

# **Emotional Genetics: Habitual emotional tendencies, well-being and Yoga Therapy.**

A study of learned emotional responses and their affect on the autonomic nervous system and subtle body.

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CAE & Australian Institute of Yoga Therapy

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## CANDIDATE'S DECLARATION

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I certify that the thesis entitled: Emotional Genetics: Habitual emotional tendencies, well-being and Yoga Therapy is the result of my own work and that where reference is made to the work of others, due acknowledgment is given.

I also certify that any material in the thesis, which has been accepted, for a degree or diploma by any other university or institution is identified in the text.

I also certify that any material in the thesis, related to my own PhD study at Deakin University, is identified in the text.

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Signed: 

Date: 31/7/08

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# ABSTRACT

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## **Emotional Genetics: Habitual emotional tendencies, well-being and Yoga Therapy.**

*A study of learned emotional responses and their affect on the autonomic nervous system and subtle body.*

No matter where we stand in the present we are inevitably influenced by the past. The past helps to construct the present and ultimately, the future. Hence, whether we like it or not, we are all subject to the laws of cause and effect (in yogic terms *karma*) – every thought, belief and action has a consequence. How these consequences affect our health is the subject of this paper.

Humans are emotional beings. Modern research demonstrates that an emotion is both a cognitive and a physiological state. Feelings are influenced by thought and, this paper supports the view that how we feel affects our health.

Western thinkers like Sigmund Freud have revealed that the mind does not always dwell in the “conscious” realm – what we think (and feel) is not necessarily obvious to us and therefore, our own responses to life may not be fully understood by us. To Freud, the unconscious is very much rooted in the past. Classical yogic tradition also suggests that our thoughts, our feelings and our behaviour are often the result of habitual tendencies (*samskaras*) – unconscious impressions that leave their imprint on the mind - affecting our actions in the present.

In yogic philosophy, the mind cannot help but influence the homeostasis (balance) of the body; body and mind are understood to have a reciprocal influence on each other – they are considered to be an integrated system - a system influenced by the flow, or restricted flow, of *prana* (life-force or energy). This energy field is subject to change depending on how we think and feel – how we live our lives in general.

This research project is based on the premise that balance in the *bodymind* is vital to health and well-being. It proposes that the energetic movement of the mind (in the form of emotions) prompts physiological responses that affect the whole *bodymind*, including the subtle body. These responses can be positive (helpful) or negative (unhelpful) to our well-being. This project explores the hypothesis that unhelpful habitual or mal-adaptive, inter-generationally conditioned responses, something I relate to the term “emotional genetics” (the word genetics simply means to engender or adopt), can cause an imbalance in the *bodymind*, often resulting in dis-ease. Finally, it investigates various methods or approaches based on Yoga Therapy techniques that work to restore homeostasis in the *bodymind*.

By presenting the theory of emotional genetics, this paper looks at the ways in which emotional responses are passed on from one generation to the next both by habitual thinking and by cellular memory and how these patterns of thinking influence our health and well-being.

## CONVENTIONS

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Due to software restrictions, Sanskrit translations do not include diacritics.

I have attempted to alternate any reference to gender.

This research has been carried out with a practical approach and, for that reason, may appear somewhat clinical at times. In other words, because of the nature of this report, a broad reference to information is required, hence, much of the research is independent of yogic tradition, yet Yoga is certainly paralleled in these various disciplines.

It is virtually impossible to give adequate attention to all aspects of Yoga in such a short work. For instance, the spiritual side of Yoga and the more mystical elements of yogic tradition are noticeably absent herein. Restricted by the word limit, I have endeavoured to include details relevant to the subject at hand, but sadly, this has come at the cost of some of the most interesting and heart-enhancing aspects of Yoga. I urge the reader to seek out this knowledge.

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## PREFACE

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### A brief note on Yoga

The roots of Yoga go back thousands of years to the Indus Valley circa 3,000 BCE (Feuerstein 1997, p. 244).<sup>1</sup> There are numerous limbs<sup>2</sup> to the yogic tree of knowledge, many of which incorporate the principles and practice of *Hatha Yoga* (forceful/physical Yoga) to achieve Yoga's ultimate aim, *citta-vrtti-nirodha* (Feuerstein 1997, pp. 74-75)<sup>3</sup> - 'the restriction of the whirls of consciousness' (Feuerstein 1998, pp. 4-5).<sup>4</sup> Yoga maintains that these whirls of consciousness – the activities of thought) must be restrained in order to attain liberation<sup>5</sup> - to obtain freedom from a conditioned existence.<sup>6</sup>

It is difficult to explain the concept of Yoga in such a brief piece of writing, but perhaps it is best understood through the statement, 'Yoga is collectedness (*samadhana*)' (*Shankara's Yoga-Sutra-Bhashya-Vivarana* (1.1), Feuerstein 1998, p. 3). For Yoga, 'collectedness' is a reflection of consciousness. The origin of the word consciousness comes from science – *conscius* (Latin) *con* 'together, sharing knowledge, yields conscious' – from *conscius* arises *conscire* – to know at the same time. 'Yoga suggests that a human being has a natural (collective or collected) state of

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<sup>1</sup> The origin of the *Vedas* (knowledges), which are at the core of yoga, is often disputed, but some put this tradition as far back as 3,000 BCE or earlier. 'In north-western regions of the Indian subcontinent (by the Indus River near Sind, which is in present-day Pakistan)...The Aryan people brought the *Vedas* to the Indus civilisation. The ruins of the Indus Valley depict 'ascetics engaged in yoga practice' (Bilimoria 1989, p.1).

<sup>2</sup> See figure 1. 'The wheel of yoga' on page 14.

<sup>3</sup> *Citta* (mind) is transposed with subliminal activators (unconscious imprints) or traits responsible for various psycho-mental phenomenon. *Vrttis* (whirls) represent the five fluctuations of the mind (i.e. accurate [valid] cognition, erroneous knowledge or misconception [similar to Solomon's concept of deception or self-deception], conceptualisation [imagination], sleep and memory). *Nirodha* (restriction) refers to the restriction of these fluctuations which is achieved by means of meditation (*dhyana*).

<sup>4</sup> The goal of yoga is also described as 'the restraint of the modifications of mind-stuff' (Satchidananda 1997, p.3).

<sup>5</sup> According to Feuerstein (1997, p. 168), liberation is the highest human potential. He writes: 'The pursuit of liberation, which can be equated with spiritual life per se, is not only the noblest but also the most meaningful undertaking of which people are capable.' Put simply, liberation aims to free a person from all unconscious conditioning.

<sup>6</sup> Some meditative practices rely on cognitive repetition, such as mantra meditation, but this process is purely a means to an end with the ultimate goal of stilling the mental processes by clearing the mind of thought.

knowing but that this knowing (which could be described as awareness) is restricted by the whirls (activity/thoughts) that overwhelm it' (Wiesner 2008).<sup>7</sup>

A comprehensive guide to this process of liberation is found in the *The Yoga Sutras of Patanjali* (Stiles 2002, p. xi).<sup>8</sup> Mukunda Stiles refers to the *Yoga-sutras* as 'the earliest complete experiential Indian philosophy for self-transformation' (2002, p. xi). The *sutras* are made up of approximately 195<sup>9</sup> aphorisms or insights. The word *sutra* itself is Sanskrit for maps or threads. It is derived from two words – *su* meaning 'thread or string' and *tra* meaning 'to transcend' (Stiles 2002, p. xv). To Stiles, the *sutras* imply 'the weaving of thoughts into a sequence that produces transcendental insights in [an individual's] personal practice'. In *Yoga: Discipline of Freedom*, Miller defines the word Yoga as "yoke" suggesting Yoga is a system that 'yokes one's consciousness to a spiritually liberating discipline' (Miller 1998, p. ix).<sup>10</sup>

## **Patanjali**

Little is known about the Indian sage Patanjali,<sup>11</sup> said to be the author of the first written text based on Yoga, known as Classical Yoga.<sup>12</sup> Opinions vary regarding the date of Patanjali's work, but the most commonly sanctioned period is between 300BCE and 150 BC. Interestingly, there is evidence of two Patanjali's living in the second century (the other, a grammarian) and some believe that they are one and the same person (Feuerstein disagrees with this notion). The *Yoga-Sutras of Patanjali* is written as four books: *Samadhi-Pada* (the book of contemplation)

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<sup>7</sup> This collective consciousness is something that many describe as spirituality. Yoga connects the collective spirit of all life with prana (life-force or energy) and prana is said to travel through the body via the breath. The word breath also has etymological links to words such as spirit and psyche.

<sup>8</sup> I have deliberately chosen to include various translations to give a broad perspective of the theories explored.

<sup>9</sup> Some scholars say 194 or 196.

<sup>10</sup> Please note the connection between the spiritual and the breath will be discussed at greater length in part one.

<sup>11</sup> Stiles explains how Patanjali's name reveals the devotional aspects of his work i.e. *pata* meaning 'falling leaves' and *anjali* referring to 'palms joined in cupped prayer' (Stiles 2002, p. xi).

<sup>12</sup> 'Many scholars believe that the books of the *Yoga-sutras* had different authors and were written at different times' (Burns 2006, p. 38). In fact there is not proof that Patanjali was a man - the author may well have been a woman.

*Sadhana-Pada* (the book of practice), *Vibhuti-Pada* (the book of accomplishment) and *Kaivalya-Pada* (the book absoluteness).<sup>13</sup>

## Samkhya (or Sankhya) tradition

Yoga and Samkyha are traditionally entwined. The word *Samkyha* (or *Sankyha*) translates as ‘insight’ (Feuerstein 1997, p. 254). According to Feuerstein, the *Sankyha*<sup>14</sup> tradition (which dates back to the *Rig-Vedas*) has a close connection to Yoga as both are said to lead to the same goal (1997, p. 254). The tradition of *Samkyha* was developed between 500 and 200 BCE by the Indian sage Kapila. The main distinction between the two is that *Samkyha* relies on tradition (or the testimony of adepts) whereas Yoga relies on perception (*pratyaksha*) (Bilimoria 1989, p. 22).

The spiritual path of *Samkyha* requires the renunciation of everything other than the Transcendental Self (eternal or Absolute consciousness),<sup>15</sup> which is said to be the only principle capable of true consciousness (Feuerstein 1997, p.254). These two traditions share the same psycho-cosmology describing the primordial and most fundamental principles of the universe:

The principles of the universe are two, namely *prakriti* and *purusha*. *Prakriti* is loosely translated as ‘matter’ or original energy-stuff (it could also refer to nature, but in some unformed state); *purusha* is translated as ‘spirit’, ... (it may also refer to sentience). The proximity of *purusha* and *prakriti* brings about the evolution through stages of changes in the ‘matter’ of the basic principles, traces and gross elements that come to constitute the manifest universe (or ‘creation’ as some refer to the process).

(Bilimoria 1989, p. 22)

To understand this process, Bilimoria refers to the analogies of:

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<sup>13</sup> Kaivalya, which some translators use as a synonym of *moksha*, actually means ‘aloneness’. Feuerstein suggests that when apperception is without any presented-ideas, that it is ‘alone’. Hence, Patanjali finale (book four) implies that liberation (freedom) is found in apperception free from presented-ideas (ripples of thought, which are the result of conditionality [conditionality is conditional thoughts that arise from events that then condition future thoughts and events]).

<sup>14</sup> Please note, Feuerstein uses the spelling *Samkyha*, but to avoid confusion, I have been consistent and used *Sankyha* throughout.

<sup>15</sup> The self has many dimensions in Yoga. The Self is said to be the higher consciousness or spirit (*pursusha*) and *atman*, which stands for oneself (and is identical with the Absolute *brahman*). In addition, *ahamkara* is said to be the I-maker, self-identity or individualisation and *asmita* is the concept of ego or I-am-ness (identifying with individualisation – this is one of the *kleshas* [causes-of-affliction or sources of trouble]). Also, *jiva* is used to describe the living being, also describing the finite personality ‘which experiences itself as different from others’ (Feuerstein, 1998 pp 4-6, 602, 289-290 and 604).

...the scintillating effect of a coloured light falling on a crystal, or the photosynthetic effect of the sun's rays on a leaf, or even the union between a man and a woman' (1989, p. 22).

Interestingly, this concept is reflected in the theory of quantum physics:

According to quantum theory, matter can be manifested in both waves and particles – these two aspects of a thing (waves and particles) are necessary to grasp the “beingness” of a thing (Wiesner 2001, p. 14)

These two principles of being, waves and particles, could be likened to the psycho-cosmology of *prakriti* and *purusha* – nature and spirit – in Yoga;<sup>16</sup> suggesting that *prana* is the essence (or vibratory power) that unites these universal principles.

According to Bilimoria, the *Samkyha* tradition and the yogic system have a similar cosmological model. In Yoga tradition there is the addition of *Ishvara* (a deity that is not presented as a creator or even a redeemer, but more like the Buddha. *Ishvara* is a giver (or provider) of insight into ‘the truth and techniques of meditation’ (1989, p. 22) and these insights are presented in the *Yoga-sutras*. The *Yoga-sutras* present eight steps i.e. *ashtanga-yoga* (eight limbs of Yoga) to the ethical concerns and practical application of Yoga:

1. *yama* (social restraint)
2. *niyama* (personal discipline)
3. *asana* (Yoga posture or pose)
4. *pranayama* (breathing techniques)
5. *pratyahara* (sense withdrawal)
6. *dharana* (concentration)
7. *dhyana* (meditation)
8. *samadhi* (cognitive absorption or ecstasy).

(Bilimoria (1989, p.23).

These limbs are explained in more detail in part three.

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<sup>16</sup> Sometimes referred to as ‘unconscious nature’ and ‘conscious self’ (Burns, 2006. 38).

## Emotional genetics – the theory

We are sentient beings, we feel, we emote. But, what is an emotion? In *The Dictionary of Psychology* (2006, p. 248) Andrew Colman describes an emotion as a psychological state. He explains that the origin of the word comes from the Latin word *movere*, meaning to move, indicating an action, process or state. Our emotional states involve a gamut of influences incorporating the senses, body chemistry, cognitive function and instinctual reactions. Emotions are feelings and these feelings take place because of the way we interpret our internal and external environments.

Many believe that Yoga, and Hindu traditions, pay little attention to emotions or feelings. Yet Feuerstein argues that Hindu traditions have accounted for ‘the entire range of feelings ... known to modern psychology’ (Feuerstein 1997, p. 101). He writes:

Enlightenment [<sup>17</sup>] does not terminate [a person’s] emotional life...Rather as a fully liberated being...[the individual engages] in life spontaneously and... animate[s] all kinds of emotions without [being] bound by them (Feuerstein 1997, pp. 98 and 202).

In his paper, ‘Emotional Intelligence,’ Brian McMullen describes emotion as ‘energy in motion’ (<http://careerfocus.bmj.com/cgi/content/full/326/7381/S19>, cited 21/09/07). There has been a vast array of research carried out on the emotions, some of which is discussed in this study. But for the purpose of this project, emotions are put forward as a form of energy, proposing that ultimately, it is how this energy is “moved” in the *bodymind* that makes it helpful or unhelpful to the individual’s well-being.<sup>18</sup>

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<sup>17</sup> Enlightenment is synonymous with Self-realisation. *Nirvana* (blowout) is a Buddhist term for enlightenment and generally refers to the cessation of all desires. Abraham Maslow’s concept of self-actualisation refers to this concept as a peak experience (Feuerstein 1997, pp. 98 and 202).

<sup>18</sup> The terms helpful and unhelpful are also used by Albert Ellis in relation to what is rational and irrational - this will be discussed more thoroughly in the next section.

The origin of the word *genetic* comes from the Indo European word *genere* ‘to engender’ (to beget or get), and the Latin word *gene* derived from *genus* meaning ‘to adopt’ or ‘to generate’ (Partridge 1983, p. 249). With this in mind, this study presents ‘emotional genetics’ as adopted emotional responses that influence our energetic system (the *bodymind*) – the inter-generational habits of thinking that result in the domination of particular emotions and as a result, particular physiological responses.

Analogous to the use of the word ‘genetics’ (Colman, 2006, p. 314)<sup>19</sup> in biology, this thesis explores the ways in which emotional responses are passed on from one generation to the next, but unlike biology, I use the term ‘emotional genetics’ to describe things that are passed on through learning/observing behaviours, rather than through cells/DNA (although cellular memory is also address briefly in part two).

From a yogic perspective, the unhelpful aspects of what we adopt from the past represent the causes-of-afflictions (*kleshas*) – the source of our troubles. *Kleshas* are destructive emotional traits that condition our existence. The five types of *kleshas* are ignorance or nescience (*avidya*), I-am-ness (*asmita*), attachment (*raga*), aversion or hatred (*dvesa*) and ‘the will to live’ (*abhinivesa* [grasping or clinging to life]) (Feuerstein, 1989, p. 61). These causes-of-affliction or ‘emotional reactions’ (Fenner 1987, p. 217) keep us in bondage – trapped in a conditioned existence (*samsara*).<sup>20</sup> The Buddhist term for this conditioned existence is ‘conditionality’ – conditioned thoughts arising from events that then condition further events (Fenner 2000, p. 13).

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<sup>19</sup> Scientifically, the term *genetics* actually means ‘a branch of biology devoted to the study of heredity and variations, including their physical basis in DNA’ (Colman 2006, p. 314). This is not the sense in which I will be using it in this thesis.

<sup>20</sup> The yogic term for a conditioned existence is *samsara* – which represents the wheel of life or wheel of karma.

Yoga suggests that it is our inability to deal with these sources of trouble that causes our discontent and dis-ease.<sup>21</sup>

## Understanding awareness

This concept of controlling emotion is sometimes misinterpreted as advocating being “unfeeling,” but this is quite contrary to the essence of what Yoga is: awareness (this premise is explained in the following pages). In fact, the paradox in Yoga is that although it promotes *pratyahara* (sense withdrawal) as one of many tools to achieve involution ([*pratiprasava*] climbing of consciousness to higher levels of being [Feuerstein 1998 p. 182]) – a process that works to gradually reduce and eliminate *samskaras* (subliminal or unconscious *kleshas* [Feuerstein 1998 p. 294]), the process itself creates a higher level of awareness – hence the individual becomes more attuned with his/her environment. In other words, awareness (a state of heightened consciousness) is sometimes achieved through a withdrawal from sensory distraction.

Another paradox worth mentioning here is the dichotomy between being mindful and a mind full, in other words ‘the mindfulness of focused attention - awareness - contrasted with a mind full of unrestrained thoughts’ (Wiesner, 2008).

Finally, in summarizing this preface it is important to point out the following paper barely scrapes the surface of a greater subject – being human. Being human is by no means ‘black and white’. As Robert C. Solomon’s work suggests - no one can tell you how you ‘feel’. Yoga understands this and offers us a process by which we can begin to understand ourselves – one that can teach us to be comfortable in our own bodies and at peace within our own minds.

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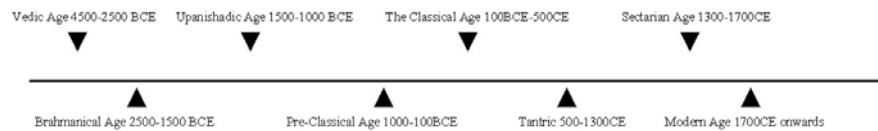
<sup>21</sup> *Dis-ease* - meaning unease - The word disease comes Latin word *dis* a prefix of Latin origin meaning asunder or apart - a negative or reversing force and ease from Old French origin *aise* meaning comfort – hence, reversing comfort.

# Wheel of Yoga

It is said that all paths of yoga lead to the same place—liberation. Some of the spokes in the yogic wheel are listed below.



## Yogic timeline



From *The Yoga Tradition* by Georg Feuerstein

Figure 1. Constructed from information found in *The Yoga Tradition* (Feuerstein 1998, p. 35 & pp. 83-86)

# INTRODUCTION

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*Man is made by his belief. As he believes, so he is.*

Bhagavad-Gita (Flesch 1959, p. 19)

## Research structure

### Background and Context for the Research

Many philosophical theorists view the body as separate from the mind.<sup>22</sup> Yoga, however, views the body and mind as one – as an integrated force or essence.<sup>23</sup> In Yogic philosophy, the body cannot help but influence the homeostasis<sup>24</sup> of the mind; body and mind are assumed to have a reciprocal influence on each other. This research project is based on the premise that balance in the *bodymind*<sup>25</sup> is vital to health and well-being.

Diseases that affect our mental and physical well-being are numerous. (<http://www.mayoclinic.com>, cited 6/11/07).<sup>26</sup> For example, statistics show that depression is a rapidly growing concern. It is likely that the effects of depression on the body will be the basis of many future studies:

The World Health Organization predicts that by 2020 depression will be the second leading cause of health impairment, death and disability — worldwide. The Australian Institute of Health and Welfare say that depression is Australia's third largest health problem after heart disease and stroke.

(Victoria Government's Wellness Day, Advertising Material for Mental Health Week, October, 2006)

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<sup>22</sup> For instance, to philosophers such as Aristotle<sup>22</sup> (Aristotle trans. Thomson 1976 p. 87) and Descartes<sup>22</sup> (Descartes trans. Cottingham 1986, p.12) the body and soul are separate.

<sup>23</sup> 'Yoga means to join together, it comes from the ancient Sanskrit word *yug* which means "to yoke" or "to unify". A yogi is one who consciously unifies body, mind, emotions and spirit so that they work together' (Ledgerwood, [www.yogaworld.org](http://www.yogaworld.org), cited 6/11/07).

<sup>24</sup> *Homeostasis* is a medical term used to describe a state of balance or equilibrium (Tortora and Derrickson 2006, p. iv).

<sup>25</sup> *Bodymind* is a term used by Deepak Chopra in *The Seven Spiritual Laws of Success* (1997) to signify the unity of the body and the mind – it will be used within this study to describe the body and mind as an integrated being.

<sup>26</sup> When doing a search on the Mayo Clinic website for the word 'disease' over a thousand variations are shown.

Health issues such as cancer, heart disease and stroke touch many of our lives. Diseases such as these have been linked to lifestyle, the environment and biological genetics.<sup>27</sup> Research into the relationship between the mind and the body, in respect to dis-ease, is an on-going process. The following study builds its foundation on many of the studies already carried out, looking at biological, psychological and habitual or inter-generational influences on health and well-being.

This paper proposes that the energetic movement of the mind (in the form of emotions) prompts physiological responses that affect the whole *bodymind*, including the subtle body<sup>28</sup>. These responses can be positive or negative (positive representing helpful and healthful, and negative representing unhelpful - hindering good health and well-being). This research explores the hypothesis that mal-adaptive, inter-generationally<sup>29</sup> conditioned responses cause an imbalance in the *bodymind*, resulting in dis-ease. It investigates various methods or approaches based on Yoga Therapy techniques that work to restore homeostasis in the *bodymind*.

## Significance of Research

Conditioned mental attitudes and habits of behaviour confine soul awareness and perpetuate meaningless living. Like a disease, these characteristics which are common to the spiritually unawake state, are often nurtured and transmitted from one generation to another (Davis 1997, page 136).

This project is particularly important in view of the aforementioned health issues. With a rising incidence of stress-related dis-eases or ‘diseases of adaptation’ (Selye 1976, p. xvii), it is

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<sup>27</sup> Lifestyle (Selye 1979, p. 481), environment (Einsenberg et al , www.pubmed.gov, cited 8/11/07), genetics (Rattan 2007, www.pubmed.gov, cited 8/11/07).

<sup>28</sup> The term subtle body is used within the context of yoga as the underlying system or life-force [see *prana* or *nadis* in the glossary] of the body. The origin of the word ‘subtle’ relates to the Latin word for *subtilis* meaning ‘fine-woven, delicate, ingenious or web; subtle comes from the Latin word *tēla* for ‘weave or texture’ (Partridge 1989, p. 678).

<sup>29</sup> The term inter-generational is used within this study to describe habitual emotional tendencies between one generation and the next. This term is comparable to trans-generational trauma, which will also be explored within the context of this study (Daneš www.pubmed.gov, cited 8/11/07).

imperative to our health and well-being that we understand how stress manifests in the body.

Further significance is found in the definition of the goal of Yoga Therapy, which I describe as:

A united effort between the patient and the therapist to help the patient begin the healing process (and reduce symptoms) using yogic practices that encourage the natural flow of life-force energy (*prana*) throughout the *bodymind*.

Since Yoga Therapy is a relatively recent field of academic inquiry in the West, further significance can be found for this study in its contribution to building a body of knowledge regarding the part Yoga Therapy can play in the healing process due to its understanding of the inherent and intuitive healing-nature of the *bodymind*.

Western medicine has any number of medical fields that specialise in treating specific ailments, involving numerous pharmacological treatments (drugs) available to treat particular dis-eases. Where the Western model often appears to focus on treating the symptoms, Yoga Therapy explores the reason why the problem has developed and what can be done to alleviate it and to avoid further symptoms. In some ways, Western medicine deals with ‘parts’ of the patient (e.g. specialised fields of medicine), whereas the Yoga Therapy model focuses on the whole person. The appearance of symptoms is the Yoga therapist’s starting point. But rather than just targeting one problem, the Yoga therapist also looks at the whole person, basically asking the question:

What is out of balance? or,

What is the underlying reason that this symptom has manifested?

Undoubtedly, Western medicine can make a similar claim, but its exploration into the cause is often limited by its reliance solely on science to the detriment of a more wholistic (holistic)<sup>30</sup>, nature-based approach – the things that science might struggle to explain. Western medicine’s

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<sup>30</sup> Wholistic (holistic) comes from the Greek word *holos* meaning all, entire or whole. The wholistic approach to healing realises that ‘the emotional, mental, spiritual and physical elements of each person comprise a system’ (Kerala Ayurvedic Health Clinic (KAHC), 2005, <http://www.kahc.co.uk/holism.html>, London).

primary focus is on the physiological functioning of the body. Yoga Therapy explores the subtleties of the “whole” *bodymind* with an awareness of energy flow, seeking to pinpoint any subsequent blocks in this energy that may be causing imbalance.

## **Main Research Question**

This research asks:

*Is an individual’s interpretation of life events and emotional responses learned through habitual or inter-generational influences, and do they manifest as dis-ease in the body?*

## **Research Aim**

The aim of this research is to:

1. Investigate whether and if so the extent to which an individual’s interpretation of life events and emotional responses are learned through habitual or inter-generational influences and how habitual emotional responses manifest as dis-ease in the body.
2. Highlight Yoga Therapy techniques and theories designed to help the individual to counteract mal-adaptive effects of trans-generational emotional responses.

## **Research Design and Methodology**

### **Research Aim 1**

To address research aim number one, a survey was conducted to gather data on the extent to which inter-generational influences affect the patterning of emotional responses and associated health outcomes. It includes both quantitative and qualitative questions. This survey is aimed at

the general, adult population (recruitment by way of the general community - see appendix A for the letter of request for the survey and appendix B for an example of the questionnaire).

## **Research Aim 2**

To address research aim number two, a review of the literature relating to emotive/cognitive inheritance, various models of mind-body relationship and the application of Yoga Therapy is undertaken to highlight Yoga Therapy techniques that help an individual to counteract mal-adaptive effects of trans-generational emotional responses.

This literature review examines specific texts and teachings, establishing an overview of particular areas of Eastern and Western philosophical, scientific and psychological theories (i.e. energy, emotion, cognition and Yoga Therapy) with particular attention to habitual tendencies. It endeavours to distinguish between modern methods of interpretation, regarding the health of the mind and the body, and various translations of classical ancient Hindu texts. And because the nature of Yoga is experiential, I also include my own experience as a Yoga teacher.

This cross-cultural comparison of these particular theories involves formative research methods, with the ultimate aim of highlighting techniques for a Yoga Therapy approach aimed at health and well-being, with an emphasis on helping an individual to break free of *samskaras* (subliminal activators) and counteracting the negative affect of *kleshas* (causes-of-afflictions).

## **Methods of analysis**

### **1. Survey**

Both a statistical and descriptive analysis of the survey is undertaken to establish a knowledge base relevant to the research topic.

## **2. Literature Review**

The literature review compares and analyses the relevant sources asking questions such as:

- What is the relationship between emotion and cognition?
- How does this relationship affect human behaviour?
- What are the possible physiological consequences of this relationship (and the resulting behaviour)?
- How do these effects specifically relate to health and well-being?
- What can Yoga Therapy do to moderate these effects?

## **Summary**

The ultimate goal of this study is to discuss possible methods of Yoga Therapy that helps individuals counteract the negative effects of inter-generational emotional tendencies. In order to devise a treatment that works towards the desired outcome – i.e. well-being – it is important that the proposed treatment incorporates the three values recommended by Reigeluth and Frick - effectiveness, efficiency and appeal – that is, that treatment that strives to create new, more effective health habits and is non-threatening and productive (<http://www.answers.com/topic/overview-of-instructional-design>, cited 08/01/08).

As the quote prefacing this proposal (from the Bhagavad-Gita) claims, we “are made by our beliefs”. What we believe determines our choices and therefore, our life-course. Our beliefs are influenced by the past – beliefs passed on from one generation to the next. If we are “as we believe”, then it could be argued that a primary aim of Yoga Therapy is to construct a belief

system aimed at health, vitality and peace of mind. The ultimate goal of this study, then, is to explore the ways in which we can work towards this aim and tap into the healing power within.

That boundless power, source of every power  
manifesting itself as life, entering every heart,  
living there among the elements, that is Self.

Upanishads (Anderson 1954, p. 316)

## PART ONE – ENERGY (PRANA – THE ESSENCE OF LIFE)

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### Life's force

The first proposition put forward in this work is that *being*, put simply, is energy manifest. The origin of the words 'being' and 'energy' reflect this premise. *To be*<sup>31</sup> is 'to exist', 'to become' (to be in an active state) (Partridge 1983, p. 42). The word energy comes from the Greek word *energos*,<sup>32</sup> which means 'being at work', 'containing work' or to 'be active' (Partridge 1983, p. 182). *To be* has Sanskrit origins to the word *bhava* (from the root *bhu* 'to be') (Partridge 1983, p. 42). *Bhava* also translates as 'condition, nature, disposition or feeling' (Feuerstein 1997, p. 54), reflecting the yogic connection between *being* and *feeling*, indicating that *feeling* is also energy manifest.

This leads to the second proposition offered by this paper: that the energy of being is influenced by the energy of emotion. When we consider that the origin of the word emotion also reflects movement or action (energy in motion<sup>33</sup>) it is reasonable to view emotions as catalysts for the distribution and redistribution of energy within our system. In the following pages I endeavour to make a sound connection between physiology and emotive-cognitive function, and in doing so, support prior works by other theorists suggesting a link between health and emotion.

According to Satchidananda, Yoga is best defined as a science. He writes:

When the word Yoga is mentioned, most people immediately think of some physical postures for relaxing and limbering up the body. This is one aspect of the Yogic science... Hatha Yoga was primarily designed to facilitate the real practice of Yoga, namely, the understanding and complete mastery over the mind...the actual meaning of the word Yoga is science of the mind.

(Satchidananda 1997, p. xi)

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<sup>31</sup> From the Medieval English word *been*.

<sup>32</sup> A derivative of *ergon* meaning 'work'.

<sup>33</sup> Please refer to the preface.

The science of Yoga becomes more obvious as we investigate the philosophical and physiological principles of Yoga and Yoga Therapy. The cyclical nature of being becomes evident as we begin to understand the impact of inter-generational habits (something Ernest Wood refers to as ‘habit-moulds’<sup>34</sup> in *Practical Yoga*) of emoting that affect our energy levels – our way of *being*.

Yoga theory has understood for centuries that emotions are not just psychological; they are also physiological. Yoga philosophy also recognizes that emotions are learned responses – passed on from generation to generation – but that they can also be ‘un-learned’ or restrained. Yoga tradition recognises what Western philosophy and science have uncovered - that emotions are connected to how we think as well as how we feel. For instance, in *Cognitive, Social and Physiological Determinants of Emotional State*, Stanley Schachter and Jerome Singer agree that emotions have two elements (Solomon 2003, p. 111):

The Jamesian [<sup>35</sup>] “physiological” component of arousal [as well as] a “cognitive” component that determines how emotions are labelled and discriminated among...The first component can be measured quite precisely...[However], the second component...is complex and difficult to quantify (Solomon 2003, p. 110).

Schachter-Singer findings conclude that ‘an individual will react emotionally only to the extent that he [or she] experiences a state of physiological arousal’. Another term for physiological arousal is stress. In *The Stress of Life*, Hans Selye describes stress as the ‘nonspecific response of the body to any demand’ (he terms this response the general adaptation syndrome, which is now known as the fight or flight response) (1976, p. 74). The theory behind this paper, i.e. emotional genetics, is that this physiological response has an emotive/cognitive cause that is often linked to inter-generational emotionally reactive tendencies.

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<sup>34</sup> Habit-mould is a term used by Ernest Wood in *Practical Yoga* (1951) to describe *kleshas* [obstacles/afflictions].

<sup>35</sup> William, James (1842-1910) is one of the four primary theorists on what constitutes an emotion. His essay *What is an emotion?* was published in 1884.

The physiological and cognitive nature of emotion is something that can be influenced by Yoga practice, in particular, Yoga Therapy, since Yoga Therapy offers an individualised form of Yoga practice. As part three of this paper addresses, Yoga Therapy helps the individual to enhance the flow of energy or life-force in the *bodymind* in a way that promotes positive and helpful life habits – on a physical, cognitive and emotional level.

## Energy

Scientist, James Prescott Joule (1818-89) discovered that a quantity of heat can be equated to mechanical work; in other words, heat converts to work (action) and must therefore be a form of energy (McEvoy & Zarate 2002, p. 17). The first law of thermodynamics is that energy cannot be destroyed: ‘whenever a certain amount of energy disappears in one place, an equivalent amount must appear elsewhere in the same system (this is called the law of conservation of energy).’ In essence, the yogic model suggests that energy redeployment in our system influences our potential for health and well-being.

## Yoga and energy

Yogic theory relates the body’s energy to *prana* (life force). *Prana* – the body’s energy or life force - is said to be present in all living things.

*Prana* stands for ‘life’ or breath of the cosmic (*Purusha*). In Hinduism...*prana* almost invariably signifies the universal life force, which is a vibrant psychophysical energy similar to the *pneuma*<sup>36</sup> of the ancient Greeks...The *Yoga-Vasishtha* (3.13.31) tellingly defines *prana* as the “vibratory power” (*spanda-shakti*) that underlies all manifestation (Feuerstein 1997 p. 224).

The Yoga tradition holds that *prana* moves with the breath within the human body and in *Hatha* Yoga (forceful or physical Yoga), *prana* is enhanced by a combination of movement and breath. Yogic texts suggest that when we experience tension in the

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<sup>36</sup> *Pneuma* (πνεῦμα) is Greek for "breath, spirit, heart, mind, HOLY Spirit, ghost, wind", which metaphorically describes a non-material being or influence (<http://en.wikipedia.org/wiki/Pneumatology>).

*bodymind*, the flow of this vital force is restricted, which ultimately causes blocks that lead to dis-ease. The word *prana*, literally translated, means ‘life’ or ‘breathing forth’. According to Mohan, *pra* means ‘life’ and *an* means ‘travel’, hence ‘to breathe forth’ (2001, p. 158). According to Feuerstein, *prana* stands for ‘the breath of cosmic *purusha* and for the breath of life in general’ (1997, p. 224). This universal life force is describable as a ‘vibrant psychophysical energy’ (Feuerstein 1997, p. 224). Although *prana* is enhanced by a combination of movement and breath, it is not ‘the breath’. However, according to Stiles, ‘it is most readily discovered through the discipline of respiratory function’ (2005, p. 47). Primarily, to understand how Yoga and Yoga Therapy can assist a person’s health and well-being, one must first look at the physiology of Yoga.

## **Vayus (5 regions)**

According to Leigh Blashki, course facilitator of the Graduate Certificate in Yoga Therapy:

Ancient yogis discovered that *prana* (life force energy) could be further subdivided into energetic components they called *vayus*. The *panca* (five) *vayus* of *prana* all have very subtle yet distinct energetic qualities, including specific functions and directions of flow (Leigh Blashki, 2007):

The *vayus* are as follows:

- *Prana*, the ascending breath issuing from the navel or heart and including both inhalation and exhalation;
- *Apana*, the breath associated with the lower half of the trunk;
- *Vyana*, the diffuse breath circulating in all the limbs;
- *Udana*, the “up-breath” held responsible for speech, and the ascent of attention into higher states of consciousness; and
- *Samana*, the breath localized in the abdominal region, where it is connected with the digestive processes (Feuerstein 1997, p. 224).

Although the above describes where *prana* is placed in the body, it is important to remember that *prana* is a vital force that penetrates all things and not just restricted to the human body.

Yoga suggests that when we experience tension in the *bodymind*, it means that the flow of this vital force is restricted, and as we have learned, cognitive function (thoughts) affect our physical being; hence, how we think affects how we feel and if this process becomes ‘unhelpful’ (has a negative impact on the nervous system), then this can cause energy blocks that lead to dis-ease. Consequently, it is this vital energy that the practitioner of Yoga and Yoga therapist work with in order to attain well-being. (*Sutras* 2:49 - 2:55 is addressed in greater detail in part three; these sutras relate to *pranayama* [controlled breathing techniques] that work to still the modifications of the mind and to enhance the flow of *prana*.)

## **Kosas (Koshas)**

In order to understand the flow of energy in yogic tradition, it is important to understand the concept of the *kosas*. The word *kosa* translates as ‘sheath’. According to Blashki, there are five sheaths or planes of existence associated with the human body (2007). Blashki explains that ‘the physical body also has subtle bodies of finer substance surrounding it (etheric sheaths enveloping the body)’. Each of us has the ability to function on ‘any number of these higher planes’. The energy body appropriate to each plane (sheath) is known as a *kosa*. The *kosas* are the planes in which consciousness expresses itself. As Feuerstein (1997 p. 157) explains ‘the body is not the only vehicle in which consciousness can express itself, or in which the Spirit, or Self (*atman*), manifests itself’ hence, consciousness permeates the five sheaths – food, life-force, mind, awareness and bliss. In brief, Blashki (2007) explains the five *kosas* this way:

- *Annamaya Kosa* (the food sheath): the body’s physical substance; relates to the five elements (earth, water, fire, air and space [or ether])
- *Pranamaya Kosa* (vital energy): infusing life into the physical body – this is the domain of sensory experience
- *Manomaya Kosa* (mental/psychological): experienced via the thoughts (linked to sub-conscious) - constructed from lower nature (*manas*) – associated with destructive emotions such as anger, doubt, lust, depression, etc.

- *Vijnanamaya Kosa* (intellectual/body of knowledge): formed from higher knowledge; associated with the concept of *Buddhi* (the higher mind) – the faculty of reason
- *Anandamaya Kosa* (spiritual): *ananda* translates as joy – through this plane we experience joy, happiness, serenity, peace and bliss (the highest state experience while on earth).<sup>37</sup>

As Blashki (2007) puts it, ‘students of Yoga see the physical body as a vehicle that is used to prepare the consciousness for the highest spiritual level’, he refers to the body as the ‘temple of the soul’ in which ‘unity with the Universal Spirit is the Ultimate goal’ (Blashki 2007). When it comes to the health and vitality of the human *bodymind*, balance, awareness and energy-flow are imperative components of each plain of existence.

## The Subtle body

In yogic tradition, the *nadis* are the manifestation of *pranamaya kosa*. The *nadis* are a network of subtle energy channels that sustain the physical body (Feuerstein, 1997, p. 467). There are approximately 72,000 *nadis* in the body, which include three primary channels, and energy centres known as *chakras*.<sup>38</sup> The seven *chakras* (Sanskrit for wheel, from the root *car*, ‘to move’) are psycho-energetic centres that are arranged vertically along the axial channel or spine (Feuerstein 1998, p. 469).<sup>39</sup>

According to Feuerstein (1998, p. 496), the central channel, which runs along the spinal cord, is called the *sushumna* (most gracious channel). Two other primary channels wind around the *sushumna*, these are known as *ida* (channel of comfort) and *pingala* (tawny current). *Ida* represents the left side of the body – it relates to the female, passive, cool energy (moon), whereas *pingala* represents the right side of the body and relates to the male, active, hot energy

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<sup>37</sup> See appendix C.

<sup>38</sup> See appendix E.

<sup>39</sup> In yogic tradition, it is said that there is a serpent-like channel of energy entwined around the spine called the *Kundalini*. It is only when each *chakra* is clear (unblocked) that the flow of energy can be completed along the *Kundalini*, leading us to the highest level of consciousness (Feuerstein 1998, p. 469).

(sun). The *ida* current of life force corresponds to the para-sympathetic division of the central nervous system on a physical level. The para-sympathetic division of the central nervous system is the response that restores the body to homeostasis [balance] in the event of a nervous disturbance. *Pingala* corresponds to the sympathetic division of the central nervous system (this response prepares the body for fight or flight in the event of a threat). According to Blashki (2007), ‘the practical techniques of Yoga involve awakening the energy of the subtle body or mind called the *kundalini* (coiled or serpent energy/power)’. This happens when balance is found in the solar and lunar *nadis*. As a Yoga therapist, understanding and working with the subtle body is imperative. From a Western perspective, this energy system is affected by the body’s general adaptation response (fight or flight response). The practices and therapies offered by Yoga release this tension and to help the body maintain healthy levels of nervous/energetic function.

### The Nadis

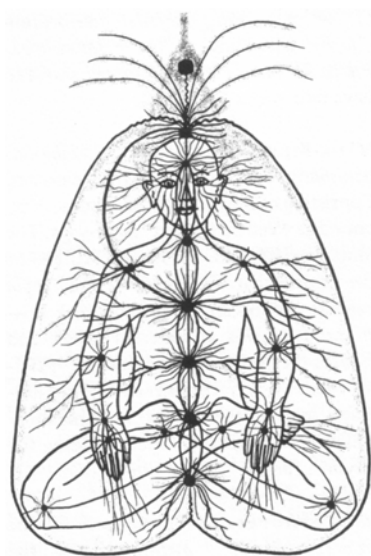


Figure 2. (Feuerstein 1997, p. 194)

## Freud and the theory of psychical energy

In examining a subject such as emotional genetics (habitual emotional tendencies) it is important to look at the way energy is distributed in the psyche as well as the body. Sigmund Freud discovered that the laws of dynamics could not only be applied to the body, but also to the human *personality*. He proceeded to create a dynamic theory of psychology based on the distribution and disposal of psychic energy within the personality. Freud's views suggest that our ability to 'think' with any degree of clarity (conscious awareness) and liberation<sup>40</sup> relates to the formation of the personality and this distribution of psychic energy<sup>41</sup> (Breuer/Freud [trans. Reddick] 2003, p. 65).

Freud uses the term libido to refer to this psychic energy; energy fuelled by thought processes and sexual urges. He claims that all psychic energy originates in the unconscious (Walsh 2007).<sup>42</sup> Freud's early studies relate this energy primarily to sexual energy but later in his studies he connects this psychic energy with the survival instincts (the life and death urges – *eros* [Greek origin for the 'will to live'] and *thantatos* [Greek origin for the 'death wish'], Neu 1999, p. 65).<sup>43</sup>

In *The Ego and the Id*, Freud identifies two crucial forms of what he describes as 'unconscious':

- the pre-conscious, where thoughts that are no longer conscious in the mind become latent (memories recalled at will); and
- the unconscious, what remains unconscious (the unconscious operates and exists outside of consciousness ([trans. Reddick] 2003, pp. 105-107).

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<sup>40</sup> In yogic terms, 'the event of liberation and bondage [on a psychological level] are merely conceptual constructs and hence of no ultimate significance. ... there is neither bondage nor liberation...there is only the Absolute beyond ill' (Feuerstein 1997, p. 187).

<sup>41</sup> Psychic energy is a term used by Freud to describe the energy contained within the human personality (refer to glossary of terms).

<sup>42</sup> See appendix D.

<sup>43</sup> This creates a vital link between the physiology of the fight or flight response discussed later in the section, and the system of energy distribution within the psyche.

In short, ‘consciousness constitutes the *outer* surface of the psychic apparatus’, whereas what is unconscious lies beneath the surface of the conscious mind (Freud [trans. Reddick] 2003, p. 110). Freud characterises consciousness as the surface of perception – what we sense and feel, our ‘thought processes’ (Freud [trans. Reddick] 2003, p. 110).

It is interesting to note at this point that the ancient tradition of Yoga understands the concept of the unconscious. In *The Yoga Tradition*, Feuerstein suggests that past experience<sup>44</sup> determines the circumstances of life as it is in the present. Impressions (*samskaras*, the unconscious imprints of *kleshas* [emotional reactions]) of the past – that is, how we learn to think about life – influence and determine the circumstances of the future (1998, p. 320).

## Psychic energy

Freud argues that the psychophysical mind has a fixed amount of this psychic energy (Stevenson 2003). The mind cannot create nor destroy this energy but only transfer it from one kind of function to another. This transfer can be constructive or destructive (helpful or unhelpful) depending on its nature. Freud suggests that an individual’s personality is ‘determined’ by the changes, balance, and interaction of this psychic energy within the mind and that imbalance in this energy causes neuroses.<sup>45</sup> (The id is the source of this psychic energy – the part of the personality associated with primary influences (our wants/desires) that directly relate to the basis of our habitual tendencies.)<sup>46</sup>

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<sup>44</sup> From a yogic perspective, this may also mean other lives, not just present lives, since yoga suggests that birth has a cyclic nature; hence, one continues to be reborn until all karmic effects are removed. Karma (action) is the residue of one’s actions – i.e. the cause and effect of life. In other words, what one does has an effect and the nature of this effect must be pure and be based on *ahimsa* (non-harm) to oneself or others. Until this is learned one is destined to be reborn.

<sup>45</sup> The word neurosis comes for the Greek word *neuron*, a nerve, and *osis* indicating a process or state (i.e. a nervous state). In general terms, a neurosis is a mental disorder with predominately distressing symptoms without apparent organic aetiology (Colman 2006, p. 503).

<sup>46</sup> Much of this theory is taken from my PhD thesis.

Freud connects the psychophysical health and well-being of the individual with the dynamic distribution of energy within the system.<sup>47</sup> He explains that, when it comes to a person's inner life, certain forces actively oppose the conscious realisation of what is latent. He uses the term 'repression' to describe the status of latent unconscious thoughts that remain inaccessible to the consciousness,<sup>48</sup> and describes the forces that keep these thoughts repressed as 'resistance' (Freud [trans. Reddick] 2003, p. 106). Resistance is the 'tendency to strive against the transition of repressed thoughts, feelings or wishes from the unconscious to consciousness' (Colman 2006, p. 652). This resistance often manifests in the body as tension (an understanding of this theory has great bearing on the way tension is held in the body).

To Freud, how we "present" as an individual is a direct product of the distribution of energy within the personality system. A healthy and well-adjusted person achieves balance and harmony between the three parts of the personality, which Freud terms, the id, the ego and the superego. These aspects of the personality system can be explained as follows:

## **The Id**

Put simply, the id is the primary process the "I want" or instinctive part of the personality. The goal of the id is to discharge quantities of excitation (energy or tension) that are released in the organism through stimulation by either internal or external means. According to Freud, the id fulfils the primordial principle of life: 'the pleasure principle' (Freud [trans. Reddick] 2003, p. 45). Freud equates the pleasure principle with the tendency found in all living organisms to relieve tension, the need to maintain some kind of equilibrium or stability (Freud [trans. Reddick] 2003, p. 47).

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<sup>47</sup> Freud helped to establish the concept of psychosomatic illness - psychosomatic 'relates to certain organic disorders, such as hypertension that is believed to be caused or aggravated by psychological factors such as stress' (Colman 2006 p. 620).

<sup>48</sup> Please note that in modern times, the word subconscious is often used to describe what is operating outside the consciousness (preconscious or unconscious – Colman 2006, p. 735). Freud avoided using this term because of its ambiguity.

Calvin Hall explains it this way:

...tension is experienced as pain or discomfort while relief from tension is experienced as pleasure or satisfaction. The aim of the pleasure principle may be said, then, to consist of avoiding pain and finding pleasure (1979, p. 22).<sup>49</sup>

Where the id certainly accentuates “wants” (something that can be associated with the yogic concept of *manas* – the desiring mind) it does nothing practical to gain the desired object. It works on creating a demand and fulfilling that demand with a substitute (such as food as a substitute for emotional nurturing). Yet, the individual must learn to survive in the world - to negotiate life and find an on-going way to discharge tension and reduce the anxiety caused by tension. Existence, itself, dictates the need for a degree of compromise between the individual and the world. It is this need for compromise that necessitates a new formation in the psychological system – hence, the development of the ego as the mediator. Freud describes the

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<sup>49</sup> Freud’s theories regarding the ‘relief of tension’ create an interesting paradigm bridging the East and West; a link that recognises the ‘need’ to reduce tension in an organism to establish homeostasis. The id poses the ultimate threat to the individual’s mental freedom for without a discharge of tension from the mental apparatus, the individual remains a prisoner of his own mind (Freud [trans. Reddick] 2003, p. 97). According to Freud, the id is ‘demanding, impulsive, irrational, asocial, selfish and pleasure loving. It is the spoilt child of the personality’ (Hall 1979, p. 27). Nevertheless, it is almost omnipotent in its magical fulfilment of the individual’s wishes by imagination, fantasies, hallucinations and dreams. According to Freud, we store information from our perception system (e.g. sight, sound, taste, touch, smell) in the form of a memory image. In other words, what we experience through the senses creates a memory image - a memory image of the object originally perceived (a past perception) (Hall 1979, p. 25). When we have a need for the discharge of tension, if there is not an immediate satisfaction, the primary process tries to reduce or discharge the tension by what Freud refers to as an ‘identity of perception’ (Hall 1979, p. 25). What this means is that the actual memory image and the perception are seen as one and the same thing. ‘In other words, the id fails to distinguish between a subjective memory image and an objective perception of the real object’, as in the case of a hungry baby who sucks his thumb - the id identifies this with a perception of the real object, that is, food (Hall 1979, p. 37). This need for satisfaction is something Freud also relates to the dream process. According to Freud: The study of dreams may be regarded as the most reliable approach route for those seeking to understand the deep-level processes of the psyche (Hall 1979, p. 51). The primary process is at work when we dream (we experience events that help us discharge the tension that has built up through the day). We experience a series of images that reduce the tension by allowing us to relive memories and events in a way that creates gratification on a psychic level (this is something that can also be achieved by Yoga Therapy techniques – refer to part three). The primary process cannot always fulfill the direct need or desire for the object, so the primary process can become illusionary. Although this process can become attuned to reality through by fantasy it allows us to imagine the fulfilment of desire. This means that there is a need for a secondary process and this process relates to the formation of the ego. According to Freud, where the id is disorganised and impulsive and relates to basic instincts, the ego is a kind of mediator, which works to monitor the id. The generation of the secondary process allows the recognition of the difference between internal and external fantasies and creates a distinction between two or more desired objects, establishing a degree of calculation within the psyche and allowing for the deferment of satisfaction (Freud [trans. Crick] 1999, p. 181).

ego as the arbitrator, controlling ‘all the psyche’s constituent processes’ (Freud [trans. Reddick] 2003, p. 108).<sup>50</sup>

## **The Ego**

The ego develops from the id, it is the secondary process or reality principle, and it basically keeps the id in check by the ability to negotiate satisfaction. Where the primary process creates a desire or picture of the needed object, the function of the ego introduces a process, which ‘realistically’ creates a plan to acquire the object of satisfaction. In essence, if the reality principle or the ego is in power it means that there has been a suspension of the demands of the id (the pleasure principle) in the interest of reality. Hence, the secondary process is our problem solving state - the process whereby we can plan how it is that we can get what we want (this is undoubtedly where the negative connotation of the ego originates from: our desire to get what we want).<sup>51</sup>

Freud claims that the ‘ego represents what may be called reason and calm consideration, in contrast to the id, which harbours the passions’ (Freud [trans. Reddick] 2003, p. 116). When a person is referred to as “well-adjusted”, the ego is said to be the controlling element of the personality. We could refer to the ego as a diplomat between the internal and external world. It maintains a positive communication line between the interests of the total personality and the individual’s ability to live in the external world in a satisfactory manner (Hall 1979, p. 23). Indeed, Hall refers to the ego as the ‘executive’ of the personality (Hall 1979, p. 28). Harmony and adjustment are evident when the ego is performing its executive functions well.

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<sup>50</sup> The concept of the ego is often confusing. The ego, referred to in yogic tradition as the “I” identity is said to get in the way of the individual’s ability to transcend to a higher consciousness, yet Freud’s concept of ego is seen more as a rational instrument for dealing with the reality of the world.

<sup>51</sup> Interestingly, in Eastern philosophies, interpretation of the word ego is more comparable to Freud’s theory of narcissism than it is with mediation. Freud argues that our narcissistic tendencies have to do with ‘self-preservation drives’ (Freud [trans. Reddick] 2003, p. 91), hence our selfish tendencies are probably more comparable to the execution of the demands of the id rather than the ego. According to Freud’s theories the ego is a rational faculty– it discriminates and therefore, is more concerned with practicalities.

## Superego

The super ego represents the conscience (internal parental voice). The superego's differentiation from the ego was by no means a chance event: it reflects the most significant developmental features of both the individual and the species; indeed, by giving lasting expression to the influence of the parents (Freud [trans. Reddick] 2003, p. 125).

According to Freud's theories the third system of the personality is the superego (Freud 2003, p. 124). We could refer to the superego as the home for a person's moral code. The superego develops from the ego and is a result of the child's assimilation of parental (and other authoritarian) directives and judgements. Consequently, the superego evolves from our interpretation of what our parent's believed to be good or bad; the standards or principles they demonstrated. According to Freud, 'religion, morality and a social sense' are 'acquired phylogenetically' (Freud [trans. Reddick] 2003, p. 127). In other words, our principles and values are a part of our psychic evolution and serve to create the interpretive filters<sup>52</sup> through which we see our world.

The superego has two aspects called the ego-ideal and the conscience. The ego-ideal reflects the virtues of the parents. In contrast, the conscience aspect of the superego relates more to the disapproval of the parents – what is considered morally bad – whatever experiences result in punishment.<sup>53</sup> The superego acts as a system of reward and punishment upon the ego. In a way, the superego resembles the id because it doesn't make a distinction between what is subjective or objective. Hence, a thought is the same as a deed to the superego. So, a person who leads a very

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<sup>52</sup> According to Feuerstein all information is subject to interpretation and therefore, how we translate circumstance into understanding is coloured by our own unique criteria of interpretation – hence, I refer to this process as our interpretative filters.

<sup>53</sup> So, if a child is punished for a particular act, he would then consider that act to be morally bad. Naturally, this process is in danger of being distorted. For instance, if the child is severely punished for simply holding hands with another child, then she may come to view that physical contact as morally bad. When it comes to the formation of the child's superego, there are two kinds of reward and punishment. These are either psychological or physical. The psychological may be the withholding of approval, or in the child's mind, the withdrawal of love, in other words, the emotional rejection of the child by the parent (through words or facial expressions). With regard to the physical it may be demonstrated by physical contact (aggressiveness or violence) or by taking away the things that the child might want (deprivation, acts of denial). Punishment or reward situations can either result in the reduction or increase of tension in the psychological system.

virtuous life may still be punished by the superego just for the occasional bad thought (Hall 1979, p, 31).

On a psychological level, rewards and punishments are manifested by the superego. Rewards may evoke feelings of pride and esteem, punishment may evoke feelings of guilt or inferiority. Freud equates pride and esteem with self-love, and guilt and inferiority with self-hate. He suggests these are ‘inner representations of parental love and parental rejection’ (Hall 1979, p. 34), Hall writes:

The superego is the representative in the personality of the traditional values and ideals of society as they are handed down from parents to children... the child’s superego is not a reflection of the parents’ conduct but rather of the parents’ superego. An adult may say one thing and do another, but it is what he says, backed up by threats or gifts, that counts in shaping the child’s ethical standards. ...anyone in a position of authority over the child – may function in the role of the parents (Hall 1979, p. 34).

Figuratively, the conscience strives to protect us from unsociable behaviour by way of creating moral codes and ethical arbitration. Obviously, the superego’s ‘conscience’ state is a valuable tool for creating stability in society by restraining the demands of the id. However, it could also be said that the corruption of the conscience is at the root of ‘conditionality’ (the perpetuation of destructive cyclic thought - *kleshas*) in the form of internalised guilt (self-imposed punishment for breaching the, sometimes irrational, moral boundaries we set ourselves).<sup>54</sup>

In Freud’s view, the psychic energy used in the expression of our most unhelpful emotions (e.g.: aggression) is dispersed from the id and appears in the superego in the form of guilt. Guilt and other destructive emotions create an adverse physical affect that diminishes our health and well-being (this is discussed in greater detail in parts 2 and 3).

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<sup>54</sup> According to Freud, a sense of guilt is ‘the most important problem in the development of civilization’ – i.e. the concept the “sex” is bad (as perpetuated by the Judeo-Christian view of “original sin”).

In summary, Freud recognises a cycle of thought - ‘the influence of society on man (sic) and man on society’, that passes from generation to generation and often defies logic and reason. This is something that Indian philosopher Jiddu Krishnamurti obviously understood - a view that is also a catalyst for yogic philosophy:

What he [Krishnamurti] was seriously purposing is that all this disorder, which is the root cause of such widespread sorrow and misery, and which prevents human beings from properly working together, has its root in the fact that we are ignorant of the general nature of our own processes of thought.

(David Bohm 2004, p. 1)

## **Tension**

The id could be described as an automatic response, something Hall refers to as a ‘reflex apparatus’ (Hall 1979, p.22). On a primitive level, the id aims to discharge pent-up tension, excitation or energy and return the organism to a state of balance or homeostasis. Freud links our psychological development to the degree of dissatisfaction or discomfort we experience when tension is not discharged<sup>55</sup> (Freud [trans. Reddick] 2003, p. 74-75).

Freud’s three aspects of the personality work cooperatively in a healthy, well-adjusted individual. Nevertheless, an imbalance of these energy systems ultimately leads to disharmony. According to Freud, the deflection of the psychic energy from its balanced distribution can cause ‘phobias’ (fears or neurotic anxiety) (Freud [trans. Strachey] 1991, p. 441). Responding from a state of fear directly affects us physiologically (just how the *bodymind* is affected by this kind of stress is discussed in the next section).

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<sup>55</sup> For instance, the baby’s desire for food and the baby’s inability to satisfy the desire is the kind of experience that is linked to the development of the ego.

Freud suggests that the id is subject to permanent deposits in the unconscious due to the repetition of intense experiences from generation to generation (*samskaras*<sup>56</sup> - the foundation of emotional genetics). Furthermore, new deposits are made in the unconscious during the individual's lifetime resulting from the mechanism of repression (Freud [trans. Reddick] 2003, p. 106). What we learn from generation to generation, as well as what we learn from our experiences of life, are part of the evolutionary process. It is only when the deposits made in our psychic energy are unhelpful and create negative habit formations that the transfer of emotions can have an "unhealthful" impact on our *bodymind*.

Joel Kovel, author of *The Age of Desire* (1981), likens Freud's view to the notion reflected in the words of Shakespeare: "we are not what we are" (Iago from Othello). We are estranged from ourselves; self-alienated; we have a facade that we present to the world; a protective mechanism.<sup>57</sup> The goal of Yoga is to overcome this sense of alienation and to create a sense of collectiveness - to unite us with our true being-ness by stimulating the essence of our life-energy.

## **Western science and energy**

Energy is the essence of all life-force. Energy can be seen and measured but more often than not, it remains invisible to the eye.<sup>58</sup> It is something the individual produces, receives and experiences through internal and external exchanges. As we have ascertained, the word energy relates to work. When it comes to the workings of the human body, a 'state of relative stability of the body's internal environment' is referred to as homeostasis (Tortora and Derrickson 2006, p. 1). According to Tortora and Derrickson, disruptions in homeostasis necessitate corrective cycles known as a feedback system in order for the body to be restored to a condition supporting health (2006, p. 1).

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<sup>56</sup> Impressions or imprint on the unconscious – see glossary for more information.

<sup>57</sup> See glossary for a definition of 'defence mechanisms'.

<sup>58</sup> Nevertheless, we often see its effects visually as manifested by body language – for example, agitated movement, a nervous tick, a slumped stance or a shaky voice. These are all demonstrations of nervous energy experienced in the *bodymind*.

This feedback system is the process in which the body regulates its own internal environment.

Tortora and Derrickson explain:

A feedback system [or loop] is a cycle of events in which the status of a body condition is monitored, evaluated, changed, remonitored, reevaluated, and so on. Each monitored variable, such as body temperature, blood pressure, or blood glucose level, is termed a *controlled condition*. Any disruption that changes a controlled condition is called a stimulus.<sup>59</sup>

The three basic components of a feedback system are receptors, a control centre and effectors. It begins with stimulus disrupting homeostasis by either increasing or decreasing a controlled condition (such as in the case of a fever response), which is monitored by a receptor that sends input (either nerve impulses or chemical signals) to a control centre. The control centre receives this input and then provides output (again either nerve impulses or chemical signals) to receptors that bring about change or response – this alters the controlled condition. Homeostasis only returns when the response brings the controlled condition back to normal (Tortora and Derrickson 2006, p. iv).

An example of a control centre is the brain.<sup>60</sup> For instance:

The brain sets in motion a range of values within which a controlled condition should be maintained, evaluates the input it receives from receptors, and generates output commands when they are needed. Output from the control center typically occurs as nerve impulses' [for example] 'when your body temperature drops sharply, your brain (control center) sends nerve impulses (output) to your skeletal muscles (effectors) (Tortora and Derrickson 2006, p. 9).

There are two types of feedback loop. A positive feedback loop strengthens and reinforces the change in the body's controlled condition, whereas, a negative feedback loop reverses the

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<sup>59</sup> Also referred to as stress.

<sup>60</sup> A much understated control centre, when it comes to 'thinking', is the heart. Although usually associated with feeling, new research has made a distinct connection between the heart and thought. (Takeuchi, Leslie A., 'Cellular Memory in Organ Transplants', <http://www.med.unc.edu/wellness/main/links/cellular%20memory.htm>, cited 12/7/08). This will be discussed further in the next section.

change. Hence, the negative feedback loops maintain homeostasis. When normal equilibrium in the body's processes is disturbed, dis-ease or disorder occurs<sup>61</sup> (Tortora and Derrickson 2006, p. 10-11).

## **Energy exchanges**

On a chemical level, health and well-being (homeostasis), depend on a healthy exchange in 'energy currency' (Tortora and Derrickson 2006, p. 55). Every chemical function is fuelled by an exchange in energy. Like the energy exchanged in Freud's concept of the psyche, the body is also made up of an energy system referred to as ATP (adenosine triphosphate); it is the currency of a living system (Tortora and Derrickson 2006, p. 55).

There are 'two principal forms of energy' – potential energy or kinetic energy (Tortora and Derrickson 2006, p. 37):

Potential energy [is] stored by matter due to its position, and kinetic energy, the energy associated with matter in motion. For example, the energy stored in water behind a dam or in a person poised to jump down some steps is potential energy. When the gates of the dam are opened or the person jumps, potential energy is converted to kinetic energy. Chemical energy is a form of potential energy that is stored in the bonds of compounds and molecules. The total amount of energy present at the beginning and end of a chemical reaction is the same. Although energy can be neither created nor destroyed, it may be converted from one form to another. This principle is known as the law of conservation of energy [which we discussed earlier] (Tortora and Derrickson 2006, p. 37):

As outlined above, the human body's working system is made up of feedback loops. Organs such as the brain, heart and kidneys all act as control centres that receive input (receptors) and determine output (effectors). One could say that the whole body is an integrated system of feedback loops. As seen with Freud's energy system of the psyche and with the yogic theory of *prana*, the body and the mind reflect this process of shifting energy.

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<sup>61</sup> This is when the homeostatic imbalance is moderate, when it is severe, death may result.

## Field energy

*Prana* is made up of various fields of energy. In *The Yoga Tradition*, Georg Feuerstein describes *chakras* as ‘pools of life energy, vibrating at different rates (1998, p. 469)’. This life energy can be linked to Western science by the discovery of “field theory” - an electromagnetic energy that has given credibility to the human aura. For instance, scientists can now measure electromagnetic fields with a device called SQUID (superconducting quantum interference device). SQUID measures the magnetic fields around an object. Drs. Burr and Northrop at Yale University used SQUID to measure the energy field around a plant seed (Brennan, 1988, p. 20). By examining this energy field, the doctors could tell how healthy a plant would be if grown from that particular seed. The quality of this field reflects the quality of life.

## Energy and stress

The human *bodymind* has its own unique way of reacting to stress/threats and, as we have seen, this process is fuelled by the tension and release of energy, otherwise known as the general adaptation response (or fight or flight response). Selye describes stress as the ‘nonspecific response of the body to any demand’ (1984, p. 74). He differentiates between the harmful and unpleasant state of ‘distress’ (bad stress) and our motivational reaction to a challenge: ‘eustress’ (good stress) (1984 p. 74).<sup>62</sup> Selye makes the claim that the difference between the relatively stressful anticipation of a coming event and our anxious reaction of an obvious threat’ is found in ‘how [we] take it’. In other words, it is how a person reacts to stress that determines whether it is good or bad, physically.

The fight or flight response has a global effect on the body’s feedback loops because, during this process, the homeostasis of the body is disrupted on a multitude of levels. As the body prepares to fight or flee in response to a threat, it changes as follows:

1. Increased heart rate and force of beat

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<sup>62</sup> “Dis” is Latin for bad and “Eu” is Latin for good (Selye 1984, p. 74).

2. Constriction of blood vessels of most viscera and skin
3. Dilation of blood vessels of the heart, lungs, brain and skeletal muscles
4. Contraction of spleen
5. Conversion of glycogen into glucose in the liver
6. Sweating
7. Dilation of airways
8. Decrease in digestive activities
9. Water retention and elevated blood pressure.

(Tortora and Derrickson 2006, p. 652)

Again, according to the Schachter-Singer findings, emotions have two components – physiological (feeling) and cognitive (thought) and that the depth of emotional feelings is directly related to increases in the hormone adrenaline (see below) in the body. When experiencing the fight or flight response adrenaline floods the body. Adrenaline suppresses the immune system suggesting that too much adrenaline can have a harmful affect on the *bodymind*.

Adrenaline (otherwise known as epinephrine) is a fight or flight hormone which is released from the adrenal glands when danger threatens. When secreted into the bloodstream, it rapidly prepares the body for action in emergency situations. The hormone boosts the supply of oxygen and glucose in the brain and muscles, while suppressing other non-emergency bodily processes (digestion in particular)... Epinephrine plays a central role in the short-term stress reaction...like some other stress hormones, epinephrine has a suppressive effect on the immune system.  
[http://en.wikipedia.org/wiki/Adrenaline#Actions\\_in\\_the\\_body](http://en.wikipedia.org/wiki/Adrenaline#Actions_in_the_body), cited 6/8/07.<sup>63</sup>

Consequently, by using Yoga Therapy to develop the relaxation response (the opposite response to the fight or flight)<sup>64</sup> adrenaline is regulated and mal-adaptive emotions become less intense and overwhelming.

The fight or flight response is induced by the sympathetic division of autonomic nervous system - a process directed by the hypothalamus. The hypothalamus is part of the body's endocrine

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<sup>63</sup> The authenticity of is quote is confirmed in pages 641-646 of *Principles of Anatomy and Physiology* (Tortora and Derrickson 2006).

<sup>64</sup> The relaxation response is induced by the parasympathetic division of the central nervous system, whereas the fight or flight response is induced by the sympathetic division of the central nervous system (Tortora and Derrickson 2006, p. 405).

system; its main function is homeostasis.<sup>65</sup> (<http://thalamus.wustl.edu/course/hypoANS.html>, cited 19/9/07).

The hypothalamus sends instructions to the rest of the body in two ways. The first is to the **autonomic nervous system**. This allows the hypothalamus to have ultimate control of things like blood pressure, heart rate, breathing, digestion, sweating, and all the sympathetic and parasympathetic functions. The other way the hypothalamus controls things is via the **pituitary gland**. It is neurally and chemically connected to the pituitary, which in turn pumps hormones called releasing factors into the bloodstream... the pituitary is the so-called “master gland,” and these hormones are vitally important in regulating growth and metabolism.

(<http://webpace.ship.edu/cgboer/limbicsystem.html>, cited 19/9/07).<sup>66</sup>

The fight or flight response, which is initiated by nerve impulses coming from the hypothalamus to the sympathetic division of the autonomic nervous system (ANS), organises the body for immediate physical activity (Tortora and Derrickson 2006, p. 652). The second phase of this process is the resistance reaction. Where the fight or flight response is short lived, the resistance reaction is a longer-lasting response. This process leads to a stimulation of the adrenal cortex that results in an increase in the release of cortisol. Unfortunately, the resistance stage can sometimes persist long after the stressor has been removed.

When the body remains in the resistance stage for too long it enters a state of exhaustion. Furthermore, high levels of cortisol created in the resistance stage lead to muscle wastage, failure of pancreatic beta cells, ulceration of the gastrointestinal tract and suppression of the immune system (Tortora and Derrickson 2006, p. 654). Cortisol has an immunosuppressive action, it also increases blood pressure and blood sugar levels. Although, cortisol has its part to play in healthy living, extreme

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<sup>65</sup> It is interesting to note that the para-sympathetic and sympathetic division of the autonomic nervous system is also presented in yoga through *ida* and *pingala* (two of the prime nadis – see glossary for details). This will be addressed in part three.

<sup>66</sup> The Hypothalamus, hippocampus and amygdala are all part of the limbic system. The hippocampus consists of two “horns” that curve back from the amygdala. It appears to be very important in converting things that are “in your mind” at the moment (in short-term memory) into things that you will remember for the long run (long-term memory). If the hippocampus is damaged, a person cannot build new memories, and lives instead in a strange world where everything they experience just fades away, even while older memories from the time before the damage are untouched! The amygdalas are two almond-shaped masses of neurons on either side of the thalamus at the lower end of the hippocampus. When they are stimulated electrically, animals respond with aggression. And, if the amygdala is removed, animals become very tame and no longer respond to things that would have caused rage before. But there is more to it than just anger: when removed, animals also become indifferent to stimuli that would have otherwise have caused fear, caution or even sexual responses. (<http://webpace.ship.edu/cgboer/limbicsystem.html>, cited 19/9/07).<sup>66</sup>

amounts can lead to dis-ease<sup>67</sup> (<http://stress.about.com/od/stresshealth/a/cortisol.htm>, cited 19/9/07).

Higher and more prolonged levels of cortisol in the bloodstream (like those associated with chronic stress) have been shown to have negative effects, such as: impaired cognitive performance, suppressed thyroid function, blood sugar imbalances such as hyperglycemia, decreased bone density, decrease in muscle tissue, higher blood pressure, lowered immunity and inflammatory responses in the body, as well as other health consequences, increased abdominal fat, which is associated with a greater amount of health problems than fat deposited in other areas of the body. Some of the health problems associated with increased stomach fat are heart attacks, strokes, the development of higher levels of “bad” cholesterol (LDL) and lower levels of “good” cholesterol (HDL), which can lead to other health problems (<http://stress.about.com/od/stresshealth/a/cortisol.htm>, cited 19/9/07).

Ian Gawler, author of *You Can Conquer Cancer* (1984, p. 22), refers to this prolonged resistance phase as a state of ‘unresolved tension’. The focus of Yoga Therapy, detailed in part three, concentrates on the resolution of unresolved tension in the body - restoring the body’s homeostasis. This restoration of homeostasis is produced by the parasympathetic division of the autonomic nervous system,<sup>68</sup> which allows all bodily functions to return to their natural state - back to the way they were prior to experiencing a stressor (a stressor is the name given to any stimulus that produces a stress response) (Tortora and Derrickson, 2006, p. 652).

## **Stress, feedback loops and emotional genetics**

As shown above, the feedback system – the receipt, control and effect of stimulus - is influenced by the processes of the general adaptation syndrome. This suggests that the health and well-being

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<sup>67</sup> The word *dis* is Latin for bad.

<sup>68</sup> As the word autonomic suggests the processes of the autonomic nervous system are generally unconscious and automatic or involuntary. Nevertheless, there are Yoga Therapy processes that can work to induce a deliberate change in homeostasis.

of the individual is determined by their individual stress-reaction process; in other words, how they learned to respond emotionally creates a particular physical response. Hence, individuals may have a predisposition to particular illnesses depending on the habit-moulds (emotional reactions) that he/she learns growing up.

Emotions are a part of being human. Emotions reflect the good and the bad aspects of being human. The way we emote has much to do with the way we think and how we think has an affect on how we feel. The emotional life of being human, and this process of “thinking/feeling/acting”, is addressed in the following section.

## PART TWO – EMOTIONAL LIFE (ENERGY IN MOTION)

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### **Emotional life and energy**

The following pages explore fundamental cognitive and emotive function, providing a basic definition of emotions and exploring the effects cognition has on emotional life. The information gathered suggests that how we learn to think, and subsequently feel, is a result of our interpretation of environmental influences (emotional genetics) and that dis-ease can relate to the physiological impact of the emotional habits we develop. In other words, we learn how to think from those around us and from the life events we experience, and the pattern of emotions we develop has a significant effect on our health - demonstrating a need for interventions, such as Yoga Therapy, to diminish the effects of inter-generational and experiential habits of emoting.

### **The Heart of Thought**

Emotions are usually associated with the heart – with feeling. According to lecturer Angela Hass (Graduate Certificate of Yoga Therapy and University of Melbourne 2007), neuroscientists now say that ‘the heart has its own independent nervous system... [hence] the heart does not automatically act on orders from the brain.’ This research gives new meaning to the concept of feeling – i.e. feeling can defy all rational thought. It also suggests that, considering the heart is the powerhouse of living energy, our health is inherently linked to feeling (reflecting the benefits of Yoga Therapy, which is primarily based used on feeling). From the standpoint of emotion the heart is our “feeling organ”.

For centuries, all kinds of theorists, including scientists, philosophers, physicians, and poets have pondered on the function of the heart. Many of these theorists maintain that the heart is not just

responsible for moving blood throughout the body. In fact, theologians, doctors and philosophers of ancient times saw the heart as a "thinking organ". Many believed that it is actually the place where the soul dwells. New evidence, made public through heart transplants, suggest that there may be more truth to this hypothesis than first thought, since feelings and thought patterns have been found to transfer from the donor to the recipient (Takeuchi, Leslie A., 'Cellular Memory in Organ Transplants', <http://www.med.unc.edu/wellness/main/links/cellular%20memory.htm>, cited 12/7/08).<sup>69</sup>

Takeuchi quotes Candace Pert's research detailed in *Molecules of Emotion, Why You Feel the Way you Feel*. Takeuchi writes:

'Memories are stored not only in the brain, but in a psychosomatic network extending into the body . . . all the way out along pathways to internal organs and the very surface of our skin.' After having discovered neuropeptides in all body tissues, Pert suggests that through cellular receptors, thoughts or memories may remain unconscious or can become conscious - raising the possibility of physiological connections between memories, organs and the mind (Takeuchi, 2008).

Takeuchi's research suggests that the heart has a memory (on a cellular level), and that even when taken from one body its vital energy and cellular memory remains. She states:

In my work with the chronic pain population, I have taken a closer look at this relationship of mind and matter, body and emotions, for keys to how people heal. In this search, I looked into theories of emotions or memories being somehow stored in the tissues of the body and later manifesting in the physical form of pain or disease. What was most striking were the numerous reports of organ transplant recipients who later experienced changes in personality traits, tastes for food, music, activities and even sexual preference (Takeuchi, 2008).

Medical science, perhaps in some cases reluctantly, has begun to consider the validity in such theories, as Pert's research indicates. In fact, heart surgeons Mehmet Oz, MD, at Columbia Presbyterian Medical Center, invited an energy healer, Julie Motz, to be present during a heart transplant surgery. Initially, Oz allowed Motz to practice energy healing with the aim of

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<sup>69</sup> I first heard this theory from Angela Hass, Graduate Certificate of Yoga Therapy, Course Materials, 2007.

reducing anxiety prior to surgery and depression following surgery. But the transplant team noticed that there appeared to be less incidence of rejection when Motz participated in this process. So, curious to see what would happen if she were present during the operation, they invited her into the operating theatre. Motz registered various sensations in her own body that reflected the emotional state of the patient during the procedure. Motz used touch and/or words to attempt to alleviate any worries, fears or anger the patient may have been experiencing. The results reported have been favourable as the team reports a reduction in rejection and an increase in survival rates. Oz acknowledges that this may sound outrageous to those sceptical about tissues having feelings or caring about where they would reside, but according to Takeuchi, Oz believes that it would be 'a disservice to ignore even the possibility that this method could help' (Takeuchi, 2008).

This concept of cellular transfer of feelings gives another dimension to the idea of emotional genetics, one that incorporates the scientific use of the word genetic. But again, this is not only an inter-generational process, it is an experiential process, for what is adopted during one's life is a culmination of the beliefs we accept from whatever influences our understanding or our reality. Considering the implications involved in this research, on both an emotional and a cellular level, it is important to consider the kinds of thoughts and resulting feelings that have an effect on our homeostasis.

## **Affirmations and the unconscious**

Writer, artist and educationalist, Jim Treleas researched the impact of positive and negative affirmations on the growing child and how these affirmations differ depending on socio-economic status. Treleas quotes from a study carried out by Drs Betty Heart and Todd Risley

(Kansas University, 1996) called ‘Meaningful differences in the everyday experience of young American children’, which demonstrates how ‘reality’<sup>70</sup> can be different for each individual:

‘The professional child (a child of professional parents) hears 32 compliments an hour, working class average 12 affirmations and the poverty child hears just five encouragements in an hour. Imagine the impact on a child’s self-esteem and confidence from 32 positive statements an hour – one every other minute!’ (Treleas 2001, p. 15).

(Jim Treleas, *The Read-Aloud Handbook*, 2001)

Treleas points out that conversely, the professional child hears less negative affirmations (they hear around five in an hour), the working class hears around 7, and 11 for the welfare (poverty-stricken family). This suggests that the more social or financial pressure the parents are under the more likelihood of them passing on their stress to the child in the form of affirmations. He concludes the findings of this study with the following statement:

For [our] most at-risk children, that comes to a total of 104,000 encouragements and 228,000 discouragements by age four. The professional child arrives at the kindergarten door thinking he is a world-beater, while the at-risk child arrives with a mindset of “can’t do” because people at home have been telling him so for years (Treleas, 2001 p. 15).

This study gives us insight into how our opinion of ourselves may be constructed by the kind of information we receive from others. These findings are indicative of difficulties experienced by a child who is criticized and chastised; these are actions, which create a barrier (for the child) to feeling “good” within oneself. This study suggests that someone who grows up with praise and support is more likely to have a strong sense of self-worth.

## **Born to win**

Muriel James and Dorothy Jongeward support this kind of learning experience in *Born to Win* (1978). They stress the inner influence of Freud’s superego: referring to Freud’s id, ego and superego as the child, adult and parental (ego) states, they write:

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<sup>70</sup> In this instance, I refer to reality as what we see as the truth.

People not only incorporate their parents' behaviour, but they also incorporate a set of parental messages that are later heard in their heads like tapes. Sometimes two people within the Parent ego state are talking. Sometimes the Adult hears what the inner Parent is saying. But most frequently inner dialogue takes place between the influencing Parent and the Child (James & Jongeward, 1978, p. 114).

This kind of internal transaction (between ego states) may be equated with the dialogue "I want" and the counter-dialogue "No, you can't". Although the voice of our conscience often serves a helpful purpose, it can also become critical and self-deflating. Where some of our inner parental messages are encouraging and positive, some are not. For the purpose of this paper, it is the more unhelpful messages that are addressed herein.

The messages we actually receive from our parents (care-givers) whilst growing up can be quite different to those we take with us as adults. According to James & Jongeward:

The people we are less likely to know in this world are our parents. The dependency position of children makes it almost impossible for them to perceive their parents objectively...[we may see our] parents through 'rose-coloured glasses' or through a prism that distorts them...[we may see them] as objects who either met or failed to meet [our] wants and needs (1978, p. 127).<sup>71</sup>

Naturally, blaming others for "who" and "what" we have become seems counter-productive. Nevertheless, what these studies indicate is that children born to parents with a positive attitude towards life and who live in wealthy circumstances generally grow up to have a similar lifestyle, whereas children born to poverty tend to experience poverty as adults. James and Jongeward suggest that this deterministic process takes place because of the limitations produced by what we "think" we can and can't do (1978, p. 127). Obviously, this "thought effective" process remains distinct from the experience of extreme trauma (which we made need clinical assistance to overcome). The Yoga tradition concentrates on restraining thoughts that are unhelpful to our well-being. These are identified as 'sources of troubles' or 'causes-of-affliction' (*kleshas*) and basically represent our less helpful emotional tendencies. In part three, we look at the ways in

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<sup>71</sup>According to James & Jongeward, we all have mental parent figures which form our Parent ego state, whether it is our actual parents or another kind of authoritative influence.

which we can transform negative conditioning into a more liberating, helpful and healthful state. For now, we turn our attention to “what becomes habitual”.

## **Transgenerational trauma**

As Peter Fonagy conveys in ‘The Transgenerational Transmission of Holocaust Trauma’ (2007), individuals exposed to particular ‘traumatic’ ideas while growing up attach their belief system to these ideas:

It is proposed that the transmission of specific traumatic ideas across generations may be mediated by a vulnerability to dissociative states established in the infant by frightened or frightening care-giving, which, in its turn, is trauma-related. Disorganized attachment behaviour in infancy may indicate an absence of self-organization, or a dissociative core self. <http://www.informaworld.com/smpp/content~content=a739192052~db=all>, 21/09/07).

As Treleas and Fonagy’s studies demonstrate, what we believe about ourselves growing up can have a profound effect on our thoughts. As Freud suggests us, our thoughts have the ability to create tension in the psyche and as Tortora, Derrickson and Selye confirm, our reactions to events have enormous impact on us physiologically.

Thankfully, not all individuals experience the kind of pain transgenerational trauma creates. Nevertheless, this kind of theory demonstrates how our ideas about life are formed from our interpretation of what we learn through inter-generational and experiential processes – in other words, the interpretative filters<sup>72</sup> we come to use to “see” our world. And, as the development of Freud’s superego suggests, the parental influence we experience continues throughout our lives within the confines of our own minds.

In *Emotions and Life*, Robert Plutchik indicates that:

Emotions are usually triggered by one’s interpretations of events, that they involve strong reactions of many bodily systems, that emotional expressions are based on genetic

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<sup>72</sup> By the term interpretative filters I refer to the “colourisation” of our belief system from experience, something Classical yoga relates to the effects of *kleshas* (emotional reactions) (this will be discussed in part three).

mechanisms, that they communicate information from one person to another, that they help the individual adapt... [contributing] in some way to the chances of survival and to the regulation of social interactions amongst people (2003, p. 1).

The cognitive and physiological components of emotion suggest that the Yoga way of dealing with well-being provides an effective approach to well-being – an experiential method. In Yoga, health starts with a restriction of the “whirls” taking place in the human mind.

## **Conditionality**

Conditionality represents the habitual fluctuations of emotional life as determined by our perception of past events (Wiesner 2008, p. 26).<sup>73</sup>

The theories detailed above support the concept of emotional genetics – that we adopt our emotional responses from our experience of the world (through parental and other influences) and that we are affected on a physiological basis as a result of these adopted emotional tendencies. In other words, that our past experiences can shape our thoughts, affect our feelings and influence our health. From a Yoga Therapy perspective, this kind of information has great bearing on the type of treatment prescribed. And, because Yoga works with both body and mind simultaneously, it has great benefits when it comes to transforming the negative effects of “thoughts and feelings” into more helpful and health-giving life habits.

## **Emotional evolution**

Science offers an extensive array of knowledge about the development of the human mind and brain. In 1967 Dr Paul MacLean introduced the idea of the Triune Brain. In basic terms, what MacLean presents is an evolutionary explanation of the human brain’s development. In *A Triune Concept of the Brain and Behaviour* (1973, p. 9), MacLean lists three areas of the brain developed as evolution necessitated – the reptilian brain (primarily related to the primitive reflexes such as the fight or flight response), paleomammalian or limbic system (primarily

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<sup>73</sup> Although the Buddhist notion of conditionality is ancient, more modern theorists owe their knowledge regarding conditioned responses to the Russian Psychologist Ivan Pavlov (Colman 2006, p. 159).

related to emotional behaviour) and neomammalian or neocortex (primarily related to the thinking processes – it allows us to read and write and calculate). MacLean explains:

These three brains might be thought of as biological computers, each with its own peculiar form of subjectivity and its own intelligence, its own sense of time and space and its own memory, motor, and other functions (MacLean 1973, p. 8).<sup>74</sup>

The reptilian brain ‘programs behaviour according to instructions based on ancestral memories and ancestral learning’ (MacLean 1973, p. 21). The paleomammalian brain or limbic system (which is also linked to sexuality) is paramount to emotional behaviour. The neomammalian or neocortex is the ‘hallmark of higher mammals’; it gives us the higher functions of reasoning and understanding (MacLean 1973, p. 8). From a yogic point of view, these three brains could be compared to *manas* (the sensory or desiring mind), *ahamkara* (the individualised personality – who we think we are) and *buddhi* (the higher, discerning mind).<sup>75</sup>

Plutchik suggests that emotive adaptation and the evolution of the communicative processes are an intricate part of the survival process (2003, p. 1). According to Plutchik, emotions are powerful forces that influence our behaviour. Similar to Freud, Plutchik proposes that our early experiences lay the foundation for ‘desirable and undesirable emotional behaviour’ – pleasure or pain (2003, page xvii).

## **The thought and feeling that is emotion**

As previously ascertained, research indicates that ‘an individual will react emotionally only to the extent that he experiences a state of physiological arousal’ (Solomon 2003, p. 111), demonstrating a unity between body and mind. This view demonstrates the basic premise behind *Hatha Yoga* theory: that the processes of the mind and body are integrated (this concept is elaborated on in greater detail in part three).

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<sup>74</sup> See appendix F.

<sup>75</sup> In the *Yoga-sutras*, Patanjali suggests the mind has three states (as written above). These three states could also be loosely compared to Freud’s states of mind: the id, the ego and the \*superego (\*at least, the superego in the ego ideal – the virtues and conscience in the form of a higher authority [Wiesner, 2001, p. 43]).

As we have learned, the way we think is greatly influenced by our nurturers, our teachers, our friends, by past experience. We have also learned that thinking affects the way we feel – that emotion involves both cognition and feeling. To Aristotle, emotion is a three-fold process. He claims emotions:

- lead to the transformation of one's condition to the point that they;
- affect one's judgement; and are
- accompanied by pleasure and/or pain (Solomon 2003, p. 6).

This concept of pleasure and pain is also a part of yogic philosophy, as the *vrttis* (activities/thoughts) that create our emotional reactions are referred to as painful and non-painful (or in some translations, selfless and selfish<sup>76</sup>).

### **Is to emote simply to feel?**

The etymological basis of the word 'feel' is 'to be touched' (from Old English *fēlan*) (Partridge 1983, p. 205). But, the notion of touch can be tangible and intangible - physical or emotional. As discussed in the preface, the origin of the word emotion comes from the Latin word *movere* 'to move' leading to *ē mouēre* (Latin) to 'strongly affect the feelings' (Partridge 1983, p. 419), suggesting that emotions are the manifestation of feelings. Perhaps we can suggest here that emotion is the activity – “the movement” or reaction (it is also associated with behaviour) - and feeling is the effect – what is “felt” (it is about sensations), or the result or outcome of the reaction.

In *True to Our Feelings: What Our Emotions are Really Telling Us*, Solomon (2007, p. 137) suggests that to view emotions as feelings is an oversimplification. According to Solomon, every emotion includes some feelings, including the physiological effects associated with the Jamesian

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<sup>76</sup> Satchidananda explains how our pain relates to being consumed by the self – being self-absorbed – when our thoughts are seeded in the past.

theory of emotion. Solomon argues that feelings are generally associated with instinct rather than the higher faculties of thought and intuition. He suggests that feelings are not expected to carry with them any sense of responsibility (hence they are associated with the more primitive responses). Solomon maintains that:

Feeling...is an enormously promiscuous and generous term that includes all sorts of experiences, from the feeling of cold water dripping down the middle of your back to the feeling that something is awry in the kitchen (2007, p. 138).

What all of our feelings have in common is simply the fact that they are “felt”; they are a sensation that registers in our consciousness – they are not just intellectual. Solomon points out that this is not to say that they are always felt on a conscious level, they may indeed be unconscious. He acknowledges that emotions are feelings, but the point of difference is that feelings alone cannot be articulated. Solomon says that John Locke and David Hume, seventeenth century empiricist philosophers, believe emotion to essentially be a sensation. Solomon adds that Hume associates emotions with an idea that is created by pleasant or unpleasant impressions. Solomon validates Hume’s argument to a point but argues it ‘gets stuck on the idea that the emotion as such is a simple sensation’ (2007, p. 139).

The Jamesian approach to emotion – that it is a feeling caused by sudden changes in the body - also falls short of a valid definition of emotion according to Solomon. Solomon recognises that the notion of feelings tends to get ‘tightly specified to bodily sensations’.<sup>77</sup> However, he argues that an emotion can have integrity: in other words, it can be whole and unified. Therefore, emotions are too complex to simply associate with feelings.<sup>78</sup> Solomon believes that emotional integrity<sup>79</sup> is something that can be learned – it is a process of development rather than purely an instinctive reaction. Solomon quotes Aristotle who claims that:<sup>80</sup>

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<sup>77</sup> Perhaps one way to explain this is to refer to emotions as “thinking feelings” or feelings that have awareness.

<sup>78</sup> Perhaps one way to explain this is to refer to emotions as “thinking feelings” or feelings that have awareness.

<sup>79</sup> Emotional integrity is something that can be compared to Daniel Goleman’s theory of emotional intelligence.

<sup>80</sup> Some the work quoted here on emotions is inspired by my PhD research.

Beliefs, bodily motions and physiological changes are inseparable elements of emotion.

Aristotle (Solomon 2003, p.5)

To Solomon, emotions need to be “true” to be expressed - not ignored, denied or repressed. That is, rather than acting like a two-year old who wants a need to be met, we should have the maturity and wisdom to direct our emotions to a more ethical and sensible realm. Yoga relates this to *yama* (social restraint) and *niyama* (self-discipline) as detailed in the eight limbs of Yoga.<sup>81</sup>

Solomon’s theories support the benefit of Yoga as a tool for emotional well-being, because Yoga not only works with the physical body, it also influences the mind. In *Practical Yoga*, Ernest Wood describes Yoga as ‘the control of ideas in the mind’ (Wood 1951, p. 31). Wood relates this concept to ‘a dustless mirror’; he uses this metaphor to symbolize being ‘free from prejudices, likes, dislikes, fears, angers and all other sources of trouble’ (Wood 1951, p. 224). In other words, seeing something as it really presents itself, instead of coloured by the interpretative filters of the past. Yoga is about collectiveness, a collectiveness that advocates integrity on all levels of life, and one that works towards clarity of vision – one that removes the dust.

## **Cellular memory**

In *Molecules of Emotion*, Candace Pert relates human feelings to chemicals or molecules released within the body (1999, pp. 21-25). Pert, acknowledged for her research into molecular health, claims our physical health is just a manifestation of the *bodymind* response to thought. She explains that every thought we have has an accompanying emotion that triggers the release of ligands (information molecules). Ligands bind to the cell’s receptors and pass information into the cell. These ligands can be in the form of antigens (toxins, viruses or bacteria), drugs, hormones, peptides, neuropeptides and/or neurotransmitters. Ligands are vehicles of

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<sup>81</sup> In particular, the practice of *ahimsa* (non-violence – to the self and to others).

communication between cells and organs in the body. Pert identifies neuropeptides and their receptors as molecules that are the *substrates of emotions*. She claims that these molecules are in constant communication with the immune system. Hence, what we think takes on a physical form and sadly, it can also manifest as disease.<sup>82</sup>

In Pert's language, "consciousness" does not just exist in a mental/spiritual realm it also exists in the physical body on a molecular level. The *bodymind* connection is a continuum - our emotions affect the state of tension in the body and equally, physical tension affects our emotions. Pert's theory suggests that our emotions are influenced by the information we access. Henceforth, our emotions affect our awareness or our level of consciousness (Wiesner 2000, p. 60).

According to Pert, every cell in the body has a memory and the filtering processes, at a cellular level, are affected by our experiences. She explains the *bodymind's* process of storing and remembering, on a cellular level, as follows:

All sensory information undergoes a filtering process as it travels across one or more synapses, eventually (but not always) reaching the area of higher processes, like the frontal lobes. There the sensory input – concerning the view, the odor, the caress – enters our conscious awareness. The efficiency of the filtering process, which chooses what stimuli we pay attention to at any given moment, is determined by the quantity and quality of the receptors at these nodal points. The relative quantities and qualities of these receptors are determined by many things, among them your experiences yesterday and as a child, even by what you ate for lunch today (Pert, 1997, p. 142).

Pert encourages us to think of the brain as a machine that not only filters and stores sensory input but also associates it with other events or stimuli that occurs simultaneously 'at any synapse or receptor along the way' (1997, p. 142).

Pert discusses researched carried out by Eric Kandell and associates at Columbia University which supports her theory of cellular memory. Pert writes:

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<sup>82</sup> This section on Pert is taken from 'In Search of Consciousness', a study carried out by Jane Wiesner at Deakin University, Melbourne 2000.

[These] physicians and surgeons have proved that biochemical change wrought at the receptor level is the molecular basis of memory. When a receptor is flooded with a ligand, it changes the cell membrane in such a way that the probability of an electrical impulse travelling across the membrane where the receptor resides is facilitated or inhibited, thereafter affecting the choice of neuronal circuitry that will be used (Pert, 1997, p. 143).

To understand the unhealthful affect of cellular memories, let us look at the hydraulic model of emotion.

## **The pressure of emotions**

Pert's theories suggest that our memories are part of our biological makeup and not just an aspect of the psyche. With this in mind, and given the influences of emotion on the body as ascertained in section one, it is imperative that one understands how emotions influence the flow of energy in the *bodymind*. To do this, one can look to the hydraulic theory of emotion. In *True to our Feelings: What our Emotions are Really Telling Us* (2007, pp. 142-143), Solomon writes that the hydraulic theory of emotion (usually associated with Freud) is based on the image of fluidity – fluid under pressure. This image is used to explain many aspects of our emotional life, such as 'sinking and elevated feelings', 'why we feel compelled to express our emotions' and 'why we find it so hard to restrain ourselves' (2007, pp. 142-143). This model explains emotions as the flux and flow of our expression, with metaphors such as 'deep versus surface' explaining the dimensions of emotion, or 'heating up, bottled up, simmering or boiling over'. This model likens the emotions to the force imposed by water under various pressures, like a boiler system. Solomon<sup>83</sup> writes:

In the psychic apparatus (and in the brain), as in the boiler system, the hot dangerous fluid puts tremendous pressure on the entire system, found easy passage through those channels that were open to it, was blocked from others that were kept closed, sometimes with considerable force...It is not hard to see in this some of the basic terms of early Freudian psychodynamics, the notion that the unruly forces of the unconscious put considerable pressure on consciousness (something like the gauge of

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<sup>83</sup> Although Solomon gives credence to the hydraulic model of emotions, he also suggests that emotions are not clear-cut and therefore, cannot always be reduced to simplistic terms.

the system), the charging of certain ideas or urges (*cathexis*), the strong impetus to release or discharge (*catharsis*), the need to constrain and contain these dangerous impulses whether by redirecting them (sublimation) or by forcefully clamping down on them (repression) (2007, pp. 142-143).

This psychodynamic play of emotion places tremendous pressure on the *bodymind*. Ultimately, Yoga Therapy aims to release this pressure by physical (*asana*), energetic (*pranayama*, *dhyana* etc.) and cognitive (*buddhi*) means.

## **Emotions need expression**

The theory behind this paper is that emotions need to be expressed (in one way or another) to relieve the pressure of what remains unresolved – the boiling point of emotional pressure. To understand this, let us ponder the following argument:

- 1) Cells have a memory or consciousness
- 2) The physiological effects of some memories are unhelpful or unhealthful and lead to a build up of pressure in the bodymind
- 3) Yoga can help us to transform or change cellular memory by relieving the pressure created by the emotional turbulence of cellular memory.<sup>84</sup>

Therefore, to achieve optimal health, it is important to understand two important points – that, on a cellular level, the past has an affect on the present, and, that pressures that build up in the *bodymind* need to be relieved to reverse the unhelpful effects of some cellular memories.

## **Questioning emotions – a survey on feelings**

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<sup>84</sup> Also, by changing the neural pathways in the brain (see the end of part two ‘Affirming Life’).

The following statistics were drawn from a questionnaire (see appendices A and B) directed at the general public. The study involves 50 samples.<sup>85</sup> It is important to note that the author recognises that it is not possible to measure human emotion clinically, for “feeling” is something that is specific to the individual – it is unique. The purpose of this study is merely to learn more about the effects of our past on the present, particularly when it comes to our health and well-being.

Before moving on to a discussion of the practical aspects of Yoga Therapy, it is imperative that one acknowledges the boundless expanse of human feeling. The following questionnaire detailed below is designed to provide a glimpse into the breadth of humanity’s emotional realm.

### **Question 1**

There was a unanimous response in the affirmative to the question: *Do you feel there is a relationship between how you feel physically and your emotions?*

All respondents connected emotion to physical ‘feelings’.

### **Question 2**

Question: *In what way do you believe these emotions manifest in the physical body?*

Comments included suggestions that unhelpful emotional responses have physiological effects such as:

- aches and pains; headaches, migraines, back pain and neck aches.
- lethargy/tiredness/over-sleeping
- sleeplessness
- sensations of stiffness, tightness, tension, feelings of muscle restriction
- digestive problems, flushes, palpitations, nausea, trembling, bowel and urinary problems
- an empty feeling in the abdomen
- muddled thoughts (a feeling of mental confusion)
- stooped posture

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<sup>85</sup> Age: This questionnaire was distributed evenly to a large range of age groups and the response reflected a reasonably balanced distribution between the age of 18 and 65, though there was a slight majority identified between the ages of 35 and 64. Sex: There was a general reluctance of males to participate in this discussion, but the males that did participate made a significant contribution to the information gathered.

- breathing difficulties
- sensory difficulties – the senses become dulled
- a weighted feeling
- a flighty, agitated feeling
- feeling ugly and heavy
- drained of energy
- exhaustion
- a heavy sensation in the chest
- painful periods (\* please see quotes detailed under feedback)
- a pain in the heart (when hurt emotionally)
- susceptibility to colds and flu
- sore throat
- insatiable hunger (craving food)
- cravings (in general – i.e. drugs, alcohol, chocolate, tobacco...)
- the physical side effects of fear and anxiety (i.e. biting nails, shaking, rapid speech, biting lips, etc.)

The study suggests that on the more helpful side, emotions can achieve the following physiological effects:

- an upright posture
- a springy step (walking tall, light footed)
- sensory alertness
- a feeling of lightness
- feeling as though a weight has been lifted from the shoulders
- being full of energy
- feeling sexy and beautiful
- a feeling of openness
- a feeling of freedom - feeling at home in your own skin
- feeling spontaneous and open/ease of bodily movement
- a feeling of strength and invincibility
- glowing skin
- a feeling of clear-headedness
- feeling healthy.

### **Question 3 and Question 4**

Questions: *Is there any person/s in your family (living or deceased) that you feel you have been similar to in how you respond emotionally? And, in what ways are your responses similar to him/her/them?* The following responses relate to both question 3 and 4:

- My mother and I both have a tendency to anger quickly and continually blame the other party – staying the victim. Both have depression (along with most of my family) and addictive personalities. We both naturally tune out in one way or another to avoid dealing with emotions and/or situations we can't control.

- I feel I'm similar to my mother in how I respond emotionally...when things got bad for her she used to get a bad throat...<sup>86</sup> I also feel to a certain extent that my daughter responds similarly emotionally i.e. needs to rest when things get tough, but accomplishes a lot when feeling good.
- I respond in a similar way to my mum, dad and sister, but in different ways. I tend to be aloof and silly like my dad, head strong and overcome by feelings of being a failure like my sister, and caring and often a little too sensitive like my mum.
- My mum and I have "fearful" natures. Mum always worried about what might happen – she was very anxious. I'm the same.
- I believe that all emotions manifest in the physical body and just one of my own examples would be; sexual experiences (i.e. abuse) with unresolved emotions, I believe for me have created such things as painful periods throughout my life, plus difficult symptoms in the peri-menopausal stage, such as irregular periods, hot flushes, difficulty sleeping, etc.
- I am just like my mother...I am a worrywart. If the phone rings and I think there is something wrong with the children for example I feel like someone is reaching inside my stomach and twisting it in knots, I am easily stressed yet describe my mother as "highly strung" even though we are exactly the same. I also think we both have trouble verbalising our feelings and putting ourselves first – we put other peoples' feelings above our own.
- I hold onto my emotions like my father but I can explode in anger like my mother. My partner is emotionally expressive and I find this confronts me and makes me express myself better, both the positive and the negative emotions.
- My mother and I have had many similar patterns with the things we attract in our lives that bring up the same emotions inside of us (even though the actual trigger/circumstances are different) – [for] example, males dominating, or verbally "cutting us down" which brings up unworthiness and feeling stupid.
- I am like my mother and my sister in that we consider our emotional needs last and put others first. We bottle up our emotions and then get physically ill before we address any issues, if at all. My mother cared for my father who had Parkinson's Disease and he also had complex emotional needs (i.e. he was a difficult person to live with) and my mother always catered to his needs to the complete negligence of her own. Subsequently, she became very ill herself and actually died before my father. I can see my sister and I doing very similar things although in different situations.
- Mum was everywhere, unsure and couldn't make decisions, she got flustered and even though she coped she never let on her real feelings, she just went on for peace sake but underneath she would be fuming, in some circumstances I can't say what I feel and inappropriately lash out cause I am actually angry but been suppressing it.
- I can see I have taken on a little from both of my parents. When things get too hectic I can get angry a lot easier (like my father) and have quite a temper, generally a feeling of being overwhelmed. I tend to expect things to be almost perfect (like my mother).

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<sup>86</sup> In yogic physiology, this would be related to the throat chakra and a block in the capacity to express emotion.

- I take after my father who is very impatient with others and tends to have a 'short fuse'.
- In my family, emotions are not openly expressed. In particular, negative emotions are not openly expressed. I used to not feel I could express my negative emotions openly. It is typical for people in my family to bottle in their negative emotions. People will come across as moody, silent, brooding, when they are experiencing negative emotions, or have spontaneous anger outbursts that are put down to, having a bad day. It is typical to allow the person to do this and stay out of their way until their negative emotion has passed, rather than talking it out. Expression of anger is not encouraged. This pattern of expressing emotions became very damaging for me, and I received therapy to learn how to express emotions.
- My daughter is very reactive in her anger. I used to be like that, it's very explosive, like a blow-up, very destructive... I have learned to manage my anger, but it's still there.
- Yes, my mum – rather than express emotions, particularly negative, we tend to repress and internalise.
- Possibly both my parents to some extent... My mother was depressed when she was pregnant with me and didn't leave the house for the whole time, she refused to allow the other children to talk about the pregnancy, after my birth, she suffered severe postnatal depression. I stopped taking breast milk and she subsequently was hospitalized as her breasts became engorged. I didn't want to take the milk because of her emotional state, I imagine. I have to be very conscious of not falling into depression and my bouts of drug abuse in my late teens early twenties were about blocking out these feelings I picked up from my mother... In hindsight my father was very grounded and yogic in an Australian country way...he internalised his emotions and stress and went to hospital with ulcers etcetera when I was young...maybe that's where I learnt to internalise my pain and stress as well.
- Both my father and my youngest brother allow things to build up and then either an emotional volcano erupts or it gets buried deep in the body.
- Maybe my mother. We tend to hide our emotions until we can no longer handle it and then we get a series of bad headaches.
- I believe I am a bit like my mother and my father. Mum's easy going whereas dad's a worrier, I feel I have a little of both of them in me.
- My father and I are both perfectionists, which leads to low self-esteem. As the women in my family have weight issues which I believe is a result of negative body image (3 generations).
- My mother and I eat when we are depressed.

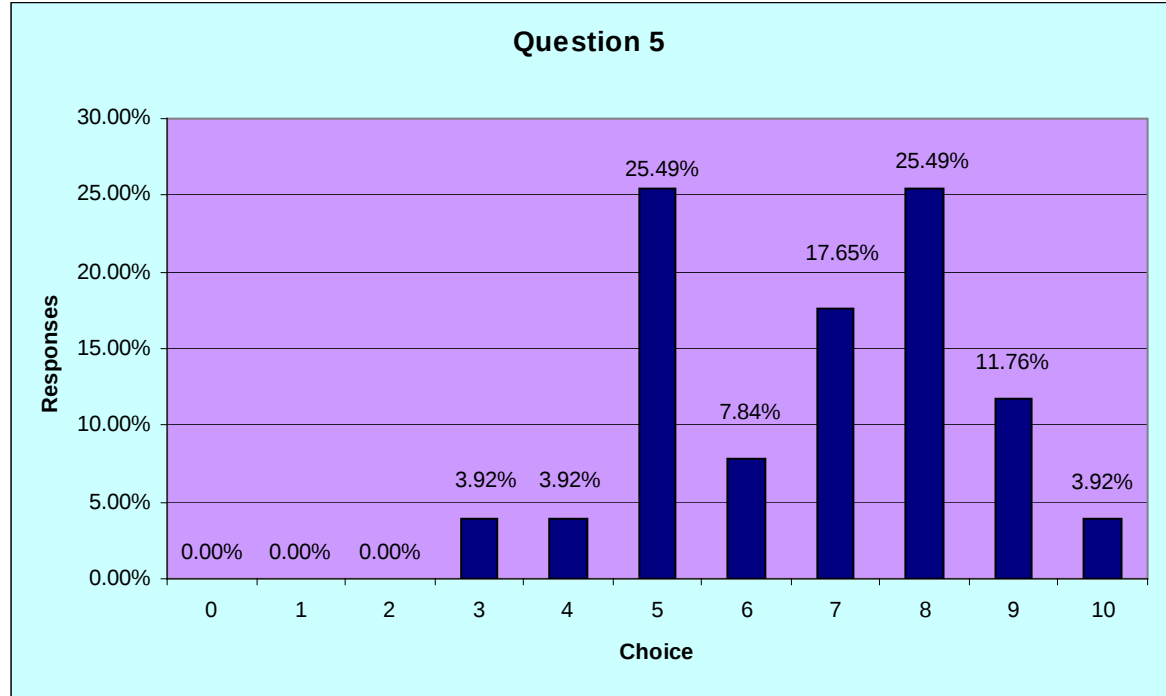
These are only a few of the responses recorded. Generally, they indicate a strong correlation between relationships, adopted emotional habits (emotional genetics) and the subsequent

physiological responses, suggesting that a large majority of the participants believe that some of their emotional responses are habitual – the result of conditionality.

**Question 5**

Statement: *Please indicate the extent to which you believe your emotional responses are habitual or learned from previous generations (where 0 = not at all and 10 = completely learned or habitual) – see figure 3.*

Figure 3. Participant’s response to question 5.



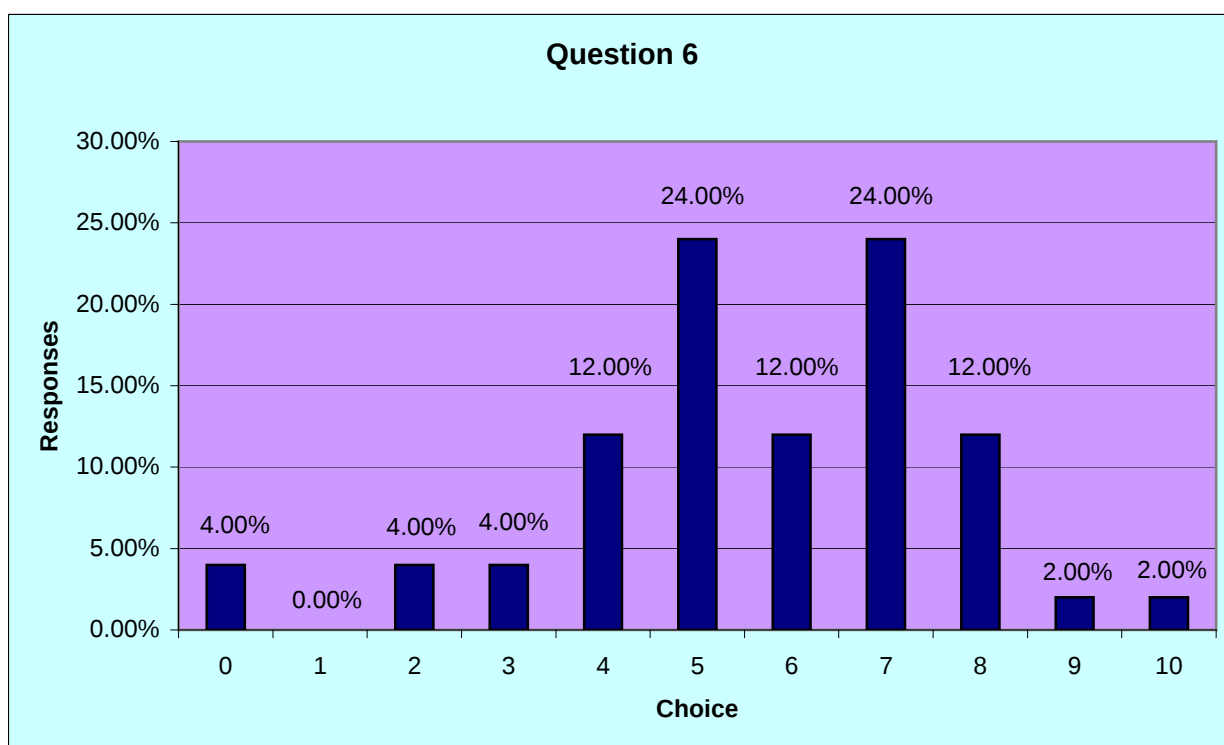
Please note: the word “choice” denotes the section on the attached questionnaire marked by the participants – see appendix B. The individual responses have been totalled and divided to create a percentage whereby enabling the reader to see any trends.

All of the participants questioned linked their emotional life to the past in some way, suggesting a correlation between our day-to-day experience of the world and what we carry with us or adopt from our relationships with others. No respondents answered ‘not at all’, suggesting that everyone felt that their emotional responses were, at least in part, learned or habitual.

## Question 6

Statement: *Please indicate the extent to which you believe your emotional responses are formed solely from your life's experiences (where 0 = not at all and 10 = completely formed from my life's experiences) – see figure 4.*

Figure 4. Participant's response to question 6.



Please note: the word “choice” denotes the section on the attached questionnaire marked by the participants – see appendix B. The individual responses have been totalled and divided to create a percentage whereby enabling the reader to see any trends.

*Please note: Out of the 50 respondents, there are 51 replies because someone chose two numbers: this person felt that the rating depends on particular circumstances (see the questionnaire feedback section below for details).*

In comparing the two - what is habitual (as adopted from our relationships, i.e. emotional genetics) and what is experiential (any life experiences) - the scale is heavily tipped towards the first. This suggests that although the participants considered both areas to contribute significantly to their own emotional development, most consider their emotions to reflect habitual tendencies (adopted or learned from past relationships).

## **Questions 5 feedback**

With regard to the two different numbers selected by one of the participants at question 6 (see previous graph), an explanation was provided:

The selection of number 3: if life experiences are separate from childhood/family interactions, then you are definitely not solely affected - though you are obviously partially affected.

The selection of the number 8: if you think about interaction with parents/past generations etc. as life experience, then I think you are mostly constructed by life experience (I leave a little room for biology).

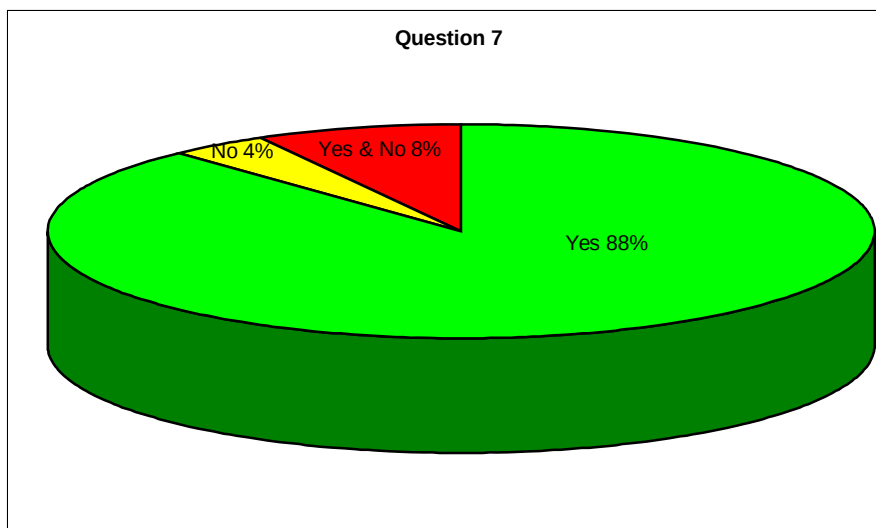
This raises two interesting questions: Where does life experience and parental influence separate? And, does how we experience life depend solely on parental influence?

At this point, it is extremely important to make clear that, as previously stated, this paper is not an attempt to place blame - how we interpret parental influences is completely individual. As Plutchik reminds us, emotions are often ‘triggered by one’s interpretations of events’ (2003, p. 1).

## **Question 7**

Question: *In your opinion, do you believe that a person’s emotional tendencies can be habitual or inter-generational (learned or passed down from one generation to another)?- see figure 5.*

Figure 5. Participant’s response to question 7.



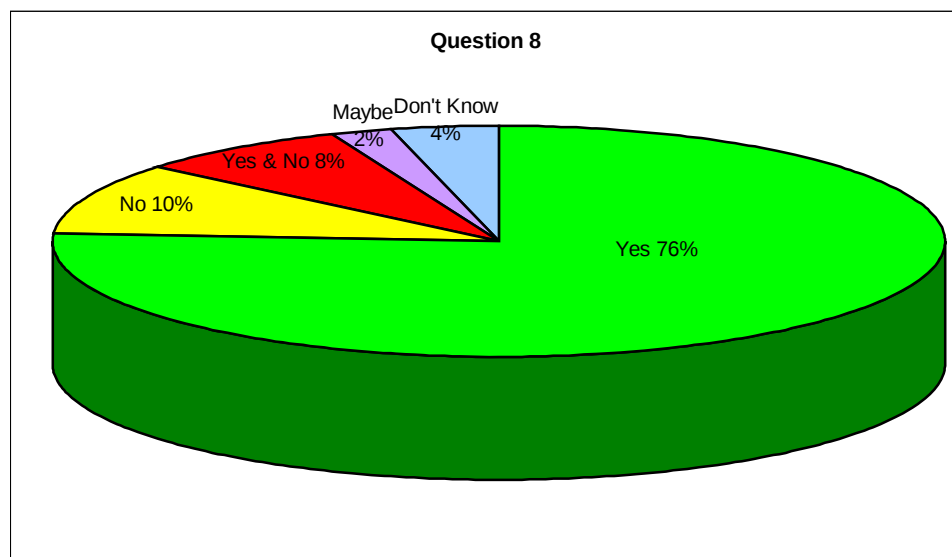
As the pie graph above shows, 88 percent of the participants believe that emotional tendencies can be habitual or inter-generational.

In view of the unhealthful effects resulting from the physiological responses to stress, and the evidence of cellular memory, it is critical to our health and well-being that unhelpful emotional tendencies are dealt with. Having said this, it is important to note that not all stress serves an unhelpful purpose, as one of the questionnaire participants suggested in their answer: ‘when angry one can become highly motivated’. Eustress (good stress) is a demonstration of this: to act in a way that assists life (such as jumping out of the way of an oncoming car or defending oneself against an attack).

### **Question 8**

Question: *Do you believe that affirmations (statements that are repeated in the affirmative [with conviction] can help to change the way a person feels about life, in particular, past events? – see figure 6.*

Figure 6. Participant’s response to question 8



The pie graph above shows that 76 percent of the participants believe that positive affirmations can have a significant and helpful affect on the way one views one's life, in particular, past events. Unfortunately, the word affirmation has become negatively linked to the outdated notion of positive thinking and tends to be viewed as an over-simplification of serious concerns (a glib or flippant response to something heartfelt).

## **Affirming life**

From a yogic perspective, affirmations could perhaps be simply described as a method of directing the cognitive processes away from thoughts that produce an unhealthful or unhelpful physiological response – *citta-vrtti-nirodha*, 'a restriction of the whirls of consciousness'. As put forward in part three, Patanjali advocates using "opposite" thoughts to transform the unhelpful (painful or selfish) into the (painless or unselfish).<sup>87</sup>

John Ratey, a clinical professor of psychiatry at Harvard Medical School, claims that the neural pathways of the brain can be re-directed over time. Ratey explains that arguments such as "nature versus nurture" have led to the investigation of how neural pathways are forged in the brain (2007, pp. 19-21). Neural pathways are the connections of neurons within the brain that control our physical, mental and social development. According to Ratey, the brain remains plastic throughout most of our lives - in other words, tendencies or pathways for particular brain function can be altered. Consequently, the way we think is not written in stone; it is a matter of habit, affected by conditionality.

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<sup>87</sup> In Satchidananda's translation of the *Yoga-sutras* he explains kleshas in these terms, suggesting that the painful is associated with an obsessive focus on the self, to the point of being fully selfish. Hence, pain is relieved when one lets go of self-focus and is aware of one's affect on the wider community and, in fact, the universe. Satchidananda writes: 'Instead of the term "painful" and painless", we might be able to understand this point better if we use two other words. Call them "selfish" thoughts and "selfless" thoughts. The selfish thoughts ultimately bring pain. For example, to love something or somebody is pleasurable. But many of you have experienced how the very same love brought you a lot of unhappiness, pain, hatred, jealousy, and so on. Why? Because that love was not just a pure love but was based on some expectation in return. There was selfishness in it. The expectation may be anything: a little financial comfort, some publicity or a little physical pleasure. With this expectation love seldom lasts long. So love, though it appears to be a painless thought, ultimately ends in pain if based on selfishness' (1997, p. 3).

Ratey claims that:

Neurons are constantly competing to make connections...however, changes in environmental input continually move boundaries ... Many cognitive functions share the same pathways in our brain's complex tangle of neuron connections. [And,] the development of one skill can ... profoundly influence another that is seemingly unrelated (Ratey, 2003, pp. 19-21).

This research gives us an insight into how the use of affirmations (that are embraced and believed) can radically change or transform our lives by re-directing the neural pathways that create unhelpful habitual thoughts. And, as the hydraulic model of emotion suggests, habitual patterns of thought often create tension in the *bodymind*, a pressure that needs to be relieved if we are to achieve health and well-being (Yoga and Yoga Therapy has various methods to assist the release of this tension which is discussed in part three).

## PART THREE – YOGA THERAPY (SYNCRONISING ENERGY AND MOTION)

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### Yoga Therapy – helping to heal the emotions

When it comes to our health and well-being, homeostasis is our ultimate goal. On a metaphysical level, the body's intuitive forces have long been associated with spirituality. This link between the spirit, the psyche and the life-force or energy of being is an important part of Yoga practice. In Yoga, it is through a balance of these processes that well-being occurs, through liberation from a conditioned existence (*samsara* – the wheel of *karma*).<sup>88</sup> Yoga Therapy can offer a range of techniques to assist this process. The first step in this process is found in the practicalities and experiences of Patanjali's eight limbs of Yoga (*Sutra* 2:29).

Over the next few pages, the focus is on understanding these principles and how they apply to the Yoga Therapy patient/client. The eight limbs of Yoga provide a 'wholistic understanding of health' that works toward a 'total personal reintegration', of which Yoga Therapy is a 'starting point' (Mohan 2001, p.194). According to Mohan:

A Yoga therapist aims at restoring ... balance by understanding the individual, the environment in which the individual is operating, and the interplay between the two (2001, p. 194).

A. G. Mohan suggests that the first step to personal reintegration is 'to begin to clear away the most destructive obstacles to clear perception' (2001, p. 192).<sup>89</sup> He describes the eight limbs of Yoga as the path to social,<sup>90</sup> physical (gross and subtle)<sup>91</sup> and mental<sup>92</sup> well-being (2001, p. 194).

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<sup>88</sup> *Karma* translates as action. The theory of a conditioned existence suggests that our actions (past and present) determine our future.

<sup>89</sup> These obstacles could be described as the traces left from the effects of inter-generational habits.

## Yamas (social restraints)

It is interesting that Patanjali starts with a principle based on ethical and moral concern. As other philosophers have also noted, we create the best world for ourselves by looking after ‘the other’. For example, Charles Darwin recognises human nature as a social condition (Honderich 1995, p. 829). From a survival perspective, we need each other to survive. If every human being only thought about his/her own interests, the world would be subject to chaos. There are obvious and interesting parallels between Patanjali’s principles of the *yamas* and *niyamas* and Solomon’s view regarding ‘emotional integrity’. Emotional integrity advocates a path based on responsibility; likewise, the *yamas* and *niyamas* provide a blueprint for moral and ethical codes. Ultimately, they allow the individual to become liberated by delivering them from *avidya* (ignorance)<sup>93</sup> – removing the dust on the mirror.

Adopting the principles of *yama* and *niyama* is very important to dealing with the more unhelpful effects of emotional genetics.<sup>94</sup> By understanding the *yamas* and *niyamas*, an individual has the chance to break free of past conditioning and reduce the effects of habitual emotional tendencies. Unhelpful emotions such as resentment, anger and regret reflect a sense of alienation, separateness and loss, whereas applying the *yamas* and *niyamas* promotes trust, respect, suspends judgmental attitudes and reduces guilt (curbing the more unhelpful effects of the Superego). By teaching *yamas* and *niyamas* as part of the Yoga Therapy intervention, the therapist is able help the patient experience a sense of liberation through the yogic art of living.

Patanjali’s five *yamas* are as follows:

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<sup>90</sup> *Yama* and *niyama*.

<sup>91</sup> *Asana*, *pranayama* and *pratyahara*.

<sup>92</sup> *Dharana*, *dhyana* and *samadhi*.

<sup>93</sup> Ignorance is the cause of our *duhkha* pain (in Hindu and Buddhist philosophy) and is the product of a lack of knowledge. To Patanjali, ignorance is the first of the *kleshas* (causes-of-affliction or emotional reactions).

<sup>94</sup> It is important to remember that a lot of what we learn from others is very helpful to us, but within the context of this paper, we are only concerned with what is not.

- *ahimsa* - non-violence (it's important to note that this means non-violence to others and to the self; either intended or acted upon)
- *satya* - truthfulness (with others and with one's self)
- *asteya* - non-stealing
- *brahmacharya* - non-sensuality (sometimes translated as chastity – modern interpreting usually suggests non-promiscuity)
- *aparigraha* - non-greed.

## **Niyamas (personal disciplines)**

The practical aspect of *niyama* promotes good health in general and the more spiritual component assists the individual to experience a sense of purpose, worth and connectedness/collectiveness.

Patanjali's five *niyamas* are as follows:

- *shaucha* - cleanliness (looking after the *bodymind*)
- *samtosha* - contentment (freedom from craving)
- *tapas* - body-conditioning (a health-promoting lifestyle)
- *svadhyaya* - self-study (self-improvement and increased awareness)
- *ishvara pranidhana* - devotion (respect for the universe).

## **Asanas (Yoga postures or Yoga poses)**

The word *asana* translates as 'seat, pose or posture' in Sanskrit (Feuerstein 1997, p. 34). Interestingly, the word *positive* comes from the Latin word *positus* (from *posit*, an agent of pose) meaning 'to place firmly' or 'a sustained posture' (Partridge 1983, p. 515). This link reflects the positive aspects of sustaining a posture or pose – a goal reflected by the word *asana*. Feuerstein describes *asana* practice as the therapeutic technology of *Hatha Yoga* (1997, p. 34). *Asanas* should be comfortable and steady (Stiles 2002, p. 28). In *Sutra* 2:47, Patanjali claims a 'Yoga pose is mastered by relaxation and effort, lessening the tendency for restless breathing, and promoting an identification with oneself as living within the infinite breath of life' (Stiles 2002, p. 28).

The practical aspects of *asana* practice include:

- re-oxygenating the blood
- massaging internal organs
- stretching and toning muscles
- limbering up joints
- strengthening the nervous system by stimulating the nerve endings in the spine (the spine connects to every part of the body)
- enhancing immunity and bodily functions
- producing homeostasis (hence a balancing of the reciprocal relationship between thought and feeling).

*Asana* works with the physical and subtle aspects of the person's well-being. A Yoga therapist individualises the patient's practice and adapts it to specific needs.

In her article 'Health Benefits of Yoga', Trisha Lamb discusses how, as a form of exercise, Yoga practice stabilises the autonomic nervous system equilibrium, tending towards parasympathetic dominance, whereas traditional forms of exercise tend towards sympathetic nervous system dominance (see chart below).

| Yoga                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Exercise (conventional)                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parasympathetic nervous system dominates<br>Subcortical regions of brain dominate<br>Slow dynamic and static movements<br>Normalization of muscle tone<br>Low risk of injuring muscles and ligaments<br>Low caloric consumption<br>Effort is minimized, relaxed<br>Energizing (breathing is natural or controlled)<br>Balanced activity of opposing muscle groups<br>Non-competitive, process-oriented<br>Awareness is internal<br>(focus is on breath and the infinite)<br>Limitless possibilities for growth in self-awareness | Sympathetic nervous system dominates<br>Cortical regions of brain dominate<br>Rapid forceful movements<br>Increased muscle tension<br>Higher risk of injury<br>Moderate to high caloric consumption<br>Effort is maximized<br>Fatiguing (breathing is taxed)<br>Imbalanced activity of opposing groups<br>Competitive, goal-oriented<br>Awareness is external<br>(focus is on reaching the toes, reaching the finish line, etc.)<br>Boredom factor |

([http://iaiyt.org/site\\_Vx2/publications/articles/hlthbenefits](http://iaiyt.org/site_Vx2/publications/articles/hlthbenefits), cited 21/09/07).

Apart from the obvious benefits outlined in Lamb's list above, *asana* practice works with the physical body to initiate changes in the mind – to resolve unhelpful feelings created by inter-generational habits of thinking.

## Pranayama (breathing techniques)

*Pranayama* is a crucial aspect of the practice and theory of Yoga, and is a big part of Yoga Therapy. As previously mentioned, *prana* is contained in all things; in a healthy *bodymind* it flows freely. *Prana* is the energy responsible for all of our bodily systems, including the mind and the senses. According to Mohan, *pranayama* ‘is the conscious regulation of the breath’ (2001, p. 160). In *Yoga and Psychophysiology*, Umesh writes:

Maharishi Patanjali, in his aphorism 1:31, says, “Pain, despair, movement of the limbs, inspiration and expiration [inward and outward breath] are companions of mental distractions”. Thereby, he points out that mental activity influences breathing (circa 1970, p. 1).

If we consider the goal of Yoga is to direct the mind, and that our mental functioning influences the breath, one can conclude that *pranayama* is an important tool for focusing the mind.

In the previous chapters, we have ascertained that certain biological functions affect breathing and that our emotional life has a strong influence on our biological functions. Hence, it is reasonable to say that our breathing and emotions are linked. The way we react physically when under stress is a demonstration of this. Umesh adds that certain disease states (no doubt caused by disrupted immune function) ‘cause a disruption of the pathways [and that this disruption] inhibit[s] respiration’ (circa 1970, p. 4). Hence, our state of mind and the breathing pattern this induces, have great bearing on our health and well-being. Umesh writes:

Thoughts and emotions ... influence breathing...In his aphorism 1:34, Maharishi Patanjali observes, “...steadiness of the mind is secured by the expulsion and retention of Prana”.

Part one of this paper detailed how the sympathetic response of the autonomic nervous system has a detrimental affect on bodily functions, and that the parasympathetic response serves to balance the body and ease these negative effects. In *Structural Yoga Therapy*, Mukunda Stiles writes this about *pranayama* practice:

When you sustain ... directing of the breath while lying down, it naturally stimulates a relaxation reflex. In reaction to the normal parasympathetic reflex, your respiratory rate will diminish, your heart rate will lower, and elevated blood pressure will begin to normalize. This comes about through a neurological sensor called the baroreceptor located on the wall of the descending aorta. This reflex is activated when pressure is applied to the middle abdomen during exhalation. The pressure change is sensed by the baroreceptor, which in turn signals the hypothalamus in the mid-brain. The hypothalamus is responsible for regulating heart rate and blood pressure. The tension of the arterial wall tells the system that less pressure is needed in the system, which causes the blood pressure and heart rate to be lowered (2005, p. 49).

Considering the hypothalamus is part of the limbic system, which is linked to the emotions, the quote above explains the reciprocal relationship between breathing and emotional life.<sup>95</sup> Obviously, breath work is an important aspect of Yoga Therapy treatment, and again, must be individualise to suit the patient.

Mohan explains that in Yoga the breathing cycle has four parts (2001, p. 163):

- Exhalation (*bahya* – outward breath)
- Inhalation (*abhyantara* – inward breath)
- Suspension (*bahya kumbhakam* – suspending the breath after exhaling)
- Retention (*antar kumbhakam* – suspending the breath after inhaling)

*(Please note, some breathing techniques are contra-indicating in the case of respiratory conditions and the details below will not apply to all situations.)*

The main focus of *pranayama* is the outward breath (because of the relaxing effect on the abdomen; the lower abdomen is said to be the seat of disease, as it is where, according to yogic physiology, *apana* [impurity] exists). These impurities are eliminated with the help of exhalation. Where exhalation has a relaxing effect, inhalation has an invigorating and energising effect (this is a great tool for uplifting moods). Retention can be used to increase self-confidence; on the other hand, suspension improves abdominal muscles and helps burn impurities. Each phase of the breath compliments the other, but caution must be taken in using *pranayama*, due to

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<sup>95</sup> To give a practical example of this response, I will call on my own experience. As a small child I was terrorised by my brothers and their fond affection for a huge plastic spider that had a pump action – when a string attached was squeezed, the spider jumped towards me. After experiencing my hysterics on numerous occasions, my mother, in her wisdom, threw the spider in the fire. Nevertheless, because of this conditionality, my body goes into a sympathetic response when I find myself in a confined space with a large spider. I have found that practicing the ‘full yogic breath’ helps to restore my body to normal.

some difficulties that may be caused by misuse; hence, the need for guidance by the Yoga therapist.<sup>96</sup>

In a recent article in *Australian Yoga Life*, Sindar Kaur (2008, p. 56) writes:

We experience life mostly through our five senses, yet we rarely attend to the fundamental principle that governs our body, mind and life...the humble breath!...Most of us understand respiration (breathing) to be an instinctual process...[but] breathing is controlled by the medulla oblongata and pons, the lower division of the brain.

According to Kaur, the medulla oblongata works with the autonomic nervous system via the hypothalamus ‘by sending neural impulses or chemical messengers (neuropeptides, neurohormones and neurotransmitters) through the spinal cord into the diaphragm to trigger the lungs to expand for breath’ (2008, p. 57). Depending on the messages sent via the brain, through the nervous system, the body either reacts in an excitatory way (sympathetic) or a relaxing way (parasympathetic).

Kaur explains that from a modern scientific point of view breathing is:

...purely an organic function of the body and nervous system. Breath serves as a self-regulating mechanism that calibrates the body chemistry to maintain homeostasis in the body...[However], the ancient yogic disciplines afford a more exhaustive explanation of the connection between our breath, brain and the state of mind...through prana, the spirit is interwoven with the mind and body (2008, p. 57).

In *pranayama*, we control the involuntary rhythm of the breath. This process affects brain wave function. In Kaur’s words, ‘mindful breathing acts like a neurofeedback system that “wires” our brain states to a more appropriate or stable state, and removes unwanted emotional and psychological states’ (2008, p. 58).

This is very significant in view of Pert’s research into the chemical substrates of emotion, especially considering that physiological responses can be changed by the breath, and that the

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<sup>96</sup> For example, breath retention is contra-indicated for people with high blood pressure, heart conditions and headaches, and focusing on the inward breath and suspension of breath is contra-indicated for asthmatics.

breath is connected, through the nervous system, to our immune response. It is evident that the breath plays an enormous part in our physical and emotional well-being and, as such, is a vital component of Yoga Therapy.

There are a variety of different techniques available for the Yoga therapist to teach in assisting the patient to overcome the unhelpful affects of habitual emotional tendencies. For example, an extended exhalation technique (*Murcha*) for the purpose of relaxing, Bellows breath (*Bhastrika*) for mood lifting and peacefulness, Humming Bee breath (*Bhramari*) to relieve tension, anxiety and anger, and Alternate Nostril breathing (*Nadi Shodhana*) to balance the *bodymind*, to improve concentration and nourish the body. A. G. Mohan outlines these techniques in *Yoga, For Body, Breath and Mind* (1993), as does Sri Swami Saraswati in *Asana, Pranyama, Mudra, Bandha* (1999).

### **Pratyahara (sense withdrawal)**

Wood refers to *pratyahara* as ‘peace with your senses through voluntary selection’ (1951, p. vii) or subjugation (conquest) of the senses. Put simply, sense withdrawal allows the Yoga practitioner to be without sensory distraction (completely aware of one’s surroundings). Feuerstein equates *pratyahara* with the ‘disappearance of the subliminal-activators of restriction’ (1996, p. 73) – becoming free of *samskaras* (unconscious *kleshas*).

### **Dharana (concentration)**

This is something Wood describes as ‘the knack of mind-poise’ (1951, p. vii). He also refers to it as one-pointedness. This phase of the eight limbs of Yoga is closely linked to *dhyana* (meditation).

## **Dhyana (meditation)**

Meditation has many guises. From a Western perspective the word describes a myriad of processes that all work towards a common goal – restraining the ‘whirls of consciousness’. Wood describes meditation as an ‘integration of thoughts’ (1951, p. vii) – in other words, a merging of thoughts into one. Mindfulness meditation is a popular kind of meditation today. The word mindfulness reflects the aim of meditation: a mind full – centred on one experience or focus, with no room for anything else, fixed on a single thought/sensation/sound. In ‘Mindfulness-Based Interventions in Context: Past, Present, and Future’, Jon Kabat-Zinn writes:

Mindfulness has to do with particular qualities of attention and awareness that can be cultivated and developed through meditation (2003, p. 144)...the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment.

Kabat-Zinn adds that mindfulness is a ‘consciousness discipline’, hence meditation is an engagement in this discipline – one that may use a mantra (word) or sound that is repeated in order to hold the individual in the present.

According to Scott Bishop (and associates), author of ‘Mindfulness: A Proposed Operational Definition’ (2004, p. 230), mindfulness:

...begins by bringing awareness to current experience – observing and attending to the changing field of thoughts, feelings, and sensations from moment to moment - by regulating the focus of attention’ (2004, p. 230).

Bishop explains that in this state, thoughts and experiences are observed without ‘over-identifying with them’, hence, we do not react to them in an ‘automatic, habitual pattern of reactivity’ (2004, p. 232). Mindfulness techniques are an important part of Yoga Therapy but caution needs to be taken in how and when they are introduced (e.g. meditation is contra-indicated in individuals experiencing depression).

## **Samadhi (cognitive absorption or ecstasy or contemplation)**

Wood describes *samadhi* as ‘the gateway to reality’ (1951, p. vii). Feuerstein refers to *samadhi* as super or supra-consciousness. Other terms for *samadhi* are bliss, a non-ordinary state of consciousness, entasy or ecstasy. Feuerstein suggests that a complete cessation of the *vrttis* is a pre-condition of *samadhi* – he describes this state as ‘ a gradual restriction of presented-ideas (*pratyaya*)’ (1996, p. 63). One might explain this state, in simplistic terms, as a relief from the effects of habitual thinking.

By understanding the eight limbs of Yoga put forward by Patanjali, one can see how they are essential and beneficial processes or stages implemented by the Yoga Therapy process.

## **Yoga Therapy**

In ‘Yoga and Yoga Therapy in Australia’ (2007), Leigh Blashki suggests that Yoga Therapy is seen as ‘a quasi-therapeutic bridge between practitioner care and self-directed patient care, leading to a completion of the healing process and support for longer term prevention of unwellness’. Blashki explains that Yoga Therapy works by creating a ‘safe space for the individual to experience a sense of wholeness’ (2007). In other words, Yoga Therapy helps the individual to nurture “the self”. The job of the therapist is to encourage the patient to tune into what he/she needs for their body, mind and spirit, enabling the patient to “feel” what’s right for him/her. As in any kind of therapy it is vitally important that the methods of therapy used by the Yoga therapist work towards the three values recommended by Reigeluth and Frick, that is, effectiveness, efficiency and appeal. It is important to remember that the answer does not always lie in complicated methods, sometimes simple changes can be the most effective, such as in the case of someone who is feeling “scattered” and unfocused. A simple technique the Yoga therapist might introduce is for the individual to practice present moment consciousness when doing simple things like peeling a carrot. In this way, the patient can start to take her mind off

the whirls of thoughts experienced in the mind without consciously trying to do this. It is this kind of Yoga therapeutic suggestion that is often very efficient. Whatever the therapy, it is important that it appeals to the individual. It is not wise to recommend long periods of meditation to someone who is not ready for such techniques, someone who has trouble just sitting still.

### **Life: the art of moving towards the future**

Whether we like it or not, life propels us forward in time. The proposition put forward in this thesis suggests that our health depends on the quality of this ‘forward movement’ – on the degree by which we take the past with us. As we have learned, Freud suggests that we inherit certain psychic dispositions. Or to put it another way, our past creates interpretative filters that continue to condition the way we think (emotional genetics), or in Yoga, *samsara*. When we consider the effects of a disruption in the body’s biological feedback loop by this kind of stimulus, it is not hard to imagine the effect on the human *bodymind* as a whole. For instance, a state of exhaustion, induced by prolonged resistance, has a significant effect on the *bodymind*; it reduces the body’s natural immune response.

Using positive affirmations, including visualisation and meditation, one can curb or control the appetite of the id (releasing tension and creating a counter-effect for previously formed (often unconscious) affirmations as detailed by Treleas’s work mentioned earlier. Again, Freud explains that the id exists in a subjective reality, in which the pursuit of pleasure and the avoidance of pain are the only things that count. In other words, the id does not think, it only wishes (in Yoga this is similar to *manas* – Yoga’s desiring mind). To approach emotional genetics from a yogic perspective, one must focus on *buddhi* (the discerning or higher mind).

As mentioned in the preface, Patanjali highlights the importance of overcoming the binding effect of what he classifies as the five problematic emotional traits or *kleshas* (afflictions or

troubles). In short, the *kleshas* are five emotional tendencies that create disharmony – ignorance (*avidya*), egoism (*asmita*), passion (*raga*), hatred (*dvesha*) and ‘the will to live’ (*abhinivesha* [a desperation to survive or insecurity]) (Miller 1998, p. 45-46). *Kleshas* are the negative or unhelpful emotional reactions we experience in response to life. According to Patanjali, by controlling the whirls/fluctuations (thoughts/ideas) in the mind we can overcome the disruptive effects of *kleshas*. Patanjali writes in Sutra 2:33 about the use of opposites.

*Vitarka badhane pratipaksa bhavanam*

For the repelling of unwholesome-deliberation [the *yogin* should pursue] the cultivation of the opposite’ (Feuerstein 1979, page 82).

This concept of cultivating the opposite can be applied on various levels of thought, feeling and action and it is something that is reflected in the Western theory of Rational Emotive Behavioural Therapy.

## **Rational Emotive Behaviour Therapy (REBT)**

According to Albert Ellis, the feelings associated with our core beliefs (which are a product of our past experiences) are often felt in the present (triggered by memories, whether conscious or unconscious) and often result in an unhelpful feeling. Ellis refers to this theory as the ABC’s: A is adversity or activating event; B is core belief, and; C is the feeling or consequence resulting from this adversity coupled with a core belief. Ellis uses a Socratic<sup>97</sup> dialogue method to help the individual move through the problem to (E) evaluate and (D) dispute the foundation of this past belief. In other words, he suggests that we need to change our self-talk. Part of the Yoga therapist’s role is to help the individual ‘cultivate’ positive and helpful ‘self-talk’.

## **Breathing in life**

There is no true power in any sphere of life except through inward liberty.

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<sup>97</sup> A Socratic dialogue is a ‘question and answer’ method of philosophising that helps the individual come to a rational conclusion through their own method of deduction and reasoning (Honderich 1995, p. 837).

In essence, Yoga understands that there is a difference between ‘breathing for life’ and ‘breathing in life’ – one is an action of necessity and one is an action of choice. Yoga Therapy is based on working with the individual to create wholeness.

Solomon writes: ‘integrity has to do with “wholeness,” so emotional integrity has to do with the unity of our emotional life’ (2007, p. 267). To Solomon, emotional integrity is something that starts with an act of gratitude for one’s life. He says: ‘Gratitude broadens and builds. It is not just a “positive” view of life. It is a way of putting one’s life in perspective’ (2007, p. 269).

According to Solomon, the philosophy of emotion cannot be piecemeal, or rest on a general theory, it must be:

...therapeutic...corrective...[cultivate] the grand emotions and [recast] those negative, if often brilliant emotions which...drag us down with their stupidity (1993, p. 310).

This philosophy of emotion is reflected in the wisdom of Yoga, in particular, Yoga Therapy, which provides an effective, efficient and appealing way of dealing with *kleshas* (emotional reactions or sources of trouble).

In *Yoga, Meditation and the Guru*, Purushottama Bilimoria writes:

Yoga [is] a process of disciplined exercises aimed at gathering the diffused energies of the mind and body, perfecting them (by concentrating and regulating their varied expressions) and making them instrumental in liberating ‘perception’ of the self, thereby effecting an integration of the outer with the inner person (1989, p. 21).

Yoga Therapy appreciates this integration and recognises that each person is unique and, as such, requires a therapeutic practice tailored for his or her needs. Yoga Therapy honours the ancient tradition of Yoga by bringing into effect the one on one relationship reflected by the

teacher/pupil custom. In honour of the *Guru* (the teacher of the wisdom of yoga - *gu* signifies darkness and *ru* signifies the destroyer of darkness –Feuerstein 1997, p. 112) the profession of Yoga Therapy, as does Yoga Teaching, strives to bring some lightness into the life of the patient.

## **In Summary**

This research only touches the surface of a much deeper subject. Further studies might explore the chemical, subtle and spiritual effects produced by nutrition, vibration (including electromagnetic field study) and faith. All of these aspects are part of a broader field of study, one that would undoubtedly provide further insights into the theory of emotional genetics (as adopted biologically and habitually).

In summary, this paper proposes that apart from the scientific meaning of the term genetic (i.e. inherited biological tendencies passed on from generation to generation), there is another perspective worth considering – that our cells not only have a memory or disposition for certain conditions, they also incline us towards particular ‘ways of thought’ – thoughts that are the foundation of our emotions. Consequently, this view suggests that our emotions are affected by chemicals as well as by our experience and circumstances, and they are also influenced by the neural pathways we forge as a matter of habitual tendencies learned from the prominent people in our lives.

Yoga Therapy provides a unique opportunity for the patient to work on various levels (gross, subtle, spiritual and emotional) with a therapist who offers practical and therapeutic techniques aimed at providing a path towards health and well-being. Aristotle, the Ancient Greek philosopher, claimed that we are vessels of “potentialities” (1976, p. 91). Yoga Therapy works to enhance this potential.

## GLOSSARY OF TERMS

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*Much of the information contained in this glossary was sourced from Georg Feuerstein's Shambhala Encyclopedia of Yoga and from Leigh Blashki from The Australian Institute of Yoga.*

*Please note, all foreign words are Sanskrit unless otherwise noted – they have not been written in italics.*

*Abhinivesa* – the will to live (survival instincts) – one of the five causes of affliction (*kleshas*).

*Ahamkara* – “I maker” or ego (the self we identify with).

*Ahimsa* – one of the five *yamas* - meaning non-harming.

*Analysand* – a person undergoing psychoanalysis.

*Ananda* – bliss or joy.

*Aparigraha* - one of the five *yamas* – meaning non-grasping or greedlessness.

*Apperceive or apperception* –used in the translation of the *Yoga-sutras* by Georg Feuerstein to describe when the perceiver is aware of the act of perceiving.

*Asana* – pose or posture (Yoga exercises) – see eightfold path.

*Asmita* – I-am-ness, as sense of sense that identifies with the self created by external influence or a tendency establish our identity as constructed from our environment – individualization) a disconnection from the true Self) – one of the five causes of affliction (*kleshas*).

*Asteya* - one of the five *yamas* -meaning non-stealing.

*Avidya* – ignorance (*nescience* – lack of knowledge) – one of the five causes of affliction (*kleshas*).

*Bodymind* – is used to describe the body, mind and spirit as an integrated whole.

*Brahmacarya* - one of the five *yamas* - meaning chastity.

*Buddhi* – the higher or discerning mind (*buddhi* is the feminine form of *buddha* [the awakened one]).

*Candra* – moon.

*Cathexis* - This pseudo-Greek term was introduced by Freud's translator/editor James Strachey for the German *Besetzung*, which conveys the idea of something being filled or occupied. As used in Freud's 1895 "Project for a Scientific Psychology," for example, cathexis refers to the degree to which a neuron is filled with a quantity of energy and hence in a state of altered readiness for discharge. Freud also makes a crucial (but not fully defensible) assumption that the accumulation of large quantities of cathexis in neurons is a direct source of painful sensations ("unpleasure"), and that "pleasure" consists neurologically in a low level of cathexis.

*Causes of affliction* – see *kleshas*.

*Chakra* – energy centres – there are seven main *chakras* (see *chakra* chart).

*Citta* (*Cit* [root]) – mind or consciousness.

*Cittavrttinirodha* – *sutra* 1:2 describing the main goal of Yoga - restraint of the modifications of the mind is Yoga or Yoga is the control of ideas in the mind.

*Clarity or Clarity of Mind* – is used herein to describe an individual's ability to see life from a rational perspective. It denotes a clear method of thought, unaffected by impulsive desires or compulsive instincts and free of excessively moralistic programming. In this sense, the 'seer' is now the objective observer of his/her own thoughts.

*Conditionality* – the word "conditionality" is used to describe anything that influences the individual to adopt particular beliefs and practices without fully understanding the reason for their own thought processes and behaviour. This implies a lack of awareness with regard to responses i.e.: conditional or programmed responses. It is a Buddhist term that basically means 'conditional thoughts that arise from events that then condition further thoughts and events'.

*Control* (or controlling) – directing or taking charge of. E.g. 'controlling the ideas in the mind' – directing our thought processes.

*Constructivist* - Not to be confused with the mathematical term, constructivism is a term used by Albert Ellis to describe a human being's ability to construct his/her own mental disturbances or mental reality. Ellis suggests that human beings are not only disturbed by external influences they also contribute internally to maintaining dysfunctional thinking, feelings and doings.

*Defence Mechanisms* – Freudian term denoting the things we do to camouflage our feelings and mask our vulnerability – to defend ourselves from exposing the way we really feel – this is usually something we are unaware we are doing.

*Displacement* – is a defence mechanism in psychoanalysis that describes the process where energy is rechannelled from one object to another object.

*Dharana* – concentration – see eightfold path.

*Dhyana* – meditation – see eightfold path.

*Dis-ease* - meaning unease - The word disease comes Latin word *dis* a prefix of Latin origin meaning asunder or apart - a negative or reversing force and ease from Old French origin *aise* meaning comfort – hence, reversing comfort.

*Dispassion* – is simplistic terms *vairagya* is a word used by Patanjali to describe the concept of being free from craving. According to Patanjali, aversion/hatred (*dvesa*) is causing by craving for other than what is not possible – wallowing in what is emotionally painful. *Dvesa* rests on sorrowful experiences (*duhkha*). A human being relates to the environment by either attraction or aversion (with pleasure or pain [as aversion *dvesa* leads to pain *duhkha*]). A dispassionate attitude is encouraged in Yoga to avoid the pain caused by aversion.

*Disturbance (emotional)* - In relation to REBT disturbance is an unhelpful and unhealthy state, which has resulted from negative (self-rating) beliefs. It does not mean that the person is unstable but instead means that the person is unable to function at their optimal level of contentment because they are experiencing unhelpful thoughts. In contrast, dissatisfaction is a healthy and helpful state that prompts or motivates us.

*Duhkha* – pain and suffering – sorrowful experiences

*Dvesa* – aversion or hatred – one of the five causes of affliction (*kleshas*).

*Eightfold Path* - *ashta-anga-yoga* or eight limbs of Yoga. Yoga is a process of awakening. This is achieved through a method of withdrawal from the forms of nature, to an inner space of peace and silence. Patanjali's Classical Yoga follows the eightfold path to achieve this aim – *yama* (moral observance), *niyama* (self-restraint), *asana* (posture), *pranayama* (breath control), *pratyahara* (sense withdrawal), *dharana* (concentration), *dhyana* (meditation) and *samadhi* (enstasy or ecstasy).

*Ego* – one of Freud's three states or levels of mind - the "reality principle".

*Ecstasy* – derived from a Greek word meaning to stand outside oneself – involves a significant shift in one's state or sense of identity – to transcend the ego and reach a state of blissfulness – *samadhi*/enstasy.

*Enstasy* - to transcend the ego and reach a state of blissfulness – *samadhi*/ecstasy.

*Fight or flight response* – referred to in medicine as the general adaptation syndrome. This is our natural instinctive response to threat (threats can be physical or emotional). It is the response of the sympathetic response of the autonomic division of the central nervous system in reaction to stress. When experiencing the fight or flight response various bodily functions change from a state of homeostasis to a state of readiness i.e. the heart pumps faster, the muscles tighten, digestion slows (or ceases), adrenaline floods the body and amongst other reactions the function of the immune system is adversely affected.

*Fixation* – a term used in psychoanalysis where the libido is attached to earlier modes of satisfaction and object-relationships.

*General adaptation syndrome* – a term coined by Dr Hans Selye to describe the fight or flight response (see fight or flight response).

*Habit-mould* - is a term used by Earnest Wood in *Practical Yoga* (1951) to describe *kleshas* [emotional obstacles/afflictions].

*Hatha* – forceful – it is usually used to describes the practices of Yoga, in particular, *asana* and *pranayama*. The word comes from *ha* reflecting the sun (*surya*) and *tha* reflecting the moon (*candra*). *Hatha* Yoga works with the nadis (see *ida* and *pingali* the female and male aspects of the subtle body), the subtle body or *pranic* body that is made up of 72,000 nerve endings. *Ida* and *pingala* are part of the three primary *nadis* – they traverse *sushumna* (the third primary *nadi* – see *sushumna*), which runs along the spine.

*Helpful (and unhelpful)* – With relation to emotional disturbance these terms were first coined by Albert Ellis in his thesis on rational emotive behaviour therapy. A helpful outcome is also a healthful outcome just as an unhelpful outcome is also an unhealthful outcome. I prefer to use

these terms as opposed to ‘positive and negative’ especially in relation to the emotions to avoid confusion as there are many ‘so called’ negative emotions that have a positive function (such as fear in an emergency situation).

*Homeostasis* – A medical term used to describe the body’s perfect state of well-being or balance – where all the bodily functions are working in balance.

*Karma or karman* – means action. Everything that is experienced in the world is said to spring from karma (according to Hindu tradition this is also attached to past lives).

*Klesha* – causes-of-affliction or disturbing emotional reactions. *Kleshas* are at the foundation of Patanjali’s system of Yoga. They are the principles behind humanity’s discontent – they sustain a conditional existence. Sometimes referred to as negative emotional reactions, there are five types of *klesha* as nescience (*avidya*), I-am-ness (*asmita*), attachment (*raga*), aversion (*dvesa*) and ‘the will to live’ (*abhinivesa*). One could think of them in terms of anxiety-based emotions.

*Knowledge* – The Western approach to knowledge generally refers to information and data collection or the act of knowing certain things. Indian sages typically refer to knowledge as wisdom that leads to the attainment of liberation. Hence, the latter has a more purposive aspect.

*Kosas (Koshas)* -the word *kosa* translates as ‘sheath’- there are five sheaths or planes of existence associated with the human body. The physical body is surrounded by subtle bodies of a finer substance (etheric sheaths that envelope the body). The energy body appropriate to each plane (sheath) is known as a *kosa*.

*Annamaya Kosa* - is the physical sheath - the food sheath – it relates to the five elements (earth, water, fire, air and space [or ether]).

*Pranamaya Kosa* - is the vital life-force or energy (contained in all things) – it infuses life into the physical body and it is where sensory experience emanates.

*Manomaya Kosa* - this is the mental or psychological sheath – it is represented by thoughts and it is linked to the unconscious – it is constructed from the lower nature (*manas*), therefore, it is associated with emotions that can be destructive such as depression, insecurity, doubt, anger etc.

*Vijnanamaya Kosa* - this is the intellectual or body of knowledge, which is formed from higher knowledge, it is associated with the concept of *Buddhi* (the higher mind – female term for Buddha) – this sheath is the faculty of reason.

*Anandamaya Kosa* - this is the spiritual sheath – it is represented by *ananda* (joy) – we experience positive emotions through this plain such as joy, bliss, happiness, peace, serenity – it is the highest state of experience while on earth.

The *kosas* are the planes in which consciousness expresses itself. The *kosas* are where the Spirit or Self (*atman*) manifests itself. In other words, consciousness permeates the five sheaths – food, life-force, mind, awareness and bliss.

*Id* – One of Freud’s three levels or states of mind – the primitive, instinctual mind state (child state).

*Ida* – one of the three primary *nadis* – *Ida* represents the left side of the body – it relates to the female, passive, cool energy (moon) whereas *pingala* represents the right side of the body and it relates to the male, active, hot energy (sun). The *ida* current of life force corresponds to the parasympathetic division of the central nervous system on a physical level (this is the response that

restores the body to homeostasis (balance) in the event of a nervous disturbance) - also see *Hatha*.

*Indriya* – the senses.

*Irrational* - In REBT it represent where rational thinking supports people with their individual and community goals and purposes, irrational thinking creates obstructions; it disables progress. Irrational behaviour is self-defeating.

*Ishvara-pranidhana* – one of the five *niyama* meaning devotion.

*Kaivalya* – a term often used as a synonym for *moksha* in many schools of Postclassical Yoga, although strictly speaking it translate as “aloneness” – the unbroken awareness of the contents of consciousness.

*Manas* – the desiring mind; “I want” (the lower mind the deals with the information received by the senses).

*Mirroring* - The term “mirroring” is used to describe Jean-Paul Sartre’s view that we see ourselves as reflected through “the other”.

*Moksha* – liberation – a shift in consciousness that transcends all duality. A paradox due to the realisation that both liberation and bondage are constructs based on perception and ultimately have no significance hence, it is said that there is neither bondage or liberation, but only the Absolute.

*Nadis* - The *nadis* are the body’s circulatory energy system, sometimes referred to as nerve endings (although not in the traditional Western sense). In yogic tradition, the *nadis* are the manifestation of *pranamaya kosa*. As mentioned earlier, the *nadis* are a network of subtle energy channels that sustain the physical body. There are approximately 72,000 *nadis* in the body, which include three primary channels and energy centres known as *chakras*. The central channel, which runs along the spinal cord, is called the *sushumna* (most gracious channel). Two other primary channels wind around the *sushumna*, these are known as *ida* (channel of comfort) and *pingala* (tawny current).

*Negative feelings* - In REBT, negative feelings can be both healthy and unhealthy. Without healthy negative feelings we would not try to avoid stressful or dangerous situations. In contrast, unhealthy negative feelings create uncontrollable reactions that are self-defeating i.e.: rage, anger, depression, self-pity and panic.

*Neurosis* – neurosis is a habit that is maladaptive or in some obvious respect distressing. A neurotic habit is reasonably fixed and resistant to change or modification through normal learning processes. Examples of neurotic habits are: phobias, compulsions, obsessive thoughts, etc. Physical symptoms can result from neurosis such as paralysis or impotence.

*Neuropeptides* - neuronal secretions; informational substances. Receptors receive information into the cell. Pert uses this analogy on page 25 of *Molecules of Emotions*: a cell is an engine that drives life, receptors are buttons that push the control panel of the engine and the peptide (a kind of ligand) is the finger that pushes the button.

*Niyama* - self-restraint. *Niyama*, the second limb of the eightfold path taught by Patanjali, consists of five attributes – *shauca* (purity), *samtosha* (contentment), *svadhyaya* (self-study),

*ishvara-pranidhana* (devotion), *tapas* (austerity, severity or perfection of the body – usually means extreme practices such as fasting) - also see eightfold path.

*Orgone energy* - as presented by Reich; as a universal life energy (similar to *prana*). According to Reich, 'orgone is the bio-energetic core of emotional function'.

*Parapraxes* – Freudian term referring to a minor error such as a 'slip of the tongue' (also things like forgetting something, losing something – Freud believed that 'there are no mistakes', in other words, our mistakes reflect something unconscious that is said to reveal a repressed motive).

*Parasympathetic response of the autonomic division of the central nervous system* - the relaxation response, which allows the bodily functions to return to their natural state of balance (homeostasis) from the opposite state: the sympathetic response (fight or flight response). The state bears an important relationship to Yoga philosophy and practice.

*Pingala* – one of the three primary nadis – *Pingala* corresponds to the sympathetic division of the central nervous system (this response prepares the body for fight or flight in the event of a threat). The practices and techniques of Yoga aim to awaken the energy of the subtle body or mind call the "*kundalini*" (coiled or serpent energy/power). This happens when balance is found in the solar and lunar *nadis* - also see *Hatha*.

*Prana* – life, life force, breathing forth – the essence of life.

*Pranayama* – breath control (breathing techniques) – see eightfold path.

*Pratyahara* - sense withdrawal – see eightfold path.

*Projection* – a term used in psychoanalysis to describe a defence mechanism where intolerable feelings, impulses, or thoughts are falsely attributed to other people.

*Psychical Energy* – The term psychic has nothing to do with the usual connotation of extrasensory perception. It is a term used by Sigmund Freud to describe the energy system of the human personality.

*Psychodynamics* – refers to the dynamic interplay of the psychological processes.

Psychological Freedom (freedom of mind) – Mental liberation- Freedom from the obstacles that block the mind and retard rational thought. Being able to control negative and destructive emotional reactions. In yogic terms this could be described as obtaining clarity of mind (enlightenment); being free from overly restrictive or irrational psychological programming or conditioning; attaining the ability to truly experience joy.

*Purusha* – a Yoga and *Samkhya* term for the transcendental Self – *Purusha* is the witness (consciousness) of all psychomental states – the eternal Self (both the seer and the seen).

*Raga* – attachment (one of the five causes of afflictions [*kleshas*]).

*Rational* – This term is used herein in relation to REBT. It does *not* mean unemotional. The term is used to describe positive, honest, logical and realistic thinking it is a quality associated with making objective and discerning observations. Being 'efficient and rational in achieving one's individual and community goals' (Ellis). Used herein in the universal sense of reason and

wisdom. (Not used to rationalise false arguments i.e.: ‘I need to eat all of this food even if it’s enough for 20 people because I can’t waste it – people are starving’). Where irrational behaviour is self-destructive, rational behaviour is self-helping.

*Rationalisation* – as opposed to the act of being relational in a the context of psychology, rationalisation is a term used to describe a defence mechanism, more specifically, the act of finding a way to justify an unacceptable attitude, belief or action which otherwise would usually be thought of as unacceptable. For example, an individual who drinks to excess may well rationalise this as something that is a normal occurrence within his/her group of associates.

*Reaction formation* – a term used in psychoanalysis for a defence mechanism whereby a person replaces a repressed thought, feeling or behavioural act with one which is diametrically opposite to the original thought, feeling or behaviour - such as a shy person who behaves in an exhibitionist’s manner.

*REBT* - Rational Emotive Behaviour Therapy developed by Dr Albert Ellis.

*Regression* – a term used in psychoanalysis to describe an attempt to avoid or reduce anxiety by reverting to an earlier, more immature mode of thinking, feeling or behaving.

*Relaxation state* – see Parasympathetic response of the autonomic division of the central nervous system.

*Repression* – a term used in psychoanalysis for a defence mechanism whereby unacceptable thoughts or wishes are not consciously recognised, instead, they are banished from the consciousness. According to Freud, what is repressed is what is unconscious. Repression is latent thoughts that are subject to forces that resist conscious recognition.

*Sadhana* – the path to self-realisation - often used to describe spiritual practices (such as meditation).

*Samadhi* – meaning ecstasy - to stand outside oneself – involves a significant shift in one’s state or sense of identity – to transcend the ego and reach a state of blissfulness.

*Samskaras* – subliminal activators, unconscious imprints or impressions. These are emotional imprints similar to Freud’s concept of the unconscious; these activators make indelible imprints on the unconscious (imprints left behind by our day-to-day existence). Feuerstein explains that these imprints are dynamic forces in our psychic life – they propel us towards action. One could think of them as emotional deposits in the unconscious mind.

*Samkyha* (or *Sankyha*) – (translates as number) – insight or ‘investigative understanding’. A preclassical tradition developed between 500 and 200 BCE. According to Feuerstein, *Samkyha* has a close connection to the tradition of Yoga, as both *Samkyha* and Yoga are said to lead to the same goal. The main distinction between the two is that *Samkyha* relies on tradition (the testimony of adepts) whereas Yoga relies on perception. The sage *Kapila* is said to have founded *Samkyha*. The spiritual path of *Samkyha* requires the renunciation of everything other than the Self, which is said to be the only principle capable with true consciousness.

*Samtosha* – contentment - one of the five *niyamas*.

*Satya* - truthfulness - one of the five *yamas*.

*Shauca* – purity - one of the five *niyamas*.

*Sublimation* – a term used in psychoanalysis for a defence mechanism whereby a repressed or unconscious drive - denied gratification - is diverted into a more acceptable channel or form of expression – a process where an otherwise unacceptable urge finds a constructive way to express itself. One example is substituting an aggressive kind of sporting activity for a more literal expression of aggression.

*Sukha* – pleasure.

*Surya* – sun.

*Sushumna* – one of the three primary nadis - see Hatha.

*Superego* – one of Freud's three levels or states of mind – the parent ego or conscience state.

*Sutra* – thread or map.

*Svadyaya* – one of the five *niyama* - self-study.

*Sympathetic response of the autonomic division of the central nervous system* – see fight or flight response.

*Tapas* – self-study, one of the five *niyamas*.

*Tattva* – “thatness”.

*Tension* – in the body - created by sympathetic division of the autonomic nervous system (fight or flight response).

*The Seer* – the consciousness behind the thought.

*The unconscious* – a term used in psychoanalysis to describe repressed and their representations such as images, ideas and wishes that are not accessible to conscious thoughts.

*Unhelpful (and helpful)* – With relation to emotional disturbance these terms were first coined by Albert Ellis in his thesis on rational emotive behaviour therapy. A helpful outcome is also a healthful outcome just as an unhelpful outcome is also an unhealthful outcome. I prefer to use these terms as opposed to ‘positive and negative’ especially in relation to the emotions to avoid confusion as there are many ‘so called’ negative emotions that have a positive function (such as fear in an emergency situation).

*Vairagya (dispassion)* – in simplistic terms *vairagya* is a word used by Patanjali to describe the concept of being free from craving. According to Patanjali, aversion/hatred (*dvesa*) is caused by craving for what is not possible – wallowing in what is emotionally painful. *Dvesa* rests on sorrowful experiences (*duhkha*). A human being relates to the environment by either attraction or aversion (with pleasure or pain [as aversion *dvesa* leads to pain *duhkha*]). A dispassionate attitude is encouraged in Yoga to avoid the pain caused by aversion.

*Vidya* – wisdom or knowledge.

*Vrttis* – (*vruttis*) whirl or activity- fluctuations of consciousness.

*Yama* - moral observance. *Yama*, the first limb of the eightfold path taught by Patanjali, consists of five attributes – *ahimsa* (non-harming [to the self and to others]), *satya* (truthfulness), *asteya* (non-stealing), *brahmacharya* (chastity/self-discipline) and *aparigraha* (greedlessness/non grasping) – also see eightfold path.

*Yogin* – a male Yoga practitioner.

*Yogini* – a female Yoga practitioner.

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## APPENDIX A

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### Australian Institute of Yoga Therapy

8<sup>th</sup> June, 2008

To Whom It May Concern:

I am a student in the Graduate Certificate in Yoga Therapy (course code 21720VIC) at the Centre for Adult Education (CAE) in Melbourne, working under the supervision of Mr Leigh Blashki of the Australian Institute of Yoga Therapy and the CAE.

I am seeking your participation in a study relating to emotional responses and their effects. I would be really grateful if you would assist me by sharing your experiences and opinions.

The aim of this study is to gain information relating to emotional responses, how they are learnt and their effect on an individual's well being.

You are invited to participate in this survey. Completion of the questionnaire should take no longer than 10 minutes. The questionnaire includes some questions relating to your emotional responses. If any questions cause extreme discomfort, you will be encouraged to cease the survey.

**The questionnaire is anonymous and no individual identifying information (e.g. names or contact details) is requested.**

Your participation in this survey is entirely voluntary. You are free not to answer particular questions and to withdraw from the study at any time.

Thank you again for your participation.

Kind regards,

Jane Wiesner

.....  
Please complete this questionnaire and email to [jane@beingwell.net.au](mailto:jane@beingwell.net.au) Or, post c/- P.O. Box 166, Black Rock Vic, 3193. Please return by 29<sup>th</sup> June.

If you have any questions please feel free to contact me – [jane@beingwell.net.au](mailto:jane@beingwell.net.au), or the research supervisor Leigh Blashki, who can be contacted at:  
[leigh@australian-institute-yoga.com.au](mailto:leigh@australian-institute-yoga.com.au)  
or c/o CAE wellbeing programs, 253 Flinders Lane Melbourne 3000



NATIONALLY RECOGNISED  
TRAINING

CAE Wellbeing and Fitness, 253 Flinders Lane Melbourne 3000  
[enquiries@australian-institute-yoga.com.au](mailto:enquiries@australian-institute-yoga.com.au)  
(61) 3 5968 1811

## APPENDIX B

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Australian Institute of Yoga Therapy

### Quantitative/Qualitative Research Survey

Graduate Certificate in Yoga Therapy  
CAE Melbourne

Jane Wiesner 2008

I really appreciate you taking the time to participate in this study. Please ensure that you read the letter of participation before beginning this survey. It should only take around 10 minutes to complete. If answering any of the questions causes extreme discomfort or distress, please cease the questionnaire. Further, if any extreme discomfort or distress continues after undertaking the survey, please contact the researcher or supervisor as well as seeking support from your personal networks.

#### Questions:

1. Do you feel there is a relationship between how you feel physically and your emotions?

- ☐ Yes  
☐ No (if no, then skip to question 3)

*(If filling out via email please just bold or underline either yes or no.)*

2. If yes, in what way do you believe these emotions manifest in the physical body? (How do they make you feel, physically?) Please give as much detail as possible.

.....  
.....  
.....  
.....

*(Please use as much space as you need above [delete lines and type over]. If writing on this form please use the reverse side [with the question number shown] if you need more space.)*



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CAE Wellbeing and Fitness, 253 Flinders Lane Melbourne 3000  
enquiries@australian-institute-yoga.com.au  
(61) 3 5968 1811

3. Is there any person/s in your family (living or deceased) that you feel that you are similar to in how you respond emotionally? If so please provide details.

.....

.....

.....

.....

*(Please use as much space as you need above [delete lines and type over]. If writing on this form please use the reverse side [with the question number shown] if you need more space.)*

4. In what ways are your responses similar to him/her/them?

.....

.....

.....

.....

*(Please use as much space as you need above [delete lines and type over]. If writing on this form please use the reverse side [with the question number shown] if you need more space.)*

5. Please indicate the extent to which you believe your emotional responses are habitual or learned from previous generations (tick the box corresponding to your belief).

|            |   |   |   |   |   |          |   |   |   |    |  |                                |
|------------|---|---|---|---|---|----------|---|---|---|----|--|--------------------------------|
| Not at all |   |   |   |   |   | somewhat |   |   |   |    |  | Completely Learned or habitual |
| 0          | 1 | 2 | 3 | 4 | 5 | 6        | 7 | 8 | 9 | 10 |  |                                |

*(If filling out via email please just bold or colour your choice of number.)*

6. Please indicate the extent to which you believe your emotional responses are formed solely from your life's experiences only (tick the box corresponding to your belief).

|            |   |   |   |   |   |          |   |   |   |    |  |                                              |
|------------|---|---|---|---|---|----------|---|---|---|----|--|----------------------------------------------|
| Not at all |   |   |   |   |   | somewhat |   |   |   |    |  | Completely Formed from my life's experiences |
| 0          | 1 | 2 | 3 | 4 | 5 | 6        | 7 | 8 | 9 | 10 |  |                                              |

*(If filling out via email please just bold or colour your choice of number.)*



## Australian Institute of Yoga Therapy

7. In your opinion, do you believe that a person's emotional tendencies can be habitual or inter-generational (learned or passed down from one generation to another)?

- ☐ Yes  
☐ No

*(If filling out via email please just bold or underline either yes or no.)*

8. Do you believe that affirmations (statements that are repeated in the affirmative [with conviction]) can help to change the way a person feels about life, in particular, past events?

- ☐ Yes  
☐ No

*(If filling out via email please just bold or underline either yes or no.)*

Please tick or circle the information below that best applies to you:

Age bracket (please tick or mark beside with an X):

(18-24)..... (25-34) ..... (35-44).....  
(45-54)..... (55-64) ..... (Over 65).....

Sex (please circle or mark with an X): Male..... or Female.....

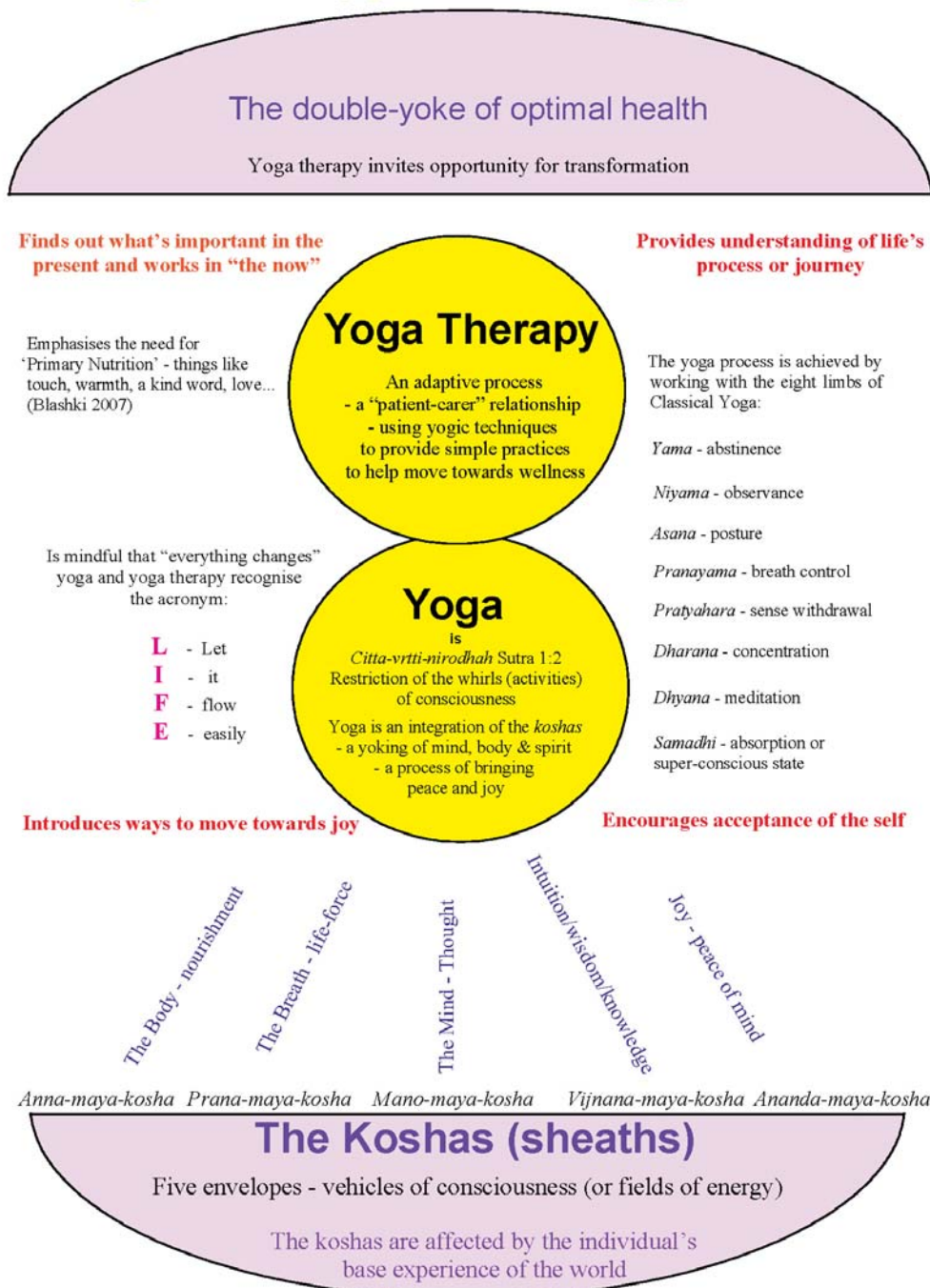
Thank you so much for your participation.



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enquiries@australian-institute-yoga.com.au  
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## APPENDIX C

### Yoga Therapy Health “Egg” Model



Inspired by course content ‘Graduate Certificate of Yoga Therapy’, CAE, Melbourne, 2007.

### Freud's model of personality structure

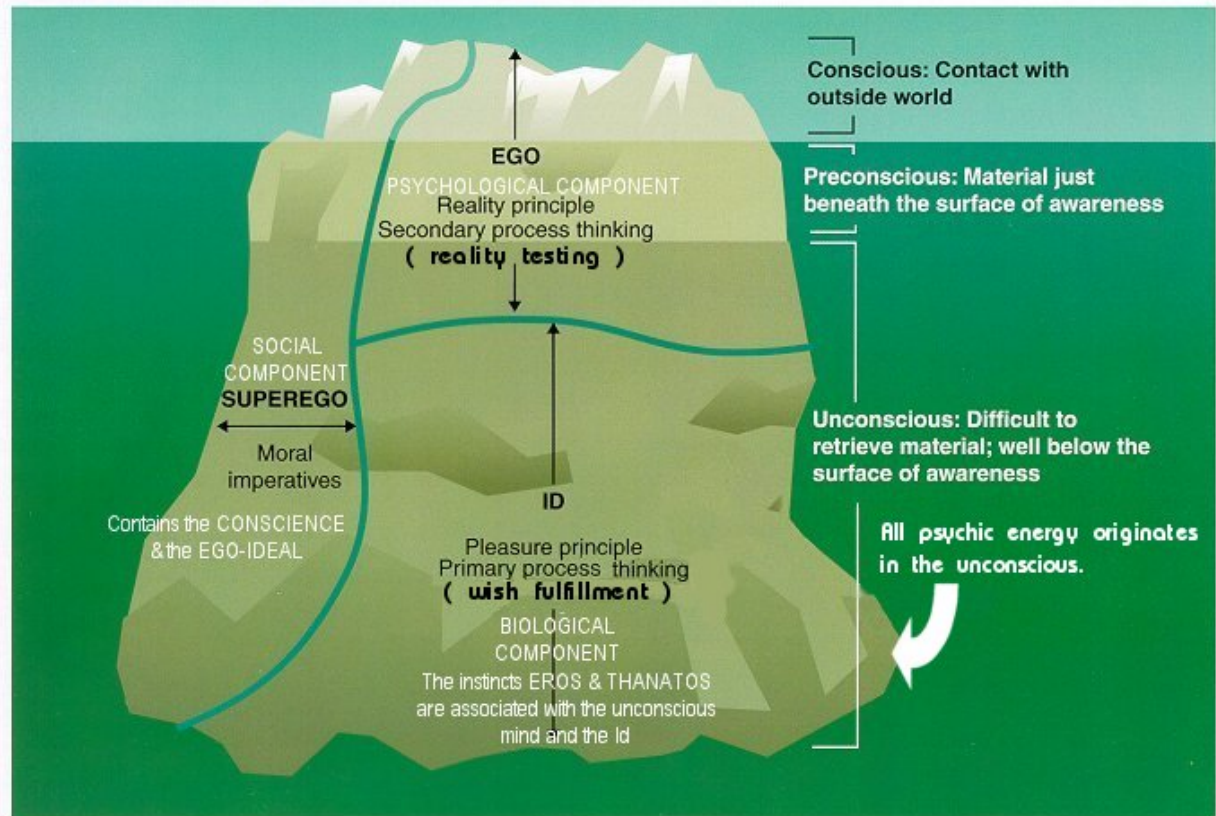


Diagram by Anthony A. Walsh, <http://www.kheper.net/topics/psychology/Freud.html>, cited 19/01/08.

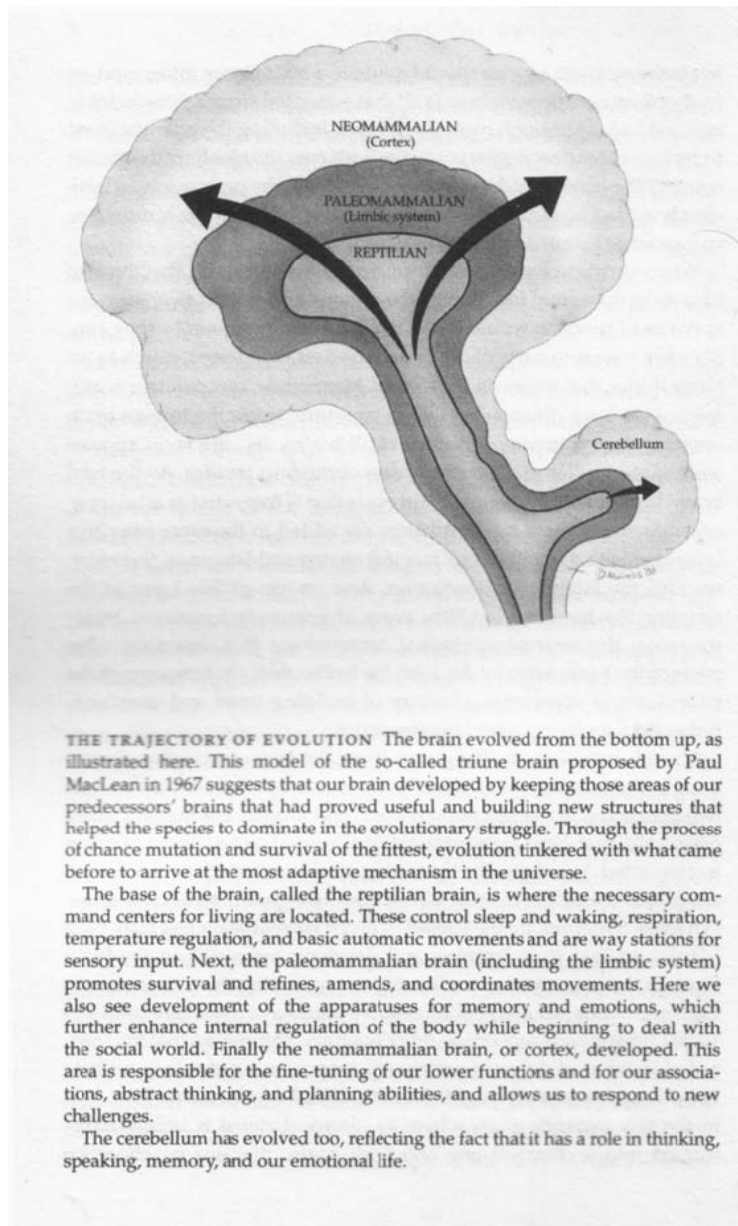
## APPENDIX E

| <b>CHAKRAS</b>                                                             |                                            |                       |                                                                                                                                |                                                       |                                                                                    |
|----------------------------------------------------------------------------|--------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Chakra</b>                                                              | <b>Location</b>                            | <b>Colour</b>         | <b>Main Physical Association</b>                                                                                               | <b>Emotional Connection</b>                           | <b>Emotional Extremes</b>                                                          |
| Root or Base Centre<br>(Muladhara)                                         | Base of the spine                          | Red                   | Elimination, release of<br>adrenalin, circulatory<br>system and blood<br>[smell]<br>Earthy connection                          | Instinct and drives –<br>fight or flight response     | Fear and Aggression/<br>Groundedness and Security                                  |
| Sacral<br>(Svadhishana)                                                    | On the spine behind the genitals           | Orange                | Reproductive system and<br>bodily fluids<br>[taste]<br>Linked with water                                                       | Creativity<br>Passion<br>Sexuality                    | Creativity/Emotional Impotence                                                     |
| Solar Plexus Centre<br>(Manipura)                                          | On the spine behind the navel              | Yellow                | Digestive system<br>(consuming, taking in)<br>[sight]<br>Associated with fire                                                  | Actions<br>Power<br>Personality<br>Will               | Empowerment/A Sense of Power/lessness or<br>Uncontrolled Emotions                  |
| Heart Centre<br>(Anahata)                                                  | On the spine behind the heart              | Green                 | The cardiovascular and<br>respiratory systems<br>[touch]<br>Associated with air                                                | Compassion<br>Sensitivity<br>(the<br>core of emotion) | Love and Compassion/Hate and Anger                                                 |
| Throat Centre<br>(Vishuddha)                                               | In the throat                              | Sky Blue              | The throat<br>[sound]<br>Ether/space connection                                                                                | Communication<br>Expression                           | Ease of Expression/Emotional Stagnation                                            |
| Third Eye Centre<br>(Ajna)                                                 | Between the brows – behind the<br>forehead | Indigo<br>(deep blue) | The brain, nervous and<br>endocrine systems<br>[inner and external<br>vision/visualisation]<br>Associated with pure<br>essence | Intuition<br>Insight                                  | Effective (helpful) Cognition/ineffective<br>(unhelpful) Cognition                 |
| Crown Centre<br>(Sahasrara)<br><i>Symbolised as a thousand petal lotus</i> | Crown of the head                          | Violet                | Whole nervous system,<br>brain and pineal gland<br>[supreme consciousness]<br>Associated with the realm<br>of thought          | Enlightenment<br>or<br>Spiritual Endeavour            | Feelings of Connectedness and<br>Balance/Feelings of Separateness and<br>Imbalance |

Researched from Syllabus Diploma of Health (Yoga) -Blashki, Leigh 2001 Australian Institute of Yoga and CAE.

## APPENDIX F

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MacLean, Paul. D. (1973). *A Triune Concept of the Brain and Behaviour*, University of Toronto Press, p. 9. In 1967 Dr Paul MacLean popularised the concept of the limbic system as the seat of emotions. MacLean's model of the triune brain suggests that, as a result of the evolutionary process, there are three layers to the brain. Firstly, there is the brainstem or reptilian brain which is responsible for breathing, sleeping, waking, respiration, temperature regulation, basic automatic movements and it acts as a way station for sensory input. Then there is the limbic system, which circles the top of the brainstem which MacLean calls the seat of emotions. This area is our apparatus for memory and emotions, it enhances the internal regulation of the body and allows us to deal with a social world. Finally, there's the cerebral cortex in the forebrain which has a role in thinking and speaking and also has a role in memory and emotional life. He refers to this as the seat of reason. In short, these brain areas represent instinct, emotion and intellect.