Integrated Intelligence

Classical and Contemporary Depictions of Mind and Intelligence and their Educational Implications

Marcus Anthony
University of Newcastle

Marcus Anthony examines theories of intelligence and consciousness, and the way in which they represent (or exclude) intuitive, spiritual and mystical experience. His argument identifies the way narrowly defined “rational” definitions of mind have come to dominate and restrict contemporary discourses in science and education. He develops the theory of integrated intelligence, an expanded model which incorporates the non-rational elements of human intelligence long missing in mainstream western discourses. Anthony indicates how and why they should be incorporated into modern education systems.

Integrated Intelligence is an exceptional book. I am most impressed by the fact that Anthony has forged ahead and got to where the discourse will, if we are lucky, arrive in maybe another decade or more.

DR DAVID LOYE
Ex-faculty Princeton University

This book is a highly ambitious one which succeeds in presenting a well documented, intelligently structured, convincingly developed concept which could well make an original contribution to thought.

DR. FELICITY HAYNES
Ex-Dean of Education, University of Western Australia
Integrated Intelligence
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I do not believe there is any such thing as an ‘objective’ book. Objectivity is not a valid term for poststructuralists, and insofar as I employ a poststructuralist approach in the book to follow, I remain faithful to that approach. From the outset, I would like to outline my own particular worldview, and how this theory which I have called integrated intelligence first came about. That way the reader will know enough about me to appreciate my own personal biases.

I recall when I was an undergraduate at university arguing vehemently with another young man about the subject of psychic phenomena. The other fellow, Robbie, was a rather unworldly drama student. He was the psi proponent in that debate, and I was the skeptic. I do not quite recall who won the debate, but I felt secure in the invincibility of my arguments. I recall vividly arguing that he was deluded. I was very much an empiricist in those days.

The first big shift in my worldview occurred three years later when I heard Professor Ronald Laura give a lecture to Postgraduate Dip. Ed. students at the University of Newcastle. The lecture was called “A New Epistemology of Science”. He spoke for two hours about science, mysticism, physics and philosophy in way I had never heard before – being a small town boy, and son of a baker from Taree in northern New South Wales. What he said deeply moved me. And I was developing enough self-awareness then at 24 years of age to know that when something moves you, you should take note. However, I remained a skeptic of the spiritual for some time.

Two years later I met a spiritual teacher in Coffs Harbour, also in northern NSW. Her name was Lesley Halverson. She was very much the New Age spiritual woman. I attended her mediation classes for a while. I need not go into details here, but it became very obvious to me after spending some time with her that she did indeed possess a type of mental ability that I had never encountered before. One night at around this time I had a very profound dream. I dreamed that a woman was using her hands to ‘heal’ me. She said to me that I was using only three per cent of my full ability. When I awoke I recalled the dream vividly. That dream, and the influence of Lesley, got me thinking about the nature of mind and intelligence. If there was indeed part of my mind that I was not using, what part was that? Another teacher I met at around this time was a man named Leonard Jacobson, and he taught me much about the importance of being in the present moment. You will see his name mentioned several times in this book, and as the author of two books in the bibliography.

But it was not until I had turned 30 that I was to meet a group of extraordinary people who would fully embody the idea of integrated intelligence. That was when I moved to Wellington, New Zealand. The convener of this group was an extraordinary woman whom I shall call Jessica. I had been meeting with the Wellington
group for several months before I met Jessica, who lived far away in Auckland. I 'worked' with these extraordinary people for several years.

I mention all these gifted people because they are the inspiration for the theory of integrated intelligence, which forms the crux of this book. I did not develop the theory from reading books, or discussing Eastern philosophy. I developed it from observing and working with extraordinary people. I came to believe that there are limits to intellectuality as we employ it in mainstream Western science and philosophy. What many Westerners see as the pinnacle of intelligence (empirical science and logic) is but a foreshadow of other intelligences that can expand upon, and incorporate, our current understanding of intelligence.

So that is where I am coming from. It could never be called an impartial position - such a position may well be impossible. But this book is not an attempt to prove the existence of integrated intelligence, as the reader is about to discover.

Marcus Anthony 2007
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Conducting this research and writing this book has been a rather lonely experience in that it was done almost entirely in the often “isolation” of mainland China, with nobody to bounce ideas off. Nonetheless, in the age of the internet there are many people who helped me. Firstly I would like to thank my dear wife, Ren Yong Ping for her patience. I hope you can forgive me for all the lost time. I’ll make it up to you, I promise. A very big thanks to Dr Sohail Inayatullah for all his help, ideas, and proof-readings. I have learnt so much from you! Thank you also to Dr Julie Matthews who always popped up with critical comments just when I was beginning to delude myself that I was doing well. Dr Pat Kelly was of great assistance with her advice on writing style. Because of you a thousand adverbs met a timely death, and this book is far more readable. A huge thanks to Eve Witney for final editing of the manuscript. You helped save my sanity! A belated note of gratitude to Professor Ron Laura at the University of Newcastle for the lecture which first inspired me about the kinds of ideas contained within this book. Thanks too to those who embody integrated intelligence – Lesley Halverson, Leonard Jacobson and others who might wish to remain anonymous. Without you this book would never have been. I would also like to express my gratitude to my fourth class teacher Jeff Vandenberg, who allowed me to believe in myself all those years ago. A final big thank you to my “support team” – you know who you are.

Marcus Anthony
INTRODUCTION

Is the human mind and its innate intelligence confined to the brain, as mainstream contemporary mind science tends to assume? What if it is not? Where might that take intelligence theory and education in the years to come; and why are such questions largely absent from mainstream discourses on consciousness, intelligence and education? This book addresses these questions.

An essential binary between the contrasting approaches to knowledge inherent within critical rationality (reason) and mystical spirituality (intuition) lies at the heart of this book. The former is dominant in the modern West. Yet the research I have undertaken leads me to conclude that the latter has played a significant role in the development of Western civilisation and culture, as well as being a prime driving force in Eastern and indigenous cultures. The theory of integrated intelligence – which is the central focus of this book – posits that the human mind is not confined to the brain, but exists within a sea of consciousness. It is a concept more compatible with mystical spirituality than critical rationality.

Systems theories of intelligence are expanding the parameters of this discourse to include such concepts as creativity, intuition and wisdom. However there is little evidence that mystical/spiritual concepts are being taken seriously. My argument is that the underpinning mechanistic paradigm is the single greatest factor in this regard. Therefore a paradigm shift is likely required before a theory like integrated intelligence will be permitted entry into the mainstream discourse as a serious subject of discussion.

This research supports the hypothesis that hegemonic processes are inherent within contemporary mainstream discourses on mind and intelligence in the West. Mystical and intuitive conceptions are generally downplayed, ridiculed or ignored. This hegemonic process is not always explicit. It exists as implicit givens in a variety of sites at different levels the social and systemic level, the paradigmatic and worldview level, and also at a deeper civilisational and psycho-spiritual level. There are several defining tenets which characterise the respective sides of the rational/intuitive binary. The most notable features of the former include strong materialism and reductionism, while the subject-object split remains a central philosophical and methodological given. The latter tends towards idealism, holism and a merging of self and subject.

It is my belief and understanding that critical rationality and mystical spirituality are not incompatible, and may form a unity in the future. Introducing integrated intelligence into contemporary state education and the knowledge economy may help offset some of the most obvious problematiques inherent within these systems. These problems include confusion, information overload and loss of meaning. In the long term integrated intelligence may assist in transforming society into a more integrated whole; one which more fully acknowledges the mystical and spiritual aspects of human existence. This will help to correct some of the imbalances which
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have emerged from the globalisation of education, which has tended to focus upon the economic and technological aspects of learning and development at the expense of personal and spiritual fulfilment.
CHAPTER 1

INTRODUCTION: CONTEXT, SIGNIFICANCE AND DEFINITIONS

PART ONE: INTRODUCTION

1.1 INTRODUCTION AND OVERVIEW

Our psyches, which contain all our knowledge, expand periodically into (transcendent) space for a very short period of time at practically infinite velocities. There the human psyches form an interference pattern with the psyches of all other consciousnesses in the universe. This interference pattern or hologram of knowledge information we can call the "universal mind." The knowledge in the universal mind is open to anyone who can extend his stay there by stretching out his subjective time while there so as to gain useful information and decipher it upon his return... Matter contains/is consciousness. Our planet is therefore a larger consciousness, and so is the sun. A higher consciousness, the human psyche, inhabits that body most of the time but is independent of it ... All these consciousnesses communicate with each other and make up part of the information hologram. Communication throughout the universe is continuous and instantaneous (Itzhak Bentov 1988 pp 157-158).

... patients who display complex partial seizures with foci within the temporal lobes, particularly the amygdala and hippocampus, report more frequent paranormal-like experiences. Distortions in subjective time, the sensed presence of another sentient being, out-of-body experiences, and even religious reveries have occurred during spontaneous seizures. Direct surgical stimulation of mesiobasal structures within the temporal lobes, particularly the right hemisphere, has been shown to evoke comparable experiences ... experiences during stimulation are not just memories, but enhancements or vivifications of the class of ongoing experiences (perceptions, thoughts, or memories) at the time of the stimulation (Robert Persinger 2001 p 516).

I begin this book with a binary: the mystical predilections of the mystic Bentov, and the scientific skepticism of paranormal researcher, Persinger. Bentov was a man little formal education (Bentov 1988: preface). Rather, he was an "intuitive inventor" who liked to "tinker about in his versatile basement laboratory seeking simple and practical solutions to complex technological problems" (Bentov 1988: preface). Instead of employing the empirical and reductionist methods of science used by Persinger, his understandings evolved after his "intuition led him into the
regular practice of meditation” (Bentov 1988: preface. Italics added). Bentov’s ‘research’ was predicated upon “the design of experimental journeys into the microcosm and macrocosm of the universe” (Bentov 1988: preface). Meanwhile, Persinger has spent a lifetime in educational institutions, and has received a PhD. Like Bentov, he also works in a laboratory, but employs a more mainstream scientific approach, using brain-scanning apparatus and the scientific method to conduct his research (BBC 2001). Further, the perceptual foci of Bentov and Persinger are literally worlds apart: while Bentov speaks of “higher consciousness” and the intelligence of astronomical bodies, Persinger speaks of “higher consciousness” and the intelligence of astronomical bodies, Persinger speaks of brain function and neural stimulation.

Bentov’s view of consciousness and his biography might appear quaint or eccentric to many in the modern West, yet he effectively represents the conceptions of consciousness and intelligence – and a primary way of knowing – held by numerous civilisations throughout the history and across the geography of humanity (Grof 1985, 2000, 2006); a way of knowing and a consciousness that shall be referred to throughout this book as “integrated intelligence”. Persinger on the other hand represents the worldview of dominant contemporary brain science, and employs critical rational ways of knowing.

A notable aspect of Bentov’s claim is the fact that his way of knowing involves the use of non-ordinary states of consciousness, something that is also consistent with various non-Western and non-contemporary civilisational ways of knowing, and central to the idea of integrated intelligence (Braud 1998 pp 64, 76, 2003 pp xx-xxi; Grof 2000). Western mainstream science (and the research of brain scientists like Persinger) is founded upon one of the few epistemologies which reject the idea of the integration of consciousness and intelligence with cosmos (Dossey 2001; Grof 1985, 2000; Sheldrake 2003). The implications are enormous if we are to consider seriously the voice of researchers like White, who notes: “Human intelligence functions best when it is actively open to many possibilities not considered to exist according to Western consensus reality” (White 1998, p 134).

1.2 THE RESEARCH TOPIC AND KEY QUESTIONS

The first subject of investigation of this book is representations of mind and intelligence. The other key issue, Western state education, will comprise a secondary but significant focus of this book. This raises the issue of how and why integrated intelligence has been excluded from current Western education, and the effect that this has had upon the minds of students.

The primary question this book addresses is:

How has integrated intelligence become suppressed, and mainstream mechanistic depictions of mind privileged, in contemporary Western science, society and education; and what are the implications of this for modern education and society?
INTRODUCTION: CONTEXT, SIGNIFICANCE AND DEFINITIONS

Figure 1.1 depicts the conceptual framework of this book: the key question, the focus, the methods, the context and the objectives. The remainder of this chapter provides details to explicate this figure.

This book therefore examines theories of intelligence and consciousness, and the way in which they represent (or exclude) integrated intelligence. The prime research question is designed to identify the way rational, linguistic and brain-based definitions of intelligence and consciousness have come to dominate contemporary consciousness and intelligence discourse and research (Gardner 1993; Gardner, Kornhaber & Wake 1996; Grof 2006) at the expense of integrated and spiritual depictions.

There are several essential questions which follow from the primary question:
- What is integrated intelligence? (Chapter 1)
- In what ways does integrated intelligence differ from current mainstream dominant definitions and assumptions about consciousness and intelligence? (Chapters 1, 3-7)
- How have rational/linguistic definitions of consciousness and intelligence dominated these fields; and why has integrated intelligence been largely neglected in modern scientific discourse? (Chapters 3 and 4)
- What power plays within these discourses have resulted in the exclusion of integrated intelligence? (Chapters 3-7)
- What have been the seminal moments in the history of the West at which integrated intelligence has been excluded? (Chapters 1 and 3)
- How has the focus upon mechanistic representations of mind affected contemporary schooling and education? (Chapters 3 and 8)
- What are the possible implications of incorporating integrated intelligence into modern society and educational practice? (Chapter 8 and Conclusion)

Having outlined the topic and key questions, I shall now identify some key distinctions and definitions.

1.3 THE GENERAL APPROACH

The positing of the binary at the beginning of this book might suggest a strict dichotomy of consciousness types or ways of knowing. Yet in the tradition of poststructuralist thought and critical futures studies (Inayatullah 2004a), the purpose of this book is not to posit a binary where one of the two will be found to be superior (Belsey 2002). Nor is the purpose to prove or disprove the existence of consciousness as integrated beyond, or merely localised within, individual brains. The latter is what one might expect from the modernist empirical tradition. Rather this book will juxtapose, compare and contrast these two seemingly opposing views of consciousness and reality. Other worldviews and other ways of knowing will be brought forward at various junctures. The goal is to glean from these juxtapositions a deeper understanding of the present dominance/subversion of consciousness and intelligence types within contemporary society, science, and
CHAPTER 1

The Main Question
How integrated intelligence became suppressed, & mechanistic mind privileged, & implications for education & society

The Focus
Integrated intelligence vs. mainstream dominant representations of mind and intelligence; Ways of knowing in state education

Theory
Poststructuralism; Critical Futures Studies; Causal Layered Analysis; Wilber’s Integral Theory

The Context


Immediate Objective
Dissent: Disrupt the present dominant discourses; render them remarkable

Secondary Objective
Alternative Futures:
- Intelligence and mind science
- Educational
- Social
- Cosmic

Figure 1.1. Book topic, context, analytical approach and objectives.
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education. This will be done by elucidating the power plays that underpin the conceptualisation, representation and employment of preferred ways of knowing.

This approach I use problematises the present and depicts it for the remarkable (rather than inevitable) moment that it is (Inayatullah 2004a). In this sense integrated intelligence will serve as a disruptor of a privileged dominant paradigm and its implicit epistemic foundations. That paradigm is the mechanistic paradigm, and the episteme is that of the modern West – as I outline further in Chapters Three and Four.

Having given a general introduction to the topic, I now outline the precise research topic and the key questions which I address in the chapters to follow.

1.4 CONTEXTUALISING THE PROBLEM

What is the problem and why is the research needed?

Current mainstream educational practice, following the Western episteme, assumes a narrow definition of intelligence and consciousness. Rational, linguistic and mathematical depictions of intelligence predominate (Gardner 1993; Shearer 2004). Accordingly, developmental, social, and cognitive psychology prevail in modern psychology and consciousness theory (Gross 2003). Cognitive psychology has become a handmaiden to neuroscience (Maddox 1999). Recently, genetics and genetic psychology have also gained prominence (Loye 2004a). Only the fringe discourses of transpersonal, humanistic and positive psychology and parapsychology have addressed the idea of the extended mind with any depth (Loye 2004a; Wilber 2000a, 2000b, 2000c). In recent years, information theory, artificial intelligence theory, cybergenetics, and evolutionary biology have also delved into consciousness theory (Kaku 1997), but again these fields have mostly remained grounded in standard reductionist models of consciousness.

Towards the end of the twentieth century there was a marked rekindling of research into consciousness theory (Blackmore 2001). Despite the predominance of reductionist and mechanistic approaches, there has been a peripheral and vociferous group of theorists who have used conceptions related to the extended mind and integrated intelligence, often employing analogies from systems theory and quantum physics, as I shall discuss in chapters Four and Five.

In state-provided education, the lack of exploration of these recent shifts restricts the potential development of a truly holistic and integrated curriculum. Amongst educators, IQ theory is seen as problematic, but has been replaced in teachers' minds by the effective synonym “ability” (Nash 2005). The neglected domains are the “intrapersonal” (Gardner 1993) and spiritual components of education (Broomfield 1997; Krishnamurti 1956; Milojević 2005; Moffett 1994a). As the following chapters show, integrated intelligence implies alternative ways of knowing – through introspection, through contemplation, and through ‘receptive’ modes of consciousness (Fox & Sheldrake 1996; Wilber 2000a, 2000b, 2000c; Moffett 1994; Liberman 1995).
The significance of the research

Alternative educational methodologies such as the Steiner, Montessori and Krishnamurti schools all acknowledge the role of the intuitive and spiritual in child development (Bussey 2003; Krishnamurti 1956; Milojević 2005; Steiner 1970). Various non-Western spiritual education and training practices have also emphasized this, including those of the Australian Aborigines, eastern spiritual traditions, and shamanic initiations (Broomfield 1997; Lawler 1991; Milojević 2005; Moffett 1994a; Wilber 2000c; Wildman 1996). The paradigms upon which such education is founded acknowledge the existence of ‘non-localised’ agency within the experience of intuition and inspiration. This most commonly includes concepts such as revelation, spirit guides and angels, and telepathic transfer of knowledge between people and the land or nature (Broomfield 1997; Grof 1996, 2006; Pearsall 1999; Wildman 1996).

Within discourses relevant to Western state education the debate has barely begun. Although more radical thinkers such as Beare and Slaughter (1993), Broomfield (1997), Carter and Smith (2003), Forbes (2003), Fromberg (2001), Gardner (1993), Gardner et al. (1996), Krishnamurti (1956), Hogarth (2001), Milojević (2005), Moffett (1994a), and Steiner (1970) have openly criticized educational theory and practice for its narrow constructs of consciousness and/or intelligence, few are entering the debate with any conviction. In recent decades concepts such as multiple intelligences (Gardner 1993), six thinking hats (de Bono 1999), and emotional intelligence (Goleman 1995, 1999) have become well known in educational circles. Yet these theorists have downplayed any spiritual or mystical components, and confined the debate to within respected scientific models of mind.

As Chapter Three outlines, the broader picture in the evolution of Western thought finds the twenty-first century in a state of tension, with the breakdown of certainties (Tarnas 2000). Numerous worldviews – the liberal left, the Christian right, the Islamic world, the scientific worldview and the New Age to name just a few – are competing for power and legitimacy (Tarnas 2000). This essential tension is a product of the collapse of the once almost indisputable Word of religion within an increasingly questioning society and academia, and a loss of faith in the incontestability of scientific empiricism amidst developments in quantum physics, systems theory and cosmology.

From the perspective of the dominant empirical tradition of the modern West, and the skeptical postmodernist mindset, literature regarding ways of knowing and intuitive intelligence has lacked a legitimate framework permitting incorporation of integrated intelligence into that dominant discourse (Ferrer 2002). This book will employ critical futures studies to provide a framework for dissent, with the goal of reopening the discourse.

Wider research will potentially deliver an expanded framework for the extended mind theory, and thus for its possible place in educational practice of the future. While the extended mind (and integrated intelligence) remains unrecognized, and its epistemology vague and ungrounded, there is little hope that educational institutions will acknowledge it.
INTRODUCTION: CONTEXT, SIGNIFICANCE AND DEFINITIONS

Summary

In Part One of this chapter I have stated the topic, the major and supporting questions, and defined the context, the analytical approach and the objectives. These were depicted in Figure 1.1. Yet I have not explained what is meant by the extended mind in general and integrated intelligence in particular. This will be the focus of Part Two.

PART TWO: INTEGRATED INTELLIGENCE

In turning to the subject of intelligence and then to integrated intelligence and the extended mind, the discussion becomes less analytical and more descriptive. This will lay the foundations for the deeper analyses in the following chapters.

1.5 DEFINITIONS

Defining intelligence and integrated intelligence

The term ‘intelligence’ is notoriously difficult to define, leading to one of the great controversies in modern psychology (Jensen 1998; Reber & Reber 2001 p 361; Sternberg, Lautry & Lubart 2003a). Indeed Jensen (1998), following the lineage of Spearman early in the twentieth century, prefers to dispense with the term altogether. Instead Jensen employs the phrase “mental ability” – lamenting that intelligence can be defined in almost any way to suit the theorist referring to it.

The definitions and attributes of intelligence tend to reflect the methods used to measure it. For example, the inventor of individual intelligence tests, Alfred Binet, developed tests to measure intelligence according to what he perceived it to be – reasoning, imagination, insight, judgment and adaptability (Reber & Reber 2001 p 361). The employment of factor analysis by those who favour “g” theory1 (Eysenck 2002; Herrnstein & Murry 1994; Jensen 1998) likewise tends to elicit a self-reinforcing definition of intelligence. This is because statistical analysis focuses upon the readily quantifiable.

Yet there are more expansive ways of defining intelligence. Gardner (2003) points out that intelligence theory comprises three contrasting approaches. Thus intelligence can be discussed as a characteristic of the species (e.g., chimpanzees compared to humans); as individual differences predicated upon potentiality or ability (e.g., Jensen’s [1998] “g” theory); or as a measure of the success of a performance at a given task (e.g., Sternberg’s [2003] “successful intelligence”).

The essential point is that almost any definition of intelligence will reflect the predicates of the social environment in which the definer lives and thinks (Gardner et al. 1996). If we examine the subject from a poststructuralist point of view, we might ask who are the groups and social classes which have become privileged via our definition of intelligence. The answer is that the Western episteme in the wake of the Enlightenment has valorised critical rationality, has constructed education
and schools accordingly, and has developed intelligence tests to determine who will be 'successful' within that environment (Gardner et al. 1996).

In light of their definition, Reber and Reber (2001) note that any valid intelligence test must be successful in predicting adaptable and successful functioning within a specified environment. As intelligence tests have been primarily designed to predict scholastic success (Gardner et al. 1996), the behaviours that have been identified as adaptive and successful are scholastic: reason, judgment, learning, abstraction and dealing with novelty. They are socio-culturally determined (Reber & Reber 2001 p 361; Richardson 2000).

In contrast, concepts related to the idea of an integrated intelligence are most often depicted in texts and environments associated with spirituality, mysticism or non-ordinary states of consciousness. My definition of integrated intelligence reflects the particular foci of those discourses and situations. I therefore define Integrated intelligence as:

The deliberate and conscious employment of the extended mind, such that an individual might function successfully within a given environment.

In turn the extended mind is defined as:

The state of personal consciousness whereby individual awareness is infused with a transpersonal awareness that transcends the confines of the individual mind and the limits of the sensory organs.

The conflict at the epistemic level with modern Western science and civilisation is readily apparent. Yet this is not a strict civilisational binary, a conflict of 'mystical' East and 'rational' West. As outlined in Chapter Three, Western civilisation from the time of the ancient Greeks to the modern day has featured recurring infusions of influence from worldviews inspired by integrated intelligence. The present is – as poststructuralists state – remarkable, not inevitable (Belsey 2002). The civilisational and historical perspective will be elaborated further in Chapter Three, there I situate integrated intelligence in the civilisational and temporal space. Then, in Chapters Four to Six, further paradigmatic perspectives (the mechanistic and neo-Darwinian) will be provided via an analysis of several debates and issues in literature related to the subject matter.

Before this greater detail is provided in the upcoming chapters, a brief history of integrated intelligence is given below. Then, further definitions and distinctions are outlined to make the concept of integrated intelligence and related ideas clearer – including what integrated intelligence is – and what it is not.

1.6 A BRIEF HISTORY OF THE EXTENDED MIND AND ITS CONTEMPORARY RELEVANCE

The idea that the human mind is infinite and cannot be reduced to the brain and body, or easily situated in time, is ancient (Dossey 2001). The extended mind has most commonly been depicted in traditional, ancient, spiritual and mystical texts, such as those of the Chinese Taoists and Confucians (Bishop 1995; Jiuy 1998),
INTRODUCTION: CONTEXT, SIGNIFICANCE AND DEFINITIONS

Greeks (Brumbaugh 1981; Sheldrake 2005a, 2005b; Tarnas 2000), Romans and Egyptians (Dossey 2002; Grof 1985), Indians (Auribindo 1985; Inayatullah 2002b; Nisargadatta 2001; Yogananda 1979), and in shamanism, animism and indigenous cultures in general (Clarke 1989; Murinbata & Whitehead 2002; Osumi & Ritchie 1988; Walsh 1990; Wildman 1996). Most commonly the extended mind is associated with spiritual experiences, or depicted within texts related to personal and spiritual development. The connection with mystical experience is an essential one. Since the 1600s, mystical experiences have been “characterized by the feeling that... everything forms a unity” (George, in White 1998 p 132).

The issue of an integrated, non-localised intelligence has become increasingly significant in recent decades, coinciding with greater attention paid by the scientific community to the concept of consciousness (Grof 1985, 2006). Increased numbers of scientists, philosophers and thinkers are questioning strictly neurophysiological interpretations of consciousness and discussing the validity of expanded cognitive capacities which extend beyond materialistic models of consciousness (Blackmore 2001; Bohm 1973; Dossey 1999, 2001; Hawkins 2002; Penrose 1990; Radin 1997, 2006; Sheldrake 2003; Tart 1993, 2001). Prior to this shift in focus (in the words of psychologist Donald Hebb in 1949) modern psychology took “completely for granted that behaviour and neural function are perfectly correlated” (quoted in Dossey 1993 p 138).

From time to time the idea of integrated intelligence emerges from the background to invade the rationally constructed space of the contemporary Western world. On September 6, 1995 the popular media was intrigued when the CIA revealed that the American military had spent US$20 million between the 1970s and 1990s on scientific remote viewing (Buchanan 2003). \(^3\) The CIA announced that Project STAR GATE had been abandoned due to unconvincing evidence of its usefulness. Yet Lynn Buchanan (2003), one of the “remote viewers” employed in that program, claims that it was quite successful in uncovering military information, and that scientific remote viewing could be taught to any member of the general public. Further, Buchanan claims that virtually every nation has a remote viewing program (Buchanan 2003). Such claims emerge sporadically in the modern West to seemingly act as disruptors to the ongoing hegemony of Western critical rationality.

Research in the present day regarding the extended mind is usually rendered as ‘other’ via the terms “parapsychology” or “paranormal”. The prefix “para” literally means “outside of the normal” (Reber & Reber 2001 p 508). For example, near death experiences (NDEs) typically include numinous cognitive experiences, such as the ability to perceive the actions of others at a distance, identify objects located nearby but not within immediate sensory perception, the ability to communicate with people and spiritual entities telepathically, and visions of the past and future (Dossey 2001; Ring 2000; Sutherland 1995). Some people who experience the near-death state also report a unified mystical experience, such as a feeling of oneness or a direct perception of the connectedness of life events and life meaning (Dossey 2003; Kubler-Ross 1997; Ring 2000; Sutherland 1995). Such experiences tend to remain classed as “paranormal” in mainstream cognitive science (Braud...
2003), and thus outside the epistemic and paradigmatic boundaries of the modern West. An important objective of this book is to employ critical futures studies to better understand why these events are “othered”, and to determine what light that knowledge sheds upon our understanding of the making of the present.

Nonetheless, there is evidence of an emerging shift. Parapsychologist Dean Radin writes of psi as follows.

No longer is it viewed as unthinkable, or as a meaningless anomaly. Instead psi is being regarded as a genuine, albeit poorly understood human facility...

This paradigmatic shift is beginning to trump outdated scepticism (Radin 2006 p79).

Thus integrated intelligence and the concept of the extended mind constitute a fringe but developing domain in contemporary science, education and society. Although predominantly mechanistic, reductionist and ‘rational’ concepts dominate mainstream intelligence and consciousness discourses, many theorists decry the limitations of these (Dossey 1999; Gardner 1993; Grof 2000; Wilber 2000b; Zohar 2000). This book has been written at a time when there is an emerging interest in moving beyond the limitations of purely rational representations of mind and intelligence.

The brief history of integrated intelligence given here is but a primer for the far more extensive historical analysis undertaken in Chapter Three. There, the poststructuralist tool of genealogy will be used to trace the seminal moments in Western civilisation where the epistemic boundaries of knowledge became contested and/or restricted.

In the next section, I define the parameters of integrated intelligence and outline its core operations and end states.

1.7 WHAT IT IS: INTEGRATED INTELLIGENCE, THE EXTENDED MIND AND CORE OPERATIONS

Figure 1.2 summarises the argument in sections 1.7 and 1.8. It shows the domains where integrated intelligence is generally found, and where it is not found. It also highlights what integrated intelligence is and is not.

The term “integrated intelligence” refers to the integration of individualised brain-based intelligence with universal or cosmic intelligence. This definition moves beyond transpersonal theory by integrating transpersonal and mystical insight with the idea of intelligence. There is an important distinction here. Throughout this book the conception of the mind as transcendent of the brain will be referred to as “the extended mind”, following Sheldrake’s (2004) term. The conception that the extended mind incorporates a potential to be ‘intelligent’ will be referred to as “integrated intelligence”. While the latter definition incorporates the former, the former does not necessarily entail the latter. Integrated intelligence can be seen as a subset of the extended mind, as Figure 1.3 depicts.
INTRODUCTION: CONTEXT, SIGNIFICANCE AND DEFINITIONS

Integrated intelligence

Is NOT the same as …
- Spiritual intelligence
- Magic
- Psychic ability
- Paranormal experience

Is generally NOT found within concepts of …
- Inferential intuition
- Lateral thinking
- Fuzzy logic
- Emotional Intelligence
- Wisdom
- Gardner’s multiple intelligences theory
- Psychokinesis
- Logging on to the NET

Is often found within the concepts of...

Domain Two
- Psychic ability
- Exceptional human experiences
- The paranormal
- Revelation
- Grace
- The Holy Spirit
- Spiritual intelligence
- Classical intuition
- Other ways of knowing
- Numinous experience
- Near-death experiences
- Alien abduction

Domain One
- Enlightenment experiences
- Non-dual consciousness
- Cosmic consciousness
- Planetary mind

Figure 1.2. What is integrated intelligence?
Although the concept of the extended mind is virtually absent from contemporary secular education and mainstream intelligence and consciousness discourses, it is a widely posited conception and experience in numerous contexts. Some of the most notable include: spiritual healing and new age texts (Dobie 2002; Myss 2001; Newton 2000; Weiss 1985; Wilde 2002; Woolger 1994); UFO phenomena (Mack 1999); tales of the supernatural (Ritchie 1992); neo-humanism (Bussey 2004; Inayatullah 2002a); Jungian psychology (Jung 1973, 1989); transpersonal and humanistic psychology (Broad 1998; Ferrer 2002; Grof 1985, 1992, 1994, 1995, 2000; Hart, Nelson & Puhakka 2000; Ross 1993; Walsh & Vaughan 1993; Wilber 2000a, 2000b, 2000c, 2001); parapsychology (Schlitz 2001; Sheldrake & Smart 2003; Targ & Katra 1999, 2001; Tart 1993, 2001, 2002); deep ecology (Couzyn 1995; Eisler 2004; Sahtouris 1999); quantum physics and systems theory (Bradley 2004; Capra 2000; Fox & Sheldrake 1996; Peat 1988; Sheldrake, McKenna & Abraham 2001; Folger 2002); consciousness theory (Marshall 1989; Penrose 1990); and cardio-psychology (Pearsall 1999; Walker 1988). It is also a common theme in popular culture: in songs, science fiction, literature, movies, fairy tales and fantasy of numerous kinds. Perhaps its most widely known popular depiction is in the Star Wars films, where the concept of “The Force” was taken directly from the Taoists’ idea of the Tao (Ross 1993). The recent success of television programs like The X-Files, various Star Trek series, and The Unexplained and movies such as the Harry Potter series, Stephen King movies, and The Matrix trilogy – which all feature individuals with advanced intuitive and psychic abilities – testifies to a strong public interest in such subject matters.

Figure 1.3. The relationship between the extended mind and integrated intelligence.
Depictions of integrated intelligence and the extended mind vary widely within these texts. Innumerable terms are employed. For example, a person using Lao Tzu’s “Tao” could “Without stirring out of the house... know everything in the world” (Zhengkun 1995 p 201). Sheldrake and Smart (2003) refer to ‘telepathy’ as the ability to know who is calling before one picks up the phone. Wildman (1996) refers to “The Dreaming” of the Australian Aborigines, which includes telepathic potentials between individuals and the spirit of places. Futurist Slaughter (1999) writes about “subtle awareness”, “causal insight”, “ultimate identity with the source”, “psychic intuition”, “superconsciousness”, and “transcendent knowledge” (Slaughter 1999 pp 332-333). Zohar (2000) defines “spiritual intelligence” as “an internal, innate ability of the human brain and psyche, drawing its deepest resources from the heart of the universe itself” (Zohar 2000 p 9). Meanwhile, physicist Peat (1988) refers to synchronicity via his book title as The Bridge Between Mind and Matter.

As will be discussed further in Chapter Six, the concepts of the extended mind and integrated intelligence imply that the brain is a permeable organ imbedded within a sea of consciousness. It inverts the Western myth of materialism (Davies & Gribbin 1992) which depicts consciousness as epiphenomena, an accidental by-product of random evolutionary forces (Grof 1985, 2000). As transpersonal researcher Stan Grof (1996) states:

It has become increasingly clear that consciousness is not a product of the physiological processes in the brain, but a primary attribute of existence. The universe is imbued with creative intelligence and consciousness is inextricably woven into its fabric. (Grof 1996 <www.primalspirit.com/Grof_PlanetarySurvival_art.htm>)

Duane Elgin mirrors Grof’s point, and adds a dimension that is an essential component of this book: the potential of the extended mind to transform the human experience:

... consciousness appears to be present at every level of the universe, from the atomic scale (and the behaviour of electrons that seem to have a mind of their own) on up through the human scale. So the universe has the properties of a living system; life exists within life. This is an amazing miracle, and as we discover this, I think that it is going to begin to shift who we think we are and what we think our life-journey is about. It’s transformative. The idea and the experience of a living universe is a powerful recontextualization of who we think we are and where we think we’re going. (quoted in Phipps <www.wie.org/j19/elgin.asp?page=3>)

The extended mind is most closely akin to the proto-consciousness view, the idea that consciousness is present in all things (Zohar 2000). This puts the idea of the extended mind paradigmatically at odds with the science of the modern West.
The two domains of integrated intelligence

Integrated intelligence comprises two domains. The first is higher order perceptions of wholeness and integration, what Wilber calls the subtle, causal, and non-dual aspects of consciousness (Wilber 2000a, 2000b, 2000c, 2001). This shall be referred to hereafter as “domain one integrated intelligence”, and is the direct experience or perception of the integrated nature of the universe and consciousness. The second domain is that of various ‘paranormal’ phenomena such as ESP, clairvoyance, and visionary experience – the ‘psychic’ realm (Wilber 2000c; Wilde 2002; Targ & Kätra 2001; Jacobson 1997). This shall be referred to as “domain two integrated intelligence”. This is the numinous realm.

As Figure 1.3 shows, there is an overlap between these two domains. This is further elaborated upon in Tables 1.1, 1.2 and 1.3. The tables indicate the core operations and applications of integrated intelligence. For example, personal and social transformation may be triggered by domain one experience, as with the examples of Bucke and Hawkins given in the table. Yet this transformation may be an ongoing process such that the cognitive processes listed in Table 1.2 play a role. Thus psychiatrist Hawkins (2002) reports that his childhood experience of being protected by a warming bright light when stuck in a snow storm was followed across his adult years with clairvoyant experiences, including the ability to ‘diagnose’ his patients without conscious analysis. One experience may incorporate both domains, as is the case with thanatologist Elizabeth Kubler-Ross’s (1997) experience of “cosmic consciousness”. As well as experiencing cosmic wholeness, she accessed knowledge about the lives of her former patients, including re-experiencing the pain of each of their deaths.

Table 1.1. The core operation of domain one integrated intelligence.

<table>
<thead>
<tr>
<th>Cognitive process</th>
<th>Potential Applications</th>
<th>Anecdotal Exemplars</th>
<th>Other Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Perception</td>
<td>Integrated perception of the underlying order &amp; meaning of systems, &amp; “intelligence” within those systems - including cosmos itself. Enhancing a “spiritual” worldview; life meaning, &amp; a sense of relationship with nature &amp; cosmos.</td>
<td>Bucke’s (quoted in Tart 1993) immediate perception “that Cosmos is not dead matter but a living Presence, that soul of man is immortal, that universe is so built &amp; ordered that without any peradventure all things work together for good of each &amp; all…” Also James 1960; Kubler-Ross 1997; Wilber 2000c.</td>
<td>Mystical and spiritual traditions – e.g., Christian mystical, Buddhist, Hindu, Sufi, indigenous, etc. Experience from non-ordinary states of consciousness (Grof 1985, 2000; Sheldrake et al. 2001). Wilber’s (2001) argument that mystical insight is empirical (see Chapter 2, section 2.5).</td>
</tr>
</tbody>
</table>
Both domain one and domain two integrated intelligence are considered aspects of mystical and spiritual experience, however different approaches and philosophies valorise them to different degrees. For example, Buddhist texts tend to downplay domain two integrated intelligence, while valorising domain one integrated intelligence experience, particularly the experience of enlightenment or nondual consciousness (Jacobson 1991, 1997; Nisker 1998). Conversely, many new age texts valorise domain two integrated intelligence. Examples of these are Kubler-Ross (1997), Redfield (1997) and Wilde (2002).

The core operations of integrated intelligence

One of the weaknesses of populist depictions of the related concept of “spiritual intelligence” (Buzan 2001; Levin 2000; Zohar 2000) is that the specific core operations and end states tend to be poorly delineated. Any legitimate theory of intelligence ideally should make explicit the core operations and end-states (Gardner 1993).

Table 1.2. The core operations of domain two integrated intelligence.

<table>
<thead>
<tr>
<th>Cognitive Process</th>
<th>Potential Applications</th>
<th>Anecdotal Exemplars</th>
<th>Other Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation/choice</td>
<td>Evaluating design &amp; construction alternatives, investment choices, research strategies, &amp; technology alternatives*. (Targ &amp; Kbra 1999 p 139) Also evaluation of life paths, career choices, &amp; relationship choices.</td>
<td>Klein’s (2004) rejection of job offer purely on gut feeling. Later he found he had made right decision, as boss had created a “terrible working environment”. (Klein 2004 pp 294-295) Individuals who employ intuition and spiritual guidance as a means to making choices. (e.g. Bach 1986 – see ‘foresight’, below; Wilde’s sixth sense – Wilde 2001; Yogananda’s immediate recognition of his master at first meeting – Yogananda 1979).</td>
<td>Card guessing experiments from para-psychology, e.g., the Rhine ESP experiments (Radin 2003 pp 83-89).</td>
</tr>
<tr>
<td>Location</td>
<td>Determining location of &quot;archeological sites, oil, mineral deposits, &amp; buried or hidden</td>
<td>Researcher Michael Talbot employs “deeper &amp; more intuitive abilities” in locating research data</td>
<td>Remote viewing, including scientific remote viewing (Braud</td>
</tr>
<tr>
<td>Chapter 1</td>
<td></td>
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<tr>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>treasure... “(Targ &amp; Katra 1999 pp 139-141). Also location of information &amp; data for research; finding relevant people &amp; places. (Talbot 1992 p 137). Talbot’s ability to locate books in libraries by walking along rows of book shelves, stopping when he ‘feels’ he is at correct location &amp; taking a book. Also, a ‘psychic’ identifying a murderer (CNN 2005).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnosis</th>
</tr>
</thead>
</table>

| No known empirical studies. The links between wisdom and mysticism (see Chapter 6, section 6.3; Chapter 8, section 8.6). |

<table>
<thead>
<tr>
<th>Foresight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foresight of &quot;earthquakes &amp; volcanic activity, political conditions, technological developments, wear conditions, &amp; interest rates &amp; investment opportunities, as well as prices of commodities &amp; currencies...&quot; (Targ &amp; Katra 1999 p 142) In terms of life-long education this capacity could potentially be employed to determine consequences of one's author Richard Bach (1986) tells of a seminal moment in his life where, after an argument, he had to make a choice of whether to leave his partner forever. Using an introspective visionary technique he “sees” consequences of his walking away – his own imminent death in his private plane – &amp; adjusts his choice accordingly.</td>
</tr>
</tbody>
</table>

| Scientific experiments into ‘presentiment’ (Radin 2006 pp 161-180). |
**Creativity & Innovation**

The individual draws upon transpersonal modes of consciousness to facilitate increased inspiration & creativity in work, business, research, competition or leisure.

Chemist August Kekule was "seized with the notion" of molecular nature of benzene ring in dream (Kafatos & Kafatou 1991 p 166); understanding "the chemical trans-mission of neuronal impulses" (& a Nobel Prize) came to Otto Loewi while asleep (Broomfield 1997 p 80); Richard Bach claimed he did not write Jonathan Livingston Seagull - it "came 'through' him" (Rowan 1991 p 103).

Indigenous and mystical conceptions of creativity (as discussed in Chapter 6, section 6.3)

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**Table 1.3: The end-states of integrated intelligence.**

<table>
<thead>
<tr>
<th>Cognitive Process</th>
<th>Potential Applications</th>
<th>Anecdotal Exemplars</th>
<th>Other Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisdom</td>
<td>Having intuited underlying causes, meaning &amp; functions of various life process, the individual is able to make intelligent choices which enhance happiness, well-being &amp; spiritual development of self &amp; collective.</td>
<td>The life of Mohandas Karamchand (Mahatma) Gandhi. Gandhi combined an austere, mundane existence with political &amp; intellectual acumen, &amp; combined se with spiritual tools, insight &amp; wisdom to forge a powerful &amp; effective life. In doing so helped his people to develop a greater degree of spiritual &amp; political freedom.</td>
<td>The links between spirituality, spiritual guidance and wisdom from anecdote and tradition (see esp. Chapter 8, section 8.6; Chapter 6, section 6.3)</td>
</tr>
<tr>
<td>Personal &amp; Social Transformation</td>
<td>Optimal human &amp; Cosmological evolution. This may incorporate aspects of all five applications listed under</td>
<td>Numerous lives have been Bucke’s classic experience of cosmic consciousness (Tart 1993); Hawkins’ (2002) experience of being</td>
<td>Field consciousness studies (Radin 2006).⁴</td>
</tr>
</tbody>
</table>
II2 (Table 1.2), with purpose of evaluation of personal goals & choices within a greater planetary/cosmological dynamic. Potentially for increased hope & meaning.

protected by a bright, warming light while stuck in a snow storm; transformative power of near death experiences (Sutherland 1995); & worldview altering potential of synchronicity (Jung 1973, Storm 1999).

Domains one and two of integrated intelligence potentially facilitate related but distinct cognitive processes. The domain one core operation is “integrated perception”. The domain two core operations are “evaluation/choice”, “location”, “diagnosis”, “foresight” and “creativity and innovation”. The end states are “wisdom” and “personal and social transformation”. Tables 1.1, 1.2 and 1.3 list these, and provide exemplars from the literature.5

The evidence for each of these core operations and end states comes from parapsychology, mystical and spiritual traditions, and personal anecdotes within the literature as the right-hand column of each table indicates. The issues and problems in respect to the evidence are essentially the same as those witnessed in parapsychology. These will be outlined in Chapter Five (5.6). One notable problem is that of positing evidence of integrated intelligence as being responsible for social and personal transformation arises, since mundane factors could account for any of the cases listed in the tables. This reinforces the point that empirical investigation of integrated intelligence is highly problematic.

There are many related concepts and distinctions that may be confused with integrated intelligence or the extended mind. These are outlined in the next section.

1.8 WHAT IT IS NOT: RELATED CONCEPTS AND DISTINCTIONS

The term “integrated intelligence” is being developed here to clearly distinguish it, and avoid confusion with certain terms used within other texts that may cover similar or related ground. The other significant process being undertaken is to situate it more deliberately within contemporary discourses on intelligence.

Other than the discussion of “spiritual intelligence” (outlined below), there are few attempts in the literature on intelligence to conceptualise transpersonal and psychic capacities in terms of their relationship with intelligence. The closest attempts involve the juxtaposition of intuitive intelligence with rational and logical intelligences, as is the case with Gardner’s (1993) multiple intelligences, de Bono’s (1999) six thinking hats, Goleman’s (1995, 1999) emotional intelligence and Klein’s (2003) “intuition”. The tendency in these texts is to define intuitive intelligence in mundane terms. In Chapter Six it will be argued that that the epistemic parameters of mainstream intelligence discourse preclude mystical considerations.
In the literature, numerous terms are employed to describe similar or related concepts, and sometimes the same term is used to describe different concepts. Clarification is therefore important.

**Concepts related to integrated intelligence and the extended mind**

Several relevant concepts differ in various ways, and have in turn been divided into a number of categories, beginning with the extended mind itself. A definition – either my own, or one taken from sources in the literature – is provided for each.

**The extended mind.** This is the experience or conceptualisation of mind as extending beyond the self, and interacting with people, spiritual entities, ‘objects’ or information in an extra-sensory capacity. Examples include: “the extended mind” (Sheldrake 2003a, 2003b) “nonlocal consciousness” (Targ & Katra 1999); “distant non-local awareness” (Dossey 1993, 2000a); “the holotropic mind” (Grof 1992, 2000); the “holographic brain” (Bradley 2004; Pribram & Bradley 1998); “the universal mind” (Bentov 1988) “open thinking” (Liberman 1995); “group consciousness” (Krippner 1992); “connection with the source/Divine” (Mack 1999: 292-293); “intrasubjective experiences” and “participatory events” (Ferrer 2002: 2); the “collective unconscious” (Jung [1961] 1989; Broomfield 1997); “telesomatic connections” and “cardio-energetics” (Peasall 1999); “the ultimate alignment of individual and cosmic good” (Bussey 2004 p 84); “being cognition” (Maslow 1971); and “boundless mind” (Schlitz 2001).

**Enlightenment experiences.** Enlightenment experiences involve the “state of consciousness or enlightenment (where) people experience themselves in the utmost depths of their psyche as being one with God” (Smith 1995 p 406-407) or some cosmic essence. Examples include: “enlightenment” (Smith 1995); “cosmic consciousness” (Bucke 1991; James [1909] 1977; Kubler-Ross 1997; Moffett 1994 p 11; Smith 1995); “Oneness” and “Pure Consciousness” (Jacobson 1997, 1999 p 35); “self-realization” (Nisbett 1998 pp 212-214); “subtle”, “causal” and “non-dual” consciousness (Wilber 2000c); “ultimate identity with the source”, and “superconsciousness” (Slaughter 1999 pp 332-333); “universal consciousness” (Kafatos & Kafatou 1991); “unity consciousness” (Friedman 2005); and “transcendent states” (Boorstein 2000).

**Planetary mind.** This is the conception that the Earth itself is conscious, and that there is knowledge transference between this consciousness and individuals existing on the Earth. This includes humans and animals, individuals and collectives (such as human or animal collective minds), ecosystems and systems in general. Examples include the concepts of: “global brain” (Bloom 2000); “Gaia” (Lovelock 1979; Couzin 1995; Sahtouris 1999); & de Chardin’s (1976) “noosphere” or planetary consciousness; and “nature as alive, self-organizing, intelligent, conscious or sentient
CHAPTER 1

and participatory at all levels” (Sahtouris 1999: <http://www.scottlondon.com/insight/scripts/sahtouris.html>)

Classical intuition. The classical representation of intuition incorporates sources of intuitive knowledge that involve transcendent, extra-sensory and/or metaphysical dimensions. Examples include: “intuition” (Fox & Sheldrake 1996; Rowan 1986); “intuitive awareness” and “intuitive inquiry” (Braud 1998 p 75); “the sixth sense” (Wilde 2002); “the seventh sense” (Buchanan 2003); “psychic abilities” (Targ & K atria 1999); and “perfect insight” and “intense knowledge” (Cleary 1999 p x-xi).7

Inferential intuition. This is ‘mundane’ intuition, where the sources of intuitive knowledge are represented as coming from the unconscious mind and sensory sources, not from extra-sensory or metaphysical realms. Examples include: “intuition” (Klein 2004; Myers 2004; Senge 1994);8 “intuitive intelligence” (Torff & Sternberg 2001); “primary intuitive conceptions” (Torff & Sternberg 2001; Ben-Zeev & Star 2001); “tacit learning” (Hogarth 2001); “intrapersonal intelligence” (Gardner 1993; Gardner et al. 1996); and “red hat thinking” (de Bono 1999).9

Extrasensory perception. Here the focus is restricted to “psychic experiences” as defined by White (1998), namely ESP, clairvoyance, telepathy, and precognition (Tart, Puthoff & Targ 2002 p xxiv; White 1998 p 132). Examples include: “extrasensory perception” (Wallace 2003 p 185); “telepathy” and “ESP” (Sheldrake & Smart 2003); “distant intentionality” (Dossey 1999, 2001, 2002); “psi” experiences (Bat cheldor 1994; Braud 2003; Kennedy 2003);10 “ESP” (Henley 2002 p 289); “transpersonal knowing” (Ferrer 2002 p 10); and “remote viewing” (Braud 2003; Buchanan 2003; Sheldrake 2003).

Exceptional human experiences. Exceptional human experiences are “psychic, mystical, death-related, and strange encounter experiences that raise eyebrows” (White 1998 p 129). This is a broad term which has come into use in the literature in recent years. It incorporates many of the mystical, psychic and spiritual experiences referred to under the other categories in this section. Examples include White (1998) and Kennedy (2003).

Revelation. In revelation, an individual receives spiritually meaningful information from divine sources (God, deities, angels, spirit guides, etc.). Examples include: “revelation” (Dobie 2002); “a guiding spiritual presence” (Zohar 2000 p 100); and “theophany” (Fox & Sheldrake 1996 p 51).

Other ways of knowing. These are ways of knowing that move beyond those normally accepted in Western society and civilisation. As employed within this book, other ways of knowing incorporate spiritual and metaphysical components. Examples include: “other ways of knowing” (Broomfield 1997; Forbes 2003); “shamanistic, participative science” (Varvoglis 2003); and “relatio” or “relationship knowledge” (Wildman 1996).
Emotional intelligence. Emotional intelligence entails being able to identify and master one’s own emotions, as well as manage other people’s emotions, effectively. As employed in this book, the definition of emotional intelligence does not incorporate the extended mind, but can be seen to include a type of inferential intuition. Examples include: “emotional intelligence” (Goleman 1995, 1999; Israel, Whitten & Shaffran 2000; Salovey, Brackett & Mayer 2004); “red hat thinking” (de Bono 1999); and “emotional knowing” (Friedman 2005).

As used in this book, the categories listed above will retain the meanings identified, except if otherwise stated.

Summary

In Part Two I have defined integrated intelligence and the extended mind, given a brief history of the idea, and explained what it is and what it is not. There now follows an outline of the Chapters to come.

PART THREE: CHAPTER OUTLINE

1.9 THE CHAPTERS TO FOLLOW

This book consists of eight chapters and a conclusion (Table 1.4).

Table 1.4. The chapters and their purpose.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction: Context, Significance and Definitions.</td>
<td>To outline the topic, key questions, context and describe the nature of integrated intelligence in detail.</td>
</tr>
<tr>
<td>2. The theory and approach</td>
<td>To outline the primary and secondary theories which underpin the analyses within this book: Inayatullah’s (2002a) Causal Layered Analysis from poststructuralist theory; and Wilber’s (2000c) Integral Theory from transpersonal theory. Secondly, the strengths and weaknesses of the respective theories will be addressed, as will the limitations of this book.</td>
</tr>
<tr>
<td>3. The Epistemic Perspective: A Genealogy of the Western Rationalist hegemony.</td>
<td>To contest the linear/teleological temporality of the Western materialist/rationalist episteme, and elucidate the remarkable nature of the present moment and its predominantly modernist and postmodernist discourses.</td>
</tr>
<tr>
<td>4. The Paradigmatic Perspective (1): The Mechanistic Paradigm,</td>
<td>To problematise the foundations of mainstream dominant science and mind science, opening a space for the reinsertion of alternative paradigms/worldviews. The issues and debates</td>
</tr>
</tbody>
</table>
### CHAPTER 1

<table>
<thead>
<tr>
<th>Mystical spirituality and Ways of Knowing.</th>
<th>Will be: patriarchy and the feminine; dualism and &quot;receptivity&quot;; materialism and the mind-body problem; ego, science and mind; and the relationship of the mechanistic paradigm with the mystical/spiritual worldview.</th>
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</thead>
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<tr>
<th>5. The Paradigmatic Perspective (2): Neo-Darwinism and Debates and Issues Regarding Intelligence, Consciousness and Cosmos</th>
<th>To problematise the foundations of mainstream dominant mind and consciousness discourses. The focus will be upon the neo-Darwinism, reductionism and neuroscience, the obfuscation of the intrapersonal, and the mind-as-computer metaphor. Finally, to analyse mainstream consciousness theory and its treatment of the concept of the extended mind.</th>
</tr>
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<tr>
<th>6. The Specific Field Perspective: Debates and Issues in Intelligence Theory</th>
<th>To problematise dominant and mainstream intelligence discourses, and determine if there is room for mystical concepts. &quot;IQ&quot; theory is addressed, while four domain-general and expanded theories of intelligence which challenge IQ Theory, are analysed.</th>
</tr>
</thead>
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<tr>
<th>7. The Individual Text Perspective: An Analysis of Several Critical Rational and Mystical/spiritual Theories of Mind and Intelligence.</th>
<th>To analyse theorists from both critical/rational and mystical/spiritual representations of mind and intelligence. The former include BBC TV’s <em>Brainstory</em>, Arthur Jensen’s &quot;'g' Theory&quot;, and Daniel Goleman’s &quot;emotional intelligence&quot;; the latter include Danah Zohar’s &quot;spiritual intelligence&quot;, John Broomfield’s <em>Other Ways of Knowing</em>, and Ken Wilber’s Integral Theory.</th>
</tr>
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<tr>
<th>8. The Futures Perspective: Education For Transformation. Integrated Intelligence in the Knowledge Economy and Beyond</th>
<th>To identify several salient features of the knowledge economy and its education system. Secondly, to suggest roles integrated intelligence might play in short and long-term alternative futures. The binary is developed as a means to problematise current dominant educational discourse, and the hegemony of the technocratic society.</th>
</tr>
</thead>
</table>

| Conclusion | To summarise the argument of this book, and outline possibilities for further research. |

Within all these chapters the theme will centre upon integrated intelligence and its role at the relevant level of the debate. Inayatullah’s (2002a) Causal Layered Analysis (CLA) will be the primary analytical tool, with Wilber’s Integral Theory also playing a crucial role - as I shall explain in detail in the next chapter. Finally, in Chapter Eight the focus expands, as I posit an alternative future - that of integrated intelligence in the contemporary knowledge economy, and beyond.
1.10 CONCLUSION

In the opening chapter of this book I have described the topic, stated the major and supporting questions, and defined the context, theoretical approach and objectives. Integrated intelligence and the extended mind have been defined, and a brief history of integrated intelligence has been posited. Further, integrated intelligence and the extended mind have been clearly delineated with reference to similar and related concepts in the literature. Finally, I outlined the chapters to come.
CHAPTER 2

THEORY AND ANALYTICAL APPROACH

PART ONE: THE POSTSTRUCTURAL PERSPECTIVE

2.1 INTRODUCTION AND OVERVIEW

Deconstruction... pushes meaning towards undecidability... leaving no pure or absolute concepts that can be taken as foundational. Meanings... are not individual, personal, or subjective, since they emanate from language. But they are not given in nature or guaranteed by any existing authority either (Belsey 2002 p 87).

Directly afterwards came upon him a sense of exultation, of immense joyousness, accompanied or immediately followed by an intellectual illumination quite impossible to describe. Into his brain streamed one momentary lightning-flash of the Brahmic Splendor which has ever since lightened his life; upon his heart fell one drop of Brahmic Bliss, leaving thenceforward for always an after taste of heaven. Among other things...he saw and knew that the Cosmos is not dead matter but a living Presence, that the soul of man is immortal, that the universe is so built and ordered that without any peradventure all things work together for the good of each and all... He claims that he learned more within the few seconds... than in previous months or even years of study, and that he learned much that no study could ever have taught (Edwin Bucke, quoted in Tart, 1993).

In writing this book I have employed some quite specific analytical tools and theoretical approaches. Figure 2.1 depicts this approach. At least a general understanding of these tools and approaches is necessary to fully understand the analyses to follow. A reader who is already familiar with many of these concepts, theories and methods may choose to either skim or selectively read this chapter - or pass it by altogether. Another approach might be to read ahead and refer back to this chapter when necessary.

The structure of the analyses to follow

The focus both in this chapter and in the book in general will centre upon epistemic and paradigmatic foundations of knowledge. The analytic approach will be layered - structured according to poststructuralist theory and Inayatullah’s CLA. The following figure (Figure 2.2), is central to the analyses within all chapters to follow.
Each level is defined and mediated by the level below it. It depicts discourses on intelligence and mind moving through layers, and being ultimately determined by the lowest level of the system: the pervading level of consciousness – vision logic (Wilber 2000c). This schemata violates the poststructural insistence on aperspectivism – that theory should avoid privileging any one perspective (Belsey 2002) – because the lowest level of the system (levels of consciousness) implicitly valorises transpersonal theory and the Eastern episteme. This mirrors the arguments of the transpersonalists, such as Bradley (2004), Gebser (1985), Grof (2000), Hawkins (2002), Walsh (1990), Walsh and Vaughan (1993), and Wilber (2000c), who find that rationality is one developmental stage in the greater evolution of humanity towards transrational awareness.

There are two overriding paradigms displayed in Figure 2.2. At the fourth level there is the neo-Darwinian paradigm (Loye 2004c). This paradigm is part of a greater paradigm – the mechanistic paradigm. Figure 2.2 represents the crux of my argument – that contemporary mind and intelligence theory is embedded within a complex epistemic problematique.
2.2 POSTMODERNISM, POSTSTRUCTURAL THEORY AND FUTURES STUDIES

Postmodernism and poststructuralism

Foucault (1984) epitomises postmodernist philosophy with his belief that all interpretation “is the arbitrary result of modernity’s configuration of self-producing forces” (quoted in Shapiro 1992 p 3). Similarly, Kafka writes that all “truth... is uncertainty” (quoted in Shapiro 1992 p 16).

Foucault, whose theory has deeply influenced critical futures studies (Inayatullah 2004b) set out to write disruptive histories, to problematise knowledge systems, and to uproot and expose the foundations of tradition. He felt that history is effective “to the degree that it introduces discontinuity into our very being” (Foucault 1984 p 88). The identification of patterns and continuities in history is evidence of an agenda for power and control, Foucault insisted. True history reveals a “barbarous and shameful confusion” (Foucault 1984 p 89). The forces of history are random and “not controlled by destiny or regulative mechanisms... being “without providence or final cause” (Foucault 1984 pp 88-89).
Foucault epitomises the essence of both the postmodernist, and the poststructuralist. The latter can be seen as derivative of the former. The former is a broader movement emerging from the skepticism and ambiguity of the modern era (Tarnas 2000), while the latter is a theory which deeply questions knowledge structures. The poststructural Foucauldian perspective does not seek empirical validation of theory. Its essence resides in determining the implications of the construction of knowledge, and in attempting “to distance by historicizing and by comparing and by whenever possible denaturalizing” (Inayatullah 2002b p 324).

Postmodernism, genealogy and the real

Chapter Three of this book develops a long-term temporal perspective on the focus problem, via the poststructural tool of genealogy. Inayatullah (2002a) defines genealogy in the following terms:

This is history; not a continuous history of events and trends, but more a history of paradigms, if you will, of discerning which discourses have been hegemonic and how the term under study has traveled through these various discourses (p 27).

In genealogical theory, knowledge structures represent the outcome of a subtle struggle for power, legitimised by the victory of the dominant power (Shapiro 1992). Inayatullah (2002a) lists three questions which genealogical inquiries seek to answer:

Which discourses have been victorious in constituting the present?
How have they traveled through History?
What have been the points in which the issue has become important or contentious? (Inayatullah 2002a p 27).

I will seek to answer these questions in relation to the focus of this book in Chapter Three. The focus is upon the way mechanistic representations of consciousness have come to dominate science and education, and the consequent rejection of spiritual discourses. A greater clarification of poststructuralism and postmodernism will be provided in section 2.6, where the poststructuralist approach to knowledge will be compared and contrasted with the mystical/spiritual worldview.

Futures studies

Futures studies emerged in the wake of poststructuralism. Inayatullah views futures studies as “Committed to multiple interpretations of reality”, and this legitimates “the role of the unconscious, of mythology, of the spiritual... instead of views of reality for which only empirical data exists” (Inayatullah 2002a p 3).

Within this book, these multiple interpretations of reality and their deeper constituents will be uncovered via deconstructing and reconstructing the future. To do this I have used critical futures studies. Critical futures move beyond mere
litany and social forecasting. Ideas such as other ways of knowing, feminism, spirituality and intuition come into play (Inayatullah 2002a). Inayatullah (2002a) also incorporates the transcendental within critical futures studies and the idea of ways of knowing:

Metaphors and myths... return the unconscious and the mythic to our discourses of the future - the dialectics of civilisational trauma and transcendence become episodes that give insight to past, present and future (Inayatullah 2002a p 30).

I have chosen critical futures studies as the major theoretical approach of this book because it permits discussion of these relevant issues. The futures that I am considering include the futures of self, of specific discourses (especially consciousness and intelligence), of humanity (education and society) and of cosmos (the role of agency and evolution).

Causal Layered Analysis

CLA is an aspect of critical futures studies (Slaughter 1999). It permits the movement beyond purely Western futures, towards a "multi-civilisational view" of futures studies. The benefit of this for my analysis of the extended mind and integrated intelligence is that these concepts have been largely excluded from Western mainstream discourses on mind. They are primarily found in pre-modern and non-Western texts, or fields that have been influenced by them.

CLA is thus an ideal means to analyse the issues in this book. The debate on integrated and transrational intelligence remains at an embryonic phase in intelligence theory and education. CLA allows the assumptions, worldviews and paradigms of the relevant discourses to be brought forward.

The layered structure of CLA is important in the analysis of the given texts. The first level of CLA is the litany, which examines the rational/scientific, factual and quantitative aspects of texts. It may also identify the assumed nature of the subject of analysis - such as the typical Western assumption that ‘rationality’ equates to logical, verbal and mathematical acuity. The second level - the social/systemic - analyses the economic, cultural, political and historical components. The third level of CLA explores the discourse/worldview of texts, identifying the deeper social, linguistic, and cultural structures. The final component is the mythical/metaphorical level. This reveals the hidden and explicit mythologies, narratives, symbols and metaphors contained in texts. This also may include any emotional, unconscious and archetypal dimensions to the subject matter (Inayatullah 2002a).

Once the discourse is analysed via these four levels, the way is cleared for a movement beyond the critical and rational, allowing the re-introduction of the experience and employment of other ways of knowing (including integrated intelligence).
Identifying the epistemic foundations of knowledge is central to my argument for structuring the arrangement of knowledge (Inayatullah 2002a pp 128, 191). An episteme is a system of understanding or a body of knowledge which determines the boundaries of the knowledge of a particular time, civilisation or group. Epistemes tend to remain unconscious, and can be seen as constituted within levels three and four of Inayatullah’s CLA (see Figure 2.1).

Epistemes are closely related to paradigms, the prime difference being that paradigms tend to operate within fields of knowledge, while epistemes encompass civilisational and epochal bodies of knowledge. Paradigms often emerge from epistemic foundations—they reflect the knowledge boundaries and the givens of the episteme. Thus, in Figure 2.2, the Western episteme sits below the mechanistic paradigm.

The paradigm concept

Kuhn (1970) posited the idea that all knowledge (including scientific knowledge) is premised upon specific paradigms. Sardar writes that a paradigm is “a way of looking at things: a set of shared assumptions, beliefs, dogmas, conventions, theories” (Sardar 2000 p 73). A key point is that paradigms have preferred and/or delimited ways of knowing. Schlitz argues that paradigms carry a set of assumptions, which are “a matter of faith” (Schlitz 2001 p 338). Grof (1985) compares paradigms with the concept of a map. He states that throughout the history of science: “the confusion of the map with the territory” has been characteristic of scientific practice (Grof 1985 p 5).

Theorists working within established paradigms often fail to acknowledge emerging paradigms, and may resist them (Inayatullah 2002 p 206). Paradigms by nature are habitual, implicit and unconscious: Paradigms have not only a cognitive, but also a normative influence; in addition to being statements about nature and reality, they also define the permissible problem field, determine the acceptable methods of approaching it, and set the standards of solution... (Grof 1985 pp 5-6).

Consequently, the paradigm sets limits upon both concept and method. Grof (1985) argues that under these circumstances research is cumulative, with scientists only selecting problems which can be examined with the acceptable tools, both conceptual and instrumental. In this system new theories can only arise when it is acknowledged that the expectations about nature and instruments are no longer working (Grof 1985 p 6).

Paradigms also delimit the range and types of questions asked. (Grof, 1985) Yet as Maddox finds, “The record of previous centuries suggests that the excitement in
the years ahead will spring from the answers to questions we do not yet know enough to ask” (Maddox 1999 p 1). As paradigms shift, then so does the focus of questions. For example, in the decade after the Second World War, the key question in psychology “was whether the stuff of inheritance consists of protein or nucleic acid” (Maddox 1999 p 19). At present, however, questions in mind science tend to be related to neurophysiology and genetics (Maddox 1999 p 19).

In 2005, the journal *Science* marked its 125th anniversary by stating the twenty-five biggest questions that are likely to be solved in the next 25 years (Questions 2005). Only five relate (directly or indirectly) to the extended mind and integrated intelligence, questions 1, 2, 14, 17 and 21:

1. What is the universe made of?
2. What is the biological basis of consciousness?
14. What genetic changes make us uniquely human?
17. How will big pictures emerge from a sea of biological information?
21. Do deeper principles underlie quantum uncertainty and nonlocality?


The second question is the most relevant to integrated intelligence. Yet at the litany level the question entails the materialistic presupposition that the basis of consciousness is purely biological, delimiting any conception related to the extended mind. Miller (2005) states explicitly that the focus of this question is upon the way that consciousness emerges from neuronal functions. There is little room here for the proto-consciousness view (Zohar 2000) or the conscious universe hypothesis (Radin 1997). A systems level analysis finds that reductionism underpins question 14, which implies that it is genes that make us distinctively human. Similarly, question 17 is reductionist. Of all the questions, question 21 is the most contentious, asking what “deeper principles” underpin quantum non-locality and uncertainty; this inquiry leaves room for innumerable hypotheses and further questioning.

Ultimately, it is the kinds of queries that are missing that establish these questions as paradigmatically delimited. Consistent with Bloom’s (2001) critique of reductionist science as being unable to answer “why” questions, no question contains the word “why”. With the exception of question 21, there are no questions that might delve into the nature of the extended mind, confirming that the concept lies beyond the bounds of the Western science. The way that questions are posed often privileges a paradigmatic perspective: in this case the mechanistic paradigm.

Paradigmatic assumptions inevitably underpin all science, including intelligence discourse. Conversely, Maddox (1999) finds that “progress in many fields of inquiry is measured not by mere discoveries... but by the deepening of the questions people ask about nature” (Maddox 1999 p 377). This entails the deep questioning of the underpinning presuppositions of the paradigm itself. For this to occur, the givens of the paradigm must be made explicit.

In the following section I do precisely this, both for the mechanistic paradigm, and the mystical/spiritual worldview.
CHAPTER 2

The mechanistic paradigm and the mystical/spiritual worldview

One of the prevailing ironies of modern science – which is typically seen as “objective” and as “a pure, autonomous activity” (Sardar 2000 pp 8-9) – is that it is founded upon a metaphor. That metaphor is the clock, and the machine in general. In 1687, in *Principia*, Newton exuded that: “the Copernican system of the planets stands revealed as a vast machine working under mechanical laws here understood and explained for the first time” (quoted in Panek 2000 p 103). The scientific “Enlightenment” of the seventeenth century, which precipitated the birth of modern science and philosophy, initiated what has been called the Newtonian, Cartesian, or “mechanistic” paradigm (Beare & Slaughter 1993; Capra 2001; Davies & Gribbin 1992; Fox & Sheldrake 1996; Goerner 2004; Grof 1985; Hawkins 1995; Kafatos & Kafatou 1991; Laszlo 2004; Panek 2000; Ross 1993; Sahtouris 1999; Sardar 1998; Sheldrake et al. 2001; Zohar 2000). This paradigm represents the universe as a great machine, and attributes mechanistic qualities to the contents and processes of that universe. Newtonian science describes a universe of solid matter, consisting of atoms which operate on the principles of determinism, with fixed laws governing the phenomena of a cosmos consisting of “chains of independent causes and effects” (Grof 1985 pp 18-19).

Despite the strong postmodernist critiques of modern science (Kuhn 1970, Sardar 2000), and paradigm-shaking developments within quantum physics and systems theory (Capra 2000, Fox & Sheldrake 1996; Stapp 2005), the mechanistic paradigm still dominates much of mainstream science, especially biology (Capra 1993, 2000; Sheldrake et al. 2001). This is crucial. As Figure 2.2 shows, intelligence and consciousness theory exist at a ‘lower’ level in the epistemological system. Therefore the mechanistic paradigm must be fully addressed to gain a greater appreciation for the absence of integrated intelligence from the contemporary landscape of mind science.

Table 2.1 clarifies the defining characteristics of the mechanistic paradigm and its representations of mind. It juxtaposes those conceptions with contrasting equivalents within the mystical/spiritual worldview, which incorporates the concepts of the extended mind and integrated intelligence. Several significant examples and critiques from the literature are used to clarify each point.

While the explicit focus in Table 2.1 is at the paradigmatic and worldview levels, the other three levels of CLA are involved. Within the mechanistic paradigm, at the litany level the material is valorised, and the spiritual and subtle denied (Table 2.1–A). At the system level, the scientific method valorises reductionist and dualistic approaches to knowledge production, while downplaying meaning, purpose, and the holistic and the receptive modes of consciousness (Table 2.1–B,C,I).

The exaltation of the individual and rejection of the transpersonal (Table 2.1–G) constitutes part of the narcissistic thrust of Western individualism, at the social level. The valorisation of linear temporality over a non-linear perspective of time (Figure 2.1–D) also reflects the values of Western society, while drawing from its epistemic foundations (levels 2 and 3 of CLA). The privileging of verbal/linguistic and mathematical ways of knowing at the expense of the ineffable and affective
THEORY AND ANALYTICAL APPROACH

modes (Table 2.1-E, F) is reflective of multiple levels: the insistence that the written word is more valid than inner knowing (the litany), the detachment of scientific method (system), and the mythology of the detached scientist (mythological). The valorisation of the patriarchal and suppression of the feminine (Table 2.1-H) spans the system, worldview and mythic levels. Mechanistic science’s tendency towards atheism and rejection of the numinous realms spans the litany and the mythical (Table 2.1-J). Finally, at level four of CLA the valorisation of the machine metaphor within the mechanistic paradigm is contrasted with the dominant metaphors of water and light in mystical spirituality (Table 2.1-K).

Table 2.1. Characteristic differences between the mechanistic paradigm and the mystical/spiritual worldview, with a focus upon the extended mind and dominant mainstream mechanistic science.

| Characteristics of mechanistic paradigm and mainstream mind discourses | Characteristics of mystical spirituality, the extended mind and integrated intelligence |
| A. Materialism: Consciousness as epiphenomena. Brain-based, localised consciousness. Extended mind condemned or ridiculed. | A. Spiritualism: Acknowledges inner worlds, telepathy, clairvoyance, revelation, divination, prayer. Transpersonal, non-localised intelligence. |
| Exemplars | Exemplars |
| Greenfield (BBC 2001): Explanations of consciousness all have reductionist explanations | Targ & Kabra (2001): Remote viewing |
| Park (2000 p 93): ”In an age of science... irrationalism is raging out of control” | Jung (1989): Collective unconscious |
| Exemplars | Sheldrake (2003): Morphogenetic fields |
| B. Holism: A connected universe. | Wilber (2000c): Universe is made of ‘holons’ |

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### C. **Dualism**: Subject/object and observer split.

**Exemplars**
- Descartes: "I think therefore I am"
- Mole (1999): Consciousness has no influence on objective reality
- Persinger (2001 p 517): "... experiment is most powerful tool we have to understand organization of causal variables that elicit a phenomenon"

### C. **Receptivity**: Subject/object and observer mergence. Immediate knowing.

**Exemplars**
- Wheeler (1983): "Participatory universe"
- Liberman (1995): "Open thinking", "whole information packet"
- Ferrer (2000, 2002): "Participatory knowing"
- Anderson (1998 p 87): "the intersubjectivity of researcher, participants, & audience"

### D. **Linear temporality**: Linear, sequential; linear, sequential processing of data/cognition (various).

**Exemplars**
- Scientific method
- Information processing in intelligence theory

**Critique**
- De Bono (1986): Second stage thinking

### D. **Non-linear temporality**: Time non-linear, past, present & future merge.

**Exemplars**
- Australian Aborigines: Dreaming (Lawlor 1991)
- Einstein: Relativity theory. (Hawking 2003)
- Sheldrake (1988): Presence of the Past

**Critiques**
- Wilde (1993): "Tick-tock" vs. "real time"


**Exemplars**
- Jensen (1998): "g" Factor
- Hernstein & Murry (1994): Bell Curve

**Critiques**
- Hawkins (2002): Intellectualisation has become an end in itself
- De Bono’s (1986 p 16): Universities are "irrelevant centres of mental masturbation"

### E. **Ineffable, trans-linguistic, transrational, ways of knowing**: Silence and intuition valorised. ‘Non-ordinary’ states of consciousness.

**Exemplars**
- Lao Tzu (quoted in Jiyu 1998): Deep knowledge is ineffable
- (Hanna, 2000 p 115): "Most mental functions are a liability on path to psychospiritual insight"

### F. **Detached affectivity**: Denies affective/intuitive, Eros and agape denied, or reduced to chemistry, genetics, etc.

**Exemplars**
- The non-emotional objectivism of scientific method

### F. **Pronounced affectivity**: Acknowledges affective ways of knowing, and subtle feelings.

**Exemplars**
- Auster (Begley 2001 p 41): "Felt a sense of enlightenment unlike anything he had ever experienced"
Damasio (2004): mechanistic representation of emotions and feelings

Critiques
Ross (1993 p 116): Twentieth century psychology “a dogma of feeling avoidance for oedipally frustrated male academics”

Hawkins (1995 p 297): “Would feel an exquisite energy” within himself

Critiques
Storm (1999 p 264): Psi-conducive environment needs an “increased awareness of internal processes, feelings, and images”

G. Individualistic: Ego-centered fighting for prestige and power.

Exemplar
Crick & Watson were “ambitious & arrogant” (Jardine 2000 p 356).

Critiques
Krishnamurti (1987 p 533): “Thought has constructed itself as an instrument for survival”

G. Transpersonal: Sublimation of ego.

Exemplars
Wilde (1993): “Death of the world ego”
Markley (1996): Beyond confines of an egocentric sense of self


Exemplars
Military mind: Divide and conquer.

Genesis 1:28: Dominion “over every living thing that moveth upon the Earth” (quoted in Loye 2004a p 86).
Bacon: Science must “torture nature’s secrets from her”

Critique
Eisler (2004): dominator model.
Wilber (1999): the “Atman Project”.


Exemplars

I. Reification of the random: Purposellessness, meaninglessness.

Exemplars

I. Cosmic Purpose: Purposeful, meaningful universe. Teleology, synchronicity.

Exemplars
Darwin and Neo-Darwinists
Random mutation in natural selection.

Critique
Frankl (1985): Man’s Search For Meaning
Sheldrake et al., (2001): the enlightenment extracted meaning and purpose from cosmos
Dossey (2000): Science has lost touch with “awe” and “mystery”

J. Atheistic. Rejects the numinous, and concepts of divine or spiritual entities.

Exemplars
Persinger (2001): The experience of God is temporal lobe seizure
Freud (1962): Mysticism is regression into infinite narcissism

K. Machine metaphor. Dominant metaphors: machine, robot, clock, computer, the “bit/byte”.

Exemplars
Dawkins (1977): Humans are “giant, lumbering robots”
Newton: Universe is “a vast machine working under mechanical laws” (quoted in Panek 2000 p 103)

Critique
(Frankl 1985 p 157): “Psychiatry tried to interpret human mind merely as a mechanism”

J. Acknowledges the numinous: Acknowledges the divine, and spiritual realms and beings.

Exemplars
Kubler-Ross (1997): Encounters with ghosts, and spirit guides
Coole (2005): “Agentic capacities”

K. Light and water metaphors.

Exemplars
Lao Tzu (Zhengkun, 1995: 159): “the Tao is to the World/ what the river and sea/ Are to the countless streamlets”
Fox & Sheldrake (1996 p 51): “The water’s in the fish & the fish is in the water...”
Ring (2000): “light”

2.4 WAYS OF KNOWING

Ways of knowing (Broomfield 1997; Inayatullah 2002a; Pickstone 2000), mediated by historical, civilisational, and paradigmatic factors and ultimately levels of consciousness, have markedly affected the development of science, and in turn scientific conceptions of intelligence and consciousness. This was indicated in Figure 2.2.

My argument is based upon a distinction between critical/rational and mystical/spiritual ways of knowing. However these two categories can be further broken down into more specific types, as indicated in Figure 2.3.\textsuperscript{11}
Here, I briefly outline these seven major ways of knowing.

**Mystical/spiritual ways of knowing**

Inferential intuition is mundane intuition. Torff and Sternberg (2001a) define intuitive intelligence as a form of implicit knowledge, or “knowledge structures that individuals acquire and use largely without conscious reflection or explicit instruction” (Torff & Sternberg 2001a p vii). As Ben-Zeev and Star (2001) argue, such ‘intuitions’ contain a barely-conscious reasoning process. Inferential intuition is a ‘rational’ construction, and incorporates no mystical components. It differs radically from classical intuition, such as that of Spinoza and Bergson, which holds that intuitions are metaphysical, a priori and antithetical to reason (Ben-Zeev & Star 2001 pp 31, 51). Integrated intelligence is therefore consistent with the classicalist position.

**Critical/rational ways of knowing**


Natural history is broadly similar to Wilber’s (2001) “eye of flesh”. Pickstone finds that this “notebook science” employs a way of knowing that is “about describing and collecting, identifying and classifying, utilizing and displaying”. Its main purpose is to record the wonder of nature, motivated by “a compulsion to identify and collect” (Pickstone 2000 p 60), and not for functional use, nor to elicit meaning from nature (Pickstone 2000).

Pickstone states that natural history as a way of knowing dominated science beginning around the year 1500, when medieval anatomy texts featured naturalistic figures (Pickstone 2000 p 63). Thereafter, natural science and analysis were primarily responsible for the “massive restructuring” of science, technology and medicine beginning from the late eighteenth century (Pickstone 2000 p 106). The main driving forces of natural history were “the pride of possession”, “intellectual satisfaction”, and the needs of “commerce and industry” (Pickstone 2000 p 60).

Analysis as a way of knowing can be seen in science’s analyses of the structures, processes and forms of plants and animals. Analysis also incorporates the earth and social sciences, which began to emerge around 1800 (Pickstone 2000 p 106). In modern medicine, the proliferation of analysis can be seen in hospital laboratories. Here the components of bodies are examined by post-mortem anatomies or microscopical specimens, by analysis of blood chemicals and bodily tissues, by immunological testing for antibodies, and by electrical sensors (Pickstone 2000 p 106).

Experimentalism is “about making and displaying new worlds” (Pickstone 2000 p 30). The parallels between experiment and invention are so close that they may be considered the same thing (Pickstone 2000 p 136). Experimentalism emerged around the mid-nineteenth century (Pickstone 2000 p 30) and has broad similarities
to Wilber’s (2001) “eye of flesh”. As Pickstone states, experimentalism “concentrates on the creation and control of novelty” (Pickstone 2000 p 136). An example is when Pasteur designed bent-drawn-out necks on his flasks, which enabled him to satisfy audiences that he could control fermentation, and to show that fermentation was not a spontaneous process (Pickstone 2000 p 135).

Figure 2.3. Critical rational and intuitive ways of knowing and integrated intelligence.
Moving beyond Pickstone’s (2000) three ways of knowing, I have added mathematics here because of its great significance in the development of the modern world and science. Logical-mathematical intelligence is employed to calculate and quantify mathematical problems, and to examine hypotheses and propositions (Gardner 1993). Western rationalism has been greatly influenced by the development of this intellectual capacity. Ben-David (1964, 1971) sees the scientific age beginning in the seventeenth century, with the coming together of the mathematical tradition of Europe and the experimental and empirical movement in England. Needham finds that “the application of mathematical hypotheses to Nature”, including “the geometrization of space”, was central to the development of science in the late Renaissance (Needham 1969 p 15). Further, the central issue raised by the Copernican revolution was “the right of the mathematical astronomer to make claims in natural philosophy” (Huff 2003 p 345).

Rational/linguistic intelligence is the capacity to use language and words to construct and understand thoughts, ideas and meanings (Gardner 1993). It is a prerequisite for all four other ways of knowing listed here, for even mathematical conceptions require the aid of language to posit questions, conceptions and problems. It appears that consciousness as we understand it is predicated upon language and that the kind of self-awareness that we associate with being conscious would not be possible without the use of language (Jaynes 1990).

Verbs of knowing

How can it be determined which way of knowing a person has employed in coming to a particular theory, perception, insight or conclusion? The answer may be explicit if the individual makes clear the cognitive processes that led him/her to make the said claim. Yet this is often not made explicit.

One means to assist us in determining the ways of knowing used within a text is by the identifying the “verbs of knowing”. This process is relevant to two levels of a discourse. Firstly, it can be determined what ways of knowing have been employed by individuals to perceive and communicate their understandings. Secondly, where researchers and philosophers are commenting and critiquing other individuals, institutions, and even civilisations, the verbs that the critic attributes to those they are critiquing can be used to determine the civilizational or paradigmatic biases of the critic. Wilber’s (2001) concept of “category error” is particularly relevant here: the employment of an inappropriate “eye of knowing” in attempting to understand knowledge originally gleaned from a different “eye of knowing” may lead to misunderstandings.

Though certain verbs may be used in both intuitive and critical/rational ways of knowing, they may be generalised into two distinct groups. Table 2.2 lists many of the most commonly employed verbs of knowing as used in the literature surveyed in the writing of this book. Here the verbs have been separated into the two relevant worldviews – critical rationality and mystical spirituality. The middle row of the table lists those verbs which can be applied equally well to both worldviews.
Table 2.2. Classification of verbs of knowing according to worldview.

<table>
<thead>
<tr>
<th>Mystical Spirituality</th>
<th>Access  Actualise  Become aware of  Be  guided  Channel  Connect with  Contemplate  Delight  Divine (verb)  Dream  Empathise  Enchant  Feel  Get the impression of  Harmonise  Identify with  Inspire  Intuit  Marvel  Meditate  Perceive  Poeticise  Ponder  Possess  Reflect  Relate  Resonate  Reveal (revelation)  Sense  Surrender  Sympathise  Transmit  Vibrate  Vision  Wonder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>Deliberate  Discern  Distinguish  Hear  Identify  Know  Recognise  See  Sense  Understand</td>
</tr>
<tr>
<td>Critical Rationality</td>
<td>Argue  Analyse  Calculate  Classify  Cognise  Collect  Conclude  Control  Count  Compare  Contrast  Criticise  Critique  Deconstruct  Deduce  Detect  Devise  Differentiate  Discuss  Dispute  Dissect  Examine  Experiment  Extrapolate  Gather  Intellectualise  Measure  Observe  Postulate  Question  Rationalise  Read  Reduce  Research  Study  Tabulate  Take apart  Tell  Test  Theorise  Think  Write</td>
</tr>
</tbody>
</table>

The verbs have been placed according to their most common usage in the texts which constitute the subject matter of this book. In the direct quotations gleaned from texts that are referred to and analysed in the chapters to follow, the verbs of knowing - where appropriate - will be highlighted in bold text.12

PART THREE: THE TRANSPERSONAL PERSPECTIVE

In synthesis with the poststructuralist theory and Inayatullah’s CLA, I will be employing transpersonal theory as both a theory and an analytical tool. The analytical tool selected is Wilber’s (2000a, 2000b, 2000c, 2001) Integral Theory, also known as the Four Quadrant Model.

2.5 TRANSPERSONAL THEORY: WILBER’S INTEGRAL THEORY AND THE INTEGRATED/FRAGMENTED MIND MODEL (IFM MODEL)

The field of transpersonal psychology is the contemporary Western field that most closely deals with the extended mind and integrated intelligence. In this section a definition of transpersonal psychology is given. Transpersonal theorist Ken Wilber’s Integral Theory is outlined, as is my own construct of the Integrated/Fragmented Mind model (IFM model). I then outline several relevant problems related to transpersonal theory.

Transpersonal theory emerged against the background of the humanism of the mid-twentieth century, which denied the inner space of human experience (Ferrer 2002). The field is “concerned with the study of humanity’s highest potential, and with the recognition, understanding, and realization of intuitive, spiritual, and transcendent states of consciousness” (Boorstein 2000 p 409). Transpersonal psychology is founded upon research into “unity consciousness” (Friedman 2005) and experiences of the transcendent and divine. It is strongly influenced by Eastern mystical traditions (Tarnas 2000). My focus is not so much the validity of trans-
personal theory, but upon employing it as an analytical method to shed light upon mainstream dominant models of mind and intelligence, as a complement to Inayatullah’s CLA.

Wilber’s Integral Theory

Wilber’s (2000a, 2000c) Integral Theory specifies four domains of general human inquiry. The model is given in Figure 2.4. The four quadrants incorporate the individual, collective, interior and exterior aspects of perception, of the universe. Wilber’s argument is that none of the quadrants should be reduced to another. This includes the subjective, inner perceptions of the upper left being reduced to the exterior materialism of the upper right – a process endemic within contemporary psychology and consciousness theory (Wilber 2000a).

Using Wilber’s map, it can be seen that the depictions of consciousness and intelligence in Western texts in the modern era have tended to exclude the subjectivity of the upper left-hand quadrant – the interior/individual. This is the domain of the extended mind, the awareness of knowledge of the psychic and transpersonal as experienced via an inward, ‘subjective’ focus. In the twentieth century contemporary developmental and cognitive psychology became handmaidens to neuroscience (Maddox 1999), which focuses its attention upon the top right-hand domain – the exterior individual (Wilber 2000a).

![Figure 2.4. Wilber’s four-quadrant model.](source: Slaughter & Bussey (2005), p. 103.)
The model is hierarchical; there is an outward and upward thrust of the evolutionary forces of the “Kosmos”. Wilber’s Kosmos has an intelligence/consciousness and evolutionary imperative of its own (Wilber 2000c).

Yet Wilber’s model fails to adequately distinguish between two fundamentally distinct interior cognitive processes. This mirrors the distinction between the personal and the transpersonal. Descartes’ self-conscious “I think therefore I am” is a prime exemplar of the former. It is a philosophical and intellectualised experience of the interior realms, identification with the contents of mind. There is a marked difference between his interiority and that of the mystics. Nisargadatta’s (2001) “I am that” moves beyond identification with ego and mind content. As Wilber states, the enlightenment philosophers merely intellectualised the transrational realms, while the mystics experienced them directly (Wilber 2000c). I have therefore modified Wilber’s model in the way shown in Figure 2.5, by differentiating the personal interior subjective and transpersonal interior subjective cognitive realms.

Figure 2.5. Wilber’s four-quadrant model (modified) with differentiated upper-left quadrant.

This modified model permits a distinguishing of ego-based subjective modes of cognition, and the transpersonal modes. Although there may be some argument that domain two integrated consciousness – the psychic and numinous realm – is a personal subjective experience, I have incorporated it into the personal interior subjective domain. This is consistent with Wilber’s (2000b, 2000c) theory of consciousness evolution, where the psychic is seen as a lower level of transpersonal development.

This expanded model will be used as a means of analysing and situating the various theorists in intelligence theory, consciousness theory and mind science in general throughout this book. Wilber’s theory will be the object of analysis in
Chapter Seven; I will not examine its full depth here, as it has been analysed by other critics (Bauwens n.d.; Ferrer 2002; Slaughter 1999).

My aim is to have the two analytical approaches form a complementarity. Comparing the two, there is an approximate overlap between Wilber’s top right-hand quadrant and Inayatullah’s litany; the top left-hand quadrant and the mythic/metaphor; the bottom left-hand quadrant and worldview; and the bottom right-hand right quadrant and Inayatullah’s system/social level.

There are also differences between these two models; perhaps the most notable is between Wilber’s top left-hand quadrant and Inayatullah’s myth/metaphor level. Wilber (2000c) rejects the idea that myth is able to activate transpersonal potentials, finding it consistent with lower, prepersonal modes of consciousness. However, not all would agree with this, including Jung (1989) and Broomfield (1997). Finally, Inayatullah’s model lacks a comprehensive framework for situating the transpersonal (although it fully permits it), yet has much greater explication of analytical process.

Given the differences, I will not attempt to produce a seamless synthesis of these two analytical tools and theorists, but weave them into the analyses, employing their respective strengths when relevant, in order to achieve a more thorough unpacking of the texts.

Wilber’s pre/trans distinction

An important distinction is that between prepersonal and transpersonal modes of consciousness. This distinction is based upon the conceptions of Wilber (2000a, 2000b, 2000c), who argues for a hierarchic developmental model of consciousness evolution for both the individual and the human collective. Within Wilber’s model, consciousness evolves from the prepersonal and undifferentiated modes, through rational realms (including the typical ‘vision-logic’ stage of contemporary humanity), and to the transpersonal modes, incorporating the psychic, subtle, causal and non-dual modes (Wilber 2000c). Conversely, he finds that the fusion experiences of indigenous peoples are typically not higher states of consciousness, but evidence of an earlier premodern mode of consciousness, which is prior to egoic and rational modes of awareness. Wilber’s position is consistent with Jaynes’ (1990) argument that until ancient times, humanity existed within the bicameral mind, the unconscious and conscious minds fused, before developing into the modern conscious and rational mind.

A common tendency, says Wilber, is to fail to make this pre/trans distinction, creating two problems. The first is that transrational states are reduced to prepersonal. This is the case of Freud, in *The Future of an Illusion* (Wilber 2000c p 211). In such accounts, rationality is seen as the ultimate pinnacle of consciousness development (Wilber 2000c p 211). The second fallacy occurs when those sympathetic to the concept of the transrational mind elevate all non-rational states to the status of ‘higher’. Wilber cites Jung and his followers as a prime example, whereby “indissociated and undifferentiated” states are granted spiritual status, when they lack genuine integration. A key distinction according to Wilber’s argument is that
transrational states incorporate and transcend reason, while the “elevationists” such as the Jungians, Romantics, and New Agers tend to reject rationality as a kind of evil (Wilber 2000c p 211).

In contradiction to Wilber’s argument, there is some evidence to suggest that domain two integrated intelligence was common in indigenous cultures. For example, both Lawlor (1991) and Wildman (1996) find that the Australian Aboriginal people exhibited a telepathic relationship with the land, and communicated with spiritual ancestors via dreams and divination. This contradicts Wilber’s thesis that in indigenous cultures only the shamans had access to transrational domains; in Wilber’s model, the psychic realm is posited at the lower end of the transrational domains of consciousness, not in the prepersonal realms he associates with indigenous cultures and romanticism.

Where Wilber’s model will complement and add to Inayatullah’s CLA will mostly be at the mythic/metaphor level. For the essence of Wilber’s model is the issue of consciousness, and it is at level four of CLA that deeper levels of the psyche and consciousness come into play. Inayatullah’s model is not as clear or explicit on this subject, tending to lump all of the workings of the psyche into the one undifferentiated group.

The Integrated/Fragmented Mind model (IFM model)

The Integrated/Fragmented Mind model follows mystical and transpersonal theory (Ferrer 2000; Gebser 1985; Grof 2000; Wilber 1999, 2000c) which states that there are both rational/ego-based and transrational states of mind driving human evolution. As used here, the term “the integrated mind” features the conscious mind in awareness of its essentially non-localised and universal nature. Concurrent with this is the experience or knowledge of externalised ‘influences’ on the mind, including mystical, deific, spiritual and stygian.

The term “the fragmented mind” is the state whereby the conscious mind is unaware of its non-localised, transpersonal nature, and exists in dissociation from any genuine awareness of universal or spiritual consciousness. It is characterised by the mind’s drive to perpetuate its state of separation, by a need for control and power, and to deny death and impermanence. It is thus equivalent with the more negative drives of the human ego, as often depicted in New Age and transpersonal literature (Grof 1996; Krishnamurti 1987; Milojević 2005; Wilber 1999, 2000c).

The function of this IFM model in this book is simple: to identify and situate those depictions of mind that are integrated with a cosmic or transpersonal intelligence, and those that are not.

Criticisms of transpersonal theory

Transpersonal psychology remains outside mainstream psychology. Indeed The Penguin Dictionary of Psychology has no entry for transpersonal psychology at all (Reber & Reber 2001). Miell and Thomas’ (2003) Mapping Psychology is barely any more encouraging, making a single reference to transpersonal psychology in
Friedman (2005) criticizes the field of transpersonal psychology for its “romanticism” and for championing all things related to Eastern thought and mysticism. He claims that transpersonal psychologists need to look beyond a single spiritual tradition to create an expansive discipline. Pleading for restraint in the claims of transpersonal psychology, Friedman states that it is “in its infancy and without the establishment of even the most rudimentary of scientific advances as a field” (Friedman 2005 www.westga.edu/~psydept/os2/papers/friedman.htm).

Ferrer (2000) identifies other dangers of transpersonalism, namely “spiritual narcissism” and “integrative arrestment” (Ferrer 2000 pp 220-222). Ellis (1989) goes further and finds that transpersonal psychology is dangerous because it leads to irrationality and fanaticism, and has dubious potential as a therapeutic tool.

Ferrer (2000) also criticizes the experiential approach to transpersonal studies as self-limiting. The problem with the experiential approach, argues Ferrer, is that it generates the dual problems of “intrasubjective reductionism” and “subtle Cartesianism” (Ferrer 2000 pp 217-218). The former is “the reduction of spiritual and transpersonal phenomena to individual inner experiences”; the latter is “the understanding of spiritual and transpersonal phenomena according to a subject-object model of knowledge and cognition” (Ferrer 2000 pp 217-218).

The lack of clear definitions and distinctions is also problematic. Ferrer (2002) finds that transpersonal knowledge has “lacked an adequate epistemology”, and that this has been “deeply detrimental for the legitimization of spirituality in academic and social milieus”. There is a lack of criteria for determining what valid transpersonal knowledge actually is. This has rendered transpersonal theory “a free-for-all open to any form of metaphysical speculation” (Ferrer 2002 p 10).

The inner objectivism of Wilber can be seen as a form of structuralism because it attempts to find universal structures that incorporate all mental, social and cultural variables (Ferrer 2002 p 96). These consistent structures are seen as more primary and seminal than the discontinuous components of cultures and their “artifacts”, as human phenomena are reflective of essential structures within the human mind. Significantly, it is Wilber’s essentially structuralist position which permits his claims that the essential structures of consciousness are equivalent to the “Great Holarchy of Being”. This in turn allows Wilber to compare developmental levels of evolution, worldviews and various traditions of spirituality (Ferrer 2002 p 96). Yet the structuralist position has long been considered a highly problematic one (Ferrer 2002 pp 96-97).

Ferrer (2002) accuses “most transpersonal authors” of “working upon unexamined and outdated objectivist epistemological assumptions” (Ferrer 2002 pp 96-97). He finds the objectivist claims and “inner empiricism” (Ferrer 2002 p 2) of transpersonalists untenable, problematic, and ultimately self-limiting. Instead, Ferrer prefers a “participatory vision” where there is no ultimate objective ground of being, but a diversity of spiritual paths not dependent upon hierarchies.
Wilber’s theory has other problems. Wilber’s model is a developmental one, and his initial stages of development are heavily dependent upon Piaget’s developmental model – something that Wilber (2000c) acknowledges himself. Yet Piaget’s model has been heavily critiqued and various problems identified. Some researchers have questioned the entire basis of the idea of developmental stages itself. (Sternberg et al. 2003).

Summary
Transpersonal psychology (and the various discourses involving integrated intelligence and the extended mind) does not deliver a clearly-defined epistemology for the idea of either integrated intelligence or the extended mind. There is a requirement for clearer epistemological foundations before these associated discourses can hope to gain greater acceptance within mainstream mind science.

Nonetheless, Wilber’s Integral Theory provides a valuable analytical tool in the chapters ahead. In particular it will assist in determining which variants of, and approaches to consciousness have been included or excluded from the texts and discourses being examined.

From this last discussion the apparent contradiction in these analytical approaches may be noted: the structuralism of Wilber and many transpersonalists, versus the poststructuralism of Inayatullah’s CLA. This tension is the subject of discussion in Part Four.

PART FOUR: INTEGRATING PERSPECTIVES

2.6 INTEGRATED INTELLIGENCE AND POSTSTRUCTURAL THEORY SEEN FROM EACH OTHER’S PERSPECTIVE

This section considers how integrated intelligence and poststructuralism appear from each other’s perspective. The following analysis of integrated intelligence is a matter of course, according to poststructuralist theory. Yet I will also turn the tables and subject poststructuralism to the very process that it regularly subjects other discourses to: potential disruption through incorporating the perspective of the other. The purpose here is to identify important epistemological differences, and to shed light upon the strengths and/or weaknesses of these divergent approaches to knowledge.

Integrated intelligence via poststructural theory and postmodernism

Poststructuralist theory explicitly sets out to avoid the valorisation of one perspective above any other (Inayatullah 2002a, 2002b). An aim is to identify the hidden power structures that exist within discourses, particularly at the linguistic level (Foucault 1984). Attempting to discuss potential futures involving integrated intelligence without subjecting them to the rigours of a poststructuralist analysis might recreate the same hegemonic thrust of the dominant discourses being subjected to analysis. This is one of the general weaknesses of cultural/interpretive
approaches to the future. One litany is often replaced with another, with the new ideological system privileged over the previous one (Inayatullah 2004b). Such an approach:

...privileges a model of rationality over other models of rationality and then asserts that one's model is ultimately the real world, while others are primitive and, for reasons deduced from one's own model, should be forgotten (Inayatullah 2004b p 59).

While Inayatullah employs the words "model of rationality" to explain his point, if the term "way of knowing" is applied instead, the effect is the same.

New Age, spiritual and mystical texts tend to downplay the rational, or posit it at a lower level of cognitive development. In the evolutionary models of Wilber (2000c), Gebser (1985), Reanney (1991), Wilde (1993, 2001) and Hawkins (2002), the rational is equated with the fragmented human ego, and reduced to a lesser developmental stage in human evolution. Hawkins (2002) finds that the great minds of science such as Newton, Freud and Einstein reached the highest stages of rational cognitive development, but failed to enter the transrational realms. Similarly, Wilber correlates rationality and the ‘mental’ domains of consciousness with ego-centered, alienated self-consciousness. In Wilber’s (2000c) model, rationality – like all but the final non-dual stages in his transpersonal developmental model – is merely a stepping-stone to enlightenment.

The emphasis upon the mystical does not necessarily exclude the rational or the empirical. Wilber (prolific writer), Hawkins (medicine) and Steiner (PhD) are/were all highly educated men. For Wilber (2000c) the ‘higher’ transrational stages of cognitive development transcend, yet include the levels below them, including the rational. Pearsall (1999), Broomfield (1997), and Sheldrake (2003) all employ statistics taken from parapsychology to back up their truth claims. However, these do not form the basis of their claims, which are founded upon direct mystical experience.

A common criticism of Eastern idealism (the philosophy that the Cosmos is ultimately spirit or mind) is that it reverses the Western episteme’s rendering of consciousness as epiphenomena at the behest of matter. It does this by itself elevating ‘spirit’ to the position of metaphysical ultimate while depicting matter as epiphenomena (de Quincey 1999).

Therefore a potential problem which might emerge if integrated intelligence were to merely replace and suppress critical rationality is that the material and ‘scientific’ might be denigrated. The religious/spiritual might be valorised at the expense of scientific and analytical knowledge (as was the case in medieval East and West). The litany of the ‘rational’ has simply been replaced by the litany of the spiritual.

This is a problem in the current Islamic world, according to Freidman (2006), where the volume of books published is much lower than in Western countries. Those books that are published are predominantly religious texts. Friedman finds that the dominance of religion is one of the reasons for the Islamic world’s failure to develop at the rate of both West and Far East in terms of literacy, Internet usage,
innovation and number of patents registered (Friedman 2006). Here the imbalance of power and obfuscation of certain knowledge forms at the level of the litany manifests in a similar power imbalance at the social/systemic level.

Transpersonal/mystical texts referring to or employing integrated intelligence often downplay social analysis. Commonly, social development is depicted as a stepping stone towards a utopian future. Society and culture are subsumed within metaphysics and the evolution of consciousness (e.g. Broomfield 1997; Moffett 1994; Wilde 1993). According to Wilber, cultures and societies merely reflect the evolution of ‘spirit’. Just as individuals evolve into the transpersonal realms, societies evolve collectively, mirroring the evolution of the individual (Wilber 2000c pp 153-157). One exception is Zohar’s (1994) text *The Quantum Society*, which employs evidence from quantum physics and mysticism to posit a model for an ideal society.

This highlights the potential abuse of power in a system which might – at the social level - create hierarchies of power with the shaman and clergy posted at the top of the hierarchy, and those with less developed intuitive acuity (including the scientist and the scholar) at lower levels. This has been a common theme in poststructuralist thought, the abuse of power over others via the invocation of the transcendental signified, whether that be religion’s ‘God’, science’s laws of nature, or the Enlightenment’s ‘reason’ (Belsey 2002 pp 78-79).

At the worldview level, contemporary mystical texts tend to valorise the East, and neglect the West. This is apparent in New Age literature where Indian, Chinese, Native American and indigenous knowledge is given exalted status (for example, Dyer 1999; Kafatos & Kafatou 1991; and Kubler-Ross 1997). This is also seen in the writings of physicist Fritjof Capra (2000), who has found strong parallels between Eastern mysticism and modern physics. Relating of one particular epiphany while meditating near cliffs in coastal California and looking out to sea, Capra writes how he:

... suddenly became **aware** of my whole environment as being **engaged in a** giant cosmic dance... As I sat on that beach...I **saw** cascades of energy coming down from outer space, in which particles were created and destroyed in rhythmic pulses; I **saw** the atoms of the elements and those of my body **participating** in this cosmic **dance of energy**; I **felt** its rhythm and I **heard** its sound, and at that moment I **knew** that this was the **Dance** of Shiva, the Lord of dancers **worshipped** by the Hindus (Capra 2000 p 11).

The verbs of knowing (bold type) reveal a strong participatory transpersonal knowing. However it is ultimately the invocation of Hindu mythology that establishes the validity of the experience for Capra. In Chapter Seven I show how Broomfield (1997) and to a lesser extent Zohar (2000) employ similar validation processes in their mystical texts.

While such a validation process may deliver certain forms of intuitive knowledge generally denied in the modern West, the danger is that it may also sublimate the critical/rational ways of knowing that have led to so much scientific, material and technological progress in the West. This would occur if the
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mythological was placed above the critical/rational, such that the latter would find acknowledgment only if ‘verified’ via the former. As Wilber (2001) clearly indicates, different ways of knowing have their relevant domains of knowledge, including their strengths and limitations. The attempt to apply the inappropriate “eye of knowing” to phenomena outside of its legitimate domain of enquiry results in “category error” (Wilber 2001). Yet the reverse is also possible. Attempting to apply strictly mystical insight to solve technical problems in physics is equally invalid. This is a potential problem in social structures where power remains in the hands of mystics.

One can continue with such a critical process and suggest further potential abuses of power in discourses and societies where integrated intelligence is implemented. The key with critical futures is that one hegemonic power structure is not merely replaced by another. Rather the processes of critical futures questioning should continue unabated, so the future will remain open and negotiable (Inayatullah 2004c).

In reference to level four of CLA (the myth/metaphor level), there is a typical employment of myth as a valid way of knowing in much transpersonal, New Age and spiritual literature, as has been noted above. This poststructural analysis of transpersonalism and integrated intelligence provides some lucid insights. These insights are unlikely to be attained within a strictly New Age/mystical episteme or methodology, where the givens of the discourse typically remain unaddressed.

It should be noted, however, that certain transpersonal theorists have been influenced by postmodernism, and are more reflective of the inherent problematics of their discourse. These include Wilber (2000c) and Ferrer (2000, 2002).

Poststructural theory and postmodernism via integrated intelligence

Postmodern and postcritical thought can also be examined from the mystical/transpersonal perspective of a cosmos evolving from pre-rational, to rational, to transrational modes of consciousness. Although the postmodern stance is explicitly critical of all paradigms and metanarratives (Belsey 2002, Inayatullah 2002a) it is itself implicitly a worldview and metanarrative, and may be critiqued (Tarnas 2000).

For Wilber (2000c, 2001) and Tarnas (2000), postmodern thought is an inevitable phase of human consciousness development. It is the point where pure objectivism and scientism is brought into question, where the rationally constructions of modernity begin to break down under deeper questioning and more expansive data – especially from quantum physics and systems theory. For Tarnas (2000 p 355) this represents “the crisis in modern science”.

From the point of the view of the IMF model, postmodern thought is the phase of dissociation where the detachment of the scientific method evolves into the dissociation of signifier and “the real” – where the real still remains unseen behind “sliding chains of signifiers” (Wilber 2000b p 163). The postmodernist does not make the shift from critical rationality to the observer/object fusion of transrational perception, and is still Murinbata’s “talking head”, an individual whose intellect is
dissociated from body and soul (Murinbata & Whitehead 2002). The way of knowing – essentially analysis via verbal/linguistic intelligence – is an inadequate means to access the deep knowledge of the mystic.

Postmodernism is thus head-centred, a perspective which implicitly valorises the brain-centric approach to consciousness and intelligence that is typical of Western science. The idea of an integrated intelligence, where self extends not only beyond the head but beyond the individual, threatens the very basis of the poststructuralist stance that we construct our cultures, identities and perceptions via language, via signifiers (Belsey 2002; Tarnas 2000). It challenges the poststructuralists’ insistence that there is no transcendental signified that we can intrinsically know, that the space between the knower and the known cannot be bridged.

Poststructuralism therefore represents the limit of the Cartesian split. This valorises the European Enlightenment and the skepticism of the modernist mind, but moves into an even deeper and more radical skepticism (Tarnas 2000 p 399). Critical/rational ways of knowing remain dominant, while the intuitive and mystical remain as ‘the other’ in the sense that the mystics’ knowledge is able to be included only at a theoretical level, and not at an experiential one – far removed from the place and means of production. As Tarnas notes:

Postmodern philosophers can compare and contrast, analyze and discuss the many sets of perspectives human beings have expressed, the diverse symbol systems, the various ways of making things hang together, but the cannot pretend to possess an extrahistorical Archimedean point from which to judge whether a given perspective validly represents the ”Truth” (Tarnas 2000 p 399).

From the verbs of knowing it becomes clear that the ways of knowing of the postmodernists are those of critical rationality. The possessive knowledge of the mystics is precluded by the self-obfuscating limitations of the postmodernists’ methods.

Poststructuralism is a body of theory with little to say about comprehension/perception of ‘the real’ in an intrinsic sense. Belsey (2002 p 56) points out that the key term in poststructuralism is “difference”. It is suspicious of absolute truths, preferring to identify the language and power plays of cultural and institutional control and suppression (Belsey 2002 p 56). Belsey goes further to write that for the poststructuralist:

The issue... is not what exists, but what we can accurately say exists. ... poststructuralism is concerned with what goes on in language. Truths (or otherwise) are told in language. Poststructuralists don’t (normally) doubt that there is a world: their anxiety concerns what we can claim to know about it with any certainty (Belsey 2002 p 71).

In this sense poststructuralism has no capacity (or claim) to determine the validity of the often ineffable knowledge claims of mystical (or other) insight.

According to the poststructuralists, language shapes the world and our perception of it, and we cannot claim that knowledge is referential; rather it is differential and
colours our perception of the world (Belsey 2002; Foucault 1984). There is therefore a limitation in that poststructural thought has no adequate means of analysis for truth claims that are transrational and ineffable. For if a perception contains no language, the poststructural maxim that perception is a function of language breaks down.

In contrast, mystics often claim a foundation of transrational, ineffable knowledge accessed only after prior knowledge structures have been released, or rationality has been transcended (e.g. Bucke 1991; Gebser 1985; Hawkins 2002; Watts 1989; Wilber 2001). Thus, the mystics and the poststructuralists generally share the same observation: the inherent limitations of language as a foundation of ultimate truth. Yet such mystics move beyond this position to make the claim for transrational, affective, visual and sometimes ineffable knowledge structures which are accessible to those trained in the proper methods.

This is expressed with the divergent representations of knowledge posited by the mystic Edwin Bucke (1991), and the poststructuralist Belsey (2002) in the quotations at the beginning of this chapter. Belsey finds that the poststructuralist position can make no final truth claims (“undecidability”); yet Bucke writes in the deep poetic and affective mode of the mystic (“exaltation”, “immense joyousness”, “Brahmic splendor/bliss”, “love” and “happiness”), speaking of “knowing” (“he saw and knew”) ultimate and metaphysical truths.

Further, as the literature from parapsychology indicates, such knowledge structures are often experienced by those with no training at all in the mystical – as is the case with near death experiences (Ring 2000; Sutherland 1995), exceptional human experiences (White 1998; Kennedy 2003) or extrasensory perception in general.

Mystical theory generally maintains that direct knowledge of ‘the real’ is accessible, and that in this sense there is a ‘transcendental other’. For mystics such as Gebser (1985), Hawkins (2002), Reanney (1991), Tarnas (2000) and Wilber (2000c), this fusion of self and other comes only at transrational stages of cognitive and collective development, or where the human intellect has reached its limit. For Tarnas (2000), the destabilisation of knowledge structures in the postmodern era is precisely what has been needed for the emergence of a new vision which will “preserve and transcend” postmodern differentiation and aperspectivism. This destabilisation is what has permitted the inclusion of the multiple perspectives which will carry us forward (Tarnas 2000 p 402).

In this sense, the postmodern and poststructuralist position and its preferred ways of knowing are seen as a developmental stage in human cognitive evolution, to be transcended in time. This is where transpersonal and mystical theory has the potential to take knowledge beyond the limitations of poststructuralist and modernist theory. With integrated intelligence the knower and the known form a unity, and entire vistas of knowledge and experience are opened to the knower.

The poststructuralist position is therefore an overtly European perspective, valorising critical rationality and the intellect of the fragmented mind. The mystical knowledge of indigenous cultures and the East is not included at an experiential level. Further, the transrational and translinguistic foundations of mystical experience
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bring into question the legitimacy of the poststructuralists’ insistence that it is language which is the prime shaper of perception. Poststructuralist theory permits some valuable critique of mystical spirituality and integrated intelligence, and in turn mystical spirituality and integrated intelligence provide important insights into the constraints of postmodern thought. Commenting upon epistemes and the long-term future, Inayatullah writes:

The best tack then is to develop a complex knowledge base of the future that is data, value and episteme oriented, that is thus inclusive of structure and agency, at individual, national, civilizational and planetary levels (Inayatullah 2006, www.metafuture.org).

Inayatullah highlights the danger in exclusivist interpretations of the future. Poststructuralism warns us that our knowledge boundaries may be restricted due to unexamined epistemic and paradigmatic givens; and in turn our discourses may become hegemonic unless we make conscious reflection upon the epistemic foundations of knowledge (Inayatullah 2006). Further, the analysis of postmodern thought provided here via the disruptor of mystical spirituality indicates that the same applies equally to postmodernist thought itself.

PART FIVE: LIMITATIONS

2.7 LIMITATIONS OF THE APPROACH AND THIS BOOK IN GENERAL

Comparing and contrasting thinkers and schools from different eras is problematical. There is the possibility that the reviewer will interpret past texts in the light of his/her own worldview, and fail to consider important differences in method, culture, or consciousness itself. For example, the understandings and the worldview of Chinese mystic Lao Tzu (who lived some 2600 years ago in rural China), are vastly different from those of transpersonalist Ken Wilber (2000c), living in the present age. This is despite the fact that they both exhibit a mystical worldview. Jaynes (1990) argues that ancients such as Lao Tzu did not posses a differentiated consciousness, but lived in an egoless mental state directed by the auditory hallucinations of the “bi-cameral mind”. If Jaynes’s thesis is correct, attempting to interpret Lao Tzu’s understanding as a product of a considered and introspective modern mystic is as invalid as Jiyu’s (1998) attempt to depict it in line with the assumptions of the Marxian dialectic. The analytical tools of poststructural thought (Inayatullah 2002a) can help to disrupt such tendencies, but cannot guarantee any true impartiality. They can only make explicit the worldview of the interpreter. In my own case, I have a written a prelude at the beginning of this book which outlines my own personal values and perspective on my subject matter.

Another major challenge is the impossible task of making a complete map of all thinkers, schools and developments within all the disciplines covered within this book. This is because of the sheer weight of research being carried out in each field. These fields include intelligence theory, various schools of psychology (transpersonal, positive, humanistic, cognitive, developmental, behaviourist and parapsychology), education, mysticism and spirituality, consciousness theory,
systems theory, quantum physics, deep ecology, genetic biology and evolutionary theory. What I aim to achieve is not an exhaustive coverage of all these disciplines, but an unveiling of a cross-section of a theme (integrated intelligence) across these several fields, in order to offer dissent to the dominant discourse. The nature of futures studies is such that a cross-disciplinary approach is arguably the best means to uphold its inclusive nature.

The diversity of the fields themselves leads to the difficulty of attempting to gain a competent understanding of them all without misunderstanding or misrepresenting them. As an example, the comprehension of the abstract conceptualisation of quantum theory and its quantum logic (Clarke 1995) and the transrational knowledge of mysticism require completely different ways of knowing.

The different approaches to history and knowledge explicit within the scientific, philosophical and mystical discourses create a problem in terms of comparison and contrast. How does one analyse these disparate approaches without valorising the constituents or worldview of any of them, as is the common objective of poststructuralist discourse (Inayatullah 2002a)?

Consistent with the poststructural perspective of Foucault (1984), in this book I will analyse the underlying power structures of dominant Western scientific discourses and identify significant hegemonies. Yet the limitation of this approach is the inevitable invalidation of the truth claims of the texts being examined. Therefore it also undermines the claims of spiritual and mystical discourses to provide a framework for meaning, and insight into a purposeful universe – or a meaningful future for humanity. Foucault, for example has often been criticised for his rejection of agency (Coole 2005). Coole is even more critical of postmodernism and postcritical theory’s claims that:

... subjects are too unstable or fragmented in their identities, too opaque in their self-knowledge and too nonrational in their thinking to sustain personal commitments or collective identifications; that there is no essential inner self, repository of freedom, will, identity or autonomy; that subjectivity is merely an effect of power or performative iteration; that history has no overall meaning or direction (Coole 2005 p 126).

Such an approach to knowledge creates an inherent dilemma when attempting to allow for the inclusion of integrated intelligence into any vision of a future society or education system. Agency is a prime conception within spiritual and mystical texts, as well as other fields which incorporate integrated intelligence. How can we incorporate integrated concepts of mind and cosmos when the means of enquiry renders its central conceptions illegitimate? This is part of the dilemma of the ‘relativism’ into which postmodern thought often degenerates (Wilber 2000c).

Nonetheless, I attempt to move beyond this limitation of poststructural theory and posit suggestions and possibilities for the ways in which integrated intelligence might benefit Western education, society and research in the future (Chapter 8 and Conclusion). The poststructural/mystical tension will remain unresolved, in line with the view that futures should remain open, uncolonised and negotiable.
Finally, while this book can make statements about the possible and probable futures of science, consciousness, education, and so forth, it cannot do so in any way that might be conceived of as empirical. The future, by its very nature, is nebulous and immeasurable, a field of potential and possibility, but ultimately unknowable.

2.8 CONCLUSION

In short, this is futures studies in the disruptive mode, and dissent is central. There will be a constant interplay and tension between the mystical and the postmodern. The deeper analyses will begin in the next chapter, with a long-term and civilisational perspective on the problematique at hand.