks it is reasonable to believe in the existence of a “mental component of the universe”. He says, “If we believe in this mental component of the universe, then we can say that we are small pieces of God’s mental apparatus.” (Duane Elgin, 2015).

This energy fills the whole universe, and there is no point in the universe where this conscious energy does not exist. Hence, this huge mass of energy is called the universal consciousness.

The unusual characteristic of this mass of conscious energy which fills the whole universe is its interconnectedness, or oneness. The universe consists of innumerable galaxies, planetary systems, stars and many other unknown floating objects, but all these are connected through the prime energy. Until recently, physicists used to view the universe as being composed of separate entities. However, with accumulating scientific evidence, it is now widely believed that despite its unimaginable vastness, it functions as a single entity, a single unified field of energy. Oneness of any entity means there are no divisions in it, no separated or isolated sub-entities. Whatever happens to any part is felt by the whole entity. All parts act cooperatively for the well-being of the whole. No one part of it is self-centred and acts solely for its own well-being.

The human body can be taken as an analogy to explain what oneness means. The body consists of many organs and limbs, but all are interconnected and interdependent. No matter how big or small, whatever happens to any one part is instantly felt by the whole body. The cells of the body are conscious, and can survive if they are separated. But when they are in the body as a member of its cellular community, they all act cooperatively for the well-being of the whole body. Each and every cell performs its duty meticulously without a trace of selfishness. More evidence suggests there is such interconnectedness in the universe.

David Bohm, (1980), a leading physicist says, based on discoveries in new physics, that ultimately we have to understand the entire universe as “a single undivided whole”(p 175). He does not see the universe as an assemblage of separate living and non-living objects, but as living and non-living objects that are inseparably interwoven.

However, in our ordinary life we perceive ourselves as separate entities. Our perception of separateness appears to arise from two sources:

1. At the material level, my physical body is separated from yours by a spatial gap. I cannot see any connectedness between my body and yours.
2. At the level of emotions, you do not experience my hunger and feeding your body does not satisfy my hunger.

This perception of separateness is true at the material level where we live in our ordinary life. However, if we move deep into ourselves to the quantum level, we cannot see this separateness. As we move into the body through tissues, cells, molecules and atoms, what we find at the end is energy which exists as waves and particles. As quantum physicists reveal, the particles and waves I find in my body are not separated from those in your body and there is no spatial gap between you and me at the quantum level. I cannot claim the particles I find in my body as 'my particles' in the same way as I say 'my body' or 'my hand'. These quantum objects are not localised in my or your body. According to the principle of non-locality, a key principle of quantum mechanics, quantum objects are non-local. They have no location or 'home' in my body or your body. They cannot locate themselves. The subatomic particles I find in my body in this moment will disappear in the next moment and re-appear in another form somewhere else, probably in your body, in another object or in another planet.

Time and space which we experience at the material level, do not exist at the quantum level. Both time and space, as Einstein points out, are relative. For instance, we experience time in relation to changing objects—the sun rises and sets; grasses grow, wither and die; our bodies change over time as we age. Similarly, we experience space in relative terms; we perceive the location of one object in relation to another, one is here and the other is there. In a realm

where there are no objects but only formless energy, there cannot be time and space.

In the quantum realm, as quantum physicists point out, quantum objects are interconnected and have no existence as independent and separate entities. Unlike material objects, quantum objects have no fixed characteristics such as weight and shape. They keep on changing their characteristics. When two particles meet and interact they share their characteristics; then they part with newly acquired characteristics and new identities.

As the theory of quantum entanglement says, once having become correlated and departed, two particles communicate with each other and influence each other, no matter how far apart they are. Their communication is signal-less, and the speed of time cannot limit the speed of their communication. It is instant. Though we perceive and experience as separate entities at the material level, at deeper levels in our very foundation, we are interconnected. For instance, I can move my body away from yours, demonstrating this is 'my body', but I cannot separate myself from you at the deep foundational quantum level.

We both are rooted in the same foundation—the quantum realm. The view that we and the material realm are interconnected is further substantiated by the discovery in quantum physics that “The behaviour of subatomic particles—indeed all particles and objects —is inextricably linked to the presence of an

observer. Without the presence of a conscious observer, they at best exist in an undetermined state of probability waves” (Lanza, R. 2009 p 81). This simply means what the observer thinks affects the observed. Some believe quantum objects are able to ‘read’ our mind and respond to our intentions positively. When we observe quantum objects, for instance, with the intention in our mind to determine whether they are in particle form or in wave form, somehow they come to know the intention in our mind and change their form accordingly. If we use an instrument that has been designed to detect particles, they ‘become’ particles, otherwise stay as waves.

They also behave in a strange manner if we attempt to measure their position or momentum. If we decide to measure the particle’s position precisely, the particle does not have well-defined momentum; if we decide to measure the momentum, it does not have a well-defined position. We cannot measure them both simultaneously. The measurement changes the state of the particle. Due to this mysterious behaviour, quantum physicists conclude that the observer influences the observed, and there is no separation between the observer and the observed. Therefore, Wheeler (1973), an American theoretical physicist, proposed that the word ‘observer’ be replaced by the word ‘participant’. These results suggest that we, as observers, are not separated from what we observe. Both the observer and the observed are inseparable parts of the same interconnected entity, the interconnected cosmic web that we call the universal

consciousness. Capra, F. (2010), an internationally renowned physicist states, “Quantum theory forces us to see the universe not as a collection of physical objects, but rather as a unified whole.” (p 138)

Some who have gone through near-death experiences have reported experiencing the interconnectedness and non-locality of the universal consciousness. Anita Moorjani, who ‘died’ of cancer in a hospital in Hong Kong on February 2, 2006, described her near-death experience in her book *Dying To Be Me*. When she was lying in the hospital bed, she separated herself from her body and merged with the universal consciousness. She describes the interconnectedness she experienced, how she felt her connectedness with others and with the universe:

...I experienced what everyone was going through—both my family members as well as the doctor. I could actually feel their fear, anxiety, helplessness, and despair. It was as though their emotions were mine. It was as though I became them. (p 5)

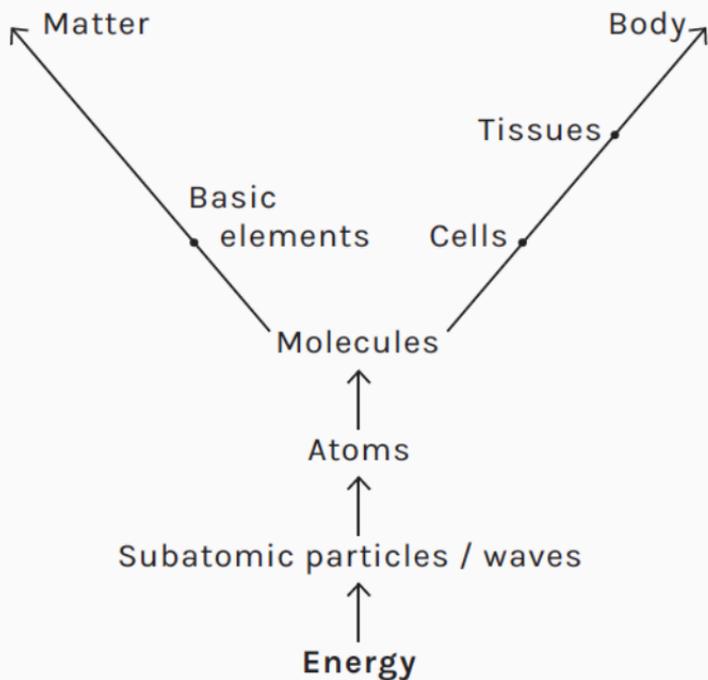
...I’m at the center of my cosmic web, the Whole is affected by me. So as far as I’m concerned, if I’m happy, the universe is happy. If I love myself, everyone else will love me. If I’m at peace, all of creation is peaceful, and so on. (p 115)

Linda Stewart, in the report of her near-death experience, described the universal consciousness as God. She has experienced its oneness:

There was no limit to the outpouring as I came to the rapturous awareness of the infinite nature of God’s love.

There was no place that God did not exist and I was within God. I am an inseparable part of the light. The truth of who I am, indeed, who we all are, is perfect love as a creation of God. All of God's creation is one creation and I am one with creation. God and I are one, Creator and created. (Stewart, L. 2015).

This evidence suggests that though the universe appears to us as an assemblage of solid objects separated from each other, they are all connected at the quantum level by an energy which is conscious. The same energy gives rise to all living beings and non-living objects:



From this perspective, the universe is a single unified field of conscious energy. All human beings, animals and nature are integral parts of this single entity. This one entity is aware, conscious and 'thinks'. Therefore it can be equated to a universal mind or Being. Since Being fills the whole universe and therefore exists everywhere, it knows everything. Nothing can happen anywhere in the universe without its knowledge. Hence, Being is omnipresent and omniscient. It is also evident that Being is intelligent. Behaviour of the

energy in forming and sustaining the planetary system, the Earth and its life-forms demonstrates its level of super-intelligence. It must be a super-intelligent Being. Furthermore, if Being is aware of what is happening everywhere in the universe, it must have the right answers to all questions and the right solutions for all problems.

The answers and solutions we find as humans with our limited knowledge are always incomplete. Also, as self-centred beings, the solutions we propose are likely to be biased and hence our solving one problem is likely to create many new problems. Eben Alexander (2012), an academic neurosurgeon in USA, 'died' of a rare illness on November 10, 2008 and had a near- death experience. As described in his book *Proof of Heaven: A Neurosurgeon's Journey into the Afterlife* he felt the wisdom of Being when he was in the state of near-death. Referring to his experience with Being, he states:

Up there, a question would arise in my mind, and the answer would arise at the same time, like a flower coming up right next to it. It was like almost as if, just as no physical particle in the universe is really separate from another, so in the same way there was no such thing as a question without an accompanying answer. These answers were not simple "yes" or "no" fare, either. They were vast conceptual edifices, staggering structures of living thought, as intricate as cities. Ideas so vast they would have taken me lifetimes to find my way around if I had been confined to earthly thought. (p 83)

Various terms are used in modern literature to identify this Being: The Ultimate Truth, The Being, The Foundation of Being, The Self, The Higher Self, Infinite Self, One Mind, and The Quantum Self. In most religions, this is called the Spirit; when personified, it is called God.

2. What Are We Designed To Be?

Both our inner and the outer realities are nothing but energy that is conscious.

This conscious energy fills the whole universe. In spite of its vastness, it functions as an undivided single entity or a universal Being which manifests through each one of us. So, we are designed to think and act as one.

ARE WE DESIGNED TO BE SELFISH?

There is a common belief that human beings are intrinsically selfish beings; we are all born as selfish beings and we continue to live as selfish beings unless we are trained to behave otherwise. If this is true and if we are designed to be selfish, selfishness should be rooted in our inner reality. If so, selfishness should exist within us as a permanent characteristic. If it appears only transiently it cannot be considered as a part of our design. Likewise, this characteristic would be sustained within us independent of external factors. If selfishness is expressed only in the

presence of certain objects or under certain circumstances, it cannot be considered as a part of our design. Furthermore, if it is a part of our design it would contribute to our survival and growth. If detrimental to our survival and growth, it cannot be considered as a part of the design. These arguments suggest the following three criteria to critically assess the validity of the belief that we are designed to be selfish:

- (1) Is our selfishness permanent?
- (2) Does it sustain independent of external factors
- (3) Does it contribute to our survival and growth?

Is 'I', or self, a permanent entity within a person? As stated by Hanson and Mendius (2009, p 211), a neuropsychologist and a neurologist, our everyday feeling of being a unified self is a thought-created illusion. In the brain, every manifestation of the self is impermanent. Being a creation of our thoughts, the self is continually constructed, deconstructed and reconstructed. For instance, when we are experiencing pain or pleasure, or when we are challenged or threatened, we feel our sense of 'I' strongly. When we are in a state of tranquility however, the presence of 'I' is not strongly felt. Thus, the self is not a permanent entity within us. What is permanent is our inner reality, our state of awareness, or consciousness. The state of awareness exists even when self is non-existent, but self cannot exist without the state of awareness. Some point out, with the support of scientific evidence, that our consciousness

continues to exist even after death and is hence immortal (Lipton, 2005; Lommel, 2010). Hence, our true essence is not 'I' or self, but the consciousness, our state of awareness.

As already mentioned, our sense of 'I' emerges from the consciousness and gains strength only when our thoughts are aroused. Arousal of thoughts cannot occur and self-sustain without external interferences, either from the material world or from the memory. Technically speaking, in the absence of external factors, thoughts do not arise, and without thoughts, there cannot be a self. It is a common understanding in contemplative traditions that the sense of 'I' disappears from the consciousness when the mind calms through meditation. As self-centredness, greed and other related mental formations such as hatred, envy and anger emerge in relation to certain external factors and have no independent existence, these characteristics are not part of our design. Does selfishness contribute to our survival and growth? Some philosophers and scientists have said 'yes'. For instance, according to some evolutionary theorists, those who carry 'self-centred' genes have a greater chance to survive and breed than those who carry "selfless" genes. For economists, it is selfishness, not selflessness, that motivates economic growth and therefore self-centred people have a better chance of survival than others.

However, there are convincing counter arguments. Transpersonal psychologists identify selflessness,

altruism and selfless love as human qualities that emerge as we grow psychospiritually. Abraham Maslow (1987), in his motivation theory, and Whitmore (1997), in his three-stage model of evolutionary progression, describe self-centredness and greed for material wealth as symptoms of the lower levels of our psychological growth. These characteristics gradually diminish as selflessness and love emerge. It is also evident that selflessness and cooperative behaviour contribute more to the survival of human beings than self-centredness and greed.

Sober (2002), a philosopher, noted that selfless and altruist people prosper when they group together and cooperate, whereas when self-centred and greedy people group together, they fight among themselves and slowly disappear. Scherwitz (1983), based on his nine – year research study involving almost 13,000 people, points out that self-focused people are more likely to develop coronary heart disease. It is also a well-observed fact that self-centred and greedy people experience stress and are more likely to be subjected to depression and similar psychological problems than selfless and altruistic people.

In light of this evidence, it can be concluded that our sense of 'I', self-centredness and greed do more harm to us than good. Thus selfishness fails to meet all three criteria; it does not exist within us permanently, it has no independent existence, and it does more harm than good. Selfishness must have encroached into our consciousness from various external sources

and therefore is extrinsic rather than intrinsic. If there are certain qualities we are designed to possess, they are the qualities of our inner reality, the qualities of being, of the universal consciousness.

OUR CONSCIOUSNESS: DOES THE BRAIN 'PRODUCE' IT?

As already seen, cells in our body are conscious, they can 'think' and make conscious choices. Bruce Lipton (2005), an American cell biologist, considers cells as 'miniature humans'. As he points out, cells possess the functional equivalent of all biological systems of our body; they are intelligent beings and can survive on their own if isolated; like us, they seek supportive environments and avoid hostile ones.

However, having conscious cells in it is insufficient for the body to be conscious. For the body which is a 'sac of trillions of cells', to be conscious as an integrated single entity and to be able to perceive and act as an individual, there should be a specific mechanism, one which could enable the 'sac of cells' to connect all cells into an interconnected single entity to sense the external environment and respond accordingly. The brain, together with sense organs and the nervous system, provides this mechanism.

This mechanism is made out of a special kind of cell called a neuron. Neurons are similar to other body cells in a number of ways, but are specialised to transmit information throughout the body. Using

electrical signals and chemical messengers, they transmit information both within themselves and from one neuron to the next. The brain, being the 'central control room', receives information from the senses, processes the information and uses it to regulate and guide all parts of the body.

Some neuroscientists believe the brain produces consciousness. There are reasons for this belief; when the brain is damaged our consciousness is impaired and we regain consciousness once the brain is healed. At death, the heart ceases to send blood to the rest of the body. Cessation of blood flow to the brain leads to cessation of neural activities, loss of consciousness and death. But this evidence does not prove that the brain produces consciousness or that consciousness is confined to the brain. It also fails to explain how the brain produces consciousness out of nothing. Furthermore, consciousness is energy and energy cannot be produced or destroyed. How subjective experience arises from a physical process is also not known. Neuroscience cannot explain our subjective feeling of being, of aliveness. Robert Lanza (2009) says: "There is no principle of science—in any discipline—that hints or explains how on Earth we get this [our subjective feeling of being] from that [the brain, a physical process]." (p 174)

The view that the brain does not produce consciousness but transfers it from the universal consciousness seems to be increasingly gaining acceptance. Van Lommel (2010), a Dutch cardiologist who researched

near-death experience, believes the human brain does not hold consciousness but facilitates it. It is a kind of transceiver which receives information from a timeless, spaceless, non-local universal consciousness. According to this view, the universal consciousness manifests itself through the brain. The brain acts like a TV set which receives signals from outside, transforms them into pictures and shows them on its screen. When the TV set is damaged, the picture on its screen disappears. But this does not mean the TV set 'produces' the picture. According to this view, death is not the end of our life. Though we die, our consciousness remains in the timeless, spaceless dimension of universal consciousness. In this sense, we are immortal.

This view is supported by the findings of studies on near-death experience. Eben Alexander (2012), in his a near-death experience states:

As a practicing neurosurgeon with decades of research and hands-on work in the operating room behind me, I was in a better-than-average position to judge not only the reality but also the implications of what happened to me. (p 9)

Those implications are tremendous beyond description. My experience showed me that the death of the body and the brain are not the end of consciousness, that human experience continues beyond the grave. (p 9)

Concluding his book, in the section 'Conversation with Eben Alexander' he further states:

My experience provides extremely strong evidence that consciousness is not dependent on the cortex [brain]. It was proof for me personally, and it has convinced many others. The cortex [brain] mediates consciousness while we are on Earth, it does not produce it.

Studies of near-death experience, undertaken by van Lommel (2010), Moody (1975) and Williams, R. Kevin (2002), reported what the patients experienced during their state of near-death; they separated themselves from the body and remained floating freely in space before they re-entered the body.

Some supportive evidence can also be drawn from organ transplant patients. Some patients have reported that after the new organs were transplanted, they developed some strange behavioural and psychological characteristics. Later, when investigations were made, they discovered the deceased donors had the same behavioural and psychological characteristics. (Sylvia and Novak, 1997; Pearsall, 1998). So, how did they receive these characteristics from donors? Bruce Lipton (2005), a cell biologist, explains that on the surface of our cells, there is a family of identity receptors, which act as antennas downloading consciousness from space. The transplanted organs still bear the original identity receptors of the deceased donors. Even though the body of a donor is dead, his consciousness is still there. The identity receptors of the donated organ are still receiving the dead donor's characteristics from his consciousness. This evidence guides us to believe the brain does not produce consciousness and it is

not localised in the brain, but that universal consciousness manifests itself through the brain.

OUR BRAIN IS HARDWIRED TO LOVE

As already shown, universal consciousness is a single entity. It is one. Evidence derived from quantum physics proves this beyond any doubt. For universal consciousness, Being, all individuals, all other living beings and non-living things are the same; they are all parts of the whole, no special preferences, attachments or aversions. Hence, it wishes to see all beings happy and at peace. For Being, there is no distinction between its happiness and the happiness of others. This is love. This is love untainted by any trace of selfish desires, attachments, personal interests or fears. Such negative traits cannot occur in the universal consciousness, because:

- (1) it encompasses all 'small selves' as its own integral parts;
- (2) being the source of all material objects, it cannot have desires for material objects and
- (3) fear cannot occur in it because there is no one else other than itself, perceiving all 'small' selves as its own parts.

So, if there is any feeling in the universal consciousness, it is nothing but love, pure, unconditional and universal. Those who have gone through near-death experience and merged with the universal consciousness have experienced this

universal love. Linda Stewart (2015) experienced universal love in her near-death experience.

...I tried to see what was happening and who was carrying me; who or what cared so deeply for me? I felt peaceful and loved immeasurably. I knew I was in the arms of a being who cherished me with perfect love and carried me from the dark void into a new reality...With the eyes of my soul body, I looked to see what held me in such love and I beheld a radiant, Spirit being, so magnificent and full of love that I knew I would never again feel the sense of loss. (Stewart, L. 2015)

Likewise, Anita Moorjani (2012), who left her body and became one with the universal consciousness, says (p 5-6):

In my NDE [Near-Death Experience] state, I realised that the entire universe is composed of unconditional love, I am an expression of this. Every atom, molecule, quark, and tetraquark, is made of love. I can be nothing else, because this is my essence and the nature of the entire universe.In fact, Universal life-force energy is love, and I am composed of Universal energy! (p 139)

When asked to define what she calls unconditional love as she experienced it in her near-death experience, she replied:

The love in the other realm is very different in that it's pure in essence. It has no agenda and no expectations, and it doesn't act out of emotion or react differently depending on one's actions or feelings. It just is. (p 163)

Eben Alexander (2012), also experienced love during his near-death experience. Referring to consciousness continuing after death, he writes:

“More important, it continues under the gaze of a God who loves and cares about each one of us and about where the universe itself and all beings within it are ultimately going.” (p 9)

Based on the feeling of love he experienced during the near-death experience, he states:

Love is, without a doubt, the basis of everything... In its purest and most powerful form, this love is not jealous or selfish, but unconditional. This is the reality of realities, the incomprehensibly glorious truth of truths that lives and breathes at the core of everything. (p 71)

In his concluding paragraph, he further stresses the significance of the love he experienced.

At the core of our existence is a love for us far grander than we can ever imagine; the infinite, unconditional love of a Divine Creator which offers us the power to heal ourselves, our species, our planet and our entire existence.

As evidence suggests, the universal consciousness manifests itself through the human brain. If so, our brain should exhibit the key property, oneness. Recent discoveries in neuroscience reveal the oneness of universal consciousness is hardwired in our brain. As already mentioned, neurons are conscious, they ‘think’ and make choices. Their behaviour demonstrates that they are ‘social beings’. They ‘talk’ to each other. Each neuron wants to connect with other neurons, to be in communication with others, and act cooperatively as a single entity for the well-being of the whole. Just as neurons

communicate with each other, brains strive to connect with one another, says Louis Cozolino (2006), a neuroscientist, in his book *The Neuroscience of Human Relationships: Attachment and the Developing Social Brain*. Like neurons, brains are also social beings. Each brain wants to connect with other brains. This explains our inherent tendency to connect with other people. Matthew Lieberman (2013), a social neuroscientist, points out that our need to connect with other people is hardwired in our brain and is even more fundamental than our need for food or shelter. He argues that this need often leads us to restrain our selfish impulses for the greater good. Donald Pfaff (2007), an American neuroscientist, in his book *The Neuroscience of Fair Play: Why We (Usually) Follow the Golden Rule*, says the human brain is hardwired to act according to the golden rule—One should treat others as one would like others to treat oneself—which is the cornerstone of all great religions. In his recent book (2015), *The Altruistic Brain: How We Are Naturally Good*, he demonstrates that human beings are ‘wired’ to behave altruistically and spontaneous kindness is our default behaviour. He writes:

The human brain is actually programmed to make us care for others. Many of our basic drives, reactions and skills are more products of nature rather than of nurture. The innate biology of the human brain compels us to be kind. That is, we are wired for goodwill. (p 5)

The view that the oneness of universal consciousness is hardwired in our brain is further substantiated by

the discovery of what neuroscientists call 'mirror neurons' and 'automatic empathy'. Mirror neurons are special kinds of neurons which are activated not only when we act, but also when we observe the same action performed by another. When we see someone suffering, the same neurons are activated in our brains as when we ourselves are in pain. The mirror neurons instantly project ourselves into the other person's shoes and enable us to feel the other's feelings. They are called mirror neurons because they enable us to see the situation from the other person's perspective. Giacomo Rizzolatti (2007), the Italian neuroscientist who discovered mirror neurons, notes that this hardwired system is what permits us to grasp the minds of others not through conceptual reasoning, but through direct simulation by feeling.

This evidence suggests we are not as cut off from our fellow humans as we sometimes imagine, but are connected to them. We are designed to see others in ourselves and ourselves in others. This is recognised as love. It is not a product of our personal attachments or desires, but the manifestation of the oneness of universal consciousness. Its opposite is not hate, but individuality. From this perspective, when a spiritually enlightened person says 'I love you' it implies that:

The oneness of the universal consciousness hardwired in my brain is expressed through me as a tendency to be one with others. I see you and I are integral parts of the same whole, the universal consciousness; I see you as an integral part of me, and I feel your pain as my pain

and your happiness as my happiness. Therefore, I am ready to serve you in order to relieve your pain and make you happy. I do not expect anything from you in return.

We are designed to be driven by this unselfish universal love and live, not as separate self-centred beings, but as integral parts of the one human family. However, it should be noted that personal identity as individuals is necessary for us to live in this material world, but at the same time relationships based on unselfish universal love are necessary to live in harmony with one another, and with nature. We are designed to behave so. But most of us do not behave in our ordinary life as we are designed to behave. This is addressed in the next chapter.

3. Why Are We Not What We Are Designed To Be?

Though oneness, love and selflessness are hardwired in our brain and we are designed to be selfless loving beings, we do not behave so in our ordinary lives. Most of us behave as selfish beings.

This chapter explains why. The hardwired qualities are overridden by false perceptions, separateness, the sense of 'I'/self, and self-centredness which have been soft-wired in the brain.

NEUROPLASTICITY

As already seen, we are designed to behave as integral parts of the universe, not as self-centred individuals. We are designed to perceive others as ourselves, to feel their pain within us as our own, rejoice others' success and happiness as our own and act accordingly. But this is not the way we actually behave. We behave as self-centred individuals. We do not always feel another's pain as our own. Instead, being in this competitive society, we perceive others as our competitors; we rejoice in their failure and feel unhappy when they rejoice in their

successes. We can behave as we are designed only if we follow our hardwired brain, which is the image of the universal consciousness and its oneness. But we hardly ever follow it. To know why, we need to understand neuroplasticity of the brain, a recent breakthrough of modern neuroscience.

Neuroplasticity implies that the brain has the ability to change in response to experience. The breakthrough revealed that the brain is capable of altering its structure and functions, and even of generating new neurons, as it interacts with the external world through the senses. This is a revolutionary discovery, because until recently it was widely believed that the neural structure of the brain was fixed and remained the same throughout the lifetime.

We experience the external world through our senses. In response to each and every experience, some neurons in certain regions of the brain become active or 'fire' together. The neurons that fire together wire together to form neural circuits. Some such circuits are dissolved and disappear within a few seconds of the experience. If a certain experience is repeated frequently, its neural connections become stronger and the neural circuits stay longer. Others are dissolved and we forget them. This is the process we call memory. As our beliefs, ideas, values and perceptions change, so do the patterns of the neural networks—some old neural circuits disappear and new ones appear. This is neuroplasticity, the capacity of the brain to form new neural circuits and to dissolve existing ones. It is the brain's ability to selectively

transform itself in response to certain experiences. In this regard, the brain acts like the film of a camera, which records images it is exposed to. When the brain is exposed to the world through the sense organs—seeing through the eyes, hearing through the ears, smelling through the nose, tasting through the tongue and feeling through the skin—it captures information and images from the external world and records them. The recorded information forms perceptions.

However, the recorded information does not represent the absolute reality. This is because when information is captured and recorded, it is distorted by the old perceptions which are already there. For instance, when someone is introduced to us for the first time, our brain records the first image/perception of the person. When we meet the person for the second time, we do not look at the person directly but through the perception that was recorded in the brain during the first meeting. In the second meeting, we may learn some new information which alters the first perception. Hearing something new about the person from a third party may further alter the perception. Every time we interact with a person, the image of that person held by neuro circuits in our brain is altered. Thus, the information being wired into the brain in response to its experiences with the external world is subject to change; hence we call it soft-wiring of the brain, or the soft-wired brain.

We are born with minimal neural circuits in our brain. They grow as we age. The infants who are under the

care and protection of their mother feel safe and secure; no feelings of fear. So, there are no reasons for their brain to develop neural connections leading to a sense of fear, self and self-centredness. Hence, hardwired altruism can guide their behaviour. Altruistic behaviour among children has been reported in some scientific studies. Michael Tomasello (2008), an American psychologist and co-director of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, says that children show altruism in their behaviour, “and they do not get this from adults; it comes naturally”, he says. According to him, children have an almost reflexive desire to help, inform and share. And they do so without expectation or desire for reward. Felix Warneken (2013), psychologist at the same institute, provides further evidence. He believes children are naturally altruistic. His studies reveal toddlers as young as 14 months show spontaneous helping tendencies, the precursor to altruism.

Nevertheless, as they grow and are exposed to the wider society, they encounter competitive and selfish behaviours and find that self-centredness is ‘normal’. In response to self-centred behaviours they experience in society, new neural circuits are built up in their brain, which eventually makes them self-centred.

SOFT-WIRED VS. HARDWIRED BRAIN

Why do we ignore our hardwired brain and listen to the soft-wired one? We all seek pleasure and want to

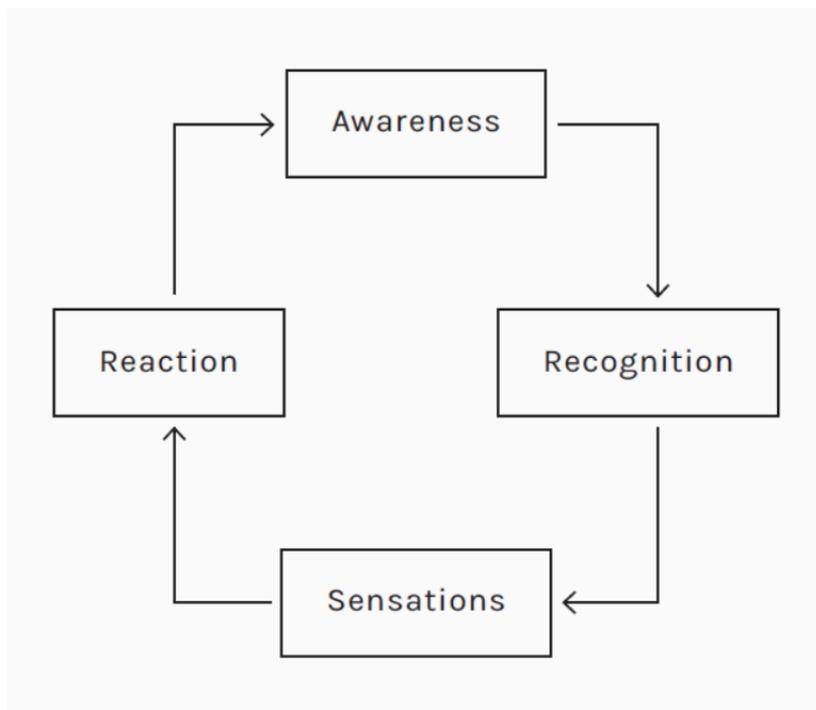
avoid pain. For instance, when we meet a person, if the perception we already have of that person is positive, the neural circuits holding the perception instantly activate neurons which emit pleasure-producing neurochemicals such as dopamine. Reacting to the pleasure-producing neurochemicals being surged into the body through the nervous system, we positively respond to the person. On the other hand, if the perception is a negative one, the neural circuit does the opposite. It activates the neurons which produce pain or displeasure. If so, reacting to the feelings of displeasure running through the body, we react negatively.

Thus, in our ordinary life, being pleasure-seekers, we unconsciously react to sensations; whether the sensations are pleasurable or painful is determined by our perceptions. The cognitive process constantly taking place in our brain when we experience the external world can be summarised as follows:

- (1) **Awareness:** When our senses experience an object, a noise, a smell, a taste or touch, a group of neurons or neuro-circuits in the brain connected to the relevant sense organ, fire and we experience a feeling of *awareness*.
- (2) **Recognition:** Then the neuro-circuit recognises the person, the object or the situation according to its existing pool of perceptions. The brain *recognises* it as positive or negative, good or bad, pleasurable or painful.

- (3) **Sensation:** Depending on the perception, the neuro-circuit activates either pleasure-generating neurons or pain-generating neurons. Then our body is overwhelmed by the *sensation* of either pleasure or pain.
- (4) **Reaction:** These pleasure or pain sensations, in turn, activate the relevant motor neurons which prompt us to *react* to the sensation.

In the reaction, we again interact with the external world which causes repetition of the same process as shown in the diagram below.



This whole process constantly runs through our brain without our conscious awareness. So in ordinary life our behaviour is regulated by perceptions soft-wired

in our brain which determine what sensations we experience. Though we are not consciously aware, we are controlled by this 'automatic mechanism'. We act without consciously knowing what we do. This process runs so quickly that we don't get an opportunity to think and evaluate what we do before we act. We cannot assess the possible consequences of our action for ourselves, others, or the environment. Since pleasure is registered in the brain as the goal of all our actions, this whole process is centered on our own pleasure—how to maximise pleasure?

Therefore, in this 'automatic' process, the brain cannot see whether our (re)actions will cause pain in others. It automatically prompts us to act for pleasure even at the expense of others' well-being. This makes us selfish. Thus, the foundation of our selfishness lies in our attachment to pleasure and false perceptions. In other words, our attachments to what we like and our aversion to what we dislike, and our perceptions based on these likes and dislikes. But for attachments, aversions and false perceptions, the brain would recognise the external world as it really is, generating neither pleasure nor pain but the feeling of equanimity. When we are in the state of equanimity and when we do not (re)act 'automatically', the unconditional love, our true nature hardwired in the brain, can guide us. Then we will act for the well-being of all.

HAPPINESS AND PLEASURE

Happiness, as it is viewed in this study, is not a worldly feeling that we experience through the brain and the nervous system, but a property of the universal consciousness we may experience when we become one with it. It is associated with peace and love embedded in the universal consciousness. This is the feeling of joy we experience when our mind is calm, pure, peaceful, unaroused and when we are in deep meditation. All we have to do to experience this happiness is to quieten, calm down, purify the mind and 'get in touch' with the inner reality, the source of true happiness. This is always there regardless of what is happening on the surface of the mind. It is like the calmness in a deep ocean in spite of the apparent roughness on its surface. When merged with the inner reality in near-death experiences, this happiness is experienced. Research studies on near-death experience reveal happiness, joy and peace as the most common emotions people experience in this state (Moody, 1975; van Lommel, 2010). Anita Moorjani (2012), describes the joyful feelings she experienced in her near-death experience:

I felt free, liberated, and magnificent! Every pain, ache, sadness and sorrow gone. I was completely unencumbered, and I couldn't recall feeling this way before – not ever. (p 5)

Jill Bolte Taylor, a Harvard-trained brain scientist, (2006), experienced the same form of happiness when the left hemisphere of her brain was damaged,

leaving her with only the right hemisphere. According to her, while the left hemisphere keeps us tied to the material world, the right hemisphere connects us to universal consciousness. Since the left is dominant in most people it is difficult for us to connect to that consciousness. When her left brain was damaged, she was able to connect herself with universal consciousness and experience the happiness it radiates. She describes her feelings:

If I had to choose one word to describe the feeling I feel at the core of my right mind [right hemisphere of her brain], I would have to say *joy*. My right mind is thrilled to be alive! I experience a feeling of awe when I consider that I am simultaneously capable of being at *one* with the universe, while having an individual identity. (p 181)

However, we do not need such unusual experiences to connect to the universal consciousness. The founders of all religions and many spiritual teachers in the East as well as West have taught us how to connect to it while living our ordinary lives. This issue will be discussed in detail in the next chapter. For now, it is sufficient to summarize how our religions perceive happiness. *The Bible* (Galatians 5:22-23) specifies nine factors that contribute to happiness: (1) love, (2) joy, (3) peace, (4) long suffering, (5) gentleness, (6) goodness, (7) faith, (8) mildness and (9) self-control. The significance of love and peace for happiness is emphasised in Islam.

According to Hinduism, true happiness is inherent within each of us in association with the 'inner self' or soul. It is our nature, and we are bliss. The *Bhagavad*

Gita, a source of Hinduism says “He who is unattached to the external world and objects, and is attached to the inner self, will “attain supreme happiness, which is ever lasting.” The Buddha, the founder of Buddhism, expounded three virtues conducive to happiness:

- (1) One should have faith and confidence in moral, spiritual and intellectual values;
- (2) One should abstain from destroying and harming life, from stealing and cheating, from adultery, from falsehood and attachments and craving for wealth; and
- (3) One should develop wisdom which leads to complete destruction of suffering, to the realisation of Nirvana; realisation of Nirvana leads to everlasting happiness.

Unlike happiness, pleasure is a worldly phenomenon. It occurs in the brain. It is produced by certain types of neurons which emit special kinds of neurotransmitters that cause pleasurable feelings. When such neurons are activated, the pleasure-causing neurotransmitters they emit, surge into the body through the nervous system, overwhelming us with excitement and pleasurable feelings. In a way, this is an artificial means of causing ‘happiness’ by neurochemicals. Hence, it is sensible to call it ‘chemical happiness’. The happiness we experience when we become one with the universal consciousness is a form of ‘natural happiness’.

It has been found that in our brain there are certain spots where the pleasure-causing neurons are agglomerated. In neuroscience, such spots are called 'pleasure centres'. The pleasure centres in the brain were discovered by James Olds and Peter Milner, two neuroscientists at McGill University in 1954 (Intro-psych, 2015). This was discovered accidentally. They conducted an experiment with rats with the intention of discovering whether electrical stimulation of certain areas of the brain made them feel uncomfortable. In the experiment, electrical current was applied to rats when they entered a certain corner of the cage. They expected the rats to stay away from the corner. But to their amazement and confusion, the rats returned to the corner quickly after the first electrical shock and continued to come back again and again.

Further experiments led the researchers to conclude that the electrical shocks stimulate certain regions of the brain where neurons produce pleasure-causing neurotransmitters. They call these regions pleasure centres, or reward centres. Later experiments discovered pleasure centres in humans. (Linden, L.D. 2012). In both humans and animals, the main neurotransmitter which generates feelings of pleasure is called dopamine. Our brain registers all pleasurable actions in the same way and connects them to pleasure centres. Then, when any of the pleasurable actions are undertaken, the neuron in the pleasure centres fire. All organisms are intuitively aware which actions activate their pleasure centres. Evolutionists believe the purpose of having pleasure centres is to

motivate us to perform the actions essential for our survival, growth and reproduction. Eating, drinking and having sex are some common actions which activate pleasure centres in both humans and animals. There are some other activities which stimulate pleasure centers in humans. We know praise and admiration of our actions by others activates our pleasure centres. Acquiring wealth, position, power, reputation, prestige and influence also activate our pleasure centres. As a reward system, pleasure serves a purpose. Enjoying pleasure does not make us selfish. We can enjoy pleasure while living a good life.

ADDICTION TO PLEASURE

However, enjoying pleasure may become harmful to us, our society and our environment if we get addicted to it. The word 'addiction' is derived from the Latin term for 'enslaved by'. Once addicted to pleasure, we become a slave to it. This has been proven by experiments in neuroscience. In one of the experiments with rats, metal electrodes which stimulate their pleasure centres were implanted into their brain. It has been found that once they learn how to operate it by pressing the lever they will do so in preference to eating and drinking, eventually dying from exhaustion. If a rat is given the choice between stimulating the pleasure center or eating, it will choose stimulation to the point of exhaustion. (Pleasure Centers, 2015). Experiments with human beings have found similar

results. Robert Heath, chairman of the Department of Psychiatry and Neurology at Tulane University in New Orleans, has done similar experiments with human beings. In one of his experiments, he wired up the pleasure center of a man. During a three hour session, the man, code-named B-19, electrically self-stimulated his reward circuitry some 1500 times.

During these sessions, B-19 stimulated himself to a point where he was experiencing an almost overwhelming euphoria and elation and had to be disconnected, despite his vigorous protests. (Moan and Heath, 1972).

In another experiment, a stimulating electrode was implanted into the brain of a 48 year-old woman. It has been reported that when she discovered it could produce erotic sensations, she started to compulsively self-stimulate (Mindhacks, 2015). These findings lead us to conclude that the pleasure we experience by relating ourselves to individuals and objects is not imbedded in them, but in the pleasure centers of our brain. What we call love in our ordinary life is an outcome of our false perception of the individuals and objects which stimulate our pleasure centers. From this perspective, when an ordinary person says 'I love you' it means:

Seeing you, listening to you, touching you, smelling you and tasting you (probably the food you prepare) activate the neurons in my brain which generate pleasure. Therefore, your company gives me pleasure. I like your company as long as you have the capacity to generate pleasure in me.

Such a love remains as long as others have the capacity to stimulate our pleasure centers, and then fades away. Therefore developing attachment to such individuals and objects can cause misery and suffering not only to us but also to others.

As these experiments demonstrate, once we are addicted to pleasure, we want it at any cost, not only financial but also at the cost of our health, our relationships and our environment. For instance, enjoying healthy food when we are hungry is fine.

It is necessary for a healthy life. However, if we get addicted to the taste of a certain 'junk' food and seek it, then it is a different story. Excessive eating of any food not only harms our own health, it incurs a social and environmental cost as well. Once we are addicted to the pleasure of wealth, position, power, reputation, prestige and influence, we are ready to get them at any cost. We do not care what harm it causes to others and the environment. The pleasure centres in our brain, the neurons which emit pleasure-causing neurotransmitters, do not care what we do. How bad, how immoral and how unethical the actions we perform are, they simply do their duty—they fire and generate pleasure. They do what they are 'asked' to do by their 'fellow' neurons which send the signal to act. These signal-sending neurons do not evaluate the action. They simply follow our perceptions. If we perceive bad as good, the neurons cannot correct it.

When we are addicted to a certain pleasure-activity we do not care what harm it does to ourselves, others

and the environment. In response to this 'wrong' behaviour, a 'wrong' perception is created and is encoded in the brain in the form of neural circuits. This 'wrong' perception is responsible for sending the 'wrong' signal to prompt the 'wrong' action and to reward pleasure for the 'wrong' action. Thus, when we get addicted to pleasure and seek pleasure at any cost, we make 'wrong' perceptions which guide neurons to prompt 'wrong' actions and to reward pleasure for 'wrong' actions.

Thus, the real issue is not enjoying pleasure, but getting addicted to pleasure. Once we are addicted, we do not mind hurting others and doing unethical and immoral things. We ignore our duties, responsibilities and commitments, commit crimes, and even harm ourselves. Furthermore, once we are addicted we find it extremely hard to live in the present moment. Pleasure centers are activated not only when we physically experience a pleasurable thing, but also when we think of a past pleasurable experience, or of such an event to be experienced in the future. Whenever our mind is idle and finds the present moment boring, we tend to draw a pleasurable event from the past or future and ruminate on it. Once this becomes a habit, it prevents us from experiencing the joy of the present moment.

The soft-wired brain has been programmed by our wrong perceptions to see ourselves not as integral parts of the whole, but as individuals separated from others and from the environment, and to perceive

others as our competitors. The key factor the soft-wired brain cares about is *who and what can stimulate its pleasure centres*. Unless conscious efforts are made to control it, unless it is deliberately trained to do otherwise, or unless we act instantly without allowing it to distract us, the soft-wired brain is most likely to guide us to act selfishly. Its only concern is to gain pleasure and to avoid pain.

It prompts us to respond positively to a person or a situation if they are perceived to be capable of stimulating our pleasure centers. Otherwise, it prompts us to act negatively, no matter whether it will bring suffering, pain, unhappiness or misery to others. Therefore, the pure love arising from within is distorted, and expressed towards those who stimulate the pleasure centres as attached love, and towards those who stimulate pain as hatred. Thus, false perceptions soft-wired in our brain distort the hardwired pure unconditional love. Spirituality is about dissolving these soft-wired false perceptions so that the hardwired unconditional love can guide us from within. The pathways available to us to achieve this goal are discussed in the next chapter.

4. Becoming What We Are Designed To Be: *Pathways To Spirituality*

To liberate ourselves from the undesirable influence of false perceptions soft-wired in our brain, we should either dissolve these false perceptions or replace them with true perceptions. This chapter presents an account of the methods available to us to achieve this goal.

SPIRIT, SPIRITUAL REALM AND SPIRITUAL PATHS

As already seen, the word 'spirit' has come from the Latin word spiritus, which means breath, or that which gives life or vitality to a system. According to physics, what gives vitality to a system is energy. As we already know, the prime energy is conscious. When it enters into a biological system, the system becomes conscious and when it leaves the system, it is dead. From this perspective, spirit is the source of life, or life itself. Life is not a physical phenomenon. No one can 'produce' it. Recent discoveries in biology and physics

suggest that life came first and then matter, and life is central to all (Lanza, R. and Bob Berman (2009). Whatever the words to identify it – spirit, energy, or life – it is the reality beyond the material realm that we experience through our senses. We can call it the spiritual realm or the Universal Consciousness.

How do we know what the Universal Consciousness is like? What are its main characteristics? In the past, the founders of all religions spoke about the spiritual realm. Some contemporary spiritual teachers and philosophers speak about it. Some of them claim they are in contact with this realm and experience it. We hear from them about its vastness, oneness, interconnectedness and its properties such as love, compassion, peace, and wisdom.

Quantum physicists are now exploring into this realm; they call it the quantum realm. With the help of advanced microscopic instruments, they do experiments to find how quantum objects behave. As Fritjof Capra (2010), points out in *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, findings in modern physics substantiate what the founders of religions have said in the past, and what some contemporary spiritual teachers and philosophers say about the spiritual realm. People who have had near-death experiences also describe what the spiritual realm and its properties are like.

Is the spiritual realm real? Quantum physicists now directly deal with this realm; they directly observe

quantum objects, their behaviour, their interconnect-
edness, how they make conscious choices and how
they behave selflessly when they interact with each
other. Evidence coming from quantum physics
suggests the spiritual realm is real. Further evidence
comes from people who have had near-death
experiences.

According to them, leaving the physical body and
entering the spiritual realm is like awakening from a
dream. The dream is the reality of this material world
and the reality is the spiritual realm. Eben Alexander
(2012), the American neurosurgeon who had a near-
death experience wrote:

Our brain models outside reality by taking the
information that comes in through our senses and
transforming it into a rich digital tapestry. But our
perceptions are just a model. An illusion. (p 80)

According to him, the spiritual realm he experienced
is more real. He says: “The place I went was real.
Real in a way that makes the life we’re living here and
now completely dreamlike by comparison” (p 9). All
we experience through our senses in the material
realm are forms, and their apparent solidity is
temporary. Sooner or later, the forms are dissolved
and returned to their original state of energy. Hence,
life in the material realm is temporary and it generates
fear of death, pain and suffering. On the other hand,
spirit or energy cannot be destroyed and therefore is
eternal. As described by those who have experienced
the spiritual realm, it is a realm where there is no

death and suffering, but happiness, love and peace. Spirituality means being at one with the spiritual realm and being able to experience its love, peace and happiness while living in the material realm.

The same spiritual realm is within each and every one of us. As already seen, it occupies the empty space in every atom of our body as conscious energy. The same conscious energy fills the whole universe. But in our ordinary life, we cannot experience it as it is. This is because when we experience it through our senses, brain and nervous system, it is 'distorted' by the soft-wired false perceptions. At our death or near-death, when the brain, senses and nervous system cease to function, we will be left with the conscious energy that occupies the 'empty' space in atoms. Then we will no longer be subject to the laws of physics such as gravity, locality, time and space. We will begin to experience the properties of the spiritual realm such as interconnectedness, non-locality, and oneness. At near-death, we experience temporarily the spiritual realm. We also experience it when we are in deep meditation. In the state of deep meditation, when we are fully cut off from sensual experiences, we are absorbed into the spiritual realm. But, at the end, when we open our eyes and reconnect ourselves with the sensual world, we begin to experience the consciousness 'processed' by the brain. Our challenge is how to be able to experience the spiritual realm while living in the material world.

As already seen, what we are supposed to do in order to be one with the spiritual realm is hardwired in our brain; to love all unconditionally. But we do not follow the hardwired brain in our ordinary life. This is because the hardwired brain is overridden by the self-centredness soft-wired in the brain. To face the challenge, we have to free ourselves from the influence of the soft-wired brain. However, this does not mean we do not need the soft-wired brain. We need it for our life in the material world. When we live in this material world, we should be able to perceive ourselves as separate entities, identifying ourselves with name, gender, profession, position and nationality. We should be able to enjoy worldly pleasures. But we should not allow these properties of the soft-wired brain to be our master and control us. Instead, we should be the master and use these soft-wired properties as instruments.

To achieve this goal, ancient oriental classics identify three pathways; (1) the path of wisdom (Jnana Yoga), (2) the path of action (Karma Yoga) and (3) the path of devotion (Bhakti Yoga). Teachings of all religions represent one or more of these pathways. In general, most God-centred religions are either on the path of action, the path of devotion or a combination of both. Buddhism, which is not based on God, is on the path of wisdom. Those who are not religious, but spiritual, follow various unconventional non-religious pathways. Some of these pathways include meditation, psychospiritual therapy, past-life regression therapy, music therapy, spiritually inspired

service activities, spiritual workshops, study groups, seminars, conferences and studies of new-age scientific literature.

THE PATH OF WISDOM

The path of wisdom, as taught by the Buddha, the founder of Buddhism, emphasises the significance of our false perceptions, the perception of self/ 'I' as the major factor which distracts us from the truth and prevents us from becoming one with the spiritual realm. For instance, if our perception of a person is negative, when we see the person is in pain and the mirror neurons of our brain make us feel the same pain within us, we would not heed them and would not act to reduce that person's pain. On the other hand, if the perception is positive, we would heed the mirror neurons and instantly become one with the person and act to reduce the pain. Perceptions imply labels we place on people, objects and situations as 'like' or 'pleasant' and 'dislike' or 'unpleasant'. In between these two, there is a perception of neutrality. Each and every one of us has a unique set of perceptions, likes and dislikes, which give rise to our feeling of individuality, the sense of self/ 'I'. While the neural circuits connected to the experiences labelled as pleasant activate pleasure-generating neurons or pleasure centres of the brain, the neural circuits connected to the experiences labelled as unpleasant activate displeasure or pain-generating neurons. Both

pleasure and pain make us emotional and distract us from the truth of what we experience.

On the other hand, the neural circuits connected to the experiences labelled as neutral, activate neither pleasure nor pain but the neurons that generate feelings of tranquillity and peace. If these feelings are intensified, as happens in deep meditation, they eventually activate what some neuroscientists call the 'God Spot', which connects us with the universal consciousness. Hence, the Buddha's teachings encourage the state of tranquillity. The Buddha has introduced *Vipassana* meditation as a mind-training technique which can help us dissolve the neural circuits of our likes and dislikes and to live mindfully in the state of tranquillity. The potential capacity of Buddhist meditation to alter neural structures is proven by research findings in neuroscience (Begley, S. 2007, Siegel, D. J. 2011).

To dissolve the false perception that we are the physical body, Hindu scriptures recommend self-inquiry; asking ourselves 'Who am I?' 'Am I the body?' if not 'Am I the mind?' Realising the fact we are neither the physical body nor mind, but energy, will dissolve the existing neural circuits of the false perceptions and build new neural circuits which depict the truth. Thus, self-inquiry will help us transcend our false identity with body and mind and lead to the discovery of our true identity; we are energy. Once it is realised, the truth is wired in the brain and then we act accordingly.

THE PATH OF ACTION AND PATH OF DEVOTION

As mentioned, when we act in our ordinary life, our prime motive is seeking pleasure and avoiding pain. Whenever we perform an action, we expect some pleasure in return. This behaviour is wired in our brain. Certain neural circuits associated with the actions we perceive to be pleasurable are connected to pleasure centres in the brain. Some of these actions are eating, drinking, and gaining material wealth.

These kinds of actions, through the pleasure centres of the brain and nervous system, send pleasure-causing neurochemicals throughout the body. Due to our addiction to pleasure, we want to use our resources only for the actions which give pleasure. Once we are addicted to pleasure, we do not want to perform actions which give pleasure only to others. This makes us selfish. The path of action is designed to reverse this process. In the path of action, we deliberately perform actions which do not activate pleasure centres in our brain, but in the brains of others. What this means is we act for the well-being of others without expecting anything in return.

When we continue to act so, the old pleasure-seeking and pain-avoiding neural circuits gradually fade away, and new neural circuits which connect service activities with pleasure centres will come up. Then, we begin to experience pleasure when we act for the

well-being of others. Our new habit of serving others, instead of serving ourselves selfishly, makes us one with others. In our ordinary life in the material realm, we are in the habit of ignoring our hardwired brain and of listening to the soft-wired self-centredness. The path of devotion reverses this. It trains our mind to ignore the soft-wired brain and listen to the hardwired brain. By doing so, it dissolves neural circuits of old habits and replaces them with new neural circuits. In the path of devotion, we personify the universal consciousness as God, develop faith in HIM and surrender to HIM. The purpose of our life in the material realm is to love HIM. We believe God knows what we need better than us and believe HE gives all we need. Whatever happens to us it is with HIS knowledge, it is HIS will. Once a strong and unwavering faith is wired in our brain, we begin to accept everything that happens to us as God's will. Instead of trying to do what we like—what gives us pleasure—we happily accept whatever God gives without judging according to our likes and dislikes. Instead of wanting what we like, we now like whatever comes to us. Thus, we begin to ignore the likes and dislikes soft-wired in the brain. Eventually, the neural circuits which generate feelings of individuality become weak and gradually fade away, to be replaced by new neural circuits which generate feelings of oneness. With this transformation in the brain, we begin to experience oneness with others.

POWER OF PERCEPTIONS

Such a transformation in neural architectures is caused by a deep realisation of the fact we are not body and mind, but energy, and therefore are not separate individuals. We are integral parts of the whole mass of energy—the universal consciousness. Realisation is different from knowing. Knowing this fact by reading spiritual books and listening to spiritual discourses forms new neural circuits, but they will not last long. It is a well-accepted fact in neuroscience that realising through experience makes permanent changes in neural structures. Those who follow the path of devotion gain this realisation while engaged in communication with God through spiritual means such as prayer, chanting, and devotional singing. Those who follow the path of action get it through their involvement in service. Those who follow the path of wisdom experience it through meditation. *Vipassana* meditation, which aims at realisation of the truth, entails two stages; at first we focus on breathing in order to develop focused attention and thereby sharpen the mind, then we shift our focus from breathing to one of four things—body, mind, sensation, and the laws of nature. With the focussed attention, we observe the body in order to realise its true nature. When we observe the mind, we let our thoughts arise freely and observe objectively how each thought arises, stays for a while and passes away. Sensations are also observed in the same way—how different sensations arise, stay for a while and then pass away. This process of observation

leads to an understanding of the laws of nature; everything in the material realm is impermanent, and our wrong perception that they are permanent along with our attachment to them, causes suffering. With this realisation, the neural structures of false perceptions are dissolved and are replaced by new neural structures of the just realised truth.

All three pathways aim at changing the false perceptions which control our brain and then our behaviour. As previously explained, if we perceive someone or a situation to be positive and pleasurable, the brain's neural circuit activates pleasure centers when we next see the person or re-experience the situation. If we change our perception and begin to perceive the person or the situation as negative and un-pleasurable, the neural circuit restructures itself and activates the neurons which generate un-pleasurable feelings. This is how our psychology controls our biology.

This shows how much power we have to change our biology. Our brain has the power to control our body, emotions and behaviour, and we have the power to change our brain and thereby to control our body, emotions and perceptions. This view is now supported by a substantial volume of scientific evidence. Bruce Lipton (2005), a cell biologist, in his *The Biology of Belief* presents strong evidence from medical science to demonstrate the power of our perceptions. He shows how placebo drugs heal patients when they are told the drugs are real, how

developing positive thinking heals depression and how negative thinking makes people ill, how changing perception through hypnosis miraculously heals diseases, along with many more interesting true stories. He states:

Your beliefs act like filters on a camera, changing how you see the world. And your biology adapts to those beliefs. When we truly recognise that our beliefs are that powerful, we hold the key to freedom. While we cannot readily change the codes of our genetic blueprints, we can change our minds. (p 113)

Based on this scientific understanding, many unconventional pathways to spirituality have emerged as already explained, some of these pathways are psychospiritual therapy, past-life regression therapy, music therapy, transformational workshops, coaching, study groups, seminars and conferences, and studies of new-age scientific literature.

Transpersonal psychologists have developed numerous therapeutic practices to help us realise our true reality or what they call the Higher Self. As Rowan (2005), a transpersonal psychologist states, this realisation usually comes at first in the form of glimpses. But it can be cultivated by therapeutic practices. Before starting a therapy session with a client, the therapist accesses the Higher Self and then works together with the client to bring the client to the higher level. In such a session, the client will experience connection with the Higher Self in the form of glimpses. But “if we persevere with our psycho-spiritual development, it can become a plateau

experience which lasts longer—perhaps for the length of a therapy session or a workshop. It can then become a permanent acquisition so that we have access to it at all times” (p 111).

5. Does Spirituality Matter?

What grows within as us we grow spiritually is love, the force which keeps us together in harmony.

That is why spirituality matters to us. There is a general perception that spirituality is ‘other-worldly’ and does not benefit us in this life. This chapter points out, with the help of empirical evidence, that spirituality could in numerous ways promote happiness and prosperity in individuals and societies.

Spirituality, as already mentioned, means the state of being one with spirit, our inner reality, the conscious energy which fills the whole universe. In spite of its vastness, it functions as a single unbroken “one”. Its oneness is expressed through us as love, and it grows in us when we become one with the spirit. It is the force which keeps us together in harmony.

Richard Cookerly (2015), an American psychologist, defines love as a powerful, vital, natural process of highly valuing, desiring for, often acting for, and taking pleasure in, the well-being of the loved. All spiritual activities are meant to grow love, give love and

receive love. If any activity does the opposite, it is not a spiritual activity. Love manifests itself in various forms; giving, sharing, helping, being kind, compassionate and empathetic, respecting, listening, and forgiving.

All these, in various ways, give happiness and well-being. But there is a general belief that spirituality is other worldly that the rewards for the efforts and sacrifice one makes in this life come in the life after death. Contrary to this belief, there is evidence that spiritual growth offers tremendous benefits to individuals, societies and the whole universe. Some psychologists and social scientists have identified spiritually evolved or 'psychologically/psychospiritually matured' people in modern societies. For instance, Abraham Maslow (1987), an American psychologist, identified such people in his motivation theory and called them 'self-actualisers'. Whitmore (1997), called them 'self-realisers'. Michael (1983, cited in Maslow, 1987), called them 'inner-directed' people. Hamilton and Dennis (2005), identified a small but growing class of people with similar characteristics in Australia and UK. They call them 'down shifters'.

To identify all these spiritually evolved people, Ulluwishewa (2014), in his book *Spirituality and Sustainable Development* used the term 'inner-guided people'. These studies suggest spiritually evolved people bear a set of common characteristics which are potentially capable of bringing happiness, peace and well-being, not only to themselves but to others

around them. For instance, Maslow (1987), found self-actualisers are less self-centred, more loving and generous; not ego-centred like most people, but problem centred—not their personal problems, but the problems of others and the problems of mankind. They act as catalysts who can stimulate the higher qualities of others.

This chapter, referring to the characteristics of spiritually evolved people, points out why spirituality matters.

HAPPINESS AND WELL-BEING

What matters to most of us is happiness. As already shown, happiness comes from two sources;

- (1) when we experience something we have labelled as 'like', it stimulates the neurons which produce pleasure-causing neurotransmitters such as dopamine;
- (2) when we are in the state of peace and tranquility or when we help others without expecting anything in return, we get connected to our inner reality which radiates feelings of happiness.

The former is pleasure, it can also be called 'chemical happiness', because it is a product of neurochemicals. The later is natural to all, we do not need any external inputs for it. Hence, it can be called 'natural happiness'. We occasionally experience natural happiness, but most of us unfortunately depend on

pleasure for happiness. Seeking pleasure is common in most people. In every passing moment of our lives, whatever we do, our ultimate goal is pleasure.

However, among us, there are a few who seek natural happiness. We find their behaviour to be strange because, unlike most of us, they do not seem to seek pleasure and are not motivated by material gain.

They seem to enjoy, for instance, social service, meditation, devotional singing and meditative reading of spiritual literature. They are still very small in number, but slowly growing. In his study of self-actualisers, Maslow (1987), revealed they are happier than ordinary people, and their state of happiness is unaffected by the external or worldly situations they encounter in day-to-day life.

Evolving spiritually is associated with weakening or dissolving of the neural circuits which keep us addicted or attached to pleasurable experiences. Once such neural circuits become weak, the habit of seeking pleasure fades away. Instead of pleasure, such people seek natural happiness. Their preference for natural happiness enables them to live in the present mindfully; they keep connected to their inner reality and enjoy the natural happiness of the present moment.

They do not find the present moment tasteless or boring, hence they do not use it to ruminate on past pleasurable experiences, or pleasurable activities planned for the future. Since they live in the present, when they get an opportunity to experience pleasure,

they can enjoy it fully. They enjoy it knowing it is an impermanent experience and that it will end sooner or later. So, unlike most of us, they do not get upset when the pleasurable experience comes to an end. Instead, they begin to enjoy the happiness of the present.

The natural happiness they seek, unlike the pleasure most of us seek, is independent of material wealth. It does not depend on possessions, position, power, social status, prestige, or reputation. This view is supported by research findings. Maslow (1987), found in his empirical study of self-actualisers that they do not need material wealth for happiness, but are able to live in touch with their inner being and experience the true happiness it radiates. Furthermore, the kind of happiness they experience is more stable and long lasting, whereas the pleasure most of us seek is short-lived and is often followed by pain. For pleasure we need money. No matter how we earn it, ethically or unethically, money can offer us pleasurable opportunities. Hence, our attachment to seeking pleasure is likely to make us selfish and lead us to cause conflicts. The happiness self-actualisers seek cannot be gained by unethical means. They can experience happiness only by doing good to others. Seeking natural happiness makes them less selfish and leads them to live in harmony with others.

Those who seek natural happiness do not eat and drink for pleasure as pleasure-seekers do, and so suffer less from health problems caused by over-eat-

ing and drinking such as obesity, diabetes, high-blood pressure and heart problems. They need less wealth for living, hence they work less and rest more. Thus they are less stressed and live healthy lives, putting less pressure on national health resources. Scientific studies suggest living in loving and caring homes and communities makes us healthy; lack of love and living in isolation from loving people has negative effects on our health.

A 75-year study undertaken by Harvard researchers demonstrates the value of love for happiness and well-being. Presenting the findings of the study in his book *Triumphs of Experience: The Men of the Harvard Grant Study*, Vaillant George, E. (2012), says our relationships with other people matter more than anything else in the world. People experiencing non-loving and hostile relationships with their parents, when followed up for over thirty years, were shown to have developed much more serious illnesses than others. Loneliness, sadness and lack of love were significantly associated with the development of cancers in later life.

The study found a powerful correlation between the warmth of relationships and health and happiness in old age. Further evidence is provided by Stephen Post (2007), Professor of Bioethics and Family Medicine in the School of Medicine, Case Western Reserve University, USA, in his book *Why Good Things Happen to Good People*. With the support of

empirical evidence, he points out that loving and generous people live longer and healthier lives.

SOCIAL AND ECONOMIC BENEFITS

As people shift from pleasure-seeking to seeking natural happiness, they are likely to appreciate simple living. As Hamilton and Denniss (2005), point out, some studies in Australia and UK revealed such people make conscious decisions to accept a lower income and a lower level of consumption in order to live more simply, and to spend more time doing the things they value rather than paid work. They withdraw themselves from the 'rat race' that other people in their societies are heavily involved in. They value human relationships more than material wealth. Simple living, undoubtedly, is more sustainable than ordinary life in modern consumer societies.

Maslow (1987), found in his study that self-actualisers are more loving, kind and generous, than other people. When such people scale down and adopt a less-expensive simple life, they are likely to spend some of their wealth for the well-being of their less fortunate fellow human beings. They will enjoy the happiness of giving and serving others more than the pleasure of consuming. The world needs such a transformation to alleviate the poverty and inequality we find in our societies.

While economic growth is necessary to generate wealth, spiritual growth is necessary for fair

distribution of the wealth generated. Development assistance which is currently viewed by development professionals as an essential ingredient for development, has no spiritual foundation. Current development aid policies are often guided by self-centredness of donor countries and this can be a root cause of the failure of development aid to alleviate poverty and inequality. It has been pointed out that the root cause of poverty lies in over-consumption in affluent societies, and as long as 'the problem of affluence' remains unsolved, the poverty problem cannot be solved (Ulluwishewa, 2014). It is a well-known and accepted fact that the world's resources are sufficient to meet our needs, but not to meet our greed. If the greedy consume more than they need, the others won't be able to meet their needs and so poverty occurs. It is the affluent who consume more than they need. Arguably, if they stopped doing so, there would be sufficient resources for the poor to meet their needs.

The problem of affluence needs to be solved first. As mentioned the affluent experience pleasure through consumption and spirituality is the solution for over-consumption. The affluent will reduce consumption if they shifted from seeking pleasure to a new habit of seeking natural happiness. There are spiritual practices, both religious and non-religious, that can replace the neural circuits of the existing habit with those of the new habit.

Research findings in economics reveal that incorporating spirituality into business promotes not only business ethics but also profit. Once spirituality is incorporated, business turns into a service activity. In her book *Spiritual Capital: Wealth We Can Live By*, Danah Zohar (2004), discusses in great detail how businesses flourish when they are based on spirituality. Companies concerned with spirituality perceive business as a part of human enterprise and feel responsible for the well-being of the community. Such companies do not consider profit as their prime goal. Their prime goal is serving the community. Nevertheless such companies make high profit. Danah Zohar (2010), says:

Research shows that companies with a sense of higher mission and service provide their employees with a greater sense of meaning. This in turn, leads to higher productivity, less employee turnover, greater customer loyalty, and of course better profits. It's good business to be good. (p 4)

Spiritual training improves managers' efficiency and employer–employee relationships. Gopalakrishna (2006), with the help of empirical evidence, points out how *Vipassana* meditation improves personal, interpersonal, and professional effectiveness of both managers and employees. The results of the study showed that after practising meditation, all negative attributes such as stress, greed, anger, frustration, hatred, prejudice, revenge, arrogance and ego had substantially reduced, and all positive variables such as compassion, forgiveness, humility, equanimity,

loving kindness, generosity and tolerance had greatly increased. Reduction of negative qualities and consequent increases in positive qualities had increased personal effectiveness.

To study the interpersonal effectiveness, ten variables were used; two negatives being conflict and jealousy, and eight positives being domestic happiness, patience with others, trust in others, communication with others, team spirit, sympathetic joy, accommodating others' views, and co-ordination. The result proved that there was a sharp reduction in negative qualities and a high increase in the development of positive qualities. Professional effectiveness depends on the positive development of individual qualities, such as job satisfaction, productivity, sense of responsibility, self-motivation, commitment to work, performance at work, and concentration. The results suggest that meditation significantly improves all these qualities, which then lead to harmonious interpersonal relations.

The long-term unsustainability widely evident in most economic activities can be attributed to our short-term vision. Being self-centred beings, we are more interested in short-term personal gains. This applies to not only individuals, but also to companies, corporations and governments. While each company or corporation is concerned only about making short-term profits, each government sets targets for the next election. Hence, we all tend to exploit natural resources without considering the long-term impacts

on environmental sustainability. Furthermore, as self-centred beings, we do not mind fulfilling our needs and wants even at the expense of others' happiness.

If the prevailing circumstances permit us, we do not mind exploiting others for our well-being. It is the exploitation of one human being by another that widens inequality and creates social conflicts, causing stress on social harmony and sustainability. Hence, as long as we remain self-centred and greedy, any material growth we achieve cannot be sustained in the long run. Therefore, spirituality, as a means of reducing our sense of 'I', self-centredness and greed, is a valuable ingredient for maximising national productivity as well as sustainable growth. It has been pointed out that when spirituality is integrated, development becomes sustainable, and such a spirituality-based development can alleviate poverty and inequality and deliver happiness to all parties involved (Ulluwishewa, 2014; 2016a; 2016b).

The value of giving spiritual training to professionals is now widely known. It helps to develop their humanity, love and compassion and guides professionals to perform their profession as a selfless service. For instance, when motivated by unconditional love, doctors, engineers, managers, lawyers, civil servants and educators could perform their professions more effectively. Spiritualising politics would definitely be a great blessing to the whole of humanity.

6. Ways Forward

Spirituality involves an inner transformation in individuals. It is a personal matter. No one can transform another.

However, by adopting appropriate policy measures it is possible for governments and organisations to help individuals to achieve their spiritual goals. This chapter provides such policy recommendations. As already seen, our false perceptions; 'I am the physical body and the thoughts', 'I am separated from others and from the whole universe' and our addiction to pleasure-seeking that is soft-wired in our brain, override and overpower the hardwired truth that 'we are all integral parts of the universe'.

Dissolving the neural circuits of false perceptions so that the hardwired oneness can emerge and guide our thought and action, is spirituality. It is the state of being one with the spirit, or the conscious energy which fills the whole universe. Neuroplasticity, a groundbreaking discovery of modern neuroscience, says we can dissolve these soft-wired perceptions and attachments if we genuinely want to do so. This is

what the founders of all religions have aimed at, and they have shown pathways to achieve this goal.

For those who do not like religious pathways, there are non-religious science-based pathways. The future of humanity depends on how many of us achieve this goal. However, this is essentially a personal task. No one can dissolve the neural circuits of another's brain. Only by changing ourselves can we change the world. But there are certain things individuals and organisations can do to help people achieve this goal.

INTEGRATING SCIENCE-BASED SPIRITUALITY INTO FORMAL EDUCATION

Perhaps one of the most important things we can do is to integrate science-based spirituality into formal education. Today's formal education is oriented towards imparting the knowledge and skills necessary for the wealth generation. So many educational institutions produce people who are rich in worldly knowledge and skills, but poor in spiritual values.

Yet education can be an effective tool for guiding the younger generation towards spirituality, and for passing this learning to parents as well. Young minds are not fully conditioned by the economic and social systems and materialistic values responsible for the poverty, inequality and injustice humankind is witnessing today.

If guided at a younger age, they are able to bring out the spiritual values or 'higher qualities' hardwired in the brain. There are philosophers, spiritual teachers, and spiritual organisations inspired by such philosophers and teachers, which are already working along this line. Integration of spirituality into education would produce well-balanced people who have the knowledge and skills necessary for both economic and spiritual growth. Current experience and the findings of scientific research support the view that the use of basic spiritual values in education can enhance its effectiveness in bringing out and exemplifying 'higher qualities' in children.

As a component vital to the integration of spirituality into education, it is suggested here to introduce comparative religious studies, rather than teaching religion to students as a subject. Learning one's religion from teachers of one's own religion is not bad. However, learning to appreciate all religions as different pathways to the same destination of human fulfilment will produce respectful broad-minded citizens. People with such an understanding can interact with members of other religions comfortably and live in harmony in multi-religious societies. Such an approach to education will reduce religious egoism, which leads to conflicts among religions. It can also make religion a choice rather than an inheritance. In our life, we choose things we believe to be conducive to happiness and spiritual growth. We choose our job, marriage partner, place to live and so on. In each case, we do it by evaluating all available options

before making our choice. But when it comes to religion, most of us blindly stick to our parents' religion. Without any comparative evaluation and assessment, we irrationally believe our religion is the best, superior to all others. Our attachment to it is so strong some of us even do not mind harming our fellow human beings in the name of that religion. We tend to criticise other religions from the perspective of our own, without studying or clearly understanding the other. Teaching all religions as different pathways to the ultimate truth would give children an opportunity to choose their own, if they wish to do so, when they reach maturity. Apart from this, the significance of integrating spirituality into business, management, administration, healthcare, and politics should also be emphasised.

RE-SPIRITUALISING RELIGION – A PARADIGM SHIFT

It is unfortunate that in the separation of science and religion, which started after the Middle Ages, the baby, spirituality, was thrown out with the bathwater of religion. Consequently, spirituality does not necessarily play a central role in today's religions. Even so, religious institutions still remain tremendously powerful and influential in shaping the mindsets of their followers.

So if spirituality is re-integrated, religion can still be an effective tool in transforming the human mind. This does not mean regressing to religious

fundamentalism which is a source of violence and therefore an obstacle to spiritual progress. What is necessary is to bring back into religions the original message of their founders—that of unconditional universal love—and encourage religious leaders to view all religions as different pathways to higher levels of spiritual growth and respect them as equal partners. Differences in religions exist in the outer skin, rather than in the inner core. While doctrines, rituals, ceremonies, festivals, traditions, dress codes, rules and regulations constitute the outer skin, the original teachings of the founders of each religion constitute the core.

The core teachings of each religion directly contribute to the spiritual uplifting of the followers, and help to dissolve the false perceptions soft-wired in the brain if they are properly practised. However, the focus of most religions today is not on their core teaching, but on the outer skin, which gives a unique outlook to each religion. Nevertheless, with the spread of scientific thinking based on logic and verifiable fact, the significance and validity of the elements of the outer skin are increasingly challenged, and the focus is shifted from the outer skin to the core. The leaders of each religion must shift their emphasis from trying to increase the number of members by getting more converted from other religions, to helping their existing members move from the outer skin to the core of their own religion. Once the followers take a more scientific perspective on the core teachings rather than focusing on the rituals, traditions, rules

and the like, they will see the similarities among religions rather than the skin-deep differences.

As mentioned before, there are three separate pathways to spiritual progress; the path of devotion, the path of action and the path of wisdom. While God-centred religions are on the path of devotion or the path of action, non-God centred ones are on the path of wisdom. The founders of each religion taught only what was relevant to the path they were on. The founders of God-centred religions have spoken about God, and all their teachings were centred on God. Those who follow these two paths cannot grow spiritually if they do not believe in God. On the other hand, the Buddha, the founder of Buddhism, which is on the path of wisdom, has not spoken about God. His teachings can be practised without believing in God.

If teachings were genuinely practised, those who follow all paths could progress spiritually. It is inappropriate for those who follow the paths of devotion and action to perceive the absence of the concept of God in Buddhism as something unusual. Likewise, it is inappropriate for Buddhists to criticise those who believe in God, and their practices such as prayer and devotional singing, just because the Buddha has not spoken about such things.

The Buddha has spoken about only what is relevant to his path, the path of wisdom, and clearly, the concept of God is irrelevant to the path of wisdom advocated. The Buddha's teachings are about how to

gain wisdom by practising the Eightfold Noble Path, and that can successfully be practised without believing in God.

If religions can coexist peacefully, by forging attitudes and cultivating purposes that free people from the bondage of material well-being per se, and which inspire them to pursue mutually compatible goals, religions could be a great enterprise for humanity, in the sense that they may enhance happiness even in the face of limited resources. It is also necessary to separate from religions the cultural and political elements deeply embedded in them, so that spirituality can assume a prime role. This is a very challenging task. It is the responsibility of the leaders of all religions to accept this challenge for the sake of the future of humanity. This may require a sacrifice of material benefits and privileges. It has also been pointed out that there is value in using psychology in religions.

Psychologists research the efficiency of various religious practices, and psychotherapists use such practices for therapeutic treatments. However, religions do not seem to act reciprocally as yet. Some techniques developed by psychologists could be used by monks and ordained and lay ministers to help their devotees and congregants to expedite their spiritual growth.

Familiarity with modern psychology and psychotherapy will definitely enhance their capacity to perform their spiritual counselling more effectively.

Whitmore (1997), states that “if religion, as we know it, is going to survive the awakening of humankind, it will need to awaken [humankind] itself and bring a little psychology into its faith, hope and charity”(p 156).

SPIRITUALLY ORIENTED PERSONAL SERVICES

As people continue to move away from religions, some of the functions traditionally performed by religious institutions gradually shift to professional service institutions. There is a tendency in modern society to seek professional help such as counselling, coaching and psychotherapy, to solve personal problems, and for personal development in general. Spiritual orientation of such services would enable professionals to inspire individuals to transform themselves on spiritual paths. Recent advances in humanistic psychology, transpersonal psychology, parapsychology, neurology, neurotheology, and brain research, provide encouraging evidence to substantiate the potential value of the spiritual orientation of these professional services.

Transpersonal psychologists believe transpersonal psychotherapy is capable of uplifting the individual's consciousness to higher levels. “Transpersonal psychotherapy includes treatment of the full range of behavioural, emotional and intellectual disorders, as well as uncovering and supporting strivings for full self-actualisation,” wrote James Fadiman and Kath-

leen Speth (1980 p 684). "The end state of psychotherapy is not seen as a successful adjustment to the prevailing culture but rather the daily experience of that state called liberation, enlightenment, certainty or gnosis according to various traditions." (Cited in Maslow, p 252). Rowan (2005), a transpersonal psychologist, in his book *Transpersonal: Spirituality in Psychotherapy and Counselling* perceived psychotherapy as a bridge between psychology and spirituality. He states that "to reach the other end of the bridge means facing and exploring the sacred, the numinous, the holy, the divine" (p 4).

Some such service institutions and organisations are already spiritually oriented, and use spiritually oriented methods, techniques, and concepts for healing. For instance, Whitmore (1997), believes spiritual psychotherapy provides the space and security for the God within to emerge more efficiently and authentically than with the church. Drawing evidence from his own experience as a practising psychotherapist, he explains how the participants in therapy groups have developed certain higher qualities such as support, caring, unselfishness, consideration and tolerance. He notes that these qualities are precisely those which a Christian might describe as Christian values or behaviour. He believes spiritual psychology is more effective than the preaching of clergy in religious institutions in transforming individuals. This is because in such institutions, there is often a gap between what they preach and what they do, whereas such a gap does not exist in non-verbal group

therapy. Meditation as prescribed in Buddhism and Hinduism as a prime tool for spiritual progress, is now widely used in psychotherapy and counselling to reduce stress as well as for personal development.

Epilogue: Transforming Ourselves To Transform The World

The world urgently needs such a transformation; a transformation from self-centredness to selflessness, from greed to generosity, from disharmony to harmony, from hate to love, and from 'I' to 'We'.

This is spiritual transformation. No external force can bring such a transformation to the world. It can come only from inner transformation in individuals. Individuals, when transformed, radiate love towards others. When individuals transform, families transform; when families transform, communities transform; when communities transform, countries transform; when countries transform, the world transforms.

The best way we can contribute to transforming the world is to transform ourselves. If we decide to transform ourselves, no force in the world can prevent us from doing so. We can transform ourselves. If we want to do so, there are pathways, both religious and

non-religious. If we want, we can choose to practice our own religion—the core teachings of the founders, not the rituals, beliefs and doctrines added later. If we don't like religions, there are many non-religious pathways. No matter what path we follow, if we transform ourselves, the small world around us will begin to follow.

References

Alexander, Eben (2012) *Proof of Heaven: A Neurosurgeon's Journey Into Afterlife*. (New York : Simon & Schuster Paperbacks).

Begley, S. (2007) *Train Your Mind Change Your Brain: How a new science reveals our extraordinary potential to transform ourselves*. (New York : Ballantine Books).

Bohm, David (1980) *Wholeness and the Implicate Order* (London: Routledge & Kegan Paul).

Capra, F. (2010) *The Taos of Physics: An Exploration of the Paralalls between Modern Physics and Eastern Mysticism* (Boston: Shambhala).

Cookerly, R. (2015) 'What is love, Dr. Cookerly'
<http://whatislovedrcookerly.com/97/the-definition-of-love/> , date accessed 24 March 2015.

Duane Elgin (2015) *We Live in a Living Universe. Working With Oneness*,
<http://www.workingwithoneness.org/articles/we-live-living-universe.>, date accessed 5 March 2015.

Gopalakrishna, G. (2006) *Buddhism and Contemporary Management with Special Reference to Vipassana Meditation* (Dehiwala: Buddhist Cultural Centre)

Hamilton, C. and R. Denniss (2005) *Affluenza: When Too Much is Never Enough* (Crows Nest NSW 2065 Australia: Allen & Unwin).

Hanson and Mendius (2009) *Buddha's Brain: The practical neuroscience of Happiness, Love and Wisdom* (Oakland CA:New Harbinger Publications).

Intropsych (2015)

http://www.intropsych.com/ch02_human_nervous_system/pleasure_centers.html Date accessed 20 March 2015.

Lanza, R. and Bob Berman (2009) *Biocentrism: How Life and Consciousness are the Keys to Understanding the True Nature of the Universe* (Dallas: Benbella Books, Inc.).

Linden, L.D. (2012) *The Compass of Pleasure: How Our Brains Make Fatty Foods, Orgasm, Exercise, Marijuana, Generosity, Vodka, Learning, and Gambling Feel So Good.* (Penguin Publishing Group).

Lipton, Bruce L. (2005) *The Biology of Belief: Unleashing the Power of Consciousness, Matter & Miracles* (New York:Hay House).

Lommel, P. van (2010) *Consciousness beyond Life: The Science of the Near-Death Experience* (New York: Harper One).

Louis Cozolino (2006) *The Neuroscience of Human Relationships: Attachment and the Developing Social Brain* (Norton).

Matthew Lieberman (2013) *Social: Why Our Brains Are Wired to Connect* (New York: Crown Publishers).

Maslow, A. (1987) *Motivation and Personality* 3rd edition (New York: Harper and Row Publishers).

Mindhacks (2015)

<http://mindhacks.com/2008/09/16/erotic-self-stimulation-and-brain-implants/> , date accessed 18 January 2015.

Moan, C.E., & Heath, R.G.(1972) Septal stimulation for the initiation of heterosexual activity in a homosexual male. *Journal of Behavior Therapy and Experimental Psychiatry*, 3, 23-30, 1972.]. Quoted in Dr Robert Heath (1915 - 1999)

<http://www.wireheading.com/robert-heath.html>.

Moorjani, Anita (2012) *Dying To Be Me: My Journey From Cancer, To Near Death, To Healing* (Hay House).

Moody, R. A. (1975) *Life After Life* (Covinton, GA Mockingbird Books).

Newberg, Andrew B., Eugene G. D'Aquili, Vince Rause (2002) *Why God Won't Go Away: Brain Science and the Biology of Belief* (Ballantine Books: New York).

Pearsall, P. (1998) *The Heart's Code: Tapping the Wisdom and Power of Our Heart Energy* (New York: Random House).

Pfaff, D. (2007) *The Neuroscience of Fair Play: Why We (Usually) Follow the Golden Rule* (New York: Dana Press).

Pfaff, D. (2015) *The Altruistic Brain: How We Are Naturally Good* (Oxford: Oxford University Press).

Pleasure Center (2015)

https://en.wikipedia.org/wiki/Pleasure_center Date accessed 22 March 2015.

Post, Stephen and J. Neimark (2007) *Why Good Things Happen to Good People* (New York: Broadway Books).

Rowan, J. (2005) *The Transpersonal: Spirituality in Psychotherapy and Counseling* (London: Routledge).

Rizzolatti, G. and C. Sinigaglia (2007) *Mirror Neurons in the Brain: How Our Minds Share Actions and Emotions*. (Oxford: Oxford University Press).

Scherwitz, L. et al (1983) 'Type A Behaviour, Self-Involvement and Coronary Atherosclerosis', *Psychometric Medicine*, 45 (1), March 1983.

Siegel, D. J. (2011) *Mindsight: A new science of personal transformation* (New York: Bantam Books Trade Paperbacks).

Sober, E. (2002) 'Kindness and Cruelty in Evolution' In R J. Davidson and A. Harrington eds. *Vision of Compassion* (New York: Oxford University Press) pp 46-65.

Stewart, L. (2015) 'Linda Stewart's Near-Death Experience' <http://www.near-death.com/experiences/notable/linda-stewart.html> date accessed 30 August 2015.

Sylvia, C and Novak, W. (1997) *A Change of Heart: A Memoir*. (Boston: Little Browns Company).

Taylor, Jill Bolte (2006) *My Stroke of Insight: A brain Scientist's Personal Journey* (New York: Plume).

Tomasello, Michael (2008) 'For kids, altruism comes naturally, psychologist says' *Sanford News*, <http://news.stanford.edu/news/2008/november5/tanner-110508.html>, date accessed 25 February 2015.

Ulluwishewa, Rohana (2014) *Spirituality and Sustainable Development*. (Basingstoke: Palgrave Macmillan).

Ulluwishewa, Rohana (2016a) 'Spirituality, Sustainability and Happiness: A Quantum-Neuroscientific Perspective'. In Dhiman S. and J. Marques (Ed.), *Spirituality and Sustainability: New Horizons and Exemplary Approaches*. (Springer).

Ulluwishewa, Rohana (2016b) 'Climate Change, People and Spirituality: A Quantum-Neuroscientific Perspective'. In Tilakasiri, S. L. (Ed.), *Water, Land and People in Climate Change: Issues, Challenges and Perspectives*. (Colombo: Stanford Lake Publications).

Vaillant, George, E (2012) *Triumphs of Experience: The Men of the Harvard Grant Study* (Cambridge, Mass, USA: Harvard University Press)..

Warneken, Felix (2013) *The Development of Altruistic behaviour: helping in Children and Chimpanzee*
https://software.rc.fas.harvard.edu/lds/wp-content/uploads/2010/07/Warneken_2013_Social-Research.pdf, date accessed 20 March 2015.

Warneken, Felix and Michael Tomasello (2009) *The Roots of Human Altruism*. *The British Journal of Psychology*. Pp 455-471.

Wheeler, J.A. (1973) 'From Relativity to Mutability' in J. Mehra (ed.) *The Physicist's Conception of Nature* (Kluwer Academic Publishers).

Whitmore, J. (1997) *Greed, Need or Freedom: Business Changes and Personal Choices* (Shaftesbury Doser: Element).

Williams, R. Kevin (2002) *Nothing Better Than Death: Insights From 62 Profound Near-Death Experiences* (Xlibris Corporation).

Zohar, Danah (2010) Exploring Spiritual Capital: An Interview with Danah Zohar.

http://spirituality.ucla.edu/docs/newsletters/5/Issue_5/Zohar_Final.pdf. Date accessed 20 March 2015

Zohar, Danah and I. Marshall (2004) Spiritual Capital: The Wealth We Can Live By (San Francisco: Berrett-Korhler, Inc.).

