

Alan Joseph Oliver

ABSTRACT

This book is an evolution of two earlier versions in an ongoing quest to understand some events in my life. In the early 1980's I had found myself being sought by a few people for healing and that surprised me. They were ordinary people; one with breast cancer, one with her disturbed cat, one with a fracture of the tibia, one with Huntington's chorea and one with a visiting poltergeist. The case of the disturbed cat was particularly interesting because there I had the experience of seeing and knowing from a cat's perspective. Of course I was not able to cure any of the physical illnesses yet all did benefit in a psycho-spiritual sense.

I cannot describe any method present in these experiences, the best way I can explain it is that in this focused state I would feel their pain/distress/dream and they would experience my stillness. Rather than take any credit for the results I sought an explanation for why these seemingly impossible events could actually exist within the boundaries of science. My thought was that if one can consciously experience another's experience, then consciousness must be something quite distinct from the brain.

The scientific support came from my friend and mentor and author of the Foreword, Dr Bevan Reid MD, in whose work I found the concept that space contains memory. I reasoned that the information Dr Reid said was in space could be consciousness. He suggested I read David Bohm's "Wholeness and the Implicate Order", in which I found the quantum world and the ubiquitous 10^{-33} cm.

Eventually I found additional answers within the Yoga Sutras of Patanjali. In this work (by Pandit Usharuddh Arya) I found that the early masters defined the smallest particle as simply a point without mass, years before Democritus or modern physicists, and I guessed this might somehow correspond to 10^{-33} cm.

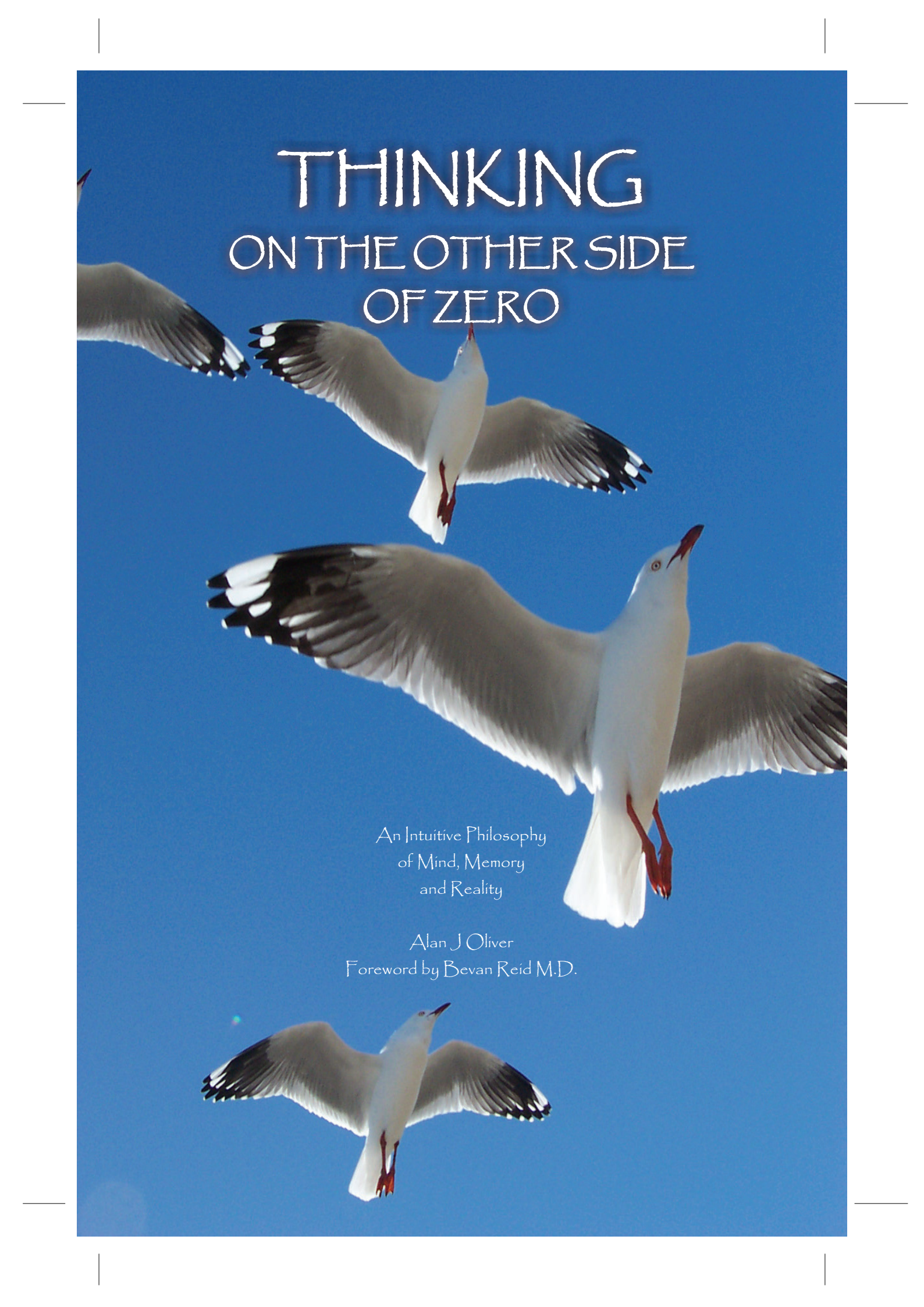
The important observations in Yoga are that the whole reality is driven by "the knowing" which seeks to be known, and this desire is expressed in being. There is also another term used in Yoga which is "being in the presence of," which suggests implications for much of our philosophical endeavours. My most important find in Arya's work was his Yoga diagram which informs most of my writing. Yoga Sutra 1.41 gives a definition of entangled minds as the coalescence of two minds in a state called Samapatti.

After having the same experience in 2000 beside my dying daughter I sought a scientific opinion from Bohm's colleague, Basil Hiley. In response to my question "can science offer any explanation for my experiences?" Hiley said the only comment physics could give to explain the apparent transfer of information between two entities was the concept of quantum entanglement. My conclusion then was that our two minds had been entangled.

In an earlier book I had drawn a parallel between the shape of the Yoga diagram which describes the entry of consciousness into matter, the shape of the symbol for wavelength and that of the Chinese character, Shen, which represents man and mankind. My observation at that time was to relate the Yoga diagram to a scale of wavelength, with 10^{-33} cm being around the mid point of the structure; later I placed 10^{-33} cm at the bottom of the diagram where Yoga says "matter becomes atomic". I think the diagram corresponds to Bohm's Wholeness and the Implicate Order.

The conclusions I make in this book are not important; what is important are the conclusions the reader makes and what fresh thoughts are provoked.

Key Words: Healing, entanglement, entangled minds, Yoga Sutras, Arya's diagram, being in the presence of, Yoga Sutra 1.41.



THINKING ON THE OTHER SIDE OF ZERO

An Intuitive Philosophy
of Mind, Memory
and Reality

Alan J Oliver
Foreword by Bevan Reid M.D.

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Also by Alan J Oliver

A Free Fall into Unstructured Thinking.

FAST BOOKS Sydney 1992, 93.

Thinkerman and the Accident of Knowing.

FAST BOOKS Sydney 1999

THINKING
ON
THE
OTHER SIDE
OF
ZERO

*An Intuitive Philosophy of Mind,
Memory and Reality*

Alan J Oliver

Foreword by Bevan Reid M.D.

FOREWORD

The human organism tends to think out problems along two general descriptive lines; the situation as it is, as might occur in a photograph and the same situation developed by syllogism or analysis; A leads to B leads to C and so forth. Terms applied to these logic systems are respectively intuitive or deductive. In general terms, science extensively uses the latter and it is undoubted that science owes its appeal over the past three or four centuries to a remarkable success for the material components of those same human organisms. For the science practitioners, this success has carried with it quite gratuitously, implicitly or explicitly, the axiom: if the system is not available to an approach via the syllogism, which usually means that A, B and C are real or material, it cannot exist or be worthy of the scientific approach. In a Cartesian paraphrase, "I exist therefore I am", the insular isolation is not in doubt.

Different civilisations of these organisms have embraced different belief systems, a circumstance in which it is possible to shear on rather philosophical lines the intuiters and the deducers. Recent civilisations, for example the Oriental, the Egyptian and the Mayan before them, tend to follow the intuitive. On the other hand the Greco-Roman civilisations whence originated the bulk of the scientific method as we know it, were more embracing of the deductive than the intuitive and this has meant, again rather gratuitously, that these civilisations and the science which followed them has little heed for the unreal, amounting in many cases to a frank disdain. A celebrated practitioner of more recent times was Albert Einstein, who epitomised the system for physicists (the discipline charged by that civilisation with knowing about things) by advising that if it is not real then it is not

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physics, inferring that any other system was best left to the sport of musing such as mathematics. There were oppressive penalties in the club for abjuring these principles.

Granted that all the human organisms of all time have yearned for notions of origin and destiny, the intuiters have tended to reside these eternal queries in the unreal which the Greco-Roman based science would locate in dimensions above three, where the deducers are obliged to gainsay or otherwise ignore the extra dimensional (beyond three) as misgiving and mischievous.

Within the seeming discreteness of the two logic systems there have arisen many scholarly treatises seeking their reconciliation or assimilation in a more comprehensive analysis of the nature of existence and its direction. Alan Oliver is one of the more recent of these, where his insight has sought to meld the two systems by probes that go back in review, some thousands of years in the case of the intuiters and to the bases of Greece and Rome in the case of the deducers. With the inexorability of water dripping on a rock, this work will join the others celebrated in their attempts to ask reason to prevail, sanctioned only by the evidence. I am one of the few more pessimistic practitioners of the Greco-Roman science who seized the honour of the opportunity of writing this book's Foreword to derive the reason for a pessimism in an attempt to explain abject disbelief, the frustration coupled with the ingrained reticence that the author's logic involves toward a recognition of what is clear to many of us, the obvious. I cannot believe that we can ascribe this manifest profound ingraining to simple prejudice. Its hold on reason is far too strong for that. It would be more valuable were there a more acceptable (possibly science-based) reason for this profound tenure. I therefore seized on the Foreword to present one prejudice-free viewpoint.

Some mathematicians have recently pondered the aversion of Western thinking to the use of zero and beyond, a term that they have long used in their formalism. In so doing they research its origins in Western writings. One report for instance concerned a bookmaker's clerk who used i (as the square root of minus one, often used to indicate a progression into dimensions beyond the usual three), to assess the odds for his master's next appearance at the Hippodrome with a time circa 1490 AD.

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If we delve for a moment into the proposed mechanism wherein behaviour emerges into a species performance, we choose the fruit fly, with a generation every several hours or so. Roughly three thousand generations are needed for a behavioural imprint to take hold or to become a trait in a mechanism which we could liken to the establishment in the brain of a critical mass for thinking about that trait. If we use a figure of circa thirty years for the expiry of one human generation, this means circa fifteen generations have elapsed since this early first use of *i*, certainly well below the fruit fly as a fixation time required for the aforementioned critical mass. This idea asserts that little grasp of the supradimensional is in early prospect. The contra argument will be that the learning curve of an insect will be far slower than that of a human, but I wonder!

Meanwhile there must be considerable scope for manuscripts of the Oliver type which present the argument bereft of any semblance of the evangelical overlay sometimes found in the logic of authors in the field. The facts are laid bare for the reader and they involve a *recherché* so necessary to counter the sheer imminence of materialist Western thought. The burgeoning literature in reference to this imbalance is of topical interest for the confrontation of cultures that have continued to permeate these two cultures, the intuitive and the deductive. Scholars can continue to take advantage of the appearance of a further careful reasoning of the Oliver stance on this omnipresent and omniscient issue.

Science is replete with evanescent ideas and, if by good fortune the 3000 generation fixation idea could be truncated to 3 generations so that scientists now applied their deductive mode to the supradimensional, the outcome might be prodigious of the type seen for the material world over the last few centuries. It needs only the grasp that space-time is nearly as manipulable as its derivatives in the real energy world of Faraday for which, anyhow, space is really the seed catalyst. Indeed the same grasp can see the mystique of the space worlds succumb to a building-block manipulable form that is the success story of their strict counterparts in the real world. Perhaps as an overstatement, all of the catalysis of space-time energy underpins in an insidious fashion, all of the anthropomorphism of the advances of the past three or four centuries. The cliché, “theory of everything” is in-

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creasingly applied to the analogy of this metamorphosis, and may betoken the welcome truncation I have referred to.

We could, in this context, quickly anticipate the use of the free energy of Schauburger's *nostra* to assist with the reversal of much of the disease process by the sheer logic involved with Boolean formalism and its inversion, so welcome in its rationality amidst the avalanche of therapeutic chemicals. We could anticipate the restoration of water supply to the pristine state of yesteryear, a copy of the metabolism of the tree or shrub outside the window, which has fixed a kilogram of sugar as you read this, a list which is interminable toward bonhomie and well-being consonant with the emergence of a grasp, possible crumb by crumb in human progress derivable from authors of Oliver's encouragement.

Herewith the seeds of renaissance.

Bevan L Reid
MD. Dip. TM&H. BVSc.
Late Faculty of Medicine,
University of Sydney.

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Preface

I want to preface this book with my reasons for what follows. For some time I have held the view that everyone takes thinking for granted; not deliberately, but because every moment of our lives involves thinking the process itself passes unnoticed. This view evolved during the years I spent assisting people coming to grips with serious illness. One lady in particular, Emma Gray, had breast cancer. In all I spent eight years with Emma as she confronted the disease and the treatments involved.

Over that time we found that what Emma needed most was some certainty about what might lie ahead. For my part, I was a listener and sounding board for her questions. I have noticed that most of us hold some form of belief about what might be the reality on the other side of death, and within those beliefs is the implied message that faith conquers all.

In 1988 Emma had completed her chemotherapy and radiation treatment. She entered a period of remission, and was able to resume her job and her part-time acting in a Shakespearean theatre company. Her time was shared with mundane office work and acting, and unfortunately the remission was shorter than she had hoped. This time the cancer was back in earnest.

One day she greeted me with a copy of Deepak Chopra's *Quantum Healing*⁷ and offered it to me as the solution for her dilemma. When I asked what exactly did she think was the message in that book she mumbled something about a magical 'gap' in reality that held great promise for people in similar situations. I read the book and found it interesting; the gap raised more questions than it had answers for and I thought it was a clever gimmick.

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For Emma that message fell far short so far as satisfying the question was concerned, and while the gap sounded like it held a promise there was no practical way to realise that implied promise. Our discussions took on a life of their own as I sought some clarity about this gap. Eventually I gave up and sought answers in Bevan Reid's papers and the subsequent discussions I had with him. I related these to Emma and suggested that we try meditation as a way to ease some of her mental turmoil. While she didn't have the patience to meditate for herself, we found that my meditative state was somehow communicated to Emma, and she was able to experience an acceptance of her circumstance that had not been available otherwise.

What led me to delve a little into the Yoga Sutras was the way that when I had put her into my stillness, some of her artistic traits seemed to be absorbed by me. I didn't suddenly start to become an actor or anything like that. It was simply the case that after a day locked in conversation with Emma I would go home and feel driven to write poetry which reflected those conversations. I am not one who does poetry and this was a bit of a surprise for me.

I had seen her about once a week for most of the time, and when the cancer intruded into a welcomed period of remission around the beginning of 1990 the visits became more frequent. Early the following year Emma was admitted to a Palliative Care Hospice where she was able to receive excellent treatment in a caring environment. Every evening I would find her sitting up in bed, with her eyes fixed on the oxygen gauge on the fixture beside her. I sat with her through every night of those short months, and spent most of that time putting her into my state of stillness.

On my last visit she greeted me with this declaration, "Alan, "I'm getting married!"

When I asked who she was going to marry she replied triumphantly, "I'm going to marry Emma!"

Then she settled down amongst the pillows, waiting for me to help her be still.

The following evening at work I had a call from the palliative care hospital, informing me that Emma had just died. As I sat

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down to think about her that same drive to write a poem appeared, and this is what I wrote.

True friend

*A thief in the night? Never!
Death is the gentlest friend,
Easing the pain as only can one
Who knows you
For who you really are.*

So maybe our conversations provided the result she sought. I still am unsure if the words, true friend, were the title of the poem or addressed to me. They came out before the remainder of the poem. I will have to ask Emma that question in another lifetime.

Reflecting on the thousands of conversations we had over that time I realised that what we had discussed most of all was the mind, and the part of us we call “me”. Central to this “me” was thought, mind, why I think what I think, why Emma thought what she had thought, and a myriad of questions about consciousness. What I had been able to give Emma was some confidence that it was entirely possible that awareness persists after death.

I make no claims to having any profound answers, methods or theories about any of what follows. The material is simply my own musing about reality, and the questions arising from my personal search for personal answers, first on Emma’s behalf and later for my own. Our discussions inevitably led to faith and religion, with my answers having their basis in Yoga and the science I had gleaned from my discussions with Bevan Reid. In the process I questioned much of religion and science; not to prove anything but to show Emma where the questions had led me.

It is quite likely that you will have reached different conclusions to mine, and I hope you will develop an appreciation of that difference. The distinctions we make about events, thought, feelings and even people are a reflection of our own personal definition. They are neither right nor wrong, none are better or worse; we are simply different. If you can accept these differences as Emma did then life can indeed be beautiful.

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So please be aware that what I have written is an open and honest reflection of a human process that we happen to call thinking. I'm sure birds, bees and even monkeys like us all do it; there is nothing original about any of my thoughts. I think there is a fundamental code of consciousness which evokes thoughts against any given circumstance or event. The person having that thought decodes it against her/his parameters, whether they are cultural, beliefs, ideologies or reward and punishment systems.

Modern medicine tells us to 'use it or lose it' as an exhortation to exercise. Now, at the age of 70, this seems to me to be directed at the memory and cognitive functions. This book is intended therefore as your mental gymnasium. At your first try it might seem all too hard; Emma would advise you to keep going.

You will not learn anything new; that isn't the point. What I hope you will gain is a clear recognition of our individual differences, and to cherish them.

Acknowledgements

I want to acknowledge Dr Bevan Reid, my friend, confidante, and mentor for almost twenty years. Over that time his generosity and counsel have been invaluable to me as I sought to come to terms with questions of existence. What was remarkable over that period was the fact that we had never met face-to-face, and it has only been at this end of my searching that we did finally meet to discuss the completed work. Bevan was always there to bounce ideas back and forth as I wrote the first two books, and with his encouragement I continued into this book. His own research into cancer has provided me with the science behind my thinking, and without this help I would still be looking for how to begin rather than at the end point.

I want to thank my editor, Theresa Janssen, who volunteered her services quite out of the blue. As one who had very little experience in writing, and being aware of the lack of an editor for my earlier books, I accepted her offer with gratitude. The subject matter is unusual to say the least, and the fact that Theresa was prepared to tackle the task of editing it is a measure of her natural generosity.

My thanks to Brian O'Connor, linguist and long time teacher, whose encouragement has been generous, particularly in his guidance with grammar and structure. Brian's patience as a teacher was evident in the margin notes he left in the draft copy, and his support for my having written as a thinker is a gift that has become one of my favourite treasures.

I want to thank The Himalayan Institute of Yoga Science and Philosophy of the U.S.A for their permission to use some mate-

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rial from the Yoga Sutras of Patanjali, by Pandit Usharbuddh Arya, D.Litt. This material is fundamental to my thinking, and this book would have been impossible without that support.

My thanks to Matt Glastonbury for the photographs he has taken for book and for the covers. The covers are themselves a reflection of his extensive abilities.

Finally, my thanks to my wife Cecily, who learned to give me the space to immerse myself into these often lonely times of thinking and reflecting on things we rarely discuss with anyone. Cecily, I am grateful for the tolerance you have towards my detachment, and for bringing me back into the real world from time to time.

My thanks to you all,

Alan Oliver
South Australia

INTRODUCTION

In writing this book I have tried to present an alternative view of mind and memory, and indeed of consciousness itself. To this end I have drawn upon my experience as a healer, together with my observations of personal experience considered against what I have found in Yoga and Science. While much of my view of science is drawn from the work of my friend and mentor, Dr Bevan Reid, the conclusions I have drawn are my own, and I accept responsibility for them. What you, the reader, make of my conclusions is entirely up to you.

Since the time of its introduction from the Hindu culture, via the Arab world to Western culture, the concept of Zero has been a difficult one for the western mind. Not just because it did not have a place in their mathematics; western religion too, which was predominantly Christian at the time, would have found zero to be difficult because it suggests a limit or an end point. This inferred end point we avoid most of all for it implies death as an absolute, and to have this represented by a figure or number much like any other number is a little scary.

Arriving in the west around the eleventh century or thereabouts, zero probably was initially ignored for good reason. Technically speaking, zero is not a number at all, because a number is generally regarded as a symbol for one or more elements under consideration as a set. And in view of the fact that much of early science, mathematics, and measurement were concerned with what was readily at hand in a material sense, there was probably no obvious reason for zero to enter into the physical sciences.

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Classical physics does have such a limit, and until the advent of quantum mechanics there was nothing beyond this limit. To be fair, in considering the very small in a quantitative sense, physics was very much aware of the radical changes in the accepted properties of matter when temperature for instance approached absolute zero. In the quantum considerations of matter below the level of atoms, and in a physical sense this is a similar zero point, the nature of matter became very uncertain.

In the same vein it can be said that a similar zero is employed in the concept of homeopathy, where a progressively diluted solution reaches no single molecule of the original solution. It is claimed by homeopaths that the properties of the original solution are nevertheless retained. Sceptics hotly dispute this claim, although some recent work by scientists has supported the claims and I offer the following article in respect of homeopathy. This appeared in the NewScientist on March 19, 2005 p33.

Belfast Homeopathy results¹²

Madeleine Ennis, a pharmacologist at Queen's University, Belfast, was the scourge of homeopathy. She railed against its claims that a chemical remedy could be diluted to the point where a sample was unlikely to contain a single molecule of anything but water, and yet still have a healing effect. Until, that is, she set out to prove once and for all that homeopathy was bunkum.

In her most recent paper, Ennis describes how her team looked at the effects of ultra-dilute solutions of histamine on human white blood cells involved in inflammation. These "basophils" release histamine when the cells are under attack. Once released, the histamine stops them releasing any more. The study, replicated in four different labs, found that homeopathic solutions - so dilute that they didn't contain a single histamine molecule - worked just like histamine. Ennis might not be happy with the homeopaths' claims, but admits that an effect cannot be ruled out.

So how could it happen? Homeopaths prepared their remedies by dissolving things like charcoal, deadly nightshade or spider venom in ethanol, and then diluting this "mother tincture" in water again and again. No matter what the level of dilution, homeopaths claim, the original remedy leaves some kind of imprint on the water molecules. Thus, however dilute the solution becomes, it is still imbued with the properties of the remedy.

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You can understand why Ennis remains sceptical. And it remains true that no homeopathic remedy has ever been shown to work in large randomised placebo-controlled clinical trials. But the Belfast study (*Inflammation Research*, vol 53, p 181) suggests that something real is going on. “We are,” Ennis says in her paper, “unable to explain our findings and are reporting them to encourage others to investigate this real phenomenon.” If the results turn out to be real,” she says, “the implications are profound: we may have to rewrite physics and chemistry.”

Most of these examples refer to more recent observations within the field of science. Considering the diluting of a solution beyond zero so far as the original solution is concerned, I think the fact that these results never stand up to large-scale randomised clinical trials suggests trials on the macro scale are out of context with the scale of the diluted solution. It seems to me that a boundary such as zero can be, in effect, an active element in the context of any experiment involving the very small.

Historically, the western mind had not experienced much exposure to the idea of zero before the Arabs introduced it to scholars visiting their centres of learning in Spain. And even after their introduction to zero the western scholars didn't really understand the full import of this concept.

Philosophy held a similar position to physics, since both disciplines derived from the Greeks who had followed Aristotle. Religion on the other hand was caught in a different fix; it believed in an after-life that could only be approached through faith. The reason faith was so necessary lies in the other obvious requirement; you have to have died to reach the after-life, obviously. For religion then zero was threatening; while zero held the promise of understanding a state beyond death, to be able to employ mathematics, or even philosophy, to define such a state might remove the need for faith in anything.

I suspect that the way in which the oriental mind approaches the matter of death compared to that of the occidental, or at least as seen through western eyes, demonstrates the gulf which exists between the ideas of an after-life in a western heaven vis-à-vis the idea of reincarnation. It also demonstrates the accommodations available to the oriental mind from centuries of exposure to the concept of zero. Let us put zero in perspective as it might have appeared to the early oriental thinkers.

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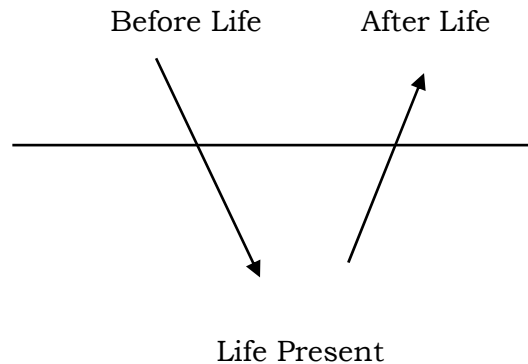


Fig. I.1

Clearly, these two philosophical positions are almost irreconcilable. For those early western thinkers, and especially for the early church, to have such a clear model of reality would have challenged the need for faith and for the church for that matter. The Christian tradition holds that God created the universe out of nothing. Zero represents nothing, and this would pose a challenge for it provides us with the means to become familiar with this notion of nothing and therefore to remove the mystery of creation itself. If what is above the line in the diagram represents nothing, and when we superimpose that point of creation with the notion that God is everywhere, then one may conclude that nothing/nowhere is also everywhere. This leads us to quantum mechanics and the concept of non-locality.

Another problem embedded here is that *if* we and the universe are created from nothing, then this “I” who is considering the whole question is essentially non-material in an absolute sense. I believe that understanding zero holds the key to that very reconciliation, especially so if we are prepared to look beyond zero.

In my work with people facing imminent death, the questions most often asked have related to the issue of what, if anything, survives that final event. Science, Theology and Philosophy all have opinions to offer, and yet these questions remain unsatisfied so far as the dying person is concerned. The difficulty arises from within the structure of these opinions. The common factor

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here is of course the mind, and the process of thinking itself. In my experience the most comprehensive study of this process is to be found in the Yoga Sutras of Patanjali².

The word Yoga means to yoke, as in the case of oxen. It is the union of two into one. And while physics and mind might seem to be strange bedfellows from the perspective of human endeavour, of late there has been a considerable amount of research into the nature of mind, which inevitably involves physics. The reader may detect a certain irony in the use of the word Yoga in examining this union, and rightly so.

I would assert that in the Yoga Sutras of Patanjali provides the student an insight into the fundamental structure of both physics and mind. The substance of the Sutras dates back some thousands of years within the Vedas of the Hindu culture, and as we will see, Yoga had indeed explored the reality beyond zero.

Yoga is essentially an oral tradition passed from teacher to student; Patanjali codified this knowledge into a series of connected statements to make the substance of the topic easier to learn and to remember. The statements are connected together like the sections of a garland of flowers, strung together by their relatedness to the one before and the one following. The Sanskrit word sutra means string, thus its use is obvious. One is tempted to posit this as the first appearance of String Theory.

Within the sutras we can find a model of reality, which encompasses the world of both classical physics and quantum mechanics. Where this model differs from modern thought is in its inclusion of both consciousness and God. The difficulty a modern scientist might have with the Yoga Sutras is in the application of its theory within the scientific method. In modern science someone proposes a theory and conducts an experiment, and the results or measurements made in that experiment are offered as proof of the theory. This proof is deemed to be valid if others can obtain the same result by replicating the original experiment.

This structure of experiment and proof arose from Greco-Roman thought and logic, and while this structure is practical in the field of classical physics, it has been found to be impractical in the worlds of both mind and quantum mechanics. Science has extended physics into the study of mind, and of the brain in

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particular. In the process a vast array of technology has been created, but not much in the way of hard facts to support the view that consciousness, mind, and memory are biological events arising in the brain.

Indeed, the discipline to have benefited most from this research is probably that of philosophy, and although we in the western world regard philosophy as being essentially Greco-Roman in origin, I believe much of its roots came from India. Indeed, much of the Indo-European language can be traced back to Sanskrit, and surely this resulted from trade and other forms of cultural exchange. In such an exchange, ideas as well as goods would have flowed between the trading cultures. Archaeology has discovered evidence of cities in India from around fourteen thousand years ago, and I believe this would suggest that the culture in India was slightly ahead of its European counterparts during those earlier trading periods.

Computer science has provided the means of processing information through computation, and over time the rate of that computation has become very fast. The basis of the ability of a computer to process information is a system of binary numbers, together with a structure of logic associated with this binary concept. With the development of software applications to extend the nature of the material able to be computed we find the emergence of the notion of artificial intelligence. This notion relies on the assumption that mind and memory are the biological products of the brain. The other significant assumption has been that the brain processes information through a similar binary structure of logic.

Philosophy has always been associated with logic in one form or another, and in recent times philosophy has extended its reach into the field of science and computation under the umbrella of artificial intelligence. Philosophy has been in association with Theology for millennia, so there is a tacit relationship between the three disciplines, although never a comfortable one. All three disciplines employ the processes of thought, of mind, and of memory. Philosophy and Theology throw in the intangible concepts of Soul, Spirit and Self, much to the consternation of Science because nobody has a clear definition for any of these. As for the question of anything surviving death, the person fac-

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ing that event is told to have faith. But Science asks faith in what?

The good news is that there are answers to be had. I doubt whether any of these answers will be greeted with open arms or open minds by any of the three disciplines, and therein lays the much larger question of truth. What I mean here is not that there is any absolute truth to be known; rather, that the personal body of experience we call mind is individual in content and universal in the process by which we interpret that content. Thus, I suggest that every mind works more or less in the same way as every other mind. In parallel with this is the fact that every experience of any individual makes modifications to that individual mind, and therefore moulds the apparent nature of the individual. In Yoga these modifications are called Samskaras, and Samskara is loosely analogous to the Christian concept of sin. In considering this analogy I can understand its origin, as well as the misuse of the concept to create an avenue for guilt in the faithful.

When one's personal context is based on the belief of being sinful and therefore guilty, there will always be the need for forgiveness by some external authority. I am inclined to observe that how one thinks (and acts) determines what one can think (and act), and the personal context mentioned above is an unnecessary constraint. We will examine this matter further into the book; for now it is sufficient to say that the purpose of Yoga is to dismantle these modifications of the mind to enable the seeker to perceive reality clearly. I will add a rider to this, and that is to point out the fact that there is ideally only one state of mind where this clarity of perception is available, and in Yoga that state is called Samadhi.

I believe individuals who in past times experienced the Samadhi state were moved to share their clarity of mind. This gave rise to systems of belief, some of which became religions. Unfortunately, many who find themselves in a lesser Samadhi state have assumed their perceptions of their teachers' Samadhi state are equally valid, with disastrous results. I will explain this further in the book.

In my personal search for answers on behalf of those who sought my help I was fortunate to make contact in 1986 with Dr

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Bevan Reid while he was working at the University of Sydney. We spent many hours in discussion and later I was given a copy of a number of his published papers on the structure of space. It was through these papers that I had an introduction to quantum mechanics. Part of his tutoring led me to read the work of the late David Bohm, in whose ideas I found some resonance with the Yoga Sutras of Patanjali. My synthesis of their thoughts provided me with what I believe to be an understandable account of the relationship between mind, memory, Yoga and physics. Philosophy and Theology are, to some extent, left in its wake.

Clearly I owe a huge debt of gratitude to Bevan Reid, for without his input and encouragement I may be still looking to take my first tentative step on my search for understanding.

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Everything that we know we have learned in one way or another from generations past. Yes, I agree that we find new ideas, new beliefs, new things, new technology and techniques at what seems to be an increasing rate but *how* we learn stretches back into the fog of history. We can separate what we have learned into ideas and what results from them; in the process we can find that what underpins all of this has always been with us. It is in fact our very essence; it is what points to the questions, which inevitably lead us to these so called new ideas and beliefs.

I have been absorbed in a search for understanding of life; a search began by questions asked by people who were facing death or serious illness. What I found was that there is no simple answer, not because the answer did not exist but because everything is related to everything else and trying to find a specific answer is impossible. Having realised the extensive nature of relatedness I began to examine the relatedness itself. What I found is that the questions have always been asked, and that they have been answered in a number of ways. To this extent I have begun to notice that this hypothesis itself is taking on the same relatedness to everything.

Inevitably my search led me back to what I believe is the first series of answers. The ancient Hindu culture had asked these questions thousands of years ago, and at least six thousand years ago the answers were formalised into what was called Vedic knowledge. These ancient seers formalised what we now call meditation, and the Vedas were the result of information derived from the meditative state. Some of that information became what we would today term religion, while some became the basis

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for their practice of medicine, mathematics, science and philosophy. Over time this information became absorbed into other cultures, carried there by the trading populations. This distribution of information is evident today throughout all religions, where we find some recurring themes, common threads and ideas.

What did not always accompany the Vedic information was the fact that this information was realised in the Samadhi state within meditation. In later times the science of Yoga emerged from the Vedas as a discipline in its own right, one devoted to the study and application of the Samadhi state. This state is analogous to Plato's world of ideas, and as one may find when trying to communicate an idea to another, there is no guarantee of a successful transfer of the idea. Interestingly, I have noticed that when a person approaches religion through meditation or intuition, rather than through dogma based belief, that person is called a mystic.

In this book I am saying that such was the case for the transfer of ideas about beliefs; the divergence of religious beliefs is, in effect, the result of inaccurate communications that were the equivalent of "Chinese Whispers". But the problem is not just confined to religious beliefs. The communication of any idea is subjected to the same confusion. The Yoga Sutras of Patanjali can be traced back to the Vedas, and this particular discipline is devoted to the problem I have outlined here.

Consciousness, in the general sense of the word, is analogous to awareness. Indeed, in everyday conversation the two are used interchangeably. On closer inspection awareness usually refers to that form of knowing which can emerge without any deliberate effort directed to whatever engages our attention. None of this is new, although I would suggest that much of our language is used in this general conversational sense without too much thought given to any distinction between any assumed synonyms.

Nevertheless, these two particular words have something in common which is indeed obvious, and that is the fact that each infers the presence of information in some form or another. Indeed, it is this inattention to the form which renders the process of accessing that information invisible. Our science is rooted firmly in the world view of classical physics, and by default we

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assume all we can know is necessarily resident in that same world view. We call this world view NORMAL, and what we find there we call VALID PROOF. Furthermore, the fact that others can replicate this valid proof reinforces this normal world view to the exclusion of any other.

In the world view of science, consciousness is believed to be a quality which emerges within the brain. We support this view with the technology we have developed over the past century, which has given us the means to see the physical activity of the brain's chemical and electrical processes happening as one thinks, acts, and remembers. These observations, and the assumptions made to account for them, have directed most of our theorising about memory, consciousness, awareness and thinking. Thus, all of our theories are based around the notion that the brain is the central processor of this information.

Any alternative opinion is deemed to be paranormal and therefore non-scientific. Indeed, paranormal is seen as an opposing view rather than an alternative one. To suggest it might even be a complementary view is regarded as so extreme that it is seldom countenanced. And yet, even our earlier assumption about awareness and consciousness being synonymous has a paranormal aspect to it.

Assumptions of any kind are subtle inferences we make about the thinking process. Some have called it the charitable assumption, in which we take for granted that others will make the same association of similar meanings for two or more different words. On the surface, this is very much a part of the way language evolves over time, iterating through its continuing use in different contexts. But I suggest that this parallel of meaning infers much more about thinking in general and mind in particular.

For me the inference is that our minds share far more connectivity with each other than we ever notice in our awareness of what we are saying through the words and the structure of our language. This mental connectivity is most apparent in paranormal events, yet it is the very connective nature of such events that society in general, and science in particular, seeks to deny. To do otherwise would require a suspension of belief, and most

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of us hold our beliefs very dearly. This can be true, even when a belief is based on the flimsiest of evidence.

There are times when we are persuaded to suspend belief by events within our direct experience. This suspension can occur during dreams, when the story is momentarily so persuasive that we can feel a whole range of emotions, ranging from sheer terror to intense love, which engages our mind in a state where the evidence of the event unfolds with a complete conviction of its authenticity. Another situation in which one's accepted beliefs are swept aside, with only our willing complicity for evidence, is that of falling in love. Here all logic and reason is summarily dismissed as being totally irrelevant, overruled by a sense of oneness with the object of our new-found love.

Assumptions are the basis for many of our beliefs, particularly those beliefs underlying the field of religion. In almost every religion is the assumption that what is offered is the word of God. Whether the message is or is not the word of God is beyond question, so strong is the belief in the assumption. If we consider the origin of the communication of this "word", and to be impartial we take the Scriptures as an accurate description of the original communication, then one must conclude this message was delivered in a manner we must call paranormal.

The philosophies of Plato read very much in the same vein as Patanjali, and I believe they have a considerable intuitive content. The Greco-Roman view, beginning with Aristotle down through St Augustine and resurrected by the scholars of Islam, seeks to infuse some science into the task of understanding reality, and I believe this view to be more imaginative rather than intuitive. On closer inspection I find that Patanjali is all about science, although this view is not generally taken by philosophers. Eventually philosophy becomes enmeshed in psychology, and to some extent both disciplines share the scientific premise that consciousness arises within the chemical and electrical activity of the brain.

If we exclude all of those events which fall under the heading of paranormal, then the views of science and philosophy can be extended to embrace religion in a cosy relationship, and to a large degree this has been an ongoing process. Of course, the early scientists were not so fortunate, with da Vinci, Galileo and

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Kepler all running foul of the Vatican. But the falling out between science and religion should not be viewed as being confined to these formal systems of thought. I believe there was a more fundamental divergence that began when the early hominid species were indistinguishable from their simian roots. There are conflicting opinions about the influence of the emergence of speech, and perhaps that is the time I refer to here.

All species have a naturally intuitive relationship with their environment, and here we must include the early hominids. I suggest that this relationship may have evolved into a more conscious observation. My suggestion is that these changes from what we call instinctive behaviour into conscious awareness were the defining evolution for us. I believe this development would lead to the need to communicate our thoughts, given that we were no longer communicating them intuitively. I concede that other species have developed tools and strategies for problem solving; what is different here is that the observer had become notionally separate from what he/she was observing and had found the need to connect with his group, paving the way for the development of language.

The cost in this evolution was intuition; not so much that it disappeared but that to accommodate the emerging use of language man replaced intuition with imagination. The application of imagination to observation gave birth to the assignment of meaning to events as well as to observations, and this is the point where both science and religion (or beliefs) have their common roots. What had been an intuitive relationship with these natural processes led to man's assigning them to the machinations of various Gods.

For example, in almost every tradition the observations about the natural world led to the categorisation of events into four basic structures. These were Air, Water, Fire and Earth; each had one or more Gods assigned to these elemental phenomena. The priests labelled the phenomena Gods, and derived ceremonies to appease those Gods. The emerging scientists recognised the force within each of these elements, and sought to understand and make some practical use of them. In these two viewpoints were the seeds of the opposition we see today between science and religion.

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Returning to the subject of intuition, I will confine my thoughts to the mammals; we have a long history with mammals, whether as beasts of burden, as food, or as companions. What I am suggesting is that all mammals have intuitive awareness, and that this faculty is the basis for their (and our) relationship with the natural world and its processes. Natural phenomena are mostly cyclic in their function, and the intuitive awareness of these processes permit all to operate within these cycles as part of the same holistic process.

The development of the earliest tools by some species was accelerated by the evolution of the opposable thumb, and I suggest that this developing manual dexterity provided a different avenue for novel interactions with the whole environment. I believe that these interactions, and the neural networks that developed through their use, pushed the evolving brain development. What was happening was the transition from intuitive awareness to a conscious awareness based on imagination. It was a shift from a world based on instinctive behaviour to one based on observation and experiment.

The observations of the natural cycles of the sun, moon, birth, death could be compared over time, and systems of understanding could arise to accommodate what was being observed. The passage of the sun, moon and stars are observably similar, yet one can see sufficient differences to allow distinctions to be made. These provide more questions, and suggest answers to support a developing understanding; in other words, this can be regarded as the birth or evolution of science.

How the answers arrived can be categorised as tangible or intangible, and here the search diverges into answers everyone could understand by direct perception and those arrived at by deduction and/or intuition. The evolution of these two strands of inquiry gave the keeper of this knowledge a degree of power and respect. I suspect that some knowledge-keepers discovered that many in their community assumed what they were told was true, and so we find the evolution of belief and therefore religion.

Essentially, science and religion are siblings of the same evolution. All that differentiates them at their source is the means of distributing the particular knowledge. Each sought to describe (for the purpose of understanding) the natural processes of life.

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Given that not many of these were well understood it is probable that particular processes driven by something unseen were assigned to Gods, with science coming in a poor second. There are many theories for the emergence of the notion of just one God, and I do not propose to explore any of these. What I will say is that there could have been a realisation of a common thread throughout the whole of nature, something all would have known intuitively before our hominid evolution, and therefore a single God would be easily accommodated within that realisation.

The fact is that there really is a common thread underpinning all living systems and that is called self-organisation. Furthermore it is also recognised, in science at least, that all such systems are part of a greater whole which is also a self-organising process. What I will present is the other aspect necessary for a God, single or otherwise, and that is a common field of experience within the self-organising process. We can regard this field as a common memory or universal consciousness. If I can establish these as a part of a workable reality, then it is fair to assert that what we call God is really a metaphor for this simple structure inherent in nature. I believe it is a structure capable of the creation of life, of sustaining life, and for the recycling of its parts. In the Hindu tradition this structure is called the trinity of Brahma the Creator, Vishnu the Sustainer and Shiva, the Dissolver.

We are consciously embedded in the sensory world, and the rise of imagination and logical thought can become confused by belief and reason. Many have difficulty accepting that intuition can provide the same sense of proof we seek, whereas artists and other creative people have no such difficulty. What I am asserting is that the creative process involves the self-organisation of information in the intangible world which in turn self-organises matter. In this model the information being self-organised is both personal and common experience, and obviously this requires some way in which this information is retained in the imaginary state.

My view is that consciousness, mind and memory are NOT phenomena that arise from the chemical and electrical activity within biological processes of the brain. I believe the opposite is true; that these processes arise from the presence of information

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in the virtual state in superposition with matter. How this can be is the central theme of this book. In this context it is possible to say that the presence of this information produces what we call life, and that what we call consciousness arises from the dialogue between the virtual state and living matter.

While most of the discussions about consciousness, mind and memory are primarily addressing the notion that these are all functions of the brain itself, I suggest that every cell in the body is in the same intuitive state. In my first book I included a poem I had written for my friend Emma.

It included these two lines, which said:

*“Each cell has a mind, linking one to another
That mind can be bent by parent or other”.*

I suggest that how the cells link with one another is through intuition. I see no need to press the point, other than to say that when we are talking about philosophy’s Hard Problem¹¹, we need to realise that consciousness will affect every cell in the body. It is probably *easier* to think of consciousness as being a brain activity, but you need to understand that this is not necessarily its limit of action. The effect of consciousness as it relates to the remainder of the body is called emotion, and when we include this in our considerations the points I have raised here become a little more understandable.

There are a number of diagrams throughout, and while it is not obvious at first, all of them are really illustrations of a superposition of information at different levels of a whole hierarchy of ordered potential. The three photographs are examples of the physical expression of that order. It is entirely coincidental that the feathers I had scanned for Chapter 1 are seagull feathers. Unlike the birds on the cover, this one was victim of a predator.

Chapter One

Patanjali, Bohm and Sheldrake

Patanjali was a teacher of Yoga. Some scholars say that he was born about 4000BC and others say 400BC; the exact date is unknown. It is sufficient for our purposes to know that he existed a long time before any formal structure was applied to Christianity. Yoga is an ancient science and Patanjali systemised and organised it into 196 aphorisms to assist the student to memorise it as a whole.

David Bohm was a theoretical physicist whose work led him to put forward a view of the universe as an interactive whole. He died in 1992. His book *Wholeness and the Implicate Order*⁶ is the work that is of interest to us here. His philosophy of a whole and undivided universe, in which information flows into and out of the whole, captured my attention when I first read it in 1986 and I am still exploring this view.

Bohm's understanding of wholeness is that the whole can be regarded as a hologram, in that any part of a hologram can provide access to the whole hologram. From this understanding flows the idea that everything within the whole bears this same relatedness to the whole as that which exists between the individual parts of the hologram. The whole is a field of potential in which there exists an implicit order in exactly the same way that the individual parts of a hologram are part of the whole hologram. Thus, even in the field of potential we can expect to find the same relatedness in evidence.

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Rupert Sheldrake is a biologist who seems to me to be saying much the same as Bohm. He too has a view about wholeness, and in his book, *The Presence of the Past*²⁵ he put forward a theory of the morphic resonance within a morphogenic field. This field holds all form in potential and expresses the form of every living thing. His more recent book, *Dogs That Know When Their Owners Are Coming Home*²⁴ extends the notion of the morphogenic field into the area of sentience. I think my earlier comments about the transition from intuition to imagination suggest that we are still intuitively connected with our significant friends; in this case our pets.

For myself, I have been aware of “otherness” for most of my life. I first encountered it as a radio technician in the Air Force. I seemed to have a knack for fixing the equipment but could rarely say how I figured out the problem. Years later I was employed to fix typesetting machines and often had to drive for five hours or more to my country clients. On the way I would muse on the sound the machine made as it worked. When I arrived I would switch it on and it would work. Later I found that many people wanted to sit and talk with me because, for some reason, it made them feel better.

In 1986 I attended some classes in psychic healing and Yoga. In retrospect I think the course name (psychic healing) was a bit tongue-in-cheek. Nevertheless, I did learn some methodology, which fell away as I began to counsel people. The significant outcome from doing this course was that I heard about Dr Bevan Reid, a cancer researcher at Sydney University. I subsequently had a number of conversations with him over the phone, and some time later was given a copy of his work, *Experiments designed to reveal a structure for space*¹⁸. What had arrested my attention in his paper was his clear demonstration of memory in space, which I immediately linked to Akasha, the special space from Yoga. I will address the matter of Akasha in a later Chapter.

After reading Bevan Reid’s paper, which had been published in the *Journal of Biological Physics*, I came to believe that there was much in physics that could contribute to an understanding of Yoga, and vice versa. I mentioned this to him, and he suggested that I read Bohm’s *Wholeness and the Implicate Order*. His suggestion was timely, and what I read there fuelled my in-

terest even further. Of course, my knowledge of quantum mechanics is very elementary, and I would be the first to admit that some of my assumptions are pushing the boundaries of credibility. Nevertheless, I held on to the idea that these experiences could be understandable, given enough effort. With Bevan Reid's publication as my guide I was keen to begin, and what better place to start than to consider some of my own experiences from this combined standpoint of yoga and physics.

I want to put forward my thesis on consciousness, and clearly this will involve as much effort on the part of my readers as it does for me. Being an average sort of man the realisation about consciousness came as part of a long drawn out process, not because the evidence was hard to find but because I am a slow learner. So rather than submit you, the reader, to those years of tedium I'll skip the periods of standstill and just describe some of the clues I found along the way. Mind you, these clues only became evident to me in retrospect; this is not surprising, given that this is true for most of the lessons in life. I can offer no magic formula for life, and as for understanding life, well, it isn't something that has ever grabbed my attention. Life just is, and that's an end to it. How far can one question the self-evident? But for questions and answers, now there's something I can explore to good effect.

The very idea of questions and their answers has always held some measure of intrigue for me, in that I have always felt that both a question and its answer must have always been inextricably related long before the question was posed. It is as if any question exists as a flag to indicate that something needs to be known for its own sake.

Of course it is quite easy for someone like me to become hopelessly immersed in a question, any question, and there comes a point at which all of the questions and their answers merge and there I find unity. Our culture values the accumulation of knowledge, which really means valuing the accumulation of answers. But behind any answer is something far deeper. The point of a question is not to be found in the answer but in *the knowing* of that answer. I don't mean knowing something, or what the answer holds by way of information. No, I just mean knowing. Knowing is a magic doorway leading into the presence of the knower, and finding that there really is a distinction between

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what is known and who knows it is to find where the person ends and awareness begins. It's a bit like love really. In fact, a little further in the book we'll find that this might be precisely what love is.

I make no claim to originality here; ever since mankind made a distinction between our form of life and the rest of the biomass people have had similar musings and have reached much the same conclusions. And in an evolutionary sense I think this is happening more and more. If anything is different in my case it is that these thoughts are now being visited by the most ordinary of men, and that is a clue as to where this may lead us. I hope so, for most of my thinking has been pretty much unstructured and any discernible plan would be a welcome relief.

I have encountered some people who find my way of thinking difficult to follow, and why this might be has been a never ending question for me. My attempts to answer this question have led my mind into all sorts of nooks and crannies. I realised quite early in the chase that, despite the differences in viewpoint held by practically everybody on the planet, something, some tiny thread was common to us all.

And yet, even in what we have in common, we hold this commonality to be an individual difference too, as our assertion of personal uniqueness. So it was inevitable that an unstructured thinker would have to challenge that difference. Not openly. It was simply in my observation that I was not unique; at times not even a person in my own self-awareness. I can remember listening to a discussion about individuality and, on reflection, had been unable to find any such attribute in me.

When Bevan Reid suggested that I read David Bohm's book, the idea of an ordered whole reality stopped my random thinking in its tracks for a moment; but only for a moment. I kept right on thinking, only now much of these thoughts were framed against the background of wholeness. In everyday terms we could say that something clicked for me.

Whenever there is some agreement between a new viewpoint being offered and our own current line of thought, to the extent that we absorb it immediately we say something clicks. That's when I perceived a direct link between a question and its answer. While I was aware of such a link I hadn't realised that

such a notion was a minority viewpoint. This particular realisation, or click, leads me to better understand the difficulty I sometimes pose for my friends when I answer their question and then observe, "I didn't know that before." I have called this an accident of knowing, and my exploration of such accidents has led me to find a field of awareness that is indeed whole just as Bohm had said it must be.

There are times when what clicks resonates with ideas as yet unformed by us; that's when we can only recognise the connection with hindsight. My foot-in-mouth-ness led me to follow the answer to the question with the crass observation, "I didn't know that," but it was some earlier unnoticed click that provided the answer. Much further down the track it can be possible to see that the relationship was always there, and that's when Bohm's wholeness becomes a little more familiar.

That concludes the difficult part of the book. I simply wanted to say that whatever we think is not some exclusive piece of information. Thinking itself is just a part of a much larger whole, a field of awareness in which consciousness drives the process of bringing together any information that can be related to an individual context.

What follows is not quite as difficult, although for some it will certainly be different, especially so for those who may be used to a more conventional way of thinking. This is to be expected; after all, most of the conventional ways of thinking about consciousness are derived from a structured view of reality, one to which we insist consciousness must conform. Drawing together the ideas of Bohm, Sheldrake and Reid I offer a simple diagram to illustrate the beginnings of an idea.

The line separating these two parts of the whole reality I have called the interface. As we proceed it will become clear that the part above the line is relatively unknowable through classical physics because it lacks the classical dimensions of time and space. What will emerge in this zone is information that can either be consciousness or memory. I realise this raises a number of existential issues for all of us, and for this reason the diagrams will evolve throughout the book in what I trust will be navigable steps. In this chapter the steps are really an introduction to a world of information we take for granted in the sense

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that it is never questioned to any great extent. Plato called it his world of ideas, and why he did that should become evident as well.

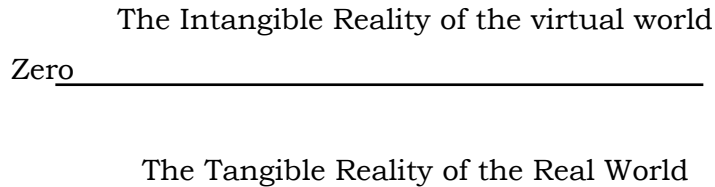


Fig. 1.1

Sheldrake put forward the notion of a morphogenic field in which the potential for form (or morphology) has its origins. This potential is another intangible, and we can place that above the interface on our diagram.

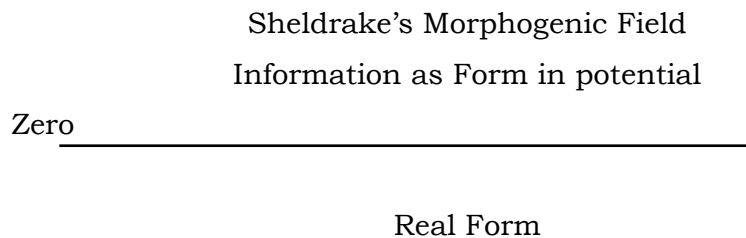
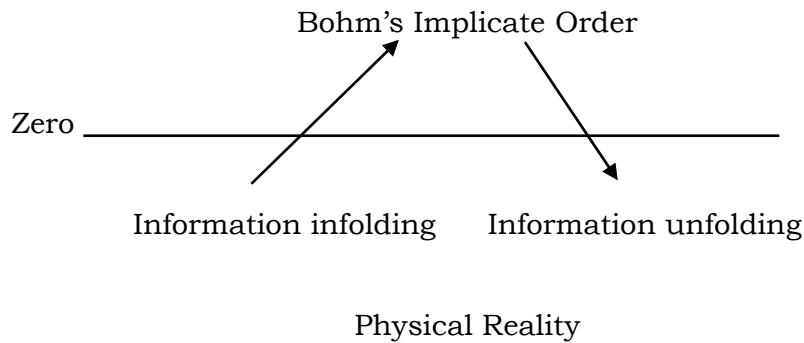


Fig. 1.2

Bohm's Implicate Order is also an intangible, and this too can be considered to be expressed in the same diagrammatic form. However, Bohm says that there is a flow of information to and from the virtual or imaginary state, and we can show that as well on the same diagram.

**Fig. 1.3**

The two arrows represent information unfolding from the Implicate Order, and enfolding from physical reality back into the Implicate Order. I will continue to build on this throughout the book, but for now it is sufficient that we have negotiated this first challenge to the status quo. For the moment it is enough to say that the process it contains is exactly the same as that shown in **Fig. 1.1**. Obviously we need to find a mechanism or process for this two-way flow of information, and that is what we will do, hopefully with a series of understandable steps throughout the following chapters.

Bohm likened reality to a hologram, in that any individual part has the potential to reveal the whole hologram. In a practical sense, Sheldrake's morphogenic field is much the same, and we can use a feather as a practical analogy of Sheldrake's morphogenic field. For example, some will say a feather, is a feather, and is always a feather. If we look a little deeper every feather on any particular bird is unique, not merely in its colouring but also in its function. A tail feather is different from a wing feather, and even there, the shape and structure of every wing feather depends upon its function. As for colour, each feather can exhibit different patterns and shades, all of which combine to determine the recognisable picture of a particular species of bird.

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If we were to examine the nascent feather as it emerges from the bird's skin we would perceive very little difference from other emerging feathers. The location of each feather within the context of the whole bird relates to that feather's shape and structure, while at the same time contributing to the form and overall colouring of the whole bird. In respect of the colouration of a particular feather, observation suggests that we cannot assume that the black on the feather in the photograph has travelled up the spine, depositing the black at a predetermined point because some of the white section is tipped with black. Clearly, the overall colour exists in that nascent stage prior to the feather's emergence from the skin. Therefore I am asserting that the whole colour is implicit at the follicle and expands as a whole coloured feather, taking its final shape and size from the next order of potential; that of the whole individual bird.

Co-incident with this is the difference between bird species. So there is an order implicit within the potential for the whole bird as well as all birds, and Sheldrake refers to this order as the morphogenic potential. I prefer to think that this morphogenic potential is merely part of the whole potential, because I believe the Implicate Order of Bohm is about every potential in that field. In view of the fact that science assigns the four dimensions called spacetime to the whole of our universe, it is fair to say that these dimensions can be regarded as potentials within the virtual or imaginary field. Even so, I hope the example of the feather gives some understanding of individual potentials as part of a greater whole.

I invite the reader to hold on to the notion of a whole reality, and to the example of specific potentials within the context of a greater whole. This forms the basis for an understanding of a hierarchy of many different contexts within the whole potential that is the Implicate Order.

Most of what we understand involves a context into which we fit information; indeed, without context there can be no understanding fit at all. So far I have shown similar ideas as they emerged within different cultural contexts. As trade routes developed, cultural exchange became inevitable, and within this exchange of ideas religions spread as well. For example the



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Hindu Vedas were reinterpreted by the most recent Buddha, and this spread across Asia as Buddhism in all of its present forms.

In China the concepts we have seen arising from Yoga were adopted and developed within the Chinese context to become Taoism and Confucianism. An example of this development, or perhaps of synergy, can be found in the Chinese word Shen. The word represents man and mankind as well as the spirit of man after death, the distinction being made through differing tonalities. The common word suggests to me a common essence, with each tonal value depicting the different states in which that essence is expressed.

Shen = Spirit of living Man, and Man after death
Zero _____

Shen = Man and mankind

Fig. 1.4

While this diagram may appear to challenge what can be assumed to be a reasonable extrapolation of an idea, it serves to suggest an acceptance of the particular idea that something distinct from the physical state may nevertheless be capable of an involvement with physical matter to sustain what we call life. Just what that something might be is a matter of considerable conjecture, although the work of Madeleine Ennis PhD, mentioned in the Introduction, can serve to support the notion that there is some merit in pursuing the question.

I hasten to add that our need to investigate this anomaly is the direct result of the way we in the west view reality. Clearly, the Asian mind has no such need; for them this is how reality is. Nevertheless, thinkers such as Bohm and Sheldrake have pointed out that perhaps our concept of reality fails to accommodate this eastern viewpoint. The Asian mind has had the benefit of the Hindu tradition, which eventually was distilled in a scientific sense to become the Yoga Sutras. The most important aspect of Yoga as it relates to our discussion is that it is a true science rather than a religion. The underlying structure is one of

experiment and verification through direct perception, and to that extent is has much in common with the work of Bohm, Sheldrake, and with Bevan Reid.

It is fair to say that the Yoga Sutras of Patanjali are mankind's first version of a Theory of Everything, and for that reason we should view them as scientific rather than philosophical. However, to provide an understanding of, or at least an introduction to, the Yoga Sutras of Patanjali I will stop here and devote a separate Chapter to that issue.

Chapter 2

The Yoga model of reality

The Yoga Sutras of Patanjali ² is a series of statements designed to lead a student along a path of learning toward a particular goal, namely, union with the whole. The word yoga means to join, or be in union with. I first encountered the Yoga Sutras while attending a course on psychic healing. The teacher also ran an ongoing course on the Yoga Sutras, and I quickly saw a correspondence between matters psychic, Yoga and science.

Pandit Usharbudh Arya, D Litt, wrote the text that I found to be most useful (*The Yoga Sutras of Patanjali*), and I will refer to it extensively throughout. The Yoga Sutras of Patanjali are a progression from the earlier Vedic tradition of the Hindu culture, and in particular from the Upanishad's.

The word Upanishad means to sit near the teacher to learn from him the secret doctrine. It also means Brahma-knowledge. The Upanishads set forth the prime Vedic doctrines like self-realisation, yoga and meditation, karma and reincarnation. The Upanishads became prevalent some centuries before the time of Krishna and Buddha, the latter being at least two centuries BC. Yoga separated from the Upanishads to become a discipline in its own right.

The union sought by a student of Yoga exists in a state of being called Samadhi. The series of steps along this path are

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marked by a number of levels of Samadhi. The final one is Kaivalya, in which the being is centred within its own essence. Patanjali tells us that what is needed to accomplish Samadhi is discipline and patient effort in order to overcome the modifications of the mind.

The first level of Samadhi is sometimes called Samadhi with seed; that is to say we meditate upon something to exclude anything else which might otherwise be a distraction. This creates the state of one-pointedness, or focus of the mind. In the initial stages it is a cognitive Samadhi. This is the state I was in during most of my healing situations. What one needs to understand is that we can slip into a kind of meditative state at any time. Worry and depression can develop a destructive form of one-pointedness of the mind to the extent that we may exclude any thoughts that are opposite to our current frame of mind. This is exactly what I mean when I say that how we think determines what we may think.

The higher level of Samadhi is an acognitive Samadhi, and in this state the mind is *in the presence of* Buddhi. It occurs to me that the knowing I receive from my reply to a question may well be acognitive, because I don't have any cognition that I know until the answer enters my mind. Over time this form of Samadhi became established for me as the norm, and this is why the examples I have given took place. (The acognitive Samadhi is described in Yoga Sutra 1.41, and we will discuss this further into the book.)

In our Yoga classes my teacher would smile at my inability to notice any difference in my mind during meditation, as I compared my non-experience to what other people said about their observations. He would say, "You did it, and the reason nothing changed for you might be that you are that way for most of the time." I had a consultation at his practice, and he sat opposite me, his body obscuring my view of his desk and the adjacent wall. He had me relax as best I could, and asked me to allow my awareness to move about the room. After a while he asked me to become aware of myself in the chair, and to tell him what had come into my mind. I was able to describe things behind him and items on the wall, all of which were out of my view. I left with something to think about.

As I write this I am aware of the distinction between saying a thought came to me, and saying I think this is so. To be honest, I don't believe I ever think in the latter sense. It is always the case that a thought comes to me in response to whatever is consciously in my mind, and I believe this is a direct result of the ability of information to self-organise. There are times when I wish I could create an idea out of nothing, like imaginers seem to do. Instead, I have to be patient and trust the process will operate, as it always does.

What is particularly interesting about Yoga is that most of what modern science has discovered was known thousands of years ago through the avenue of meditation. This is not said as a put down of the scientific method; it is offered as evidence that every culture will develop its own unique way of knowing the same truths. For instance, quantum physics talks about sub-atomic or massless particles combining to form a real particle with mass. Yoga says that when there is a conjunction of a number of points without mass, a point with mass can occur. Quantum physics tells us that in this massless or unmanifested state, the dimensions of distance, time and form exist as potentials rather than real dimensions. Physicist, the late David Bohm called these potentials information, and in the process pushed science along an entirely new path.

Yoga had a view of the whole reality, which extended from the unmanifested state into what we call real matter. These various stages of manifestation include sub-atomic particles and Bohm's information. Arya also explains Patanjali's notion of the mind as something distinct from the matter of the body when he uses the term mind-field. To find such a field, one which might meet Bohm's informational criteria as well as one that would have to exist throughout the whole, we need look no further than the background radiation that science tells us is everywhere, persisting from the "Big Bang." I read Bohm's *Wholeness and the Implicate Order* and found that he had placed a figure of 10^{-33}cm as the wavelength of the energy in a field at the interface between manifested and unmanifested particles. My thoughts were captured by what I felt were the implications in what he had written.

For me, Bohm's implicate order was analogous to Yoga's Akasha, and I felt his wavelength of 10^{-33}cm must surely be the same point on Arya's diagram of reality where the final evolutes

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become matter. To illustrate my point, I include his diagram, **Fig. 2.1.** (Ref. p34. Yoga Sutrās of Patanjali. P.U. Arya).

Arya's diagram contains Sanskrit words, and may seem to bear very little relationship to what you have read so far. Be assured there are some surprising connections to be made. What makes these connections seem difficult at first is that present day science is attempting to develop knowledge of reality based upon tangible evidence. The scientific problem is that for evidence to be valid it must be OBJECTIVE, and therefore it must be tangible. The most significant problem this has thrown up has been the need to extend its exploration into the intangible world of quantum physics.

Conversely, Arya's diagram presents a view of reality, commencing with the intangible and moves into our tangible world as the final point of manifestation. So we must start at the bottom of the diagram, in what is familiar. As we move up the diagram we are, in effect, looking at ideas as yet untested by physics. Now to some translations:

Purusha is the conscious principle, ever-pure, ever-wise, ever-free; the conscious being, the one in whom knowledge reaches its ultimate dimension. This is that with which union is sought. Purusha is formless and actionless, and is described as 'having no distinguishing mark'. What this last point means becomes evident later in the book.

Prakriti is both manifested and unmanifested. The first unmanifested prakriti is, of course, the origin of all phenomena. It is not in itself a change in anything prior. But its evolutes are the origins of further evolutes; modifications that may be further modified. I think this last point is saying that the very nature of evolution is continuous.

Mahat or buddhi is the most Sattvic, the finest and purest product of prakriti. It is the first disequilibrium in which no other shape or form emerges. It is simply a presence, the subtle energy that will produce objects. It is also the universal buddhi, the faculty of discrimination, which serves as a vehicle of Purusha's consciousness.

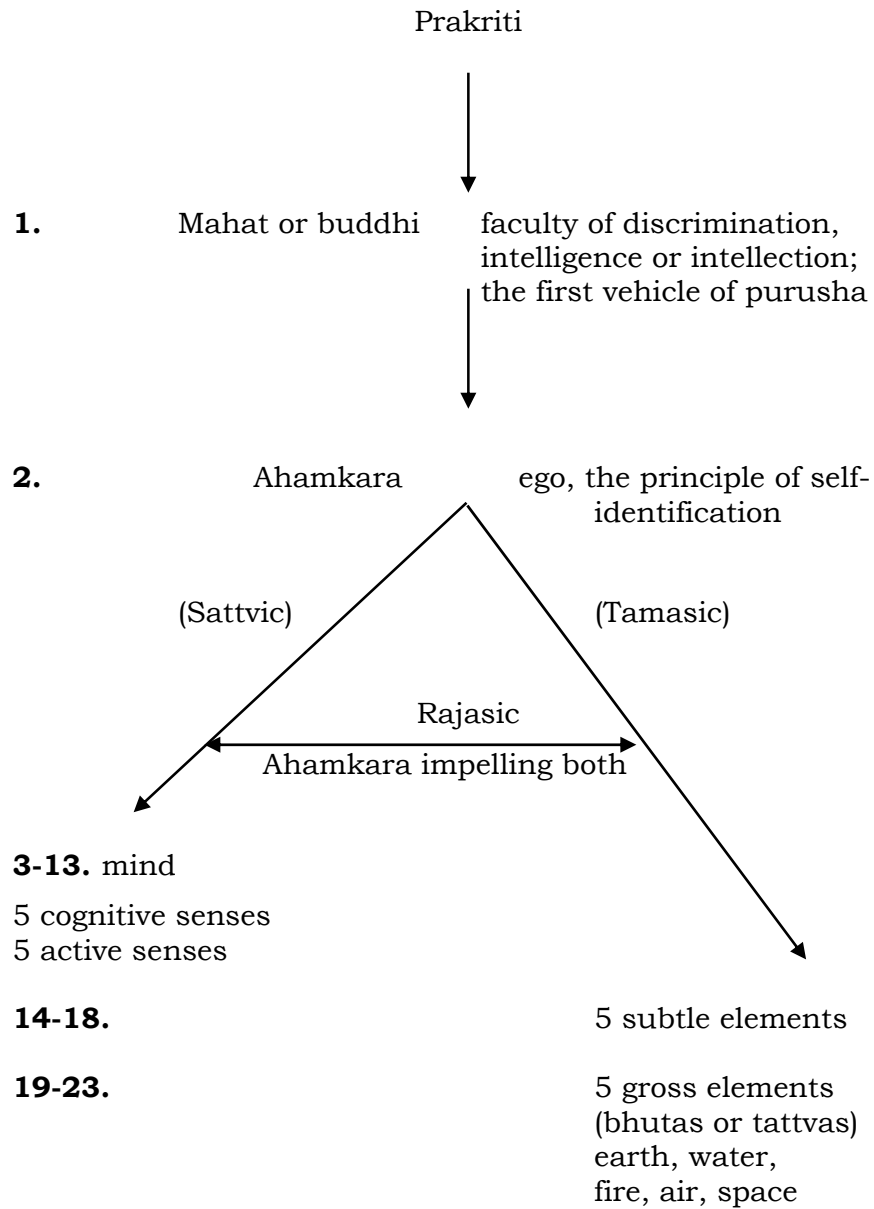


Fig 2.1

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1. A small spark of the universal Mahat is also the individual buddhi, the faculty of discrimination, intelligence and intellection in a sentient entity.

2-7. Ahamkara, ego, the I-maker. It is not to be confused with ego as pride. It is a state in which any self-identification begins; names and forms appear. It is here that intelligence itself is differentiated, “this but not that.” Here the process of creation begins to diversify into subjective and objective branches. The Sattvic Ahamkara produces the subjective branch, namely

2-8.

- Mind.
- Five cognitive senses (to cognise sound, touch, form, taste, smell)
- Five active senses (to speak, act, move, procreate and eliminate)

The Tamasic Ahamkara produces the objective branch, namely

- Five tan-matras, (subtle elements of or potentials for, audibility, tangibility, visibility, flavour and odour) which in turn ‘solidify’ and produce
- Five bhutas or tattvas (the physical states of matter: earth or solid, water or liquid, fire or light that is combustive and illuminative, air or gaseous, and space, which is not a vacuum but a state of matter.

The last bhuta, space, is of fundamental importance to our understanding. Yoga is quite emphatic in designating space as an evolute of matter. It is to be understood that this is not space in the physical sense generally given to the word. Akasha is the name given to this particular space, and what that means is information. This space holds the potential for experience and the memory of experience; and my interpretation of this particular duality is that it represents both cause and effect. In giving the title, Mahat to this space, Yoga is saying that it (Mahat) is the greatest of teachers. Therefore, our relationship to space as memory will be one of the primary goals for this book. Its role as teacher is what we call intuition, the teacher within.

Let us now move to Arya's diagram and consider his representation of this ancient view of reality. Yoga sutra 1.19 gives alternative explanatory titles as follows:

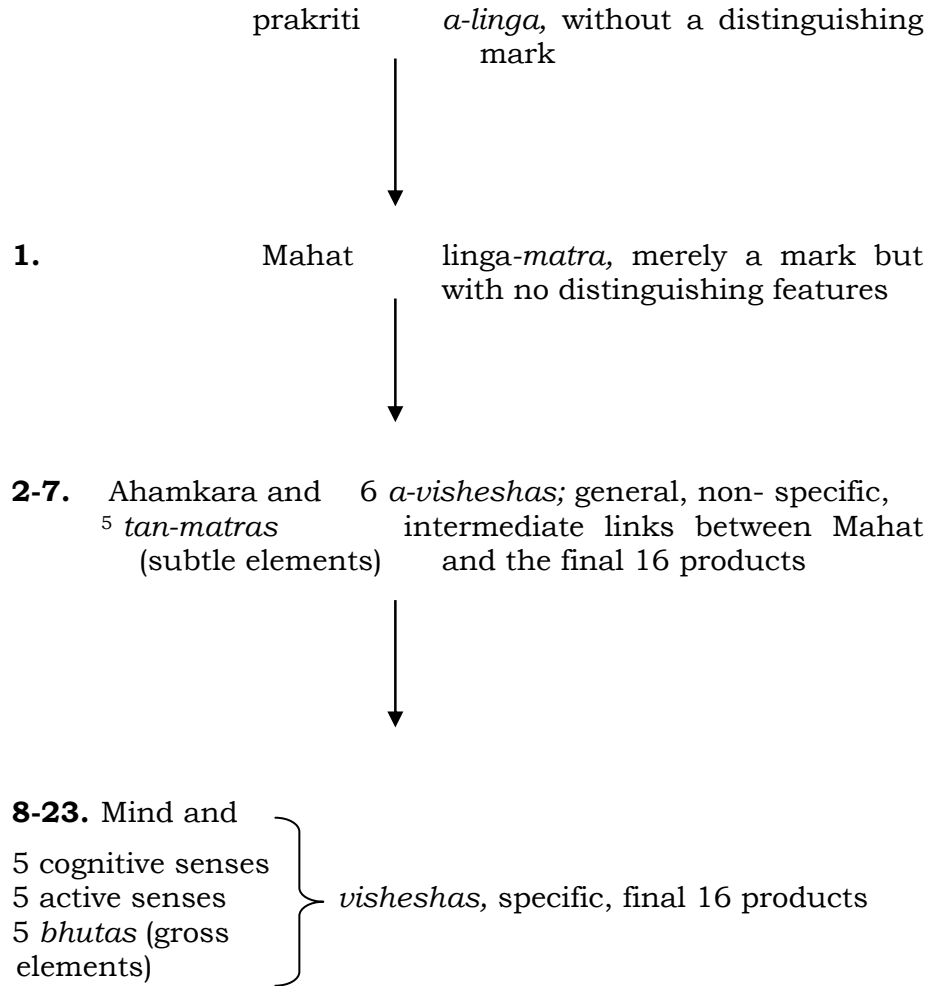


Fig. 2.2

There is no simple way to describe these diagrams; they encapsulate all mankind has ever known, all we will ever know and even what we may never know. This is done through the descriptions of the descent of the consciousness of our essence into matter. While I acknowledge the text is quite esoteric, the most

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important point that Arya's diagrams and Yoga have to make is that of a whole reality; one which encompasses both the tangible and the intangible. By that I mean all things, both physical and spiritual. It is this single observation which leads me to think Yoga has given us a hint of the much-sought-after Universal Theory of Everything. Earlier in this section the duality of the potential was suggested to represent both cause and effect. To rephrase this as another duality, that of Alpha and Omega, the notion of things spiritual can be seen to have a very definite home within Bohm's whole reality.

A simple explanation of the diagrams would be that:

prakriti, undifferentiated energy arising from purusha, unmodified; formless, pure consciousness (Purusha) seeks to know itself. It seeks because this is the desire of Purusha.

A spark of purusha is reflected upon prakriti, it has no distinguishing features. This is the first evidence of vibration within the undifferentiated energy of the virtual field. This spark can be likened to pure unmodified light reflecting upon a mirror. The subsequent reflection would be, to a very great extent, that of unmodified light; it would however carry with it an impression of the mirror. Without any points of reference, the impression or effect of the mirror would pass unnoticed.

1. A mark but with no distinguishing features emerges within the field. This is the beginning of intelligence, the discrimination of this and not that. It is the first vehicle of purusha. It is Mahat or buddhi, the light of consciousness that has the ability to discriminate the effect of the mirror upon the essence of the light. In effect we are saying that purusha is aware of reflecting upon the mirror that is prakriti, and of the effect of its reflection.

2-7. General non-specific, intermediate links between Mahat and the final evolutes means the relationship between the information in the virtual field and matter. With the fact of self-identification established in this state we can say consciousness as we know it exists here. This consciousness is self-aware.

8-23. Mind, the five cognitive senses, the five active senses and the five gross elements of matter represent the field of experience in which purusha can eventually know itself. At this point, self-awareness is established in matter, an illusion. The

goal for purusha is to extricate its awareness from matter to unite with itself, Purusha.

I believe these diagrams present a clear picture of a whole reality in which the sentient and solid matters are bound up in a common purpose. The links between Mahat and matter represent an informational relationship with the capacity to teach it, to experience it; and for life to combine all reality has to contribute for the whole purpose. Yoga says that the conventional notions about cause and effect represent these two aspects of reality as an interactive duality. However, they are not the beginning and the end of an event. Each is embedded in a prior influence, and that influence is their common essence. This common essence is the implicate order of Bohm, and is implicit within Prakriti, the whole reality.

For centuries science and things spiritual have been seen as two conflicting systems of thought; certainly the relationship between the two has been more competitive than co-operative. Rather than ask you to take a position one way or the other and have this stop us in our tracks, put that particular dichotomy aside for a moment as we examine the diagram piece by piece. There is no need to adopt either position because yoga is a science, not a religion. The word yoga means to yoke or to join, and given that religion derives from rejoin, perhaps it is possible to provide a bridge between these two opposing views.

To begin with what is more familiar to us, we can consider the final evolutes at the bottom of **Fig. 2.2**, the five gross elements of earth, water, fire, air, space. While the first four are relatively familiar, and I have mentioned their almost universal use in the Hypothesis. However, the notion of space as an element in a physical sense is counter intuitive, simply because we have always considered it in terms of physical space such as a room or a region.

Recent commentators have said that:

- Earth corresponds to gravity
- Water corresponds to electromagnetic force
- Fire corresponds to the strong nuclear force
- Air corresponds to the weak nuclear force
- Space corresponds to Bohm's implicate order

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I had drawn a mental connection between the first four forces with the traditional elements of earth, water, fire and air and the scientific forces, shown above, while reading Stephen Hawking's *A Brief History of Time*.¹⁰ Why such a connection had suggested itself to me was that in earlier days my search had led me into Oriental Medicine. There I found Chi, a force I have since found in Yoga (as prana) and later in physics (virtual energy). The Chinese employ five basic elements of earth, water, fire, wood and metal. The connection between earth and gravity was clear, as was electromagnetic force and water. In the Oriental medical elements I had stumbled on the final three, temporarily shelving the problem. Yoga has since made it very clear for me.

In terms of my earlier observation about the universal acceptance of four basic elements as distinct from Yoga's five, I would assert that Yoga's fifth element, space, is what the ancient cultures called the Gods. This was the force present when the basic elements were observably active in the environment. For example, the old adage that tells us that fire is a good servant but a bad master represents the potential within these elements to be a benign force or a destructive one. And when we look objectively at this potential it can be clearly seen as a parallel with what we call God. What religion has done is called the benign aspect of the potential God's providence, while the destructive aspect serves to indicate that we have incurred God's wrath for a myriad of reasons.

The five gross elements are representative of both the basic quantum forces which become matter, and the forms of physical matter they can be seen to represent in the physical universe and in its quantum/virtual counterpart. We could reverse the order of these elements and find that space, air, fire, water and earth are a pre-science version of the periodic table of elements. Relativity says that energy and matter are simply different manifestations of energy. Quantum physics defines the real world as that in which the wavelength of the energy field is greater than 10^{-33} cm. At wavelengths shorter than this magical figure, all values of time and distance disappear from the mathematics used to describe quantum events. There appears to be some common ground in both of these views of the manifested and unmanifested states of reality.

De Broglie showed that the difference was one of wavelength; all matter is energy but that is only part of the picture. Bohm said that all matter contains all information. This information is the implicate order or potential within the intangible/virtual state for all that can become real/physical. I conclude that all matter must therefore consist of both real and virtual components. The potential is that of the whole reality, so Bohm's notion of wholeness is that all within the whole has relatedness because all exists within the common order implicit within the whole. In chaos theory this relatedness is sometimes explained as the cause of the Butterfly effect.

The zone on the diagram between the five gross elements and the junction of Sattvic and Tamasic exists (according to Bohm) within an energy field with a wavelength of 10^{-33} cm. Yoga says that in addition to these gross elements, the subtle substances of time, dimension, mind and self exist within the manifested quantum energy field. Moving up the diagram, we find three components Yoga has called the Gunas. These are the three forces for being; Sattva, Tamas and Rajas. There is a constant pull between the sattvic and the tamasic gunas with rajasic impelling both. When sattva dominates, the action of rajas is harmonious; when tamas dominates there is discord and struggle. Here we are being given Bohm's point about separateness from a four thousand-year-old perspective.

At the top of the diagram is prakriti, this is the purest of the energy in the system, at a shorter wavelength than that of the final evolutes. Beyond the diagram is purusha, where there is no energy, no vibration, it just IS. Buddhists call this Nirvana. Vibration begins with the WORD, or perhaps the Big Bang. At this shortest wavelength the sattvic guna represents a reflection of Purusha's essence, an indivisible duality of knowing and being. Patanjali tells us the knowing seeks to be known, and is expressed in being.

The purpose (dharma) expressed throughout the whole is the desire for experience (being). The knowing (consciousness) is without form or nature; to know itself requires form and opportunity, and reality provides this field of experience to serve its own purpose. Given the desire to know and to be, Ahamkara is where we can begin to relate the diagram to matters psychological. The position of ego, I AM, faces the eternal dilemma: to know

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or to be. The sattvic mind is self-aware from the perspective of buddhi, and is co-operative, inclusive, subjective, reflective, cognitive and compassionate; it has the capacity to know. The tamasic guna provides the medium through which mind operates.

The outcome of the struggle between the two produces an action, which is the rajasic guna. To know the world requires an interaction with the world, and tamas seeks to do this objectively, exclusively and individually. To know also requires the active senses, which are a function of the mind, and sattva seeks to do this subjectively and co-operatively. The five subtle senses are the potential for these senses in the virtual field.

The mind may become modified in that it is what becomes self-aware. The source of the conflict is the notion that I am my mind or that I am my body. To believe mind *is* part of the body continues the confusion. Confusion is not exclusive to individual minds. On the contrary, it is consciousness itself that becomes confused when it identifies with the particular form it has taken as its vehicle for expression. We then, as such a vehicle, have very good reason to be confused. The confusion effectively modifies the mind's ability to perceive clearly.

I find it interesting that in describing the mind-field, Arya says it can be subject to a modification, fluctuation, wave, operation or activity. All are the result of the mind being in the presence of Rajas and Tamas, and the physical body and its relationship mostly represent these to the rest of reality. Resolution comes when the seeker moves the mind beyond its body fixation to the level of Mahat where it is free to use the faculty of discrimination. The discrimination, this, and not that, allows me to know I am not my body. I believe what Yoga calls discrimination at this particular point is in fact a differentiation of the field of potential into individual forms or functions.

In *A Free Fall into Unstructured Thinking*¹⁵ I spoke of the junction of Sattvic and Tamasic gunas as a point of objective subjectivity. Now, as I reflect upon this I believe objective subjectivity exists somewhere between that junction and the level of Mahat. The reason I saw this as a possibility was due entirely to my inability to imagine. Such a possibility is only available at or near to the level of Mahat, something I believed to be beyond my men-

tal reach. An effect of not imagining is to release the mind from its natural identification with the body. To some extent, I have been accidentally released for some of the time. If I could have my awareness established at the level of Mahat, with imagination, I would be speaking as a Buddha, and clearly I'm not that.

Yoga seeks to overcome these modifications of the mind, and we will consider them later in the book. The subject of Yoga itself is so vast it would be folly for me to attempt to do it the justice it deserves. It is sufficient for our purposes to draw attention to its congruence with the modern sciences of quantum physics and perhaps psychology whenever the opportunity presents itself. The point here is that the whole diagram represents the structure of information on the other side of zero.

What may be a mystery for some is the matter of meditation, especially in view of my assertion that all of the science underlying this Yoga diagram was acquired through the Samadhi state and I had better address that now. Meditation consists of three simple steps:

1. Concentration
2. Contemplation
3. Samadhi

These simple steps hold a lot of fear and trepidation for some, and this is because we expect meditation to be so very complicated. Where the difficulty lays is in learning to discipline our mind. When we set out to concentrate we are easily distracted, and yet when one considers the pressure of someone else's gaze on the back of our head it is clear that concentration happens all of the time for most of us in some form or another.

The person staring at us enters an elementary Samapatti, and to an extent the two minds coalesce. Relating this to the three simple steps we can see that concentration diminishes the rajas component on the Yoga diagram. Contemplation allows the awareness to move up to evolute 2. Spending time in this state allows the realisation that the mind is still, and eventually practice will achieve the Samadhi we seek.

For now, we can move on to Chapter 3, to begin the first of many observations from Patanjali.

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Chapter Three

Wholeness and Entanglement

In my introduction I noted that physicist, David Bohm, put forward the concept of a whole reality, one in which there is an order that is implicit within the whole. In his last book, written with his colleague Basil Hiley, this concept was taken considerably further. Their book, *The Undivided Universe*⁵, applied the concept of order to the quantum level of the whole reality, and to the notion that space itself can influence quantum events.

It would be presumptuous of me to attempt to follow in their footsteps; instead, what I write is my understanding of wholeness and the implicate order from a lay person's point of view. I have had a couple of email conversations with Professor Hiley over the past three years and his comments on some of my ideas have been more supportive than I might have expected.

In my life I have had occasion to help a number of terminally ill people. When asked what I could do specifically I always tried to be honest, and inevitably my answer therefore was that I didn't know what I could do. In the course of the conversation I would find myself drifting into being completely focused on the person, and somehow, that seemed to be enough for them. Later he or she would say that they felt a lot better now and I would ask myself, "How can it be enough? I wasn't *doing* anything."

At times I have been called a healer and I wince at this label because that's not the case at all. At best I would say that I am an intense listener who, for some reason or another, has been able to discern answers to someone's unasked questions. Mind

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you, that isn't always the case; there were times when the one needing help was an animal.

One day a lady asked me if I could help her mentally disturbed cat. She had been referred to me by my Yoga teacher, and so I went to her house to find what I might do for this dirty, scruffy, grey, male tabby cat. She explained that it had been a stray when it found her a year earlier. It was anti-social; it would snarl instead of meowing and it didn't wash itself. She mentioned the cat was extremely nervous, and that it was almost impossible to hold him for more than one or two minutes. As she placed this smelly cat on my lap I said that I had no idea what I could do for it.

I put one hand on the cat's head and settled into my quiet state. The cat went to sleep immediately. I found myself having chaotic mental images of a number of unrelated things happening at once; a bit like watching five different computer games simultaneously, or having the flashing lights of a number of migraines. My immediate surprise was not so much the chaos as the fact of having images at all; I am unable to visualise anything, and I never have mental images.

The chaos lasted for about twenty minutes and then it gave way to a tranquil garden scene that was as surprising as the visual chaos had been. All of the plants seemed to be larger than I would have expected them to be, and were obviously being viewed from a cat's eye level. More surprising still were the colours. There was no green; everything was in shades of red, yellow and brown, so perhaps I was seeing from within the cat's visual spectrum.

After about twenty minutes of the garden scene I felt that the cat would wake up now. It woke up and immediately began to wash itself. The owner was impressed by the cat's calmness and by the fact that it had finally washed itself. I was more impressed by what I had seen and felt. For instance, the garden felt like a familiar and safe place to be in, so I assume that I had shared the cat's dream of its own home territory. I had a look at the garden of this house and it was nothing like the cat's garden. For a long time I pondered on this experience, seeking an understanding of the underlying process. I found that exact process described in Yoga Sutra 1.41.

“When one’s modifications (of the mind) have subsided, his (mind’s) stability on and coalescence with the apprehender, the process and instrumentation of apprehension and the object of apprehension, like pure crystal (which takes on the reflection and colour of proximate objects) is called Samapatti.”

Thus, when I was focussed on the cat a number of things happened.

- The cat became calm (my calmness) and went to sleep.
- In its dream the chaos in its mind, as a result of its being abused, resulted in a dream which my mind interpreted as visually chaotic. This is significant because I have no visual imagery myself.
- The dream progressed into a more peaceful scene, one reflecting memories of a more peaceful time in its life. This could be due to the cat being subjected to my inner quiet.
- The dream of the garden was perceived from cat eye level, and within the cat’s visual spectrum.
- I was aware of the familiarity of the garden, and at the same time I was aware I had never seen this garden myself. The conclusion I have drawn is that the garden was familiar to the cat, providing this union of two viewpoints.
- I became aware that the cat was about to wake before it really did wake up. On waking, the cat began to wash itself, something it had not done for some time. I assume it had reverted to an earlier behavioural state.

If we put this event on the earlier diagram, taking into account what we have learned from the Yoga diagram, we can challenge some general beliefs about mind and memory.

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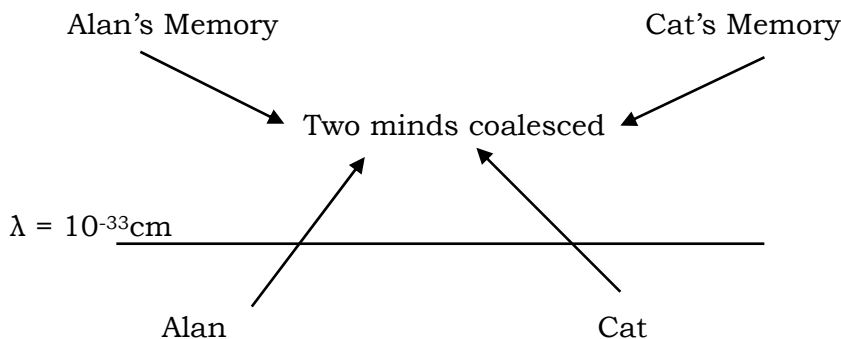


Fig. 3.1

Note that in this diagram I have left out any arrows linking the minds. This is because the minds have coalesced in the virtual state. This raises another question, namely that of how can the information of two entities be coalesced and yet become discernible into what information belongs to me and what belongs to the cat”?

The answer lies on the Yoga diagram at evolute 1. Mahat is the observation of this, and not that, and that is exactly the kind of discrimination which is made by the apprehender in Samapatti. In this case the apprehender/observer was me. So my reason for offering this example of my experience with the cat is to demonstrate this quantum effect of superposition in terms of sentience.

The Yoga diagram gives us a model of reality in which we may understand the HOW of the experience. From this understanding of how, we can separate individuality from sentience, and we can proceed towards the notion that sentience or consciousness resides in the virtual state.

In the example of healing the cat I was aware of two separate viewpoints; I was aware of the scene in the garden being familiar, and at the same time I was aware that I had never seen that garden before. So, how can this be? I had one hand on the cat's head, but we cannot say I made a connection to its brain. Did my awareness pass through my hand on its head? Hardly, if that was the case any transmission of this sort would have been detected by science long before now, given the amount of research into brains with MRI and, dare I say it? CAT scans.

A number of questions kept me busy for some time afterwards:

- How can there be two valid viewpoints, each of which is defined as I?
- What viewpoint has just questioned the other two?
- How can I, Alan, be aware of the familiarity I know when I see this garden for the first time?
- How can I see in the cat's colour spectrum?
- How can I see from the cat's eye level?

I wrote to Professor Basil Hiley at Birbeck College and asked if there might be an explanation for this anomaly from the perspective of physics. He said that the phenomenon of quantum entanglement was the best analogy physics could offer.

The difficulty with that opinion is that quantum physics is concerned with particles both real and virtual, which may become matter. In general, quantum physics does not make any claims about conscious awareness at all, and that might have been the end of that line of questioning.

However, I knew that quantum physics did have a lot to say about spacetime as the predominant dimension of our reality, and that at a particular wavelength in the energy of spacetime their mathematics enters what is called the non-local state. In that state the parameters of time and space disappear from their equations; in effect a particle can be in a number of different states at the same time. Indeed, a particle can take two different trajectories at the same time and can also be in two places at the same time. This has given rise to the term, non-locality.

What I am proposing is that if our reality is based on the fusion of the dimensions of time and space into spacetime, then it is reasonable to say that in our physical reality time and space are entangled. What the physicists observe in their mathematics relating to the non-local state is that they can be certain of either time elements or space elements in their equations; they can not be certain of both and this leads me to some observations of my own.

My first observation is not particularly novel; I would simply say that the entanglement of the dimensions of time and space is probably part of the process we call the Big Bang, or whatever

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brought this reality into existence. So far as non-locality is concerned, I would say that in this state the universality of place must also apply to time. Therefore, non-locality loosely translates as being everywhere as well as nowhere; it must also translate as no-time and all time because on that particular side of zero these dimensions are not entangled.

If these observations are valid, then their application in the real world is most obvious in conscious awareness in the form of mind and memory. In the scientific community these faculties are almost universally regarded as functions of the brain, and to some extent this notion rules out the concept of non-local memory and mind because our conscious awareness generally contains definite elements of both time and space.

However, in the experience of healing the cat the notion of entanglement contradicts the general opinion and introduces further complications. For example, the information available to both of these entangled minds was viewed as personal insofar as it was all related to only one observer, "I". Moreover, while the minds were entangled the physical matter was quite separate; while we occupied the same time we did not occupy the same space. I realise the example of healing the cat is one sided in that I have no feedback from the cat, other than its change in behaviour, and so I turn to an example with a person.

In this case I was asked to help a woman with a fractured tibia. The fracture site had been supported by a steel pin, and since the bone had not shown any sign of knitting the pin had been removed; at the time of our healing session she was waiting for a bone graft.

I asked her to close her eyes as I had closed mine, and fixed my mind on her leg; in a little while I became aware of a sense of physical distress within the bone. I thought I would like to remove this distress and replace it with something more comfortable. I thought the distress was a very dark colour and that I would like to replace it with something bright and vibrant like gold. At that point I thought I should open my eyes.

As I opened them I was surprised to see her obviously very excited, and she told me that I had removed this black stuff from the bone marrow and replaced it with a bright gold energy. Here was some human feedback, and it demonstrates the concept of

mental entanglement. Furthermore, it demonstrates that whilst the two minds can be entangled the viewpoints remain separate and personal. For example, I do not mentally see anything and had only thought what about was before me. Clearly, she was a mentally visual person, and had mentally translated my thought into a visual event.

What all of this suggests to me is that a person's conscious awareness can be momentarily entangled with another's. For this to be so there must be some avenue of communication other than the five senses. If one had to describe these examples in scientific terms I would say that action-at-a-distance is about the closest analogy we could use here. The obvious difficulty with that term is that it relates to the non-local state. Einstein described action-at-a-distance as spooky, and was uncomfortable with the whole idea. I am sure that scientists in general will dismiss what I have written here as fantasy, while others like Professor Hiley and Dr Reid are more supportive.

I have found that some in the field of psychology classify these types of events as anomalies, and study them as such without any research into any underlying processes. Anomalistic Psychology uses the term, place-memory, to account for someone having the ability to intuit an earlier event in a particular place. Place-memory suggests that the information relating to an experience in a particular place is embedded in the fabric of the space related to that particular place, and that the intuitive person can access that information.

In fact, such an intuitive person can access information about any place, or indeed, about any person. I believe the whole community would be better served if the research addressed how the faculty of intuition operates rather than how information might become embedded in a particular place. Considering such an intuitive experience, it must be the case that the experience involves time, space, and conscious awareness within the same entanglement.

Quantum mechanics has another interesting facet called action-at-a-distance. It is a function of what physicists call non-locality. In the quantum world everything is in a state of constant vibration. Bohm refers to this as the holomovement, or movement throughout the whole. The wavelength of this oscilla-

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tion is extremely short, and at wavelengths of less than 10^{-33}cm we find what is called the virtual or imaginary state.

Bohm's whole reality includes this virtual state as well as what we call the real and tangible reality of everyday life as we perceive it to be. We can take the wavelength of 10^{-33}cm to be the common boundary or interface between these two aspects of the whole. In this virtual state nothing is real in a physical sense; everything exists as a potential and Bohm called this potential information.

Of course something must be there to be oscillating, and that something is energy, and this too is in potential. I suggest that this energy potential is what is sometimes referred to as the background sea of energy, and particles from this sea of energy appear momentarily in the real world and disappear back from whence they came. So we have an interface which can be thought of as being analogous to the surface of boiling water, where particles gain energy from the heat source and break free of the surface of the water. Once in the air above the water some lose their heat and fall back into the boiling water beneath, while others disappear from view as water vapour.

At the boundary that exists between the virtual and the real states we find quantum particles, and they have this strange quality of non-locality. Put simply, they have no definite position in space because their space too, is in potential. So what we find is that a particle can be in more than one place at the same time; a situation that physicists call superposition.

Even more important is that for any entangled pair of particles an effect, or hidden variable, evident on one particle in one place (such as in an experiment) can be evident on another particle in a different place in the same instant. This is called EPR, the Einstein Podolsky Rosen Paradox, or action-at-a-distance.

So we can say that in this virtual state we have a paradox. There is no time and all of time, no space and all of space. I think we can honestly use Bohm's own words here to say that the virtual state is a state of wholeness. Physicists use so-called imaginary numbers in the mathematics they employ to describe events in this virtual or imaginary state, and the symbol h denotes the interface/wavelength. I used ZERO in my earlier diagrams to indicate this interface, and from here I will stay with

the figure of 10^{-33}cm to remind us that the interface relates to a particular wavelength in the virtual energy. This idea may change later in the book as I question some of the prevailing wisdom.

To make a link with the previous chapter I will place some of this discussion into the context of our earlier diagrams.

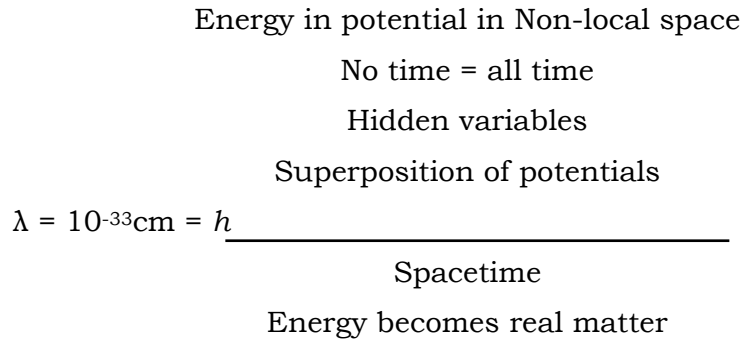


Fig. 3.2

You may wonder what all of this has to do with consciousness. Well, we will get to that; I haven't forgotten the plot, there is still a considerable amount of work to do so please bear with me. I offer this diagram to draw together some of the statements made thus far. Essentially I am trying to make clear the notion of a continuum of energy, and to show that the main difference between real matter and energy in potential is the wavelength of the vibration in the energy field. In other words, there is a wide spectrum of frequencies within the whole energy field.

Bevan Reid, mentioned earlier, spent some of his research career studying cancer at the University of Sydney. Over a period of years he had established a fairly consistent measure of just how long cells would survive in his cultures. He had calibrated the effects of temperature variations on this survival rate, of changes in atmospheric pressure, the quality of the growing medium and other laboratory variables. Then one day he decided to find if action-at-a distance could have any effect.

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He placed a 10kg mass of lead near the cell culture on his bench. Over a period of weeks he found that the survival rate of the cells fell dramatically. Fresh cell cultures were brought in and these too suffered the same increased rate of mortality. The lead was removed and fresh cell cultures were brought into the lab and the high mortality rate persisted for about another four weeks.

This experiment was repeated many times with the same increase in mortality persisting after the removal of the lead from the space. His conclusion was that the lead, which had not actually made contact with the cell cultures, had some effect on the cells in the manner of an action-at-a-distance. In view of the fact that the effect persisted after the lead had been removed, he concluded that the laboratory space was able to retain the effect as a memory. His experiment and the results were published in the *Journal of Biological Physics* in 1986.

In terms of Bohm and Hiley's *Undivided Universe* I believe we can safely call the memory effect within Bevan Reid's laboratory a hidden variable. From these results I also believe we can say that action-at-a-distance can also be action-at-another-time. While this idea may seem quite a new way of thinking it need not be so very difficult to grasp. Science says that we operate in a four-dimensional universe, and they call this dimension space-time. Therefore it can be said that in this universe space and time are inseparable: NOW includes locality as well as time.

In the virtual or imaginary state which science calls non-locality we can assume that time is as indefinite as locality. The fact that non-local particles can be in a state of superposition is universally accepted. This leads me to suggest that the notion that an event can similarly be evident in more than one time should be equally acceptable. In fact, what we call memory is exactly that. What is different is that in the case of memory we are referring to mind or consciousness, and we generally regard these as something quite apart from notions about particles. I am suggesting that Sheldrake's morphogenic potential is, in fact, another example of memory in space, and that it applies to sentience as well as form. We need to realise that this space, as with Bevan Reid's laboratory space, is really imaginary or virtual space.

However, the experiments of Bevan Reid and his assertion that space has the property of memory, leads to the conclusion that the information retained in space has informed the cell cultures in a way that is measurable in a very real sense. My own conclusion is that what we have in these experiments is a clear demonstration of the spooky action-at-a-distance which Einstein found so unsettling. More importantly for our discussion here is the fact that information in space had *informed* the cells in the Petri dish. I suggest that this space-borne information can inform cells in a neural network, and I will develop this theme throughout the book.

While we are considering Bevan Reid's experiment it is fair to say that the underlying process here is exactly the same as the homoeopathy experiments of Professor Ennis mentioned in the Introduction. The scale is obviously much larger; ten kilograms of lead is a bit bigger than a single molecule of histamine. Nevertheless, in both cases the effect remained in a specific space and that is the whole point. I believe it is fair to say that the effect and the space in which it happened were superposed. In our language we say that an effect 'took place' and perhaps our very words indicate the location and the event are inseparable.

Aside from Bevan Reid's experiments we have the example of my experience with the cat. This I believe is another example of action-at-a-distance, which Hiley suggested was an example of quantum entanglement. And I hasten to add that what had been entangled was sentience as it applies to a cat and a human.

So let us examine what entanglement is about within the context of this discussion. My search led me to a book of that name, and I quote some of the explanations I found there.

Definition: From *Entanglement*¹ by Physicist, Amir D. Aczel.

The word quantum refers to the world of the very small, such as particles, photons and electrons. Here matter is not continuous but consists of increments energy states and angular momentum.

- Entanglement is an application of the superposition principle to a composite system consisting of two (or more) sub systems. A sub system here is a single particle.

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- Superposition is the phenomenon wherein a single quantum is in two or more states at the same time. It also applies to the quantum being in two or more locations at the same time.
- The Einstein Podolsky Rosen Paradox, known as EPR, was raised by Einstein in 1935, and relates to the fact that when two or more particles become entangled, a measurement applied to one is immediately evident on the other, giving rise to the concept of action-at-a-distance in which the effect of the measurement seemed to have travelled as a signal between the two particles, often faster than the speed of light.
- The fact of the matter is that there is no signal transmission; rather, the two particles behave as if they are in the same place even when they are apart. This has given rise to the quantum phenomenon of non-locality.
- When two particles are entangled there is no way to characterise either one by itself without referring to the other as well. AB and CD are product states in which we can refer to A or B and C or D, but when in superposition $AB + CD$ we cannot separate any one. It is this superposition of two product states that produces entanglement.
- The electron can be found to be in a state that is a superposition of other states. This is the principle behind the phenomenon of interference in light. The weird thing about quantum mechanics is that a single particle can interfere with itself as if it were more than one particle, indicating that it can be in more than one place at the same time.
- Bell's Theorem. For two or more entangled particles, a measurement on one is immediately evident on the other, irrespective of the distance separating them.
- Quantum particles are in a superposition of several states at the same time. Once a measurement is taken the particle is forced into one of these states: the particle is projected into one of the states of superposition. Just which particular state is unknowable beforehand, and the scientists say that the particle has chosen that particular state. When we measure, we force the quantum system to choose an actual value, thus leaping out of the uncertain into the specific.

- If two observers in an experiment observe one of an entangled pair of particles (in two separate locations), each does not know what state their particular particle will choose. When the results are compared the state of one will always be the opposite of that of its twin.”

These quotations from Amir Aczel’s book raise a number of questions for me. For example, can experience also be in superposition? And if so, does this too fall into the domain of entanglement? Hiley suggests that it can in his comment on my experience with the cat.

An experience may be composed of a number of states: physical, emotional, and mental, as well as time and locality. Within the notion of a unified field of awareness and of a unified mind-field, an experience in any one of these states can be evident in the other states. For example, an experience can be emotional, mental and physical at the same time.

From the Yoga Sutras we find that an observer whose mind is focused on another can know the content of the mind of that other. This is called Samapatti, as described in Yoga Sutra 1.41. More of that later, but for now it is sufficient that in such a case we must say that the sutra is describing a situation in which two minds are entangled, as my own mind was with the mind of the cat.

So far as the matter of reflection goes, Samapatti relates directly to the Creation in that we can consider the entity, purusha, to be exactly what Yoga says it is; the reflection of Purusha. In my Hypothesis I mentioned Chinese Whispers in relation to the spreading of Vedic information via the trade routes. The words used to describe this reflection of Purusha on Prakriti can be taken literally as a reflection in a mirror. However, if what issues from the translation is the notion that the Creation is made in God’s image then an entirely different idea has emerged. Clearly this idea is present throughout the Judeo-Christian tradition, and I believe it has missed the point. Worse still, it has fostered the idea that man is both separate and superior to the rest of the biomass. It has also given root to the notion of being chosen by God. This is certainly not a Yogic viewpoint, for in Yoga the presence of choice indicates the state of confusion!

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Before we leave the question of whether experience can be in superposition let me give you another example of a shared experience. In this instance I was having dinner with a group of friends and the discussion turned to my experience with the cat. I had suggested an experiment to illustrate this point of shared experience, and it was that after going to our homes to sleep we would intend to meet in our dreams in a spot to be chosen by one of the group. She did not say where the place was; we simply agreed we would all meet with Pauline at midnight. A week later we met again to compare notes, and I was a bit apprehensive because I had got home late. In my dream I had arrived at a park and I knew I had missed the other two. To their surprise, each had dreamed they met in the park and their description of the park tallied with the park in my dream. Furthermore, each had found that I did not turn up! I believe this demonstrates that not only can an experience be superposed, but the intention of each participant must have had some input to produce this result.

Chapter Four

Co-emergent entities

In Chapter 3 we looked briefly at the virtual state, non-locality, action-at-a-distance and memory related to space. These elements form a common thread throughout this book. In quantum mechanics there is a theorem about co-emergent particles. It is called Bell's Theorem, and it essentially says that, in relation to any two co-emergent particles, any force or measurement applied to one will be immediately evident on the other.

Obviously, this is action-at-a-distance and it relates to particles in the non-local environment of the virtual state. If we think about this effect we become aware that it is a little unusual to say the least. This is because our general sense of cause and effect seems to have flown out of the window. How can an effect upon one particle possibly be evident on its co-emergent partner at the same time? Could this have something to do with their relatedness? If this is the case then all that these two theoretical particles have in common is their starting point within the observation. What is less obvious about their common starting point is that in that each particle has the same influence upon it from the same starting point space. Another way of saying this would be to say that both particles share the same hidden variables or operate within the same causal set.

I should point out that these non-local effects are observable in quantum experiments and, to some extent there is an overlap between the real and virtual states. This simply means that the

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boundary I mentioned earlier is not a sharp delineation between the two. Rather, it is a zone somewhere along that scale of wavelength related to the oscillations within Bohm's holomovement. A sharp or a fuzzy boundary doesn't really matter, except to have theoreticians crossing it so often in their calculations that they may well forget there is any boundary at all.

Returning to Bell's Theorem, let us suppose that one of these particles becomes real (not virtual) while its partner returns to the virtual state. Any real force or observation applied to the real particle would be evident on the virtual particle. Thus this force or observation evident on the virtual particle can be regarded as a potential! More importantly, because it exists outside of time and space, the virtual force or observation will be available everywhere forever!

What we see from Bevan Reid's experiment is that the insult (his word) offered by the lead to the original cells was retained in the laboratory space, and was evident upon subsequent cells when the lead had been removed from the laboratory. To some extent we can take this as a validation of Bell's Theorem, and we can understand why Bevan Reid used the term, memory-in-space. This retained space-effect was unavoidable for any other fresh cell group introduced into the space.

Bohm and Hiley say that in a quantum event such as this, context is a significant factor in extracting a hidden variable from the whole to become evident in this subsequent event. What makes *available* become *accessible* is context! Bevan Reid also noted this; he said that the arrangement of all of the physical components of the experiment had to be exactly the same in every instance of the experiment being repeated. So we can say that context is a necessary part of the process of memory in the laboratory space.

I believe we can draw a parallel between this experiment and my experience with the cat. When the cat was in my lap, with my mind in its quiet state, the cat eventually entered a similarly quiet state. It is reasonable to expect that it could have remembered and re-experienced being in familiar places related to the familiar state of comfort. In other words, being on my lap evoked a pleasant dream or a memory of an earlier context completely unrelated to its usual disturbed state. Waking from this pleasant

dream or memory it responded by washing itself. In respect of co-emergent particles I only want to say that they provide a simple model for a possible process of memory, as illustrated by the figures which follow.

Any two particles which have been involved in a common event are said to be entangled. The most common form of event available to the experimenter is that of co-emergence. For example, if matter is heated and a number of electrons emerge at the same time they are said to be entangled.



The measurement at particle A is evident at particle B, irrespective of their distance apart.

Fig.4.1

This figure represents a general interpretation of Bell's Theorem relating to two co-emergent particles. Their co-emergence is the common event that has led to their entanglement. Of course this is a simple representation of entanglement, although it is sufficient for our purposes. In practice, what is measured is the property called spin, and if for example the measurement on particle A reveals a spin of 'up', then it follows that the spin on particle B will be 'down'.

The next figure, **Fig.4.2**, represents my notional model for memory, based on Bell's Theorem for two co-emergent particles, in which one becomes real while the other returns to the virtual state. It is a simple model intended to demonstrate how information relating to an event in the real state can be retained in the virtual state. This is what I believe to be a simplified version of a whole universal memory existing in the virtual state. On a more wholistic scale, instead of the two entangled particles we can take as our example the potential for the Big Bang, or whatever happened at that point of creation.

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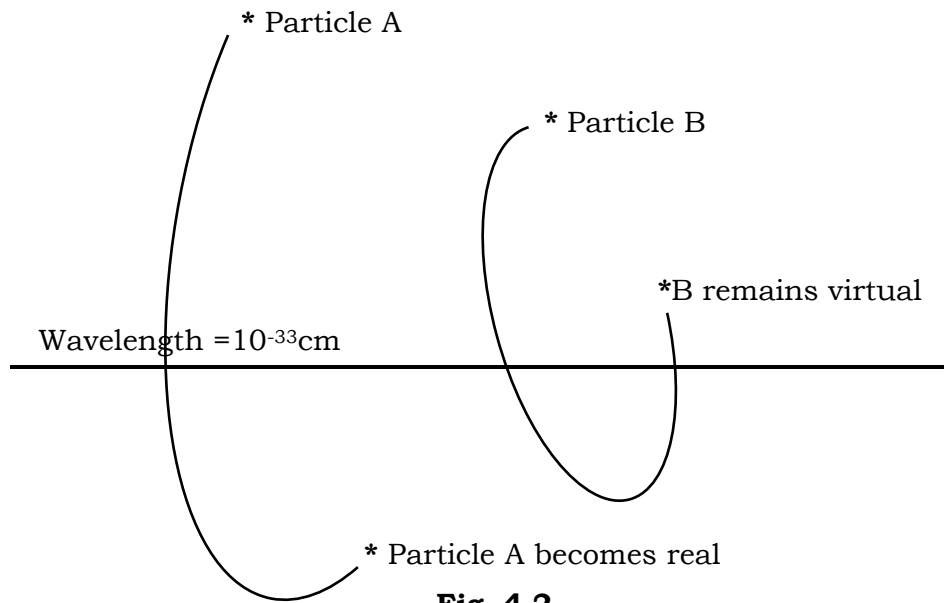


Fig. 4.2

Prior to this event there was no expression of the whole potential, and at the point of this event the initial act would have to involve the virtual state. Therefore I suggest that the process which resulted in the emergence of the first particles to become hydrogen was, and still is, a virtual process. Thus everything that we refer to under the heading of the whole universe emerged in that one event, and must therefore be co-emergent with the whole potential. This everything would include Yoga's forces of earth, air, fire, water and space; the same would be true for their scientific names. Even the matter emerging afterwards in real time is still within the context of the emergence of that first particle because it all emerges from a state of no-time/all-time.

So while my notional model is simple it nevertheless applies on the scale of the whole reality. To that extent I have said that Bohm's Implicate Order is another name for this whole memory. I put that idea to Basil Hiley and he said he was comfortable with it. He added that he was more interested in how that whole memory functioned within living tissue. I believe we can address that particular issue in later chapters.

Now we can take the obvious step and say that this process is not simply about recording an experience into this non-local memory; it can also be seen to provide the way for non-local potentials to have an effect on their real counterparts. Bohm used the term, enfoldment, to describe potential information entering the real world. Similarly, he said that information from the real world infolds into the virtual potential, thus we have a two-way flow of information.

Take the example of identical twins. Like the two hypothetical particles in Bell's Theorem, the identical twins have a common starting point; they each derive from a single fertilised egg which co-emerges into two separate eggs. Their DNA is exactly the same, as we all know these days. But if we look at their experience, not as eggs but as entities co-emerging from a common set, there is the opportunity to apply the same model of memory to their development. Prior to division their common egg would have just one whole memory. When the cell divides, this memory can become available to each because it is common to both.

The similarity in the life experience of identical twins has been well documented. In broad terms we find that identical twins are almost of one mind, even if they have been raised in different countries. I know this may be a little bit of a mental stretch, but the cells in Bevan Reid's experiment were all related in exactly the same way as the twin eggs are related. The mouse cells, cultured from a common source and living in an identical context, all responded to the hidden variable of an earlier experience, and isn't that memory?

I am suggesting that it is possible that the evidence from the field of quantum mechanics has some relevance for living systems. The obvious difficulty for many is the fact that within this model of memory I might be understood to be saying that memory is not a biological function of the brain. I cannot say categorically that memory is not a biological function of the brain, or of whole body for that matter. What I am saying is that the information that we call our memory can reside in the non-local state, and that I do not know how it is that context extracts specific hidden variables from what is essentially a whole, and therefore common, memory. Even so, I think I have a pretty good idea of how this works. In the Yoga Sutras of Patanjali, by Pandit

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Usharbuddh Arya, there is a discussion on memory. It is covered in Yoga Sutra 1.11, and it goes like this.

“A cognition is associated with and coloured by the object of an apprehension and resembles and manifests the features of both the object apprehended and the process and instrument of apprehension. Such cognition then produces an imprint (on the mind) that is similar to them both.

That imprint then manifests its identity with its own manifestative cause; it generates a memory. This memory is identical in form to the same manifested identity and manifestative cause. It consists of both the object apprehended and the process and instrument of apprehension.”

I would say that the manifested identity is the original event or object of memory apprehended by Buddhi, while the manifestative cause is the information surrounding the object or event. This information can be the context and other potentials related to that object or event.

Arya explains that the process and instrument of memory are the mind and the senses as the process and fact of experience.

“When the object of apprehension is primary we call that memory. When the process and instrument of apprehension are primary we call that intelligence.” This passage tells us a number of things about the structure of memory. The most significant are the fact that what we call memory, the object of apprehension, resides in Tamas of the Yoga diagram. The instrument of apprehension, resides in the Sattvic component on the diagram. The process of apprehension is the flow of information between Sattva (mind) and Tamas (object). This flow is Rajas, and if we relate this to the flow of information we call thought it becomes a bit more obvious as we recall that Arya’s diagram shows Rajas impelling both Sattva and Tamas.

The first time I read this section I found that passage of particular interest because my memory has altered over the years. I can remember things just as well as most, the difference being that I only remember the fact that this or that happened. I cannot relive an experience, nor does any memory generate physical sensations, or emotions, in my body which can be directly related to the original experience. Furthermore, I have no response

of the emotion we call grief. Psychologists would have a field day with me, I'm sure, but there is another way to look at this and we will come to that later in the book.

The reason for including this bit from Yoga is to make the distinction between the physical/emotional content of a memory and the intelligence and informational content relating to the event being remembered. Since memory can readily evoke emotional responses in most people, it is understandable that the assumption that memory is a biological process is taken as fact.

The example of my experience with the cat shows information flowing in two directions. First there was the cat's experience of my stillness that provided the context for the familiar response of washing itself. The second flow of information was in my experience of the cat's dream or memory of a familiar place, along with the awareness that this place was familiar, safe and secure. There was also the awareness that I did not personally recognise this garden, so the sense of familiarity must have come from the cat.

For this flow of information to occur at all challenges the assumption of memory as a purely biological process. Furthermore, it spills over from being a consideration of information as memory into the realm of conscious awareness. I would suggest that it is not all that different from the example of identical twins being of one mind.

I said in the Introduction that I make no claim for originality here, and that these entanglements have been part and parcel of human experience forever. We can even postulate that animals too experience similar entanglements. I assert that Sheldrake's discussion about animals that know when their owners are coming home is another example of this sentient entanglement. Perhaps we should call it sentience-at-a-distance.

To demonstrate the evidence for entanglements in earlier times I need only to refer once again to the Yoga Sutras of Patanjali. The sutras can be described as a system of thought, and as a way to achieve union with the whole. In essence it is about bringing the mind under conscious control and elimination of the distractions present in most minds for most of the time. These distractions modify the mind in that we become our habits, beliefs and attitudes.

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In Chapter 2 I discussed Yoga Sutra 1.41, which says:

“When one’s modifications have subsided, the mind’s stability on and coalescence with the apprehender, the process and instrument of apprehension and the object of apprehension, like pure crystal, takes on the reflection and colour of proximate objects. This is called Samapatti.”

What this sutra is saying is that when one is of clear mind, and is focused on an object (a cat for example); the mind becomes entangled with the momentary content of the mind of the subject. Patanjali refers to this phenomenon as *being in the presence of*. In view of the fact that there is a sharing of both minds, rather than just a sampling of the subject’s mind by the focused person, and also in view of the fact that each mind is notionally part of two apparently separate individuals, there must be some common factor in such a communication. Perhaps the word, communion, deserves a place in our thoughts about this event. The word suggests to me the idea of a common union; a union that is only possible in a common place or a particular state of awareness. In the next chapter we will look for this common factor.

Chapter Five

Awareness

It might be convenient to believe that we all exist in the mind of God, but I want to explore some other alternatives. Modern physics holds the view that what we perceive to be reality might be part of a much larger scheme. Our physicality is constrained within the four familiar dimensions of space and time, and up to this point in our evolution we are unable to sample other dimensions of existence except through the mathematics of theoretical physics. Nonetheless, these constraints haven't prevented scientists from suggesting the existence of other dimensions. They say the fact that we are unable to detect these other dimensions does not automatically rule out their existence.

What I find strange is that science is ready to say that mind and memory have to fit within the constraints of these four dimensions as a definable biological activity within and of the brain, even though the evidence for this view is inconclusive. Arya's model of reality is suggesting 23 other dimensions, not to mention the consciousness of Purusha, and of its reflection in the whole potential.

We need to remember that all of these 23 potentials are in the virtual state, and therefore they are non-local. So in a very real sense they can all be in the same physical space as we are in because they are everywhere at the same time, as well as being throughout all time. Bohm said that all matter contains all information; I believe we can also claim that the non-local space contains all potential, and it can be argued that these non-local potentials would exist across all time. And more to the point, potentials for contexts too are in the same time and place as their real counterparts.

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What this means is that Arya's diagram does not negate the scientific view that awareness and memory can be *in the same space occupied by the brain*. It may simply mean that they are not *of the physical brain, but of the potentials which become brain tissue*. My experience with the cat clearly demonstrates to me that awareness and memory cannot be of the brain because the cat and I did not share the same brain. There are many who have had similar experiences, and I offered the example of the cat, not to claim some unique personal attribute, but to simply demonstrate the point from direct experience.

In another healing situation the position of apprehender of another's thoughts was the reverse of that in the previous example. In this case I was asked to help an eight year old child with a swollen knee. She could not move her leg or stand up without a lot of pain. I sat beside the couch and focused my attention on her knee. I asked her to close her eyes and be aware of what was happening to her knee.

I placed my hands near the site and went into my quiet state. I could feel her pain and thought I would cover it with cooling energy. She said I had covered her knee with something like ice cream. I asked her to push the ice cream into the space where it hurt most of all, and to tell me when she had done that. In a few minutes she said all of the ice cream was down inside her knee, and that her knee felt much better. I asked her to practice this kind of seeing with her eyes shut as often as she could.

Here too I can state the obvious; that we did not share the same brain. More to the point, our brains were clearly not occupying the same space! However, what I can say is that our two brains share the same virtual space, and I think this is what the communication demonstrates. I am saying this is another example of sentience-at-a-distance.

In terms of awareness, I was aware of an impression related to a physical part of her body context because I had focused my mind on that context. For her part, the child was obviously anxious to know what I was doing, and therefore had been focused on me. So we would have been, more or less, in the same state of awareness, perhaps of like mind. This brings us to what I believe to be a characteristic of awareness that is not often realised. I first encountered this in meditation when I found myself in what

I can only describe as a unified field of awareness. I realised that there is only one awareness: it is a unity, a whole superposition. To explain what is meant by this unified awareness I must refer you back to page 44 in Chapter 2. The phrase, *having no distinguishing mark*, referred to pure consciousness, and is used to make the point that pure consciousness is absolutely undifferentiated. Therefore, when the consciousness of one in meditation reaches that state, there is no sense of being a differentiated point of consciousness, and hence the sense of unity arises.

To explain this unified state further we need to go back to our co-emergent particles. In particular, to particle B that remained in the virtual state. If particle A is not subjected to any force or measurement then the same will be true for particle B. Therefore its experience will be one of stillness. Moreover, this state of stillness for particle B is timeless, and particle B will remain in the virtual state, quite apart from whatever may be impressed on it when particle A is subjected to a force or an observation. The same record of stillness applies for particle A. From Arya's explanation of memory we know that there is in this case no object or context, and that only leaves us with the intelligence or knowing of Buddhi.

Clearly, the absence of an object to be known does not necessarily mean that there is the absence of knowing. Therefore knowing can exist independently of an object. The question moves along to become: *What can be known within no thing?* The answer, according to Arya's diagram, is simply I AM. What I mean here is that self-awareness begins in the absence of a mind-defined self. On the diagram this is evolute 2, Ahamkara.

So, although memory with an object will probably be a characteristic within evolutes 3-13, that is, within the context of mind, the knower of that object resides at evolute 2. However, knowing that I know is most likely to be a characteristic of evolute 1.

In practice there is very little separating any of the evolutes from 2 to 13 because of the unifying effect of what is generally called the mind's consciousness. Cognition, in its broadest sense, is the process of knowledge being apprehended by the mind. This knowledge is obtained via the senses, and there is a little catch here. What we call the senses are real physical processes operating within a real physical body. However, the poten-

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tial for the senses reside in the virtual state as the five subtle forces at evolutes 14-18 on the Yoga diagram in Chapter 3.

Modern science has shown that the function of all five senses can be tracked in the brain. For a long time I wondered about this, especially so in the light of my own experience. My initial assumption was that the matter within the brain, or perhaps even the chemical and electrical activity therein was acting as an interface connecting the real world with the virtual state.

Even after I had realised the simple model of memory within Bell's Theorem I still had some faith in an interface between the two. It was not until that experience of a unified field of awareness that the penny finally dropped for me. There isn't any need for an interface! It is clear that the model of particle A and particle B includes context as one of its parameters, and that the self awareness present in a particle and the self awareness of a whole person is one and the same.

The difference between a whole person and a particle is simply one of context. In the same way that the crystal in the presence of the ruby is perceived as being red, the mind in the presence of the self awareness of 'I AM' becomes self-aware. Within the context of its focus on the body, the mind relates its self awareness to this form. This assumption of form is what we call personality, and its separateness from other similar forms we call individuality. It is perhaps ironic that the word, individuality, sounds a little bit like the indivisible duality of knowing and being.

Getting back to the matter of an interface you might recall I have claimed that every part of real matter has a complementary part in the virtual world. In terms of experience we can recognise this as memory; what I am suggesting is that for every real context there is a virtual context in potential. So whatever real experience is apprehended by the five real senses there will be the same apprehension in the virtual complement. And, in view of the basic premise of my model (I say this rather than saying in view of the fact), the conscious mind becomes the context of this sensory input.

Mind you, thoughts are also available to a context; perhaps I should say a personal context. Whatever the case, the mind has access to the content of its memory and this access would obviously be able to extend to the deliberations, reasoning and logic

of thought. Science has shown that activity can be detected within the brain during these thought processes, leading to the view that thought and logic are processes carried out by the brain tissue. This view had led to the notion of the brain as a computer, an idea that persists in a lot of research, especially in the field of artificial intelligence.

All of the awareness arising as the result of the senses, of reasoning, and of thought, is called cognitive awareness. Whatever knowledge we hold to be our own personal experience within this cognitive awareness is said to be the result of our individual consciousness. Thus, when an answer arises in our conscious mind to a particular question there is the assumption that the answer derives from a mental process within the brain.

If the answer is arrived at through a step-by-step series of logical thoughts we might recognise the answer as the obvious result of these logical steps and say that this has been a cognitive process. On the other hand, should we leap straight to the answer without any logical process at all we may say that the answer is an intuitive one or that the person is a savant. On a value judgement kind of scale we generally regard an intuitive answer to be of doubtful veracity because we have no step-by-step model with which we can justify the answer.

In contrast to this convention regarding cognition, Yoga has a word for this latter kind of knowing: it is called *acognitive knowing*. What Yoga is saying here is that cognitive knowing comes from the mind, and is subject to the limitations of the particular mind in question. *Acognitive knowing* is what we find between evolutions 1 and 2, and although it will filter down to the mind it does not originate in the mind.

Of course, *acognitive knowing* is a bit academic for most of us because it is only available in the state of *Samadhi*, the state that is aimed for in meditation. Even so, the information exchanged in the examples from my own healing experience show that it can happen when the mind is focused on something other than its own personal identity. So we can to some extent enter into a kind of *Samadhi* without meditation, and that is something useful for us to know.

Another name for *acognitive knowing* is intuition, an information process often disparaged by science as being a less valid

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source of knowledge because the origin of a particular intuitively known item cannot be tracked through logic. The person who has come to an intuitive conclusion doesn't know why the position they hold to be true must be true. In most cases one just feels that this is so, and feelings are deemed to be unscientific.

The reason we may feel something we intuit is true is because the information we are in the presence of has had an effect upon the physical body. It may well be the case that someone else, at some other time and place, has arrived at this conclusion through a direct perception or process of reason. The satisfaction one feels from finding the answer to a question can be palpable, and this feeling will be associated with that question and its answer.

Another common put-down for intuition is that it is said to be in the domain of the thinking of women. In a general sense the female of all species has been involved with nurturing the young. This entails a heightened focus on the young, and will lead to the two being kept in mind. This has led to the development of a permanent state of Samapatti, not necessarily that attained in deep meditation, but nevertheless there will be some degree of shared minds. If we consider female as a context within a species then it is fair to say that all females will have this faculty of intuition almost by default. Perhaps this is where the term, "minding" children originates, evolving from minding one's own children to minding anyone or anything in a more general sense.

In association with being minded is the security an infant experiences in the presence of its mother, and why the infant can feel distressed when the mother leaves its presence, even if this departure is not actually observed by the infant. Similarly, a pet may be focused on its owner, and irrespective of the distance apart from its owner, the pet knows when the object of its focus has commenced her/his journey back to that pet.

Intuition and focus raises a whole new avenue of understanding, particularly in relation to the issue of different levels of Samapatti. People with a mental disability will sometimes assume the attitudes of those in their close relationships. This is called INTROJECTION, and once again the dependency upon their carers, or even fear of someone they feel has authority over them, is enough to generate this minor Samapatti state.

In the wider community anyone with a diminished sense of self can be susceptible to this state in which they, consciously or unconsciously, surrender their being to someone else's control. I have witnessed people in groups where the guru figure exercises this sort of control quite deliberately, although the participants can be quite unaware of their surrender.

I was briefly involved with one such group whose process was based on a form of auditing as is used in Scientology, and many of those involved suffered psychologically as a result of the process. The power assumed by such guru figures is almost criminal. I have seen people required to disassociate from their families, schizophrenics encouraged to abandon their medication, and all of these actions are really to reinforce their dependence on the guru. I don't know whether the same can be said of Scientology itself because I have had no experience of that particular organisation.

This leads us to the question of intent, for whatever intent is present in the mind of the guru may be put into action by the subject. In the case of a healer, be that someone practicing Reiki, or any similar modality, the intention is one of support and the subject will benefit from the experience. To a large degree the reason Reiki works as well as it obviously does can be attributed to the intention of the healer. In the same way, the intention to control the life of another is pathological, and that too can be very effective.

Finally, the state of being in love, I believe, is one of the most common examples of a minor Samapatti. When one's whole mind's attention is captured by someone with whom we have just met, or have been in the presence of within a relationship, the focus for this kind of Samapatti becomes established. It is not surprising that in this state the two people concerned know what the other is thinking or feeling, whether at hand or apart. The empathy that develops is what we call being in love. The state becomes a modification of the mind that will not always be the same for both parties concerned, and one or both can just as easily fall out of love.

When that happens, the one left remaining in the earlier state of being in love will often grieve at her/his loss. Grief too, along with depression, is a form of focus for the mind, and as it or any

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other emotion becomes firmly established as a modification of the mind; all are quite difficult to overcome. What the mind needs is some way out of the modification, and this will be difficult because we become attached to being in that depressed or grieving state, for we have many reasons to remain there. Here is where Reiki can be of help, particularly as distant healing, where the person suffering is not in the physical presence of the healer.

This kind of distant healing is really what science would call action-at-a-distance, that is, if science was to consider what is taking place. This particular form of healing is Samapatti-at-a-distance, and as such gives evidence for the idea that sentience as well as particles can become entangled. For the person receiving Reiki healing the effect can be almost imperceptible; at times the depression diminishes rapidly, while at others it can fade away over a number of days or weeks. From a scientific viewpoint we may not accept this as evidence, especially if the effect is compared to a control group, although the person concerned is always satisfied with the result she/he has received.

One such person who sought my help suffered from Huntington's chorea, and using Samapatti we found that his uncontrollable movements ceased for the duration of the session, typically around 45 minutes. In view of the nature of this disorder, we could have probably obtained some tangible evidence under scientific conditions, for what happens to create the movements in this disorder is random firing of neurotransmitters in the brain. I am sure some medical instrumentation would be able to chart the stopping of these random brain events and relate that to the Samapatti, and to show that when the Samapatti was ended that the random firing started again.

What I do know about this condition is that the random movements cease in sleep, and it is entirely likely that my stillness was conveyed to this man, and that was similar enough to sleep for the effect to abate in the waking state. Whatever the case may have been, it wasn't tested in the way I have suggested. In the next chapter we will examine the virtual state, and in particular the range of states or dimensions described by Patanjali. The next question I want to address is how such a range of states can be present, and the relationship between these states and individual personal memory and viewpoints.

Chapter Six

The Holomovement

Science, by way of David Bohm, has given us the holomovement, a system in which the energy in the virtual state is oscillating across a whole spectrum of frequencies. Generally speaking, this movement is called a fluctuation in the energy of the virtual state. According to Bohm, this constant movement transfers information to and from the virtual state into the real world and vice versa. Strangely enough, we encountered this word on page 52, where Arya referred to modifications of the mind-field as fluctuations. This can be seen as another opportunity to infer that the mind-field is in the virtual state.

Yoga has also given us a picture of how this information is spread across this whole spectrum of frequencies, and has suggested that in step with the spectrum of frequencies there is a corresponding spectrum of states of awareness. This is one of the many points of departure for the views of science and of Yoga. I will explain what the Yogic spectrum of awareness is really telling us, and in the process I hope to develop a better understanding of what has been hidden in this esoteric information.

In Chapter 3 we were given the Yoga diagram of the descent of consciousness into matter, and I described some of the process involved in that. In Chapter 4 I put forward a model of memory

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based on Bell's Theorem for two co-emergent particles. In discussing the virtual state and its holomovement we will need to keep both the Yoga diagram and the model of memory in mind. In addition we will need to hold on to the idea that a record of experience, as information, can become resident in that virtual state. There is also the matter of the nature of awareness at the different levels on the diagram. All of these will contribute to the overall understanding of consciousness I hope to develop here. For many of you this will be a serious challenge to your world view, and I believe this challenge will be beneficial in the long run.

One of the many aspects of this virtual state is the absence of the conventional parameters of space and time. I will address that too, for there are a few challenges to the normal world view within what we call spacetime. Science uses the term, "non-local" to describe this state, and while it may not be obvious, the term can also be expressed as both no-where and everywhere. What is rarely said is that in this real state we occupy, with its four dimensions of space and time, there is no effective way we can separate space from time.

In discussing events at the interface between the real and virtual states I have found the terms, time symmetry¹⁶ and time asymmetry¹⁶ are used by the physicists. These terms can be helpful to our discussion here, for, on examination, they point to the fact that time as well as locality becomes another non-something beyond the interface. Time symmetry infers time as we know it, that is to say we have time past, time present and future time. Therefore it is reasonable to say that time asymmetry means no time and all time, or in other words, time past, present and future all exist simultaneously.

But when we compare this to the term non-local we find that non-local can be represented by a point so small that it occupies no space. So, by the same reasoning, a point in time asymmetry must also occupy no time at all. Strangely enough, Yoga has a word for these two aspects of time. The Sanskrit word, Ksana, means the interval between successive moments of time. For there to be such a structure for time it must be the case that time comes into being as part of the oscillation of the virtual energy, and in the mathematics of theoretical physics this wavelength, known as the Planck Length, is written as the letter h .

As we have seen, the parameter of wavelength is made up of both time and space, and what I am suggesting here is that the interval of no time occurs when the wavelength is shorter than h , while real time happens during the longer wavelengths. If we consider the appearances of time between each successive ksana, then time is quantum by nature, the length of each quanta of time being $h/2$; a half wavelength. Yoga also tells us that prior to the first disequilibrium of the virtual field there was no oscillation in that field, and therefore we can say that ksana can also be representative of the periods between the cycles of creation and dissolution of the whole reality. Thus the word ksana can refer to the whole potential as well as to both time and space. Another observation we can make is that prior to the first disequilibrium there would be no oscillation because time, space and the virtual energy would all be zero, in the most absolute sense.

Before we leave our consideration of time I must add the work of Metod Saniga and Rosolino Buccheri. In a paper entitled *The Psychopathological Fabric of Time (and Space) and Its Underpinning Pencil-Borne Geometries*²², they review first-person accounts of anomalous/peculiar experiences of time (and to a lesser degree of space). Their model features six qualitatively different structures of time and four of space.

Time in this context consists of the normal time of past-present-future, present only (eternal NOW) and no-present (time standing still). The remaining three types represent an intriguing superposition of the first three. In relation to space they talk about the here-and-there, mode, and here-only (omnipresence), together with two versions of a mixture of the other two.

The paper ends with a brief account of important epistemological/ontological questions stemming from this approach. Essentially, they have presented all of these psychological states in geometrical form, and I found it extremely interesting. When I sent the examples of my experiences to Saniga he was able to tell me which geometrical form related to those experiences. For those who may be interested he placed the experiences in the lower right hand corner of Figure 8 in his paper.

In my own experience time is an ever-present now, and any extensions to this particular now are the mind's responses to its

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perception of its relationship within its relationships, circumstances and physical environment. These relationships are part of the modifications of the mind, and as these (samskaras) are minimised their effects are minimised as well. Thus, with fewer samskaras the amount of defence, and therefore time, being kept in mind will diminish. I concede that there are some neurological circumstances that can also produce an ever-present now, and you can make your own judgement about what I have said.

Of course, the intention behind Arya's Yoga diagram is to describe the various states of consciousness, and any observations about time and space are simply a way to understand the interplay between consciousness and matter. So having discussed time and space we now turn to consciousness.

The Yoga diagram has consciousness entering Prakriti at the level where the vibration begins, and it tells us that the entrance of Purusha, the reflection of Pure Consciousness, is what initiates the disequilibrium. Therefore, consciousness is not really a fundamental potential in prakriti. Instead, the states within prakriti carry the reflection of consciousness. I should add that Prakriti with the capital P indicates the state prior to the entry of consciousness, while prakriti relates to the whole virtual state after the first disequilibrium. Similarly, Purusha with the capital P indicates pure unmodified consciousness which is separate from the whole reality, while purusha is the reflection of Purusha in the whole reality.

The state of Samadhi is one in which the person is detached from the physical reality. I don't mean that one is disconnected from reality. To explain what I mean we need to return to the diagram. There are three ways of attaining Samadhi; through discipline and commitment, through the use of a substance, and through birth. The last one means that some people are just born in that state, and I believe in any population, given a large enough number of births over a large enough period of time, this is always a possibility.

The primary potentials are Sattva, Tamas and Rajas, and without any oscillation in the field they can be assumed to occupy the ksana of no time (or space). Sattva is the potential to know, Tamas is the potential to be and Rajas is the potential for expression. Yoga tells us that the material adjuncts of a sentient

entity do not exist in isolation from their counterparts in the universe, and have to be understood as a single phenomenon and to do this one needs to study the chain of universal causations.

Thus the First Cause is the arrival of Purusha. Purusha is said to be ever pure, ever wise, ever free, and unmodifiable. It is the self, while prakriti, together with the 23 evolutes are all non-self. All of our considerations are about prakriti alone, a small part of which is undergoing phenomenalisation. The purpose of Yoga therefore is to develop the discrimination between the spiritual energy-self and the non-spiritual material energy, while being mindful of the fact that each is part of this single phenomenon. What this means is that the spiritual energy-self is implicit throughout the whole material phenomenon. Bohm said as much when he said that all matter contains all information.

At evolute 1 on the diagram the presence of purusha has caused the appearance of individual buddhi, with the faculty of discrimination, intelligence and intellection in a sentient entity. Buddhi is the agent of purusha, which means it represents the first point of reflection of the light of purusha in prakriti. What follows is Ahamkara, the awareness of I AM, or ego. This is not ego as pride; it is where names and forms appear, and the discrimination of this, and not that. The creative process diverges into the subjective and objective branches.

The subjective branch produces Mind, the five cognitive senses which know sound, touch, smell, form, and taste, and the five active senses to speak, act, move, procreate and eliminate. The objective branch produces the potentials for audibility, tangibility, visibility, flavour and odour. Following these are the five gross elements of earth, water, fire, air and space. Remember, this space is Akasha, not space in the physical sense. These two branches make the distinction between material attributes and mental attributes. Here Yoga is saying that mind is not a property of the physical state. This serves to remind us of the distinction we need to keep in mind, the distinction between the spiritual and material components of reality present in what we perceive as a cohesive whole. And while the diagram shows this distinction very clearly in respect of mind and material, the same cannot be said of the upper section, in which Knowing and Being are given as an indivisible duality. This duality is, in fact, two

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apparent aspects of prakriti, and is really the first appearance of the illusion which permeates the whole reality. It is this illusion which Yoga seeks to overcome.

Our first question at this point is, “How is the illusion created?” The answer lies in the description given in the Sutra about Samapatti. It is most often referred to in Yoga as *being in the presence of*, and the same effect can be found in quantum mechanics. There it is called many things, ranging from casual set effects, hidden variables, to action at a distance, and memory in space. We can also note that the special space, Akasha is synonymous with non-local space which can interact with itself. And as mentioned earlier, the ancient Vedas referred to being-in-the-presence-of as Upanishad, so we can say that space can be in the presence of space.

What we have in the diagram is an hierarchy of this effect which extends right across all of the evolutes, and, aside from the geometry of Saniga and Buccheri it has its analogies in Theology’s hierarchy of angels, seraphim and the like, and in Maslow’s hierarchy of needs. The latter is more related to the lower end of the diagram, although the pattern is the same.

“being in the presence of”

Initially, Prakriti is in the presence of nothing other than itself, and in this state the energy in potential, together with the potential information is in balance. There is no movement.



When Purusha directs its awareness towards Prakriti we have the first disequilibrium. The first vibrations in the non-material energy are the most subtle, with a wavelength far smaller than h , the Planck Length. From what we understand of Samapatti, Prakriti, which had no initial attributes other than a potential, is in the presence of pure consciousness, and hence assumes the sense of awareness in exactly the same way that the cat assumed my stillness. This awareness has the potential to know

and to be all form and experience. Without any form of its own this state is called Atman. The potential to know is twofold, in that here we have the awareness of pure consciousness together with the assumed awareness now reflected in prakriti. In scientific terms we can say that we have the fundamental wave and a number of harmonics arising from an interaction between the fundamental and prakriti.



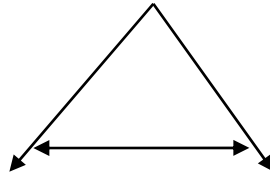
1.

As the potentials for form become distinct, one from another, an awareness of these forms and their distinction is what Yoga calls Mahat, the faculty of intelligence and intellection. Mahat is said to be the greatest teacher, and how Mahat teaches is through the Samapatti process. Its student is whatever follows it on the diagram, coinciding with the first potential of form. At the same level is Buddhi. This is the subtle trace of the fundamental awareness from purusha. In a meditation which reaches this state one is aware of the unity of awareness; there is only one who is aware.



2.

These potentials, with their faculties of discrimination and intelligence, apply these faculties to the potentials in their state of awareness, and make distinctions between themselves and the others. This is the emergence of I Am, the ego state of self-identity, given the name Ahamkara. One of the more important features of Ahamkara is the product of this self-identity, and that is the effect of association. What associates here is all of the information related to this assumed identity. In other places this has been called self-organising, and is generally assigned to the brain through the assumption that it is the brain which organises its internal information (another point of departure). Ahamkara organises information around a contextual similarity, the causal set and hidden variables referred to above. I believe that biology has a similar self-organising process called self-focusing.



3-13.

The information thus organised is what we call Mind, and its contextual parameters are memory and the body's potential. We need to recognise the fact that just as Mahat and Buddhi were present at level 1, here we find mind, the product of Buddhi and body, as well as the product of Mahat. Body has its own information system which drives the bodily functions. These include emotion, which is the body's communication with the physical world, together with its communication with memory as an information potential. The result is that Mind can be persuaded that it is really the body and therefore objective, with the physical reality available to support this viewpoint. Alternatively, Mind can be more aligned to the intuition which comes from Buddhi, and thus it is regarded as being subjective.

It is interesting to note that the horizontal arrow that runs between Sattva and Tamas is also called Ahamkara. This represents action, and the type of action depends upon which of Sattva and Tamas are dominant. In view of the fact that we are still in the field of information as a potential, Rajas/Ahamkara is the flow of information within this struggle to become dominant and we can regard this flow as thought, or even as the stream of consciousness. Of course, consciousness is not a stream at all: *the apparent movement within the mind is the constant organising of momentary information against our personal context.*

I have used italics here quite deliberately, because I want to point out this process which we call thought. The sentence is particularly important because it demonstrates the fact that *how* we think determines *what* we can think, and personal context is central to the process.

I take the view that Mind, being in the virtual state, is momentary in its true nature and the constant organising of informa-

tion related to a perceived context is the flow of thought we call consciousness or conscious awareness.

All of the other evolutes are fairly self-explanatory, although it might come as a surprise to find that the senses, and the potential for the kind of information they provide, are shown as being quite distinct in the sense that on one side we have the potential to sense and on the other side we have the physical process of acquiring that sensory information. Here we can see that memory for instance can evoke a physical response in the body, just as real as if we really did smell the rose we may have remembered. Similarly, a familiar place can evoke the senses and the emotions in exactly the same way.

From this diagram we can begin to appreciate how important is the sense of self, or self-identity present at I AM. When this self is secure and self-assured it is firmly established in its own information field. If the self is fragile the ability to organise the information of the mind is confused, as is the information about "I", the self. Here is where we find the person who is easily persuaded of being inadequate, easily introjecting the opinions and attitudes of others. Psychiatrist R D Laing¹¹ spoke of the need to take into account the whole family group in any assessment of persons with a mental disability. He said that being the weakest link in the group, this person always assumed the emotional burdens of the whole group.

Another important observation to make here is that of taking a position about an issue. When we identify with an issue we are really making that position part of the definition of who I am. When we seek information from this perspective, any input is skewed to become aligned with our starting premise. If I start out suspecting the motives of others, all of the evidence I collect will inevitably be supportive of my viewpoint. Another person with a contrary viewpoint and given the same information will surely draw a different conclusion about the issue to that I have drawn.

I believe that our personal identity is the context through which all of the associated information making this personal "I" is organised, not for any deeply esoteric reasons, but simply because the constant observer is itself a component of every observation. In effect the observer and the observation are insepara-

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ble, and therefore become a label or memory address embedded in the information. This is also the context through which we access our personal memory from the virtual mind-field and is the reason why we do not generally access any one else's information. A person in the state of detachment necessary for Samapatti has effectively set aside this "I", and whatever she/he focuses the mind upon becomes the temporary "I". Since this is necessarily a buddhic state the discrimination available there can say *this* is my experience, and *that* is the experience of the subject of my focus. And of course, this is evident on the diagram when one moves up from Ahamkara to Buddhi.

In some of the literature on consciousness I have noted that there have been numerous experiments carried out to detect the presence of consciousness in the brain. In many cases the detected presence of the thought to move part of the body arrived at a considerable period of time before the actual movement takes place. A number of philosophical positions have been taken to account for this. I make no judgement one way or the other, except to say that in the event with the cat, I was aware that the cat was going to wake up a moment or two before it did in fact wake. I suggest therefore that the initial impetus to move, referred to above, originates at the level of buddhi, while the brain signals causing the muscles to operate come from the level of mind and memory.

If we consider the states attained by the Buddha, Moses, Zarathustra, Mahomet, Jesus, Lao Tzu, and possibly countless others, and being very careful to infer that all did probably attain a similar Samadhi, then what they had conveyed to their followers can be seen to be a fairly similar message. Unfortunately that message can be received by minds not in the same Samadhi state, and will be interpreted within a personal context. If we can accept all these teachers had attained a similar Samadhi, then at that point they were all in the presence of the unity, and in that sense I can say that Buddha is Moses is Zarathustra, is Mahomet, is Jesus, is Lao Tzu, is essentially true.

The God of Theology is really the God of Mind. My reason for saying this comes from the many attributes assigned to the notion of God. Theology has given God many attributes; a compassionate God, a vengeful God, a forgiving God, a just God, and so on. All of this suggests that God is persuaded by prayer or lit-

urgy to adopt a particular position. From the diagram it is evident that, just as the person in Samapatti is not altered by the mind of her/his subject, so also is pure consciousness unaltered by any of Purusha's contemplation of Prakriti.

Yoga makes the point that Purusha is *without distinguishing mark*. At the point on the diagram from where "I" might pray, all of my mental activity will only serve to reinforce a body of information which is organised around my viewpoint. At the same time, this information will self-organise around any similar viewpoint, and become available to re-emerge as a new potential, or even an answer to a prayer.

I believe I can safely say that the God of Mind, in a scientific sense, resides on the other side of Zero, or h, the interface between the physical and virtual states. We are told that God is everywhere, and that even the falling of a swallow is noticed by God. If that is the case, then this view of God relates to the virtual state, not to the spiritual dimension of Purusha, which is external to all of this. Then there is the title of God the father, or the mother God, depending on one's persuasion. Gender of either kind is unavailable in the virtual state, although logically there is the potential for all gender.

I wonder how the conventional God can make sense of two opposing armies, each praying to what is essentially the same God for victory. Even more ridiculous is the notion that this God will choose one army's cause over that of its enemy. No, even the God of Mind cannot make such a choice, or any choice for that matter, because at the highest level of mind choice really indicates a state of confusion.

We cannot leave the idea of God without making some mention of Spirit, or the Holy Ghost of Christianity. The Hindu Trinity has Brahma the Creator, Vishnu the Sustainer, and Shiva the Dissolver. Christianity says that the Holy Ghost proceeds from the Father to the Son, and is likewise adored and glorified. I believe this Holy Ghost is analogous to Vishnu if we regard the Father as the Creator. The difficulty I have is more with the notion of Son of God.

The Holy Ghost can sustain in the manner of Vishnu if we regard it as the flow of potential to and from the whole (Father and Son), and to that extent I would say that the Holy Ghost is the

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holomovement. To align the Son with Shiva we need something a little more practical. I would suggest that the role of Shiva is best expressed as the cycle of birth and death, and while Christianity celebrates both of these events in respect of Jesus, the fact of death is sidelined to some extent by the dogma of the resurrection. I think that this dogma, together with the notion of the virgin birth adds little to the claimed credibility of Christianity. I tend to agree with both the Hindus and Islam, where Jesus is placed on a par with all of the other Prophets, all of whom can fit easily into the Yoga process of Samadhi.

Physicist Paul Davies wrote an excellent book called *The Mind of God*⁸ and while I'm not trying to reinvent his idea I am taking what I believe is a closer look at the whole God idea. It seems to me that to have what is essentially a God which is interactive with human mind, that God must have something in common with consciousness. I believe that common something is the information within the virtual field of information. Thus, the will of God would have to be the information in potential, and the expression of that (will of God) would have to be the flow of information in and out of that field.

As we progress through the book I will look further into this shared field of information, and when we come to examine the self-organising nature of this field it should become apparent that it is this propensity of the information to self-organise which we call God.

Chapter Seven

Consciousness

Any considerations we may entertain about consciousness inevitably lead to the discipline of Philosophy, which is essentially about the nature of thought, and that too resides along with God on the other side of Zero. Unfortunately, philosophers generally think that mind and thought are part of the biology of the brain. The notion that consciousness, and therefore Mind and Memory, are not the product of biological processes within the brain tissue, and possibly external to the brain, has been examined by philosophy and has been assigned the label of The Hard Problem.

I came across the term, The Hard Problem, in my search for material about consciousness. In her book, *Consciousness, An Introduction*⁴ philosopher Susan Blackmore examines a whole range of viewpoints from a range of eminent philosophers. The term, Hard Problem was coined by David Chalmers, an Australian philosopher.

The term arises firstly from the lack of a model which can describe how the activity we can detect within the brain could possibly be generated anywhere other than within the brain. Furthermore, the activity being detected happens at the same time as the person whose brain is being scanned is doing something specific. The inference is that what is done is directed by the brain, and therefore consciousness must be a property of the biology of the brain. Both Science and Philosophy refute the notion

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that physical experience, and the physical activity in the brain which has presumably resulted from that activity, could escape into the mythical ether. Both also refute the presence of any field in which such information could possibly reside, because nobody has been able to provide evidence of such a field. Without some measurable elements to put into a theory based on either the ether or a field of information, an understanding of how information at large can become individualised is a difficult concept to sell to a layperson, a scientist or a philosopher.

Secondly there is the issue of how this information at large can produce the chemical and electrical activity in the brain, which is evident through our imaging technology. For this interaction between the information at large and living tissue to be possible, the task of defining such an interaction is not simple. One of the obvious stumbling blocks is the realisation that such a system would need to have this information flow out from the brain and into a hypothetical field as well as from that hypothetical field and into the brain.

In the face of this apparently insurmountable difficulty, both Science and Philosophy have opted to pursue their understanding of consciousness from within the parameters of their physical observations. In other words, they have chosen to remain within the domain of classical physics. I am reminded of a Hindu proverb of a man looking for his house key under a street light. When passers-by stop to help some ask where he dropped the key. He replies that he dropped it “over there, in the darkness” and says that he can only search in the light.

Psychologists such as Professor Steven Pinker¹⁷ have taken the same approach, and have reached the conclusion that all of the brain activity can be considered as analogous to a digital computer. Indeed, most of what Pinker has written about the mind is predicated around this notion that the brain is a digital computer capable of processing information. For most of the philosophers and scientists referred to in Susan Blackmore’s book, the same viewpoint predominates. Strangely enough, both Pinker and Blackmore make mention of one dissenting voice, that of Roger Penrose.

“The British mathematician Roger Penrose (1989) argues that consciousness depends on non-algorithmic processes, - that is,

processes that cannot be carried out by a digital computer, or computed using describable procedures. With anaesthetist Stuart Hameroff, Penrose has developed a theory that treats experience as a quality of space-time and relates it to quantum coherence in the microtubules of nerve cells (Hameroff and Penrose)⁴ 1996.”

Penrose¹⁶ has provided an alternative to the classical viewpoint, and while his views have not received a lot of acceptance in the wider philosophical community, they have some parallels in Yoga and in the work of Bevan Reid. I have attempted to provide a model in which this information at large can become personal. I admit that I have relied a lot on my limited view of Science and Yoga, and I make no apology for having done that. Yoga was the first science and therefore the linking of the two is entirely natural. In view of Penrose’s opinion that consciousness involves the non-local state and quantum theory, it is also natural that I should add him to my list of like-minded individuals. I believe the non-local state fulfils the role of the hypothetical field mentioned on the previous page.

Whether one takes the view of the classicists with their digital based mind and their Hard Problem, or that of Penrose and his non-local conscious mind, there is one other possibility that I want to address. Both have allowed that mind and consciousness can be non-physical, although the classicists have shelved this possibility as being too hard.

My point is that if consciousness and mind are non-local, *then the thing (or non-thing) that is conscious will be conscious irrespective of the demonstrated activity in the brain*. In short I am suggesting that the detected activity within brain tissue arises as an effect of non-local consciousness as well as other non-local potentials. You may need to think about that for a while, because I have found that most people have not looked at the problem from this perspective.

Having taken this position, we can begin to consider the whole question of mind, memory and consciousness from a very different perspective. To begin with, I would assert that most of our views on the subject of consciousness have evolved as we too evolved over the period in which we became human. One of the

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assumptions we have made was that man was superior to other forms of life.

Significant demands were placed on the emerging species as it moved from an initial environment into many new circumstances, forcing changes on both our diet and posture. I believe that these pressures would be met in an informational sense from the non-local potential. The creation story in Genesis tells of a move from a state of paradise to the rough and tumble of the physical world. I find some irony in the fact that this Judeo-Christian story is almost an exact parallel of Darwin's story of evolution, as a new species moves from a garden-like existence into a competitive world. In this world the emerging species becomes aware of its nakedness, and of the need to provide food, shelter, and the myriad of needs we all strive to satisfy.

Within science these needs are generally accepted as basic needs for any living system, and from that perspective they are hardly new at all. What is new for those beings described in this story is the dawning of self-awareness. With this new faculty comes the notion that they are separate from the rest of life on earth, and although this is not really true, it is an idea which developed over time into an accepted truth. In fact, the difference they perceive is a difference from their initial variant of the same species. This notion has been reinforced culturally through the development of the idea that God singled out this particular species for preferential treatment over all other forms of life.

If we could go back beyond the emergence of language I believe the story would still exist, albeit in the form of feelings rather than words. Indeed, if we could sample the awareness in even the simplest forms of life, these same feelings, or biological drives, would be present for them too. So where does this leave us so far as developing an understanding of consciousness?

I believe Arya's Yoga diagram can help, although at some point we, along with Roger Penrose, will need to solve the Hard Problem for the philosophers. But let us stay with Patanjali for a little while yet, if only to expand on what it is we would need to obtain from whatever solution we can find for the Hard Problem.

To begin with, I take the view that in the examples I have given from my experience as a healer there is a case for saying that the idea of awareness/consciousness being shared under those par-

ticular circumstances is a valid one. Furthermore, the explanation Patanjali has provided for this sharing of awareness is consistent in every one of the examples I provided.

To enter that state of awareness required for Samapatti to be available, Patanjali tells us that one needs to overcome the modifications of the mind. Clearly, there is a need for us to give some attention to these modifications of the mind. Patanjali tells us that these modifications fall into five categories, and these are as follows.

1. Fear, fear of death and fear of ceasing to exist
2. Attraction
3. Repulsion
4. I-am-ness, which is self-identification
5. Ignorance of what is real and what is not

All of these categories are the starting point for every attitude we adopt, and together they form the basis for what we may call our ground of being, or personality. They determine how we think, and from there, what we can think, and who we can be.

In Samapatti a significant part of the process was described as being in the presence of. Mentally, we are in the presence of our attitudes, which are modifications of our minds. To clarify the point I can say that if I am in a state of fear, then what I think about an issue, or the actions I take on an issue may not be appropriate or effective in that circumstance. And although not exactly the same as fear, the attitude we have to the one we are in love with will have a direct bearing on the way we respond to that person because we are almost always in the presence of that person, near or afar.

Moving on to Arya's description of the process of memory we find that anything that enters our awareness, either via the senses as an event or through the medium of thought, provides the information relating to that experience or event in the form of a modification to our mind. We call that modification a memory of that experience or event.

In the same passage we find that there are two kinds of memory; the first is the one just described where the object being remembered is present as the primary experience. What this means is that the memory will evoke the experience of that ob-

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ject or event, which means that we can often recall something, along with the feelings, emotions, smells etc associated with that particular memory.

The second kind of memory is that in which the narrative description a detached observer would make of that event or object is what comes to mind. What is significant here is that this detached observer is the same viewpoint present in Samapatti. For example, I knew the cat's garden was familiar, and at the same time I knew I had never seen that garden. So we have a situation in which the person with the second kind of memory has the narrative without the modification of her/his mind. This is what Patanjali means by detachment; we have detached from the modification, and so there is no physical or sensory component in the memory. A prime example of this is the observation I made earlier in the book that the absence of grief is an indication that one has overcome the modifications of the mind.

I assert that what Patanjali has shown us is that the narrative information exists as an observation quite distinct from the physical body. Moreover, the same information/narrative can produce a physical experience in the brain/body of the recipient whose mind has been modified to respond physically and sensorily to that information. We know this is true when a memory evokes an emotional response, so the case for non-local information interacting with brain tissue is clearly established.

To relate this back to our emergent species I am saying that information as a potential can produce the driving force to produce emotion, make choices based on our ground of being, strive to survive, and anything else one needs to get through life as a living system. It is probably unnecessary to point out that the cases of Samapatti also demonstrated a two-way flow of information between the entities involved in each of the experiences.

In the case of the man with Huntington's chorea, the effect of the Samapatti can be said to be a direct influence on the person's neural system, something which may substantiate the Penrose theory. It certainly describes an effect achieved without any recourse to digital computation. The same is true in the case of the cat, for the information I received from the cat contained the cat's experience rather than mine as well as my detached observation of that information.

I believe I have laid the groundwork to support my ideas about why consciousness, mind, and memory, do not arise from biological processes within the brain. In the next chapter I want to look at some more of Bevan Reid's work to provide us with a scientific understanding of how the Yoga Sutras of Patanjali, the theory of Penrose, and my own understanding of the science behind my experiences, can fit into the general everyday thinking at large.

Chapter Eight

Where Patanjali and science meet

In Sanskrit, the language of Yoga, modifications of the mind are called Samskaras and, since the very idea of these modifications is relatively foreign to the Western mind, it may be useful to use that word in our discussion. To begin with, our discussion needs to take into account the earlier concept, “being in the presence of”, as it was applied in the description of the process of Samapatti. What the phrase is referring to is the effect experienced within living tissue in the presence of an external event, a substance, an emotion, a thought, a context, or information in her/his presence. A similar effect is what science calls the “measurement problem” in quantum events, although few scientists would entertain the similarity I infer here.

The effect Yoga is referring to arises in response to whatever we are in the presence of, and for all practical purposes it is a response generated from our memory. The word memory in this context refers to the first type of memory we encountered in Yoga Sutra 1.11, which, as Patanjali explained, was itself a samskara. We inevitably assign memory to living things, and while this is relatively accurate, it is not necessarily the whole truth.

In the example of an experiment into the claims of homeopathy quoted in the Introduction we saw an example of memory that involved what was essentially water. Since that article was published there have been a number of articles to debunk Ennis’

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claim¹² with the general thread of the debunking argument being that the water did not contain any evidence of any substance other than water. Now, if one was to take that as evidence for homeopathy being successfully debunked one has missed the whole point. What Ennis said was that despite the dilution of the original solution to the point of being nothing but pure water, the effect was still present! It is a sorry indictment of science that in claiming failure to detect anything in the solution examined no attention was paid to the effect being present nonetheless!

While the Ennis experiment is important, it is hardly new. There have been many similar experiments carried out in the past, all with similar results. The experiments of Bevan Reid, mentioned earlier, proved the same point. Namely, that an effect will persist long after the cause has been removed from the space, linking the effect not just to the place but also to the time of that event and that is one of the hallmarks of memory.

So I am inclined to say that an effect can be present, as a memory, in matter that is not necessarily living tissue. The Parapsychologists³ use the term, place-memory in relation to their investigation of psychic or paranormal events, and I believe they are talking about the same phenomenon. What is important, irrespective of the field of research in which this effect arises, is the fact of the effect itself. However, I would add that in view of the fact that the effect is not exclusive to living matter we need to look further afield than the brain.

Another Sanskrit word that is relevant to our discussion is Akasha. This is the word that relates to one of the final evolutes on Arya's Yoga diagram. These five final evolutes were earth, air, water, fire and space. Patanjali tells us that this particular evolute called space is not space in the physical sense of the word. Furthermore, Akasha is given the title of Mahat, the greatest of teachers. Thus I assert that as a teacher, this non-physical space imparts information. For this to happen there obviously must be information within this space, together with a process for its delivery. I suggest that process is memory.

In most cases the act of remembering involves the five senses. For example, it is common enough to find ourselves being aware of a feeling or perhaps a smell in association with something we

have just recalled. Alternatively, the feeling or smell can trigger the recall of an event, a place or a person. I believe science would agree with this, although the process involved in producing this sensory response is a matter of much conjecture amongst scientists and philosophers alike. Nevertheless, the fact remains that a memory can be accompanied with sensory information. Some would say this is the product of context, and I would agree with that to some extent. What I believe is important is that what accompanies memory, so far as our awareness is concerned, is the original effect from some past event becoming active in the present moment. Another observation of this effect is given by Bohm and Hiley, where they use the term active information. At other points in their work Bohm and Hiley refer to this information as hidden variables.

What this means for me is that a person remembering something is in the presence of the original event. That is, in the presence of every element of that event; the time, the place, the circumstance and her/his original response to that event. Mind you, the fact that we also found an effect relating to non-living matter can persist through time after the cause of that effect is no longer evident, suggests to me that memory as a process is universal rather than the exclusive property of living systems.

To this extent I would assert that the process we call memory must therefore exist in this special space of Akasha, which I also assert is the non-local space of science, thus bringing science and Patanjali together. Therefore, to understand how this information within non-local space is able to interact with matter, living or not, we can look to some of the work being done in present-day science. At the same time we can be reasonably sure that what works in the realm of non-living matter will be equally valid for living matter.

What we have seen so far shows that the ancient Hindu tradition demonstrates an awareness of reality, even at the quantum level. We can appreciate this from the description of Akasha. Another point for us to note is that Akasha appears on the diagram at the same place where matter becomes atomic. This is something both Patanjali and science can regard as common ground. We are talking about the interface between matter and non-matter, which occurs at or about the wavelength of 10^{-33} cm.

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A reference to this very quantum state appears in the introduction of Arya's book on the Yoga Sutras of Patanjali. In it Arya's teacher, Swami Rama, points out that the ancient masters observed that when there is a conjunction of a number of points without mass, a point with mass can appear. In this statement we find the phenomenon of superposition from quantum mechanics, as well as the formation of matter, something which has not been accurately determined so far by scientists. This theoretical event is the emergence of the Higgs Boson, which has yet to be discovered.

In his ongoing mentoring of me, Bevan Reid referred me to a website that presented some conversations between the physicist, Milo Wolff²⁶ and philosopher Geoff Haselhurst.²⁶ In their discussion Wolff presents his research into the wave structure of matter. Wolff says that

A particle is two identical spherical waves travelling radially in opposite directions so that together they form a spherical standing wave. The wave which travels inwards towards the centre is called the In-Wave, and the wave travelling outward is an Out-Wave. The nominal location of the Particle is the Wave-Centre, but as must be true for any charged Particle, it has presence everywhere in space because the charge forces extend throughout the universe.

What Wolf and Haselhurst have said about spherical standing waves rang a bell with me as I read it, and I will illustrate the connection I made with these two pictures. The photographs are of naturally occurring balls of sea grass fibre that can be found on many beaches near my home in South Australia. The golf ball is included to give an indication of the size of the structures. The sea grass balls are made of root fibres from the beds of sea grass in the bay nearby. The structure arises from the wave action along the shore line. Oddly enough, the blades of the sea grass end up on another section of the beach. I am suggesting that we can draw an analogy between the wave action structuring the sea grass balls and the wave action within the virtual energy that produces the spherical standing wave discussed by Wolff.



Photographs by Matt Glastonbury

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In the first photograph the sphere is uniform in all directions, and the strands of root fibre are a felt-like structure with each of the strands entangled to form a structure similar to a low density felt material. These sea grass structures are generally very light in weight, and would easily follow the wave front to produce this shape. When the wave contains a high proportion of sand the structure is quite different. Instead of a near perfect sphere the shape is elongated in ratios varying from 1.5:1 to 5:1 of length versus thickness, and the inclusion of the sand makes the resulting structure very heavy. After some time out of the water these balls will dry out and shed some or most of the sand to become far lighter than when first washed up on the beach. I suggest that in the non-local state every direction is present in superposition, thus producing that shape.

My point here is that the self-organising of matter *in the presence of instability* can be regarded as a potential within the medium; in this case the sea water, any solid matter in that water, and the existing wave forms. I assert that the same potential for self-organising of the energy in the virtual state would exist because of the fluctuations within that energy. One could say that the structure follows the turbulent action of the waves, and therefore we can posit that the resulting shape and overall mass of a sea grass ball is representative of both the self-organising function present in the composite waveform and the elements which become organised in the medium. There is always the potential for standing waves to occur when a number of waveforms collide from a number of different directions. In the non-local state there are no spatial directions as well as all directions, and therefore a spherical form must be inevitable.

The action of a water wave in the state of turbulence found in breaking waves is similar to the virtual fluctuations, in that there is no single direction in which the water is moving at any particular moment. The balls' shape produced by the water wave action suggests to me that both situations can be regarded as being the same in this context. The difference being that in the case of the water wave, what is available to be influenced by the fluctuations is the fine threads of grass root fibre. In the case of the virtual fluctuations, the vorticeal structures produced by those fluctuations, together with the fluctuations themselves are available to influence the charges present in Wolff's standing

waves. The influence in both cases is that of the potential resident in the space; be that real water-filled space or virtual space, and it is reasonable to say that the implicit propensity to self-organise is an ever-present potential. This last point is the direct consequence of Bohm's holomovement which Bohm so named for the continuum of movement/fluctuations in the energy of space.

What I deduce from what Wolff and Haselhurst have said is that the organising is not really self-organising; rather the moveable structures are organised by the wavefronts passing through or around them. This self-organising, or perhaps ordering might be a better term, of structures present in the waves has been discussed in a recent issue of *NewScientist*¹⁴ where a group of nano particles were subjected to laser light. In the experiment described in that article the nano particles became ordered and the ordering could be altered from a square pattern to a hexagonal pattern, depending on the wavelength of the laser light.

The two different structures provided by the laser light organising the nanoparticles in that article can be said to be forming filaments in the square pattern and crystalline structures in the case of the hexagonal pattern. Taking these observations a little further I suggest that in non-local space, where a number of waveforms rather than light and real particles can be subjected to the same self-organising process, the resulting filamentous pattern could be rolled up to give us the quantum equivalent of Penrose's microtubules.

For our purposes here I will use the term self-organisation as a convenience because it is the accepted term used by science. We can note that the 'self' part of the term implies that the structure does the organising, and I don't believe that to be the case. The ordering is the result of the wavefronts, and therefore all matter, even us, is the result of waves interfering with other waves of different wavelengths and different phase relationships. My suggestion is that fluctuations in the virtual energy can have no direction as well as every direction and this will result in the collisions I have postulated.

In non-local space the potential is Bohm's Implicate Order, Sheldrake's Morphogenic field, or simply the potential for these prior to anyone giving them a name. Wolff's spherical structures

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of electrical charge derived from standing waves in a field of charge. The turbulence in the waves along a shoreline is in my opinion, synonymous with Bohm's holomovement. These potentials are demonstrably present in both the local and non-local states, and it has ever been thus. They are the potentials we found in Yoga as the hierarchy of different levels of awareness on the Yoga diagram. Of course, now we can see that these levels of awareness are the unfolding information Bohm talked about; it is the same information present in Akasha, the supreme teacher.

So once again, what was in the Vedas, and later in the Yoga Sutras, has emerged into our present culture under different names. The reason they have paralleled this ancient knowledge is that science, by its very nature, is about close observation. The same is true of its ally, mathematics; in both cases the person's mind is extremely focused on the task in hand and that focus can lead to a kind of Samadhi in which questions self-organise into answers. This is not magical in any way; it is simply an example of information self-organising in exactly the same way it did all of those thousands of years ago when someone asked these questions for the first time.

For the moment it is sufficient for us to have established the capacity for self-organisation to be present in both the real and virtual states. In the next chapter I want to re-examine consciousness from this perspective of self-organisation. I believe that we can relate directly this standing wave in the energy of non-local space to the Hindu's point without mass. Similarly, the charge forces Wolff mentioned as extending throughout the universe evolve to become the remaining four of the five final evolutes on the Yoga diagram. These four forces are the non-local force we call gravity, electromagnetic force and the weak and strong nuclear forces. So we can say that these final five evolutes are the stuff of matter.

What science and philosophy have not come to terms with is the presence of consciousness in this non-local space, which is why memory is not generally considered to be non-local in nature. For this reason I return to the second kind of memory given to us in Yoga Sutra 1.11. This kind of memory is experienced as a simple narrative, either as a description of the object or event being remembered or as an awareness of something we may have not even known before. This latter awareness is generally

known by the more familiar name of intuition, and we can relate this attribute of an interaction with space to the title of Teacher given to Akasha in the Hindu tradition.

What may be less familiar is the notion that space, in the role of teacher, is responding to questions arising in the mind of the one who receives the information. The question or context extracts information from the information field that is the virtual state. The process is that of memory as described in Yoga Sutra 1.11 earlier.

In everyone there is the capacity to access this field, and in the normal waking state our mind seeks its own information because mind is modified by a sense of “me”. In the meditative state, and also in the mindful state where we are focused on things other than ourselves, we sidestep this modification to a lesser or greater degree, depending on our focus. I believe shoals of fish and flocks of birds occupy similar mindful states, in which an extremely large number of individuals act as “of one mind”.

Chapter Nine

Non-Local Consciousness

Consciousness appears to be resident in the non-local component of the universe, and as such it must surely be as much a part of reality as you or I. Indeed, consciousness appears to be as much a part of reality as rain, rock and sunshine. For the purposes of our discussion here I will continue with this assumption because it suits our purpose. Indeed, the reader may consider that having taken this step has probably been a somewhat radical departure from the normal world view, and given that we have some considerable distance to travel it is just as well that I keep the steps relatively comfortable.

Science is able to tell us that real matter is simply energy whose wavelength is such that the resulting waveform has become solid. I confess this is an extremely simple description of the process which a theologian would call Creation, and I apologise to any who may take offence. I probably need to make a similar apology to science and its practitioners, but when one considers the question honestly and openly the process can be understandable up to a point for simple thinkers like me.

Of course, that point is where we must ask the question of where or how matter can become conscious. If we backtrack to our recap at the end of Chapter 7 you will recall that we discussed the examples of the entanglement of minds. A radical enough proposal in itself, and I concede this is something which can only be possible if mind, and therefore memory and con-

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sciousness, are non-local. We found that information can be associated with both time and locality, and that one can obviously discriminate between my information and that of another. I would assert this ability to discriminate in this way gives rise to the viewpoint we call “I”, or self, and would also assert that this is true irrespective of whether conscious self-awareness is a brain-derived activity or, as I am saying, is specifically non-local. This last point is significant, and for that reason I will reiterate: each of us can think, and all would surely agree that whatever is thinking is conscious. If we suddenly found that what is thinking is a non-local mind we would not stop thinking!

I am simply making the point that it is generally accepted as fact that thoughts arise in the brain, and the fact that we think at all is equally accepted as proof of this viewpoint. Part of the proof is that “I” am identified with this body I call me, and the proof is supported by the apparent exclusive access I have to “my” thoughts and memory. However, there are circumstances in which this exclusivity fails, as we found in Samapatti.

In meditation it sometimes happen that one arrives at a sense of unity, one in which the “I” all but dissolves from one’s awareness. The same is true for Samapatti, except that in that situation the “I” does remain as the detached observer. In terms of the modifications of the mind, “I” itself is also one such modification. With detachment from this person, me, one is able to be in the presence of another to such an extent that we know what they know (in that moment) and can feel what they feel (in that moment). This is particularly true in a healing situation, where I am able to feel the pain being experienced by someone in my presence and know it is not my pain. It is exactly the same as the cat feeling my peace and my experience of its garden seen from its viewpoint.

If we extend this understanding into other aspects of relationship we can develop an entirely new landscape for our concept of mind. For example, in the case of being in love one is acutely aware of the presence of this dear other, irrespective of whether that person is near or afar. This is an example of everyday Samapatti, although it is invariably the case that we do not enter this state voluntarily; we are just in love.

Being in the presence of the one will produce an automatic response that will contain the feelings we had as an infant in the presence of mother, along with the feelings we have in the presence of this present love. These feelings, together with the thoughts they evoke in us, are the samskaras which produce the object of memory. Whether that object is a thought or a feeling, it is a memory nevertheless being activated, and some of these memory responses were generated in infancy or before birth.

In the case of someone who injures us in some way, whether the injury is real or imagined, and our response will generally be one we consider to be justified. Note here that any consideration we make about this particular response is also based on past memories, and therefore any response is a modification of the mind, as is our justification of that response.

Taking the story of this injury a little further, let us consider the idea of forgiving this person who has injured us. The word forgive refers to the past, and in particular to the way we responded to that person before the injury. So to really forgive this person we have to respond to her/him as we did prior to the injury; *to give of ourselves as before*. Of course we cannot really do this in practice because our samskara defines our response in terms of our experience, and this includes our experience of the injury.

There are three choices here. Firstly, we can justify our response and continue in that vein. Secondly, we can say “I forgive you”, and respond as kindly as we can manage to do. This will add yet another samskara to the first because we do not necessarily believe the other person deserves this kindly response. In addition to this I may even have an expectation of an apology, and this expectation will generate another samskara, for without the apology our process assures there will be no forgiveness at this point. Finally, we can remove the samskara associated with the injury. While this third choice might seem like a sensible step for us to take, this is not an easy thing to do, especially if we have really taken offence at this person.

So it seems that while the second choice is not the best outcome, it is what happens for most of us for most of the time. Choice three is the more logical strategy, and what it would give us is the most desirable outcome. However, to undo the sam-

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skara is really about being unconditional and that too is a difficult path. Yoga suggests the way to undo this samskara is through meditation.

When we meditate one of the most pressing distractions for the mind is the content of the mind itself, and that involves the content of memory. A useful name for this extremely active information is all of our unfinished business which has been effectively flagged as requiring a response. Over months or years, every time we sit in meditation these issues keep arising in our awareness. And through the practice of simply observing the content of our mind without responding to the information, the effect of the information will diminish to the point where it has no effect at all. This is quite different from denying the existence of the injury; denial reinforces the effect, and if we suppress our response it will burst out at the least favourable moment.

So we find that meditation is an effective method for undoing our samskaras. Of course, it will take time and dedication to the practice, but the results are there for any serious practitioner. Going a little further with your practice can be rewarded by an inner state of stillness, and in this state samskaras are easily minimised. Simply observing our response without making any judgement about it will create a non-response in its place. Over time the original response is effectively removed and in respect of the original input we are detached. This is the unconditional state where one's viewpoint is that of the detached observer, whose only commandment is "Do no harm." With this commandment as your guiding rule any prospect of further samskaras is effectively closed.

It is probably an appropriate point in the narrative to ask how the preoccupation with forgiveness came about, especially so in view of the absence of any real avenue for achieving this quality. Jesus preached forgiveness, Mahomet taught tolerance, as did the Buddha, Zarathustra, Lao Tzu et al. All were operating in an elevated state that was quite remote from samskaras, and for all of them forgiveness was almost irrelevant. Irrelevant or not, all of them realised that tolerance/forgiveness/choice 2 was the most practical approach for people in general.

They taught by example, and what has been written about them serves to put into words what really needs to be demon-

strated to be understood, or to be in the presence of the teacher. For instance, when Jesus suggested that we “love one another as I have loved you”, the message really directs us to the same state he occupied. In that state we would surely love one another as he did. I’m sure the teachings of all of these venerated persons have given similar directions to their followers. Attempting to put their message into practice does, to some degree, put the follower in the presence of the teacher.

The same is true for forgiveness; to really forgive we need to undo the samskara and complete the unfinished business. When we undo the samskara, and at some time later we meet that person there is no response to the earlier injury; we will relate to them as we did before the injury and they will know that. They may not understand why we do not present an earlier sense of having been injured, and the reason is that the repair has taken effect at a level corresponding to evolute 2 on the Yoga diagram.

The word for these responses from our samskaras is also borrowed from Sanskrit, and the word is Karma. We usually associate karma with pain, suffering and the like. The truth is that most of what we call behaviour is the result of karma. What we often miss is the fact that karma can be supportive as well as a discomfort. Love is karma, as is hate. These are learned responses which commenced before the emergence of life itself, and I mean that in the absolute sense. We will meet karma later in the book.

Before life emerged there was matter, and all matter is in the presence of information that we can call consciousness. It is also fair to say that before life emerged there was information available to organise matter to the point where it was able to support the chemical interactions, which we are told made life possible. Much of what is written about consciousness centres on the human mind, or more to the point, the human brain. The experiences I have described show that consciousness is not exclusive to an individual, or to just the human species. From Yoga we have seen that consciousness can be quite detached from the person, as is the case for the person who is free of her/his samskaras.

Before we leave the matter of samskaras behind I want to return to something I said about samskaras in Chapter 2. This

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was the first time I used the word, along with the phrase, modifications of the mind. Up to this present point I have said quite a bit about the effect these modifications of the mind can have on our body, our thoughts, and our emotions. You may recall that I said that Rajas impels both Sattva and Tamas, each of which seek to dominate. Each of these words appear as vectors on the Yoga diagram, and in his discourse Patanjali says that when Sattva dominates there is lightness and harmony, while a dominant Tamas produces stupor and discord. At that part of the book I did not expand on this statement because there was a lot of background to fill in before any explanation could make any sense.

On the particular point on the diagram where these three evolutes appear there is no matter; there is only non-local information within the virtual energy Yoga calls prakriti. We are quite familiar with the idea that mind contains information; what is less familiar is placing this idea on a diagram. What impels both Tamas and Sattva is awareness (Rajas), and also at this point on the diagram we have Ahamkara which is the notion of self, or ego. Ahamkara also appears immediately above at evolute 2, and the point here is that this sense of “I” starts before there is a mind.

If the content of our memory is activated, either by a primary event or a memory, then the awareness of that active information flows between mind and Tamas as thought. At the same time the physical effect of that active information can present itself to the mind as pain or emotion. You may realise at this point that, given the samskaras we all have to a lesser or greater degree, the presence of these samskaras will produce an almost continuous flow of active information between mind and body. We call that active information thought; it is equally our feelings.

What is equally interesting is the effect of an empty mind, or one free of samskaras. That particular mind can become focused on its own stillness, as happens in meditation, and in this case one is aware of intense bliss, which is the natural state of buddhi at evolute 1 on the diagram. In addition to this bliss one can notice an increase in well-being through the energy flowing from space into the tissues of the body. This latter event is the subject of the research described in Bevan Reid’s papers, which appears in the next chapter.

I will introduce some of his more recent research, in which he looks at the interaction of space with living matter. Before we go there I have wanted to say a bit more about consciousness, especially in view of my opening remarks at the beginning of this chapter. I deliberately chose my words when I said consciousness appears to be resident in the non-local component of the universe. *Appears to be* because the examples of experience given earlier have shown that mind/memory of a number of individuals can be in superposition, which by default infers it is a non-local attribute of those individual minds/memories.

In most of our everyday lives the assumption would seem to hold because under those everyday circumstances we are rarely free from our samskaras. Indeed, in view of the fact that in the everyday world our memory relies heavily on our samskaras, our every experience and thought would surely prove that whatever we know is part of our consciousness at work.

I beg to differ from this assumption, although I can offer no solid physical evidence to support my view. What I can say is this: the second kind of memory mentioned earlier, together with the detached position of the observer in Samapatti, demonstrates that the conscious part of the observation is indeed separate from the samskara-based memory. I concede this is a radical view, but then you have to be there to know the truth of the statement. It is what Kant¹⁹ has called the noumenon.

It is the detached observer who observed the informational transactions between Sattva and Tamas via Rajas. For the most part these transactions form probably the major component of our mental activity, while a lesser amount happens in the form of immediate feelings. Please note here that not all of these transactions occur in conscious awareness, and this is true even in the everyday state. When we are more detached the highs and lows flatten out, not into depression but into serenity, with the occasional burst of pure bliss. I am aware that some will probably be expecting some science to support my thesis at this point, but I believe we need to cover a little more of consciousness before moving on to science.

For a person receiving the sort of support I provided, the picture I have given from my perspective sits in stark contrast to their experience. Take for instance the case of the young lady

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with the abused cat. She saw a short middle-aged man sit down on a cushion and place the cat in his lap. Almost immediately the cat went to sleep, which must have been a surprising event in itself. After about forty minutes of nothing happening the cat woke up and began to wash itself. I have to admire her patience!

In the case of the man with Huntington's chorea, he sat on a bean bag and after a little while his random movements subsided to a complete stop. Once again, very little happened externally for each of us, and yet the involuntary movements stopped for up to forty five minutes every time we did this. I concede that his case was a little different from that of the cat. To begin with, for a person with Huntington's chorea, the random movements subside/stop during sleep, and my presence put enough of him into that relaxed state. I know that from his perspective, he said he was very much awake because he was measuring both me and any change in his condition.

What I am trying to show here is that whatever we are in the presence of has an effect on the organism. It is not simply the case of being in the presence of another mind. The early experiments of Bevan Reid, in which he placed a 10kg lump of lead in the proximate space of a cell culture, show that when in the presence of non-living matter a living organism can suffer an effect. This last point is significant, for it points to something quite fundamental to all matter.

What is common to all matter, living and non-living, are the most basic of ingredients which are found in the final evolutes on the Yoga diagram. These are the sub-atomic particles of quantum mechanics, such as quarks, gluons etc. Of equal significance are the five basic forces from Yoga, those of Earth, Water, Air, Fire and Space. Science too has these five basic evolutes, albeit by other more modern names. Nonetheless, these basic forces live in the same domain as the quantum entities mentioned above. We can relate this Akashic space of Yoga to the non-local space of the scientist, and perhaps Earth with the non-local force we call Gravity; beyond this I would be guessing.

Penrose mentions the same space in different terms when he draws our attention to the world of ideas as described by Plato. These ideas are exactly what Kant (mentioned earlier) meant when he coined the word, noumenon. This means *the thing itself*

as distinct from what we perceive that thing to be. One of the Yoga Sutras, 3.17, refers to this in describing levels of knowledge. It says that

“The sound, the message within the sound, and the idea behind the message, all exist within the sound in a confused state. Meditation upon the sound will separate each component.”

With this Sutra we can place Plato’s ideas and Kant’s noumenon around evolute 1 on the Yoga diagram. I might add here that Bohm said that all matter contains all information, and this is yet another example of all of the evolutes of the whole Yoga diagram being present in superposition with any real matter.

Considering the noumenon we can easily understand that it is more or less the opposite of phenomenon, and therefore is not real in a physical sense. However, it is the real information associated with our perception of anything physically real, and therefore it is the information Bohm is speaking about in respect of real matter. We can relate this to our earlier comments on the two types of memory. The object of memory is obviously the phenomenon being apprehended by the process and instrument of memory. I can add here that the process is the interaction with brain tissue, the sensory system and this information; the instrument of memory is the mind. In the second type of memory the object is not present; just its noumenon which the senses and mind interpret as a narrative.

Science has been able to show, or to theorise mathematically, that the non-local space has quite a dialogue with these evolutes in an energetic sense. This dialogue has sometimes been described in terms of the topology of this space, as well as the geometric descriptions of the waveforms within the energy field involved.

What is consistent in all of these scientific treatises is the readiness of space to interact with matter and vice versa. Indeed, this non-local space has demonstrated the ability to interact and interfere with itself! Research into the interaction with living tissue is ongoing and, while the goal has always been to find the presence of consciousness in living matter, the search has proven inconclusive to date. The stumbling block being the start-

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ing position that consciousness MUST be a function of brain activity; any other model is not acceptable.

Most of the theorising, both scientific as well as philosophical, has been directed toward validating theories about how memory and consciousness fit into the model of current computer technology. From my own perspective, I believe the search is directed by assumption rather than any hard evidence. My own experience, as well as the science in the Yoga Sutras, says that both consciousness and memory are remote from the tissue under examination.

Clearly, mind and memory have been demonstrated to be non-local, if only because the minds which have coalesced in Samapatti for instance are clearly in superposition, or as Professor Hiley suggested to me, they can become entangled. The fact that the detached observer is able to differentiate, this mind from that, suggests to me that this observation is remote from what is being observed, and therefore not entangled. At the same time this detached observer is, nonetheless, not in any physical connection with what he/she is observing. This means that the observer is not physical and, at the same time, not non-local in the sense of the quantum state.

Science shows us that space does indeed have an input into living matter, and that the input is quite significant. At the same time my own experience shows that consciousness can have an equally significant effect on living matter. What we need to appreciate is the fact that the living tissue is in the presence of mind, and that mind is in the presence of consciousness.

These two observations lead me to suggest that consciousness, as something remote from both living matter and space, is driving the effect. My experiences show that mind, and therefore consciousness, can be entangled with another mind. A word of caution here is that the only reason consciousness appears to be entangled with living tissue is because it is the observing mind which really is entangled with that tissue.

The central cause of this entanglement is that of identity. In addition, the experiences I have offered show that this entanglement can have an effect on living tissue associated with an entangled mind. Finally, they show that mind can have a degree of access to the memory of another mind via this entanglement.

Taken together, these observations suggest to me that consciousness is something quite separate from both space and matter. In a conversation with Bevan Reid on this point, he said that perhaps we should say that consciousness parasitises matter. I would have to agree with him on this point, provided that we realise that this metaphor of a parasite is intended to indicate that the so-called parasite is the vehicle through which consciousness carries out its transactions with matter, and we call that parasite awareness.

Another point I would take from his metaphor is that the word, para-site, can be taken to mean being in parallel to the superposition already existing between mind and matter, which can lead us back to entanglement, and I think this is much closer to the mark. If this is the case, and I might add it is consistent with what Yoga has to say about consciousness, then perhaps the search for consciousness as a biological event in the brain is destined to remain a Hard Problem for the philosophers.

As I write this I am reminded of a conversation with a neighbour about ten or more years ago. I remember it because it spurred me on in my thoughts about memory in space. In that conversation he had told me about his activities as a bee-keeper. He would take his beehives to orchards to facilitate their pollination. What struck me particularly was the fact that he moved the hives from place to place, often a hundred miles away, to do this pollination service for the orchardists.

I wondered about this because I realised that the bees would obviously have to establish this new location for their particular hive as soon as they emerged in the morning. The story about a bee's dance that tells its associates where the nectar can be found is well known, but I had never had to take into account the fact of the bee having to cope with this frequent change of location. For me, this need to frequently update the bee's geography must surely indicate that bees have some form of working memory, and in view of the amount of information that would accumulate over the lifetime of a bee in these circumstances I could not accept that a bee's brain could possibly contain it all.

The result of my wondering was the diagram **Fig.4.2** in Chapter 4, although at the time of writing that chapter I had forgotten its origin. My reason for including this is my belief that the

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memory of the bee must surely support the Penrose viewpoint that information (from space) can interact with brain tissue. I cannot believe that a bee's brain is large enough for the obvious memory capacity required to meet its navigation and communication needs within the conventional model of memory. However, if the information from space interacts with the non-local potentials which become matter, then the size of the bee's brain is no longer an issue so far as memory is concerned.

Chapter 10

The relationship of space and matter

In the previous Chapter I said that consciousness is something quite separate from both space and matter, and I reiterate that space in this present context is the non-local space common to quantum mechanics and Yoga. However, there is a lot we need to consider about space and matter, quite apart from any conclusions we may draw about consciousness.

Quantum theory is as much about the interaction between space and matter as it is about interactions between particles. For many years the search for the so called God particle, the transition from massless particle to one with mass, has failed to define any proof of such an entity. In contrast, the ancient Hindu system enumerates five gross elements or states of matter. Our Yoga diagram comes from the Sankhya school of Yoga, and takes us to the point in creation where matter becomes atomic. Another school of Yoga, called the Vaisheshika system, tells us that the earliest masters defined this finest particle as having no mass but merely being a point in space. Conjunctions of these points later produce mass. This system is thus atomistic.

It is from the Vaisheshika system that all the physical sciences in India, such as alchemy, chemistry and pharmaceuticals branched off. I believe this supports my claim that Yoga is indeed a science. I think we can take such a point in space to be relatively without physical dimension, and therefore conclude

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that such a point would be the minimum possible; in other words, the Planck Length. Furthermore, the conjunction of a number of points without mass stands out for me as another way of describing the superposition of a number of particles!

This early system is concerned with the physical properties of matter, and how the self and mind use those properties. Hence it takes into account only nine substances:

- 1-5. five gross elements of Air, Fire, Water, Earth, and Space.
6. time
7. dimension
8. mind
9. self

These nine elements correspond to the evolutes on Arya's diagram numbered 3-23, although I note here that the numbering of these nine elements runs from the bottom of Arya's diagram up to the top. In contrast to this list, Arya's diagram follows the Sankhya school of Yoga, which is concerned with the whole reality. What is of particular interest here are 6 and 7, time and dimension. On Arya's diagram these would equate to evolutes 14-18, which emerge *before* the five forces or gross elements. Therefore, 6 and 7 on this list are the dimensions of time and space *before they become entangled*. This suggests to me that the ancients perceived this entanglement to emerge from the first disequilibrium. Thus we can now say that what I have called zero lies within this zone on the Yoga diagram.

Given that space and time are not yet entangled at this point, time and space exist independent of one another *in that state*. Surely this is another way of grasping what I have suggested is the nature of non-local space. In a state where time is unrelated to space, the speed of light would not bear any valid relationship to an event that may happen within the everywhere charge-field/virtual energy. Perhaps we can posit that the measurement problem that science finds anomalistic relates to the fact that making a measurement has the effect of bring part of a non-local event into real spacetime, and therefore has the effect of selecting a particular potential from the virtual component of the event being measured.

The EPR paradox can be viewed in the same way. While Einstein may have been uncomfortable with the apparent exchange of information between two entangled particles happening above the speed of light, if the entanglement involves both spin and the orthogonal of the particles, then measuring the spin component on one leaves the orthogonal component in the non-local state on its pair companion. Thus the speed of light is not relevant to the observation.

So far as this current discussion is concerned, it is sufficient that we take note that within the earliest of Hindu teachings people had become aware of the other side of zero. All of this knowledge had been obtained through direct perception, without the assistance of mathematics.

All of this happened more than 6000 years ago, and we can see from what has been retained that they knew of the existence of particles and atoms. Indeed, this was known to them millennia before Democritus gave the early Greeks the atom. Along with the microscopic world was the awareness of time and dimension in the same context as we use the term, space-time today.

The ancient texts were originally passed on through an oral tradition until the advent of written language. Nevertheless, through scrupulous adherence to the purity of their message, students were able to remain fully informed without deviation from the original information. The earliest teachings are the Upanishads, and that word means *to sit near the teacher to learn from him*. What was learned was knowledge of Brahma, the purpose of which was to dispel ignorance in order to achieve self-realisation. This knowledge became known as the Vedas, and was added to over time by subsequent teachers. I can see a parallel between the concept of sitting near the teacher, and the process of Samapatti. At some later stage specific parts resolved into Yoga, and this was documented and simplified into a series of easily learned aphorisms by Patanjali. Much of the same knowledge is presented in Buddhism as religion.

In view of this existing knowledge within that early Hindu tradition, I believe it is fair to say that their position on consciousness is based on solid ground. My own experiences do not fit within the present world view of western thought: they do however resonate with that ancient knowledge.

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To return to the subject of space in the yogic sense we need to be aware that what we need to keep in mind is the significance of the Planck Length. This is a sort of interface between the quantum domain and classical physics, for we know that up to this point science is predictable. Beyond it we are in the quantum state, and despite all of the progress made so far in science, there is still a lot of mystery around this other side of zero. The reason for this mystery is that science has not been able to detect or measure anything on the other side of zero through any classical method. The only tools available are inferences based on theoretical mathematics.

I am inclined to think that the two minds which coalesce in Samapatti are not entangled in the scientific sense for they resume their individual viewpoints after the process has concluded. In fact, the observer in Samapatti is aware of both viewpoints, and is able to recognise each as being distinct one from the other. My experiences show that consciousness is something quite apart from the living tissue with which it seems to be in superposition and that when two minds are coalescing they must be similarly superposed.

Memory too can be a function of superposed moments of awareness; by that I mean that each moment of conscious experience as well as the flow of unconscious information that is the body's housekeeping organised against its own physiological memory system. Thus it can be the case that mental states as well as experiential events become integrated into what we experience as memory. The whole brain structure participates in both conscious thought and memory, not as the originating process but as the landscape within which our perceptions are recognised. That word too is used quite deliberately; it infers a repeated cognition by the detached observer. What I hope I am conveying to you is the idea that our thoughts and feelings are reconstructed brain connections to provide a copy of the original connections relevant to an idea or memory being recalled. It is as if the whole biological circumstance present in the original event has to be reconstructed to make an accurate scene in which we can re-experience that event.

Penrose¹² says that superpositions can be considered to be orthogonal to the other quantum mechanical forces within living tissue. The recent papers from Bevan Reid^{19, 20} give further dis-

course on the interaction between space and matter. What is evident from these discussions is that at the interface there is what Bevan Reid called an alternation between the time states of symmetry and asymmetry. The fluctuations in the virtual energy contain one dimensional (filaments) as well as two dimensional (planar) forms.

The alternation between time symmetry and time asymmetry has some resonance, once again, with the ancient descriptions of space, in which the word, ksana, is used to denote the intervals between successive moments in time. Each of these successive moments will involve entangled particles due to the fact that all matter originating from the Big Bang was involved in that common event. If, as the Hindu tradition suggests, the entrance of consciousness into the virtual state caused the first disequilibrium, then consciousness will always be in superposition with that original entanglement. If you are uncomfortable with this Hindu position then simply think of consciousness being another dimension that is capable of interacting with spacetime.

Most of the observations from quantum mechanics derive from measurement, where the particle in question is detected by some form of instrumentation. Indeed, Penrose describes many such experiments, and points out that a particle, faced with a choice of one direction or another at the point of reflection or moving forward through a half-silvered mirror, can be detected to have travelled both paths simultaneously! These kinds of quantum experiments in which a choice is inferred have led to the thinking behind quantum computing, a system which seeks to exploit the characteristic of entangled particles that can be superposed in a number of states.

Some of the work by a number of biophysicists cited by Bevan Reid speaks about the alternating flow of energy out of the space and into living matter. In this flow there is a constant rebalancing of the energy in that matter. Popp²⁰ showed that energy pumped from metabolic activity in the atomic shells can migrate to produce dense energy concentrations transmitted to nucleic acids. Their presence was demonstrated by optically active chemicals. The local chemical potential was thus high, and Popp suggested that any variation from this magnitude was to be equated with illness in the human.

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While this work is ongoing so far as pathology and wellbeing is concerned, I believe it provides the mechanism to reinforce the idea that information in the virtual space does indeed have the capacity to have input into living systems. I believe this is particularly so in respect of the organisation of these systems. Biology has been aware of the propensity for living matter to self-organise, particularly in light of the work of Ilya Prigogine¹⁸. He showed that all living systems will self-organise when they are unstable, non-linear dynamically, and have an energy flux through the system. The interface between space and living tissue fulfils these conditions, and I believe there is also a role for memory to play in this model.

If we consider the first appearance of life, and making no claims about where or how this may have occurred, it is surely a given that life in its simplest form of a single cell has a direct line from one generation to the next. I say this because prior to the evolution of a two-celled entity the original cell must obviously have been alive. As the form became more complex the methods of reproduction have changed, but whatever the method there is no ending of life from parent to offspring. Thus life, in whatever form we find it, is really the same life everywhere, and therefore life is non-local.

In that original form there would have been the same interaction between the living matter and space. An interaction that present day science says is a function of life now, irrespective of the form. The alternating flow of energy to and from any living system carries a corresponding to and fro movement of information between the living system and space. I have to add a rider here; that information will be spread across the whole spectrum described in our Yoga diagram. Thus, we have a model in which many levels of awareness can be expressed.

The following figure shows the two states of Real and Virtual alternating back and forth around the interface zero.

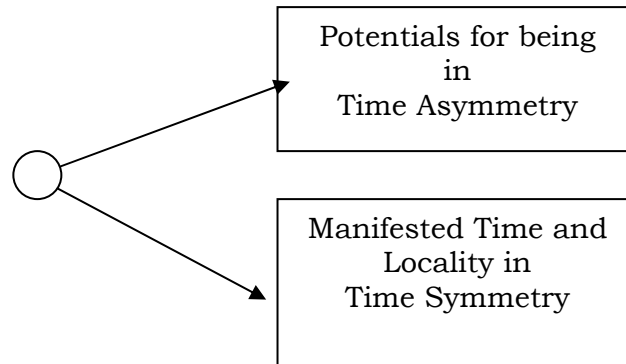


Fig. 10.1

In August 2005, an article in the NewScientist reported on the arrival of the Instanton.¹² This theoretical particle is said to be a perturbation within the gluon field that has the effect of the field sticking to itself like knots of sticky tape. The assumption is that these four dimensional vortices appear and disappear, within the gluon field, which is of course in vacuum space (the virtual state). It seems that instantons can reverse the spin of particles. What is even more interesting is the effect instantons have on quarks; when quarks pass through an instanton they gain energy, making them 60 times more massive. Since quarks make up the mass of protons and neutrons, which in turn comprise most of the mass of atoms, that means that more than 90% of visible matter owes its mass to instantons.

I find some parallels between this report of instantons appearing and disappearing and the alternation or cycling between symmetries mentioned by Bevan Reid. The four dimensional vortices were also discussed by him in 1986 in his early papers mentioned in Chapter 1.

If we consider a real prototype living cell the potential for it to be is contained in the virtual state while the expression of that potential is an actual entity in the real state. The environmental influences present on that cell will also be potential influences in

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the virtual state. On the real side of the interface, experience (being) includes the component of time and position.

For our original cell, at the moment of life first appearing on Earth, this information was formerly a potential in space, and as life began this same potential would be available for expression in similar circumstances because the environmental experience of that form of life would return to space as memory. Here is where my simple model of memory comes into play.

Information relating to one of an entangled pair of particles responds to any measurement made on its partner in the earlier model of memory. Therefore, when the system changes over these experiences become superposed on the earlier potential laid down on the previous cycle. Over the life of this particular cell this information accumulates in superposition. At the point of cell division, which in itself is a potential, the information in what is essentially the cell's memory becomes available to each of the new cells.

Incidentally, as mentioned earlier, there has not been a cessation of life. As demonstrated by Bevan Reid's experiments with the cells in the presence of lead, the information in space memory is available to each of these new cells, and while each may encounter different experiences, the whole of this new information is available to each one individually. Eventually quite a body of experience will accumulate and will provide the options for the evolution of variations of this specie and the appearance of new species.

As forms of life become more complex, so too does the information held in superposition with the real matter of each form. Individuation evolves from the fact that any individual form can have different experiences from another, and thus the information pertinent to any one individual will contain some different information. In view of the fact that the virtual information now accumulated by an individual form is also in the presence of the higher states of awareness, some species will express some degree of a sense of self.

I believe that the effect of an individual body of information will become self-ordered simply because space is capable of interfering with itself. This self-ordered information can respond to real environmental circumstances by relating earlier responses to a

present circumstance. The fact that information is spread across the whole spectrum of potential means that this self-ordering is what becomes mind, and the flow of information, whether conscious or unconscious, is what, in higher orders of life, can be termed thought.

As living forms grow in complexity, a corresponding complexity will be present in the mind-field. In the time asymmetry state this virtual information can flow from the future to the present, setting up the changes required in the physiology to accommodate this increased complexity. Thus in the evolution of a brain, albeit a simple one, the neural pathways for sensory input and motor output can be modified on the run for practically any situation. Penrose cites cases where a patient has had half of the brain surgically removed, and with specific therapeutic exercises the remaining half of the brain takes over the functions of the part that was removed.

So the hard wiring does not necessarily dictate an absolute role for each neural network, or for any individual pathway. If this is so, then the electrochemical activity evident through brain imaging does not necessarily infer that thought for instance is emerging from the active tissue. It can just as well be that the activity evident on the scan is the result of information from space activating specific parts of the brain to replicate an earlier connection structure related to the present information.

Perhaps this explanation can help us to understand what Patanjali meant by modifications of the mind. When one is faced with a particular situation the mind produces a response, which can be physical, emotional, or mental. Any of these responses can be regarded in terms of the explanation given above. When one has overcome the modifications of the mind, the same situation is merely observed, and the choice of whether to respond or not is there to choose. In fact, when the modifications of the mind have ceased to have an effect the question of choice does not arise at all. Overcoming the samskaras (modifications) does not involve any physical change to the neural networks. It simply means that the mind is focused on Buddhi rather than on Tamas (the modifications) and therefore has no automatic response because Buddhi is a detached viewpoint.

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For example, the absence of grief is given by Patanjali as evidence for these modifications subsiding. The detachment I had found during the years helping Emma was brought into stark relief as I experienced the truth of Patanjali's proof. In the latter part of 2000 I joined my family at the bedside of my daughter Tracey. The heart and lungs transplant she had received five years earlier had been rejected by her body, and she lay in a coma. In a room filled by grieving family and friends I waited to take my place beside her. When I sat there contemplating her beautiful face it seemed to be streaming with light. But rather than grief I entered into a state of absolute bliss.

This was definitely not an emotional state, for there were no attendant physical sensations. Later, I was able to remember that I entered that state at that time, but it was just an observation with no physical activity present. This experience demonstrates the second part of memory mentioned in YS. 1.11, which does not include the object of memory; therefore I am unable to re-experience that state of bliss because it was an experience shared with someone who was established in the non-physical state. In effect, it was a Samapatti experience. There was no grief then, and this has remained the case. So far as Samapatti is concerned this experience demonstrates her state at that time, which must surely be at evolute 1. With her body in a coma there is little likelihood that she had consciously done anything in a mental sense. Her awareness was on the other side of zero, and I had the privilege of sharing that with her.

This experience brings our discussion back to the point about the superposition of minds in Samapatti, and my point is that matter and non-local space are in a similar superposed state. The special relationship between space and matter is the relationship inherent in superposition. What this means is that while science has defined the boundary between real and virtual states there are transactions of energy and information across that boundary. The paradox is that the space is non-local, and therefore it encompasses all physical localities. Furthermore, it encompasses all matter and all time.

Therefore, the effect of the first disequilibrium can be regarded as being active across all time and all physical space. This is the energy flux mentioned by Prigogine earlier, and while he was discussing self-organisation in living systems, I believe it is fair

to say that all matter is subject to the same self-organising principle. So whether we are considering the spherical standing waves of Wolff and Haselhurst or the formation of galaxies, the initial effect of that first impetus remains in all matter as well as all space because it is a non-local event.

What is probably less obvious is that the stillness in Prakriti prior to the first disequilibrium is also available, and this is what I believe the state of bliss to be. I can understand some people labelling my experience with Tracey as a spiritual or religious experience. What I know from experience is that the times in which I have been in this state of bliss had nothing to do with anything religious or spiritual. It was in those times where Samapatti took me into another's most intimate state of being, as well as those times when I took them there.

It is easy therefore to also understand why some people believe themselves to be in love with their counsellor, healer or whomsoever does this for them. The danger lies in the fact that there are times when this Samapatti state is quite unintentional, or that the practitioner has something less than the best of intentions. Despite these difficult aspects of accidental Samapatti, there are more inspirational sides to it.

For example, in the week following my daughter's death I attended a concert in which my wife, Cecily, was singing a solo part. As she gave herself to the music I slipped back into a Samapatti. It was not the same bliss state, but it was the same process. The same can be found in the play of children, in volunteers working for a community and in customer service.

What impedes Samapatti is competition, whether in business, religion, sport or politics. Whenever we reach a point where "I" is dissolve and becomes "you" Samapatti always leads to some level of bliss. It is the universal tragedy that our society has embraced the notion of market and competition at the expense of what was once our humanity.

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Chapter 11

Putting it all together

At this point I want to make an outline of how I think I can put forward my notions of mind and memory (being external to the physical body) utilising my model of memory in non-local space. The model itself will evolve as we proceed because we will have to include all of the other observations made from experience. I must point out that there is no practical way to separate anything in what follows for the simple reason that reality is, as Bohm said, whole in the absolute sense of the word. What this means is that, just like Bohm's analogy of the hologram, every part is interdependent in its relationship with every other part of the whole. So for that most fundamental of reasons I can only press on with this outline of everything.

What I have presented so far are my observations of events and circumstances science would classify as anomalies. In contrast, Yoga makes no such classification: rather, Patanjali, and the writers of the Vedas before him, would say these events and circumstances serve to understand reality in its wider context. To accomplish this I begin by pointing out that this model would have applied to every living system, all the way back to the first disequilibrium. The recent papers I received from Bevan Reid explore current theories about the transactions occurring at the Fermi surface, where a number of waveforms interact in space. Fluctuations in the energy of non-local space give rise to these transactions, which add energy to any matter associated with

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that space. I should point out here that the non-local space is the whole of reality. While the fluctuations orthogonal to the Fermi surface are most significant, in a cockeyed sort of sense any incident wavefront in the non-local space will be orthogonal to a spherical standing wave for example. Further to this we find there are abruptions in the time symmetry/asymmetry related to this interface between matter and space. These abruptions effectively pump the influence of the space elements in and out of the associated matter.

Roger Penrose says that a number of wavefronts orthogonal to the interface can be in superposition. I would assert that this superposition could also include the information I have defined as memory. To return to our first living system I am saying that as life developed there would be an accumulation of experience being added to its memory field. What is perhaps even more important is that the potential for that living system would exist prior to its appearance in physical space. Quantum physics tells us that events in the real world are preceded by corresponding events in the virtual world. Thus what made life possible in the first instance was not only the right collection of chemicals in the right place and the right time; it was that the arrangements of these elements corresponded to a similar or perhaps an identical arrangement of individual potentials in the virtual state. This is sometimes referred to as coherence between the information in the two states.

This brings us to what is a requirement for the existence of any living system. Prigogine and Stengers state that “*non-equilibrium is a source of order*”, and suggest that “*both the biosphere as a whole as well as its components, living or dead, exist in far-from-equilibrium conditions.*” They continue: “. . . *life, far from being outside the natural order, appears as the supreme expression of the self-organising processes that occur*”, once the conditions for self-organisation are satisfied, so life becomes as predictable as the Bernard instability of a falling stone. (Günther and Folke).⁹

What I am suggesting is that one of the conditions for self-organisation is the availability of the potential for such organisation, and I suggest that this potential in question is in superposition with the physical elements about to participate in the self-organising process. I am not concerned with finding the mechanism for the first appearance of living systems; what I am con-

cerned with is how the form and function of living systems can become a reality when all we have to start with is a collection of chemicals and some energy.

In living systems the potential for the self-organisation we are discussing here gives rise to what is called evolution. The potentials alternating back and forth between the real and virtual states provide the iterative framework for the changes in form and function at the cellular level, in the DNA structure, and in the function of the whole organism. To put this in perhaps more familiar terms, the iterative process that gives rise to the fractal forms of Mandelbrot can be a useful analogy of this same iterative process. The recent work of Bevan Reid has shown me that from the interactions at the Fermi surface of tissue in contact with the virtual information there is a similar iteration in the frequencies within the energy found in living tissue. Different organs respond to different frequencies, and these differences are exploited by the therapist applying acupuncture needles to the meridian systems throughout the body. These frequency differences are also apparent in the micro-tubules within the neural networks in brain tissue.

Perhaps a simple analogy can demonstrate Bohm's Implicate Order, and by inference the production of a stable structure within a transitory or iterative field. In this analogy the transitory field will be a river. Most of us have observed that a stone in the stream will produce a vortex downstream from the stone. If the flow is consistent and the stone is unmoved by the stream the vortex will be stable. What we rarely consider is the simple fact that the water in the vortex is changing moment-to-moment. We can calculate the forces acting on the water as it passes around the stone to form the vortex. We can even describe the process and identify the potential for the vortex to form and to remain fixed in that space. What we rarely consider is the fact that the potential for this vortex was realised because the elements required for its manifestation were all in place. I have to add here that the actual water component of this manifestation was constantly moving into and out from the vortex in an iteration much like that mentioned earlier in this chapter.

If we allow a parallel of this analogy to include the flow of information into and out of the virtual field, then the facility of self-organisation afforded the sea grass balls (in Chapter 8) by

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the action of waves at the shoreline fit within the analogy. The point I make is that a potential in one medium can manifest a structure in another separate medium, and the subsequent structure retains its form beyond that potential-carrying medium. Taking the notion a little further we could say that the potential we used in the analogy is information in the virtual state. This is critical to my whole thesis, and an examination of the Yoga diagram from this perspective permits us to better understand just what Patanjali was conveying to his students.

Yoga says that the first disequilibrium arises from the entry of consciousness into Prakriti. To put this into a more familiar perspective, let us continue with the analogy of the river and its vortex. When the river is at rest there is no flow and therefore no vortex. In the case of the Amazon River, where the length might be 6,500km or thereabouts, the potential for flow exists along the whole length but it will only flow if one end is at a higher level than the other. The same circumstance is required for any section of the whole river, and thus one part can flow while another is at rest. The potential to be at rest co-exists with the potential to flow, and it is reasonable to say that these two potentials are in superposition in every molecule of the river's water.

In the state prior to the first disequilibrium (which sounds more practical than the Big Bang) every potential possible is in superposition. Furthermore, after that initial event the whole potential will remain in that same superposition. Information relating to the event will also be in superposition with the original potential in the virtual state. This virtual state is what Yoga calls Akasha, and in view of the informational aspect ascribed to it we can say that Akasha is also a state of potential.

What is important here is the fact that information as the potential for an event co-exists in superposition with the information relating to that event. With this observation my model of memory has transformed from the synergies shared by two co-emergent particles to become a more likely process. In terms of the analogy of the river, the potential for a vortex as well as the vortex itself co-exist as components of the river.

Over time the potential for matter manifests as hydrogen and the subsequent elements along the periodic table. The actual process of manifestation is one of self-organisation, and that

process is the result of information from experience being added to Akasha. The iterations of the process give rise to the next variation of the former information available as potential. The process can be used to understand both the microscopic and macroscopic scale of universe building.

What may not be obvious is the fact that prior to the first disequilibrium Akasha is at rest, with all of the potentials inactive. This 'at rest' state allows us to notionally separate consciousness from the virtual potentials to consider what follows from the first disequilibrium. We also need to recognise that this is a non-local state, and that whatever ensues will become a permanent attribute of the emerging field of potential. What this means is that each step of the process is retained along with the result of that step. If we apply this process to the consciousness embedded in the virtual field through Samapatti we find the same iterative process. This is what Arya's diagram illustrated, albeit in a rather esoteric form.

Therefore at evolute 1 we have the presence of pure consciousness along with its reflection on the field of potential. The same is true over the whole diagram, which means that whatever level we are considering on the diagram, there will be a subject and an observer. This has given rise to the esoteric notion of self and soul, as if they are somehow different from mind so far as responsibility is concerned. They also form part of the concept of spirit.

What is more important is that these different levels of consciousness exist in the field of potential, and therefore in the subsequent emerging matter. This raises an interesting point, especially if we note that what we might call spirit is the aspects of consciousness between evolutes 1 and 2.

If we recall the Wolff and Haselhurst letters relating to spherical standing waves arising from quantum fluctuations we can see that prior to the first hydrogen atom there must have been electrical charge. The charge is at rest and therefore there is no oscillation in the energy, reflecting the state prior to the first disequilibrium. What becomes Wolff's spherical standing wave are two entangled charge density waves, and the in and out components can be regarded as being orthogonal to the two wavefronts.

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Here too we should be able to assign a level of consciousness akin to spirit. In a similar vein, hydrogen itself must have some connection to this realm of spirit. Esoteric notions aside, what I am saying is that in these spherical standing waves and the subsequent hydrogen atoms we find the highest expression of the virtual potential: Bohm's wholeness and implicate order. Therefore, the reflection of consciousness that some might call spirit is present in that first hydrogen atom, and all matter flowing from the process. Thus we can understand just why Bohm said that all matter contains all information.

As the potential unfolds into experience, information arising from that experience returns to the field as memory. What we can also posit is that the initial experience of the forces within a hydrogen atom as it interacts with other hydrogen atoms can be similarly retained in the field. The process of information unfolding and infolding drives self-organisation and the resulting permutations of hydrogen led to the universe as we know it today. At every step or permutation of self-organisation the experience was retained in Akasha, which is why the process did not stop at just one atom of hydrogen.

In the opinions of some commentators science and Yoga are incompatible so far as notions of consciousness are concerned, and we need to revisit some of the experiences I described earlier to develop that aspect of our model of reality. To begin I point out the observations I made about sentience-at-a-distance, the anomaly underpinning all of my healing practice. Professor Hiley has suggested that the experience with the cat pointed to the probable entanglement of the minds involved in that experience. However, if we consider the two Yoga Sutras quoted we find that the Yoga term, "being in the presence of" is more accurate than entanglement. This is especially so when one considered the experience from the healer's viewpoint. It is always the case that the healer can remember what happened in the process of healing: what does not remain is the pain or pleasure felt during the process. From the subject's viewpoint the sensory attributes of the event are remembered, and can be recalled with those same feelings present.

This last point is important, because it makes a distinction between the healer's conscious mind focused on her/his body and on an external subject. This is directly related to the two types of

memory described in the Yoga Sutra 1.11. Similarly, the coalescence of the minds in Yoga Sutra 1.41 is not a true entanglement in a quantum mechanical sense because the passage of information ceases when the mind is refocused at the end of the process.

Yoga tells us that Purusha is wise, ever pure, ever free. The last paragraph gives an insight into what is often considered to be esoteric in that statement. What it really means is that for the subject, the memory of the experience resides as a potential enfolded into the virtual state. It is also enfolded in the potential of space and time as part of the process that created the matter of the subject's body and therefore the subject's identity. On the other hand, the memory of the experience for the healer resides at the level of Mahat. It is beyond identity and therefore evokes no sensory attributes with its recall. This also serves to help us understand the view that Purusha is without a distinguishing mark, meaning that any part of the evolution of the universe that Purusha may observe has no effect or imprint on Purusha. In other words, Purusha has no memory. Taking this a little further we can see that consciousness (Purusha) is similarly remote from the virtual state and could conceivably exist as a separate dimension.

If we take the view that the evolving universe is the subject of Purusha's observation, then it must follow that all potential and therefore all matter is conscious to some degree as the result of Purusha's Samapatti. The consciousness in the potential is available to whatever potential becomes matter, and has different qualities depending on its focus. The consciousness in potential is also available to the potentials which do not become matter. As our stone in the river produced a vortex in the river, the consciousness within the holomovement will produce a mind, and mind is not matter.

In the first paper I read of Bevan Reid's work he talked about vortices in a stream of virtual energy. What was significant in his discussion then related to the stability of the vortices. He said that unstable vortices produce long filaments or strings which can lead to filamentous protein. In the work of Gunther and Folke we saw that instabilities in a living system lead to self-organisation, so there is some relatedness in the analogy of the river. These instabilities in the energy of the virtual state can be

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regarded in the same way as instabilities in the vortices in the river in that while we can say that the system of a string of vortices may appear to be relatively constant, the strings themselves as well as the energy forming those strings are constantly changing.

So when a mind forms it is immersed in both potential and consciousness. Should that mind be superposed with living matter it assumes itself to be that matter and the life within it. The consciousness of that mind identifies with all of the experiences accumulated over its lifetime, and this accumulated information is what informs our decision making. Yoga calls this accumulated information Samskaras.

The objective of meditation is to have the mind become still. When this is achieved the mind reverts to being in the presence of the detached component of memory. Through practice this detached component becomes the primary viewpoint for mind, and the former responses to our Samskaras diminish. In other words, our mind takes on the qualities of Mahat rather than those of Tamas, which are the accumulated information mentioned above. Alternatively, a healer can provide the same diminution of responses as a means of respite. This is not a panacea for all of our ills, but it has been very effective for the people I helped at the end of their life.

With continued practice, the mind becomes the servant of the observer, and the conscious viewpoint becomes superposed on the reflection of Purusha. In this state the self is said to be established in its own essential nature, which is pure consciousness.

In the time I have been healing I found that energy appears to know where it is needed. Other healers have told me this has been their experience as well, and we can relate this to both the neural networks and to the diagram. When one's awareness is focused on healing one is in fact focused on the buddhic level of awareness. If we relate this level to the first levels of organisation in the virtual field we are where the information relates to the whole rather than to an individual. Therefore, the information here relates to what Yoga calls purusha, the reflection of pure consciousness. In other words it relates to consciousness unaffected by samskaras.

Therefore this relatively pure information becomes quite distinct from that possessed by the individual being healed, and the part of the body in distress reacts to it. For the receiver, the distinction is felt because the incoming energy carries with it the intention of the healer, which also resides at this higher level. If we say that the quality of information is relative to the wavelength of the energy in the virtual field, then it is fair to also say that a difference in wavelength for two sets of information provides the necessary instability to support the self-organisation I am asserting takes place. In other words, it self-organises against a set of rules which Bohm would call the Implicate Order. In management terms, Buddhi represents an organisation's mission statement, and the corresponding mission statement for an individual is likely to be different to the mind's moment to moment viewpoint. These different levels of organisation determine what information arrives at specific parts of the neural network, and this too supports the Penrose position that information enters the brain via the microtubules in the neural structure.

So far as evolution is concerned, I believe that the changing nature of the physical environment provides the instability that Prigogine said was necessary for self-organisation in living systems. Throughout the time life has been present on Earth there have been micro and macroscopic changes to the environment, and all of these changes would have had an effect upon all of life. This is especially so if we consider relative constants like a mission statement compared to an organism's desire to resist change. Given the individual differences in the DNA within any given specie, the effect of these changes would produce a wide range of responses; some beneficial and some less so. We need to move our conceptual position of what God or the self-organising process is all about. For instance, God is not concerned with any particular individual or group, and therefore the responses to an environmental change are impersonal and can therefore throw up a wide range of options. Some of these will produce successful adaptations and some will fail. If there was an intelligent designer in this process there would be no need for the unsuccessful adaptations. Indeed, there would be no environmental changes!

This is natural selection as we know it, and it is implicit within the whole. To suggest the alternative view, offered firstly by the

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Creationists and more recently by the proponents of Intelligent Design, requires the whole to have been designed by what they call God. The whole has given us the means by which life is eminently adaptive, and it is this adaptability which drives evolution. I am unable to support the notion of Intelligent Design because the same people who push this viewpoint also lay claim to being part of the group chosen by this God/Designer. Here the impossibility for God is to provide a functioning adaptability for the exclusive use of this group. We all bleed red; we all have the same strengths and weaknesses, and I cannot see any evidence for any group of life being particularly special in that sense.

Yoga equates the notion of God to pure consciousness, and as I said in the preceding discussion, this pure consciousness is unaffected by any of its observation of reality. To be absolutely objective about this I would have to say that any attributes we may seek to project onto the notion of God remain in our minds. They do not pass “up the chain” because the observer, God, remains detached from our mind. Therefore what is conventionally understood to be God must be a thought-form at best. This point is where the mystics of all religions separate from the run-of-the-mill concepts served up to unquestioning believers.

In any event, if this God responds to the entreaties of humans it is certainly not evident in the world today. What is being called God here is really just the interactive nature of the information being expressed by the whole reality. Thus, as mentioned at the end of Chapter 6, the self-organising faculty of the field can give an apparent response to prayer just as it can respond to environmental changes to produce what has been regarded as evolutionary change. So the notion of Design is simply a response to a change in circumstance, and I believe that is quite different to any deliberate Design. It is more aligned with Bohm’s Implicate Order, although it is equally consistent to the momentary changes in the microtubules mentioned by Penrose. These structures include filamentous protein, and as such have a high degree of permittivity, thus making them a perfect medium for carrying and storing electrical charge. Science tells us that real fields can interact with virtual fields, and therefore the mechanism I spoke of earlier in which a virtual field can inform matter and vice versa is capable of providing for the reconstructing of biological states related to a thought or memory.

The model of memory I have presented is intended to introduce the idea of a process capable of exchanging information between the real and virtual states. The experiences described earlier, together with the experiments of Bevan Reid, demonstrate the fact that information can indeed reside in a physical space, and can be recognised by our mind via the senses. Which particular senses operate will vary from one individual to another, but the result is the same so far as the mind is concerned. In the context of the river analogy, mind can be regarded as a stable vortex or structure in a stream of moving energy (the holomovement). Therefore, a part of the information flowing in that stream may be momentarily present within the flow through the structure. The momentary effect that information has on the vortex is retained as part of the structure, even though the actual information itself has moved down the stream. The effect has modified the structure, and this modification is called a memory: the first kind of memory described in Yoga Sutra 1.11. Purusha, the detached observer watching the stream, will recognise the experience without being similarly modified. This detached observation is the second kind of memory in that same sutra.

What I want to do now is to transfer the river analogy into to our discussion of that part of the Yoga diagram relating to mind and the potentials for the five physical senses. What we need to be clear about is that these are the *potential for the senses*, not the physical senses themselves. My reason for pointing this out here is that my whole thesis is predicated on my assertion that both mind and memory are non-local elements in space. It follows therefore that the potential for senses is also non-local information. The differentiation within that information comes from the inherent self-organising potential within the whole. To that extent I would also assert that Self, Soul or Spirit are also the result of the same self-organising process.

We can say that sensory input within the body will correspond to the potential for that input. This sensory input is present in the neural networks, and therefore will influence the waveforms present in the microtubules. These waveforms reach the non-local state through the iterations mentioned above, and can therefore participate in the self-organising of the now non-local information being observed by mind. Whether this is an observation or not is irrelevant: I would assert that the fact of being self-

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organised makes the information available for recall, and it is that availability which leads us to assume the mind has made an observation of the event in question.

Over a period of time the individual who has participated in this particular life becomes a characteristic of this information and the reification of it, and so becomes another part of the self-organising process. I believe this ubiquity of the individual in all of the events being retained in the space takes on an identity of its own. By inference it is present in this common body of information and from this the viewpoint, "I", evolves. In the context of Yoga Sutra 1.11 we can say that body senses and the potential for these senses form part of the instrument of apprehension of the object being recalled. The mind is the cognitive part of apprehension, with the cognitive faculty coming from Buddhi in a Samapatti or superposition with mind. Thus we have developed the earlier simple model for two particles to the point where it can represent the model described by Patanjali. Yoga puts the view of Prakriti as an equilibrium state prior to the first disequilibrium, a parallel to the view of physics in respect of the state prior to the Big Bang.

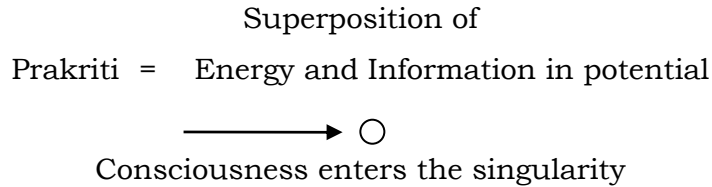


Fig. 11.1

Yoga tells us that the highest level of the state of Prakriti is the indivisible duality of Knowing and Being, and I would interpret this as a description of the whole potential present in the energy of the virtual state prior to the first disequilibrium. In view of the absence of the dimensions of time and space, consciousness as an external influence was impressed on that whole potential, and therefore on the potentials of time and space. We can show this with a simple diagram. Note we have no zero on this diagram because it all takes place within the non-local space of prakriti. The arrow on the diagram is there to point to the singularity into which the former universe has collapsed. This is the moment prior to the change from collapse to expansion of the whole material universe.

The indivisible duality of Knowing and Being can be understood to be a superposition of the two potentials, and as a consequence all that will become manifested as matter must have an informational state corresponding to these potentials. The fact of their indivisibility also infers the superposition. Let us consider how this could be. If we leave out what might have caused the Big Bang, or whatever that might have been, and click back to just before that event we have something quite profound to consider.

For example, if as Yoga has said, that the whole process is cyclic in nature, then before that signal event the universe would have been contracting down to this particular singularity. Such a contraction would have contained what is essentially a whole universe, together with its whole history, both physically and informationally. Therefore the singularity would contain what we can safely call a whole potential, which is currently unfolding in our present universe.

Returning back to the indivisible duality of Knowing and Being, of course it would have to be in superposition because that whole universe had been contracted to such a point. I suggest this superposition may be the mechanism underpinning the relatedness found to exist between entangled particles, and it is the basis for my model of memory. We can now look at the model as one in which all matter is entangled with the potential to know both real experience and the virtual potential.

If, as the Hindu tradition suggests, the entrance of consciousness into the virtual state caused the first disequilibrium, then consciousness will always be in superposition with that original entanglement. Subsequent fluctuations flowing out of that first disequilibrium carry both their own potential as well as that of the first, and so on ad infinitum. This sets up a hierarchy of potentials which we saw in the Yoga diagram. Sheldrake and Fox proposed a similar hierarchy in their book, *The Physics of Angels*²³. The fluctuations within the virtual energy are, by virtue of the fact that there are no space/time dimensions present, a continuous movement through the whole field of energy. You may recall that Bohm called this motion the holomovement, while Popp told us that in this flow there is a constant rebalancing of the energy in that matter.

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At the end of Chapter 8 we discussed the effect of wave action (fluctuations) at the interface of sea and beach which produced the sea grass balls. I believe the elements Prigogine mentioned are present in this formative process, and in that passage I used the example to provide a simple analogy of self-organisation in the presence of a potential. My assertion at the time was that the self-organising potential could equally be applied to the virtual field of non-local space. When we apply this notion to the virtual field it is entirely reasonable to say that the hierarchy I suggested for the potentials is what Bohm called the Implicate Order within the whole Reality. Taking the notion of information present as memory in the non-local space a little further leads me to yet another researcher in this field.

Recently Bevan Reid has given me a number of examples of the work of recent researchers in the field of Quantum Biology which serve to fill in the gaps between my assertions from Yoga, (and the subsequent model of memory arising from these) and the potential for science to support those assertions. To be fair, I acknowledge the obvious fact that such support is not necessarily the intention in their research or their philosophies.

Glen Rein²¹PhD practises in the field of Quantum Biology, and I think that is an appropriate name for what we have been discussing thus far. Rein says that:

“classical and non-classical electromagnetic energy can be stored in physical substances such as water (Schwartz 1991). Furthermore, the stored energy is biologically active when this water is added to a variety of biological systems (Gagnon and Rein 1990). One of the biological targets of the stored energy was the DNA molecule. In addition to these responses to stored or imprinted energy, it has been shown that this energy-holding water acts as an antenna for other forms of subtle energy (Rein 1994a). Thus, it has been discovered that in addition to classical electromagnetic fields (Semin 1995), subtle energy resonates with the DNA molecule and causes physical changes in its secondary structure and unwinding of the helix. In some of his research, Rein demonstrated that human intention can be similarly stored in water, and this was detected by measuring changes in the optical properties of the water using a special form of ultraviolet measurement. (Rein 1992).”

What Rein's work offers is more evidence of memory being present in matter, and that the information within that memory can be made available to a living system. Moreover, this memory can also contain human intention, which we can say reflects consciousness. These examples reinforce the examples from the earlier research of Bevan Reid which first set me on this odyssey. In his work he showed that memory is present in space, and although the work of Rein may be interpreted as saying that memory is in the water, it can equally be understood as suggesting that memory is once again in the non-local space occupied by the subatomic structure of the water.

It almost goes without saying that living systems contain a high proportion of water, and I believe we can include brain tissue in this observation. My own view is that much of the properties ascribed to water by Rein could be properties of the hydrogen component of the water. Remember that hydrogen was the first atom and therefore can conceivably be considered to be in the presence of the initial potential for all matter. This initial potential would relate to the subtle forces of chemical bonds and the different levels of electron charge in the atomic structure of hydrogen and all subsequent matter. In this context hydrogen can be considered to be more open to the influence of potential than the subsequent levels of matter, and this must include the information of mind as a potential.

Before we leave Rein's mention of information being impressed upon water, or the sub-atomic structure within it, I just want to make the connection between this phenomenon and the claims of homeopathy mentioned in the Belfast experiment on page 16. I believe they are one and the same, demonstrating the simple fact that while there may be no detectable matter in the homeopaths diluted solution, the effect in question has been detectable by Rein. Therefore, I am confident in saying that the material provided in this chapter allows for a whole-of-body as well as a whole-of-brain system of subatomic entities, all of which are orchestrated by the iterations between the real and virtual states. Each of these entities carries within itself a lifetime of experiences and an experience present on the real side of the iteration relates to a future potential that comes into play from the virtual state. This new potential is carried to the real side to enact the next moment. In such a model the information

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about a physical activity has its correlate in the field of potential, and inversely, the conscious awareness of performing that activity returns to the field of potential as the observation. The observer I refer to here is buddhi, not mind, which is why we are not necessarily aware of the action or of a conscious decision to act.

In parallel with this information being transferred back and forth is the detached observer, although I hasten to add this state of detachment is not evident to the mind. Mind identifies with its memory, which is that of the whole person interacting with the external environment and with its memory of itself as an individual. What I am suggesting here is that every cell in the brain is in superposition with its own potential, and that potential is part of a higher order self-organising potential. Similarly, activity within a particular part of the whole neural network is part of a higher order of self-organised activity, organised in accordance with an equally higher order potential in the non-local field. It is evident that the non-local field information *informs* matter (Penrose's microtubules) ⁴ to produce brain activity. Furthermore, it is equally evident that brain activity arising from the body's external environment, as well as the relationships it is in the presence of, *informs* the non-local field. To better understand this vital point let us recall what I said about memory.

The object of a memory is *perceived* by the mind, the instrument of memory. It is brought into mind by the process of memory, which I believe to be the *restructuring* of the brain connections to become the structure it was at the time the initial event occurred. I believe this restructuring is a self-organising process in which the information in space that corresponds to the event or object being recalled is selected and made present in the appropriate brain structure to replicate the body's physical states at the time of the original event. This environmental information will include all the sensory conditions attending that event, and I believe it would be driven by the self-organisation of information within the personal body of information in space. Therefore, as Patanjali tells us, the object becomes primary in our awareness. It is prudent to note that our awareness at this point includes all of the opinions we may hold about that object of memory, and will be moulded by them to determine what we can think. Therefore our experience as memory has a determining effect on which

particular potential we extract from the whole in our thoughts about anything.

I believe that we have a structure that defines us individually, and therefore this is part of selecting just our own personal information from the whole information field. However, we can make a note here about the second kind of memory in Yoga Sutra 1.11, in which it is the instrument and the process of memory that is primary. In that case the cognition of the object being recalled comes from *Buddhi* because *Buddhi* is in the presence of the instrument and process of apprehension. In my case the information takes the form of narrative, without any physical or emotional component. By this I mean that a memory consists of I did this, or the thing was this big etc.

When the brain is physically damaged through an accident for instance, we may have difficulty in understanding, in remembering, in any or all of the so-called normal activities. The same is true when there are inaccuracies in its chemistry. I will go so far as to suggest that a person hearing voices in the head, such as St Joan or Arc, or the visual equivalent can arise from inaccurate restructuring of the incoming information. In my own case the information relating to an event or object is not made available to the brain structure, and therefore my memory only exists as a narrative. Similarly, the same defect can account for my inability to imagine. Whether this is due to the subsiding of *samskaras* or simply a brain defect is something we will probably never know, but it does provide us with a living example of some of the Yoga Sutras content provided by Patanjali.

The following diagram is useful in that it shows that the information available to the mind (instrument of memory) is a combination of both Knowing and Being. The information (Being) is dedicated to the potential for sensory functions in the body, and it is what gives mind the perception of emotion, smell and so on that can accompany a memory under normal circumstances. Another piece of understanding we can derive from this diagram is our sense of time. Saniga and Buccheri speak about eight different kinds of perception of time. From the diagram I would have to say that we each live in our own unique state of recall, a moment in time structured around the quality and quantity of the information present within that recall.

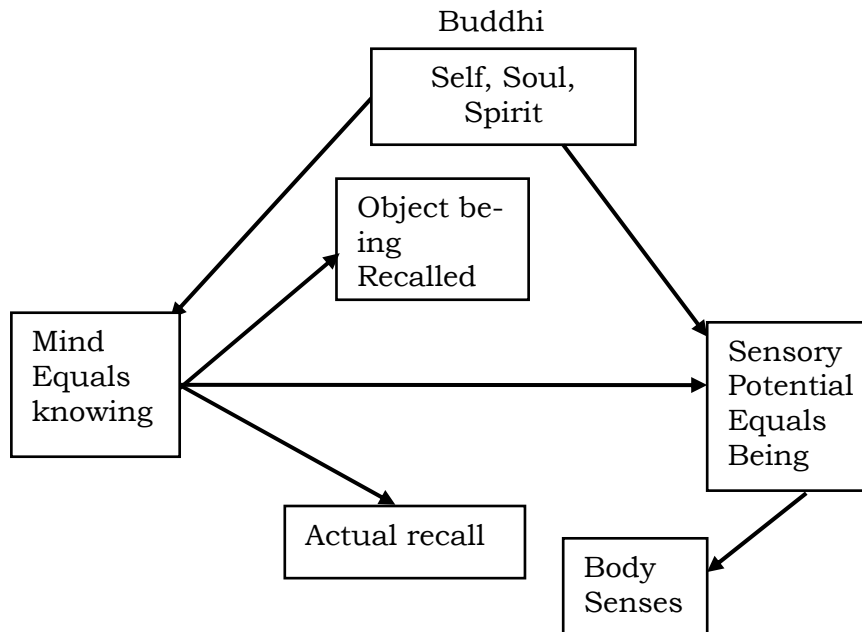


Fig. 11.2

Mind observes all of this information, generally completely unaware that its sense of self determines both the quality and quantity of that information as well as how it is perceived. The sense of self is defined by our samskaras, and these reside in the Being component of the diagram. Since all of our experience happens in real time there is always a time element in our definition of self. What we hope to achieve in meditation then is to disconnect our awareness from this samskara-derived self and connect to our essence, which is the detached observer in whom we experience the timeless state.

Mind is truly the result of this information being observed and organised. Think of it as the detached observer's intelligent scratch-pad. Remember that Buddhi has the faculty of discrimination, which is essentially the ability to self-organise information against a set of rules. Arya's words describing this faculty is in making the distinction: this and not that. In the case of mind, which is a subset of Buddhi, the rules are assumed by the mind

being in the presence of Buddhi. However, mind is also in the presence of the body, and with the body as its primary focus mind is really the captive of its bodily experience and therefore of memory. Thus mind is a self-organised body of information, and the principal model used in this organisation is memory plus awareness.

To put the passage above in a different way, we can say that all matter is underpinned by its non-local state of gluons, instantons and the like, all of which are in the field of potential, the virtual state. In fact, these theoretical particles are inseparable from the information that self-organises them into matter. So it isn't much of a leap of faith to realise that this is exactly what Bohm meant when he said that all matter contains all information. It has its parallel in Yoga where we find the virtual state described as the indivisible duality of knowing and being. I suppose where these two ideas differ, if at all, is in Yoga's recognition of consciousness or awareness as an integral part of the manifested reality. I believe all of this vindicates the much maligned Penrose position referred to earlier.

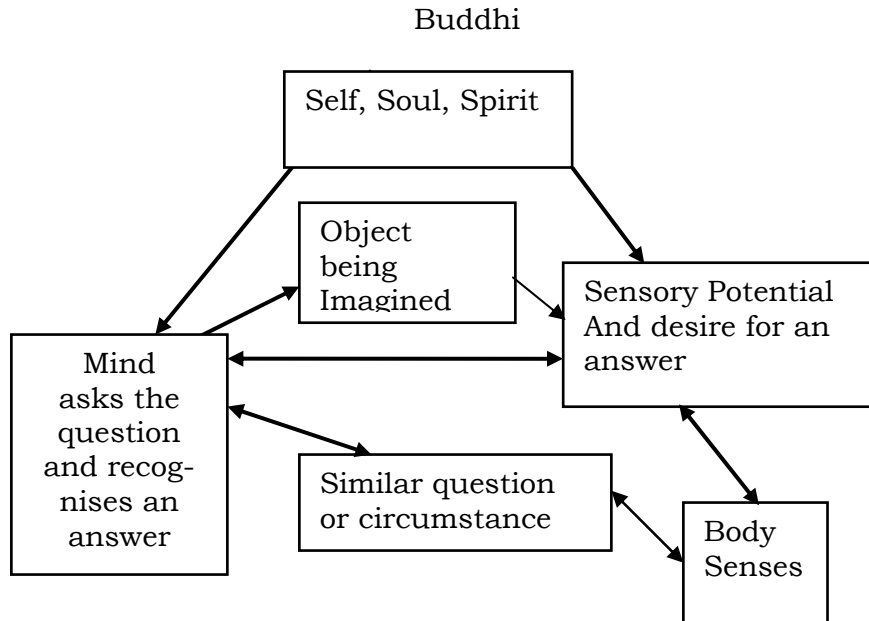


Fig. 11.3

Thinking on the other side of Zero

Before we leave our new model of memory I want to look at what is probably two of the most important functions of mind are intuition and imagination. This is a subject that was sorely absent in Pinker's book, *How the Mind Works*¹⁷ I believe imagination is another example of the process of memory, and my reason for saying this is that imagination uses the same components we found in **Fig. 11. 2**. What is different is how we arrive at the result. The word itself suggests the use of visual imagery, and that means we manipulate our memory to construct an idea around a question or problem.

We may begin with a definition or understanding of the problem and explore ways to overcome our difficulty. Or we may simply decide to imagine something we already know from experience. In the process we employ the process of memory to activate the potential for sensory activity; for example to imagine a sound or smell. I can say this because, as I have already said, I do not imagine in the way I have just described. If I try to imagine anything I get nothing at all, and that suggests to me that the process of apprehension is not being engaged. All that emerged is me saying to myself a narrative of what I would like to imagine.

Before we leave the matter of imagination I want to make mention of intuition. This faculty is often disparaged, particularly by menfolk, and I want to put that to rest. In a traditional sense the female half of life is involved in the gestation and nurturing of the young. In terms of our model of memory we can regard this as the superposition of two bodies, and therefore an entanglement of minds. I can support this notion with some recent medical research that has found foetal cells in the brains of mothers, suggested to occur when the foetal cells cross the placenta into the mother. This gives the mother what some call a sixth sense in relation to her offspring. Over the period nature has used this model of mothering it is inevitable that this ability became an intrinsic ability for the whole female gender.

In effect females fall into a state of Samapatti whenever they have the need to be focused on something or someone, and the result is an inner knowing we call intuition. When they are intently focused on a project or experiment, males can exhibit the same phenomenon. Bevan Reid tells me one can find this in scientists and mathematicians, although most would not admit to being intuitive. The focus present in these circumstances places

the mind in the presence of Buddhi rather than in the presence of the samskaras, and therefore, once again the quality of the information is of a higher order.

In respect of the intuition I have suggested exists in all mammals I would assert that grooming, kissing, and sex all provide the opportunity for cells to transfer from one individual to another, regardless of gender. If that is the case then the sharing of cells replicates the model I have offered for intuition between mother and infant.

I want to backtrack a bit to Glen Rein, mentioned earlier in this chapter, to go a little further in our discussion about the interactions between virtual fields and living tissue. He tells us that virtual information (here Rein uses the terms, subtle energy or non-classical electromagnetic fields) present in the material of the DNA molecule has a demonstrable effect on DNA. Within a cell, any physical information entering from receptors on its surface is presented to the DNA molecule for reference and response. I would suggest that the virtual information field has a role here in extracting the instructions to build the protein response to the physical input. Thus, over time this process causes these responses to accumulate in the DNA molecule. We call this process evolution.

So at the cellular level memory access is steered by the context of a particular section of DNA active within that context. Another way of looking at this process is to say that at some point in the evolution of life these particular genes participated in an interaction between a specific cellular input and its subsequent response. I would go so far as to say that this particular response will emerge in any number of species with that particular DNA sequence in their genome.

The direction this discussion has taken provides an excellent opportunity to make the link between evolution and DNA into an area which can seem to be perhaps less than obvious. I am referring to the notion of reincarnation and the transmigration of souls. The word reincarnation infers that something enters living matter again. For this to be so it must have entered living matter at an earlier time. So far so good. I have referred to the alternation of the information between real matter and the virtual state potential. So far as the idea that something enters living matter

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is concerned, **Fig. 11.2** demonstrates the same process, and there we noted that this process is what we call memory! Therefore, reincarnation is the process of memory in another form. What can reincarnate is the body of information, either in part or whole, from the virtual field into a similar circumstance, be that a DNA profile, an emotional, environmental, or cultural similarity to the content of that information. And it is all possible within the process of self-organisation in the virtual field.

What appears to be obvious to me is that this iteration/alternation of an individual's information in and out of the virtual information field is what we would generally refer to as life. Indeed, in Bevan Reid's earlier papers he pointed out that if we were to assume that the virtual information was part of a non-classical electromagnetic field, then we need to take note of the dielectric property called permittivity, which is particular to living tissue. Permittivity is the capacity of a substance to contain an electrical charge, and it is greatest in the filamentous protein substances in living systems.

Remember, Popp referred to the pumping of energy into living tissue by this alternation, so it is fair to say that both energy and information enters living systems from the virtual field. This alternation is what we call life, or at least what is necessary for life to be evident. I realise this might sound a bit flippant for such a profound statement, but it is simply what separates the living from the dead. To that extent life reincarnates at a rate of about 10^{33} times per second, and of course this is probably not what the word is inferring.

If the word means the incarnation of a soul into living matter in a cyclic series of lives, then I would say that is not entirely accurate in the general sense inferred. I say that because I take the view that a soul is a relatively small component of an individual mind-field. Soul/Spirit is the selfhood component of the mind-field, the sense of "I" that gives permanence to an identity. Of course the memory part of that individual life is not available to that returning soul/spirit because memory is associated with a particular body, and that has since disintegrated through death. Therefore an incoming soul/spirit is essentially detached from its previous life, although it could retain those qualities that helped define the individual, qualities such as violence, love and compassion. If one does indeed accumulate qualities from one

life to the next, the progress would serve to diminish the *samskaras*, and this would in turn lead to becoming established in one's true essence. In exactly the same manner, less desirable qualities can accumulate, and can express in future generations just as readily as with our hypothetical individual involved in reincarnation.

There is just one further point to consider here; in the non-local state there is no time and all time. How this can be is due to the fact that all of the information being compressed into the singularity gives us the whole potential in a point with no time, as well as the unfolding potential which has time and space unfolding along with it. Mind and memory exist there, also for all time. For our purposes here we will set aside the fact that all time is really all of the time between cycles of significant singularities.

Let us take the view that a soul is an individual conscious observation of an individual mind. Now I don't mean the mind's individual observation; I mean the observation of a particular mind by an individual element of the whole consciousness. After death of the body that mind will still exist in the virtual state, and it is still being observed by its soul. Without a body to relate to, the mind will become unstable and be subjected to the same self-organisation as any other information in the virtual state. So it will self-organise with another potential that has some similarities to its body of information. This similarity of potential would select its next incarnation. On the other hand, a mind that had become established in a state of detachment within a real body would remain detached, and not seek reincarnation; Yoga calls such a state *Kaivalya*, while Buddhists call it *Nirvana*.

The transmigration of souls is more related to our discussion on DNA being the accumulation of information throughout evolution. As the species differentiate into new species, the life/soul associated with that life form must also differentiate to become the mind of the new entity. So it is fair to say there is a transmigration of souls, but I believe it is more an evolutionary progression in which life experiences together with DNA responses accumulating over time, give rise to new species and the attendant new minds.

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The potentials for all life co-exist in the whole virtual space, and at conception we have two bodies of information joining to become a new entity. The process of self-organisation can be regarded as being active here, and the resultant mix gives rise to a unique DNA at the physical level. At the virtual level the potentials related to this new DNA combination is a New Mind. From this new mind we can generate a new person and personality. The mind is relatively empty, as is the memory, and we say the infant-to-be is in a state of wholeness. This state remains apparent in the newborn, and its presence evokes all of the potentials required for its survival through nurturing. The structure that develops may be determined by the new DNA, although most of this is in the generic rather than individual sections of the code.

Buddhi

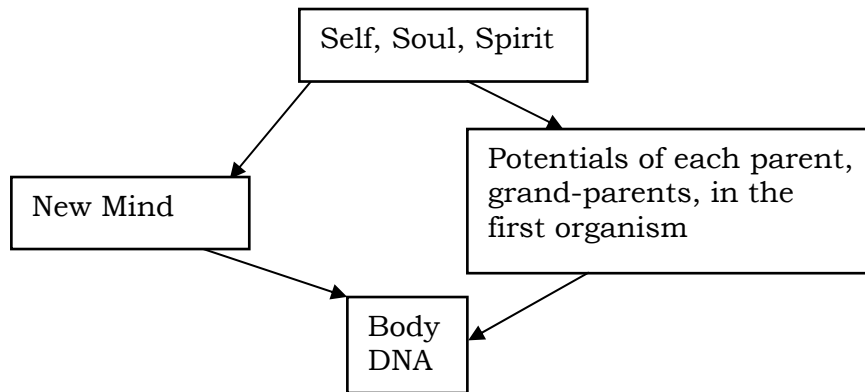


Fig. 11.4.

At the level of mind what seems to me to be the steering context for an individual's memory-access is the sense of self, or Ahamkara on the Yoga diagram. Thus, while it can be true that all memory is stored in the virtual space, generally speaking an individual will only access her/his own information. The exception, as we have seen, is in the state of Samapatti; although even in that case the observer will have access only to the other person's memory during the period of coalescence of the minds. For the developing infant Ahamkara has yet to develop or should I say evolve? I think evolve is more appropriate because Ahamkara

is very much in the context of moments of perception, linked together by mind's access to memory. So who I consider myself to be in any given moment (Ahamkara) is a really unstable element, being self-organised by my mental, emotional and physical state. Because it is momentary we don't detect much of the changes until we look in the mirror. This can be a surprise late in life if we still feel much the same as we did in our youth. So while our perceptions of our life may be stable our body will evolve and age.

To move a little farther afield I return to the Hindu Trinity of Brahma, Vishnu, and Shiva. You may recall that Brahma is the Creator, and this role corresponds to that of the first disequilibrium. The second is Vishnu, the Sustainer of life, and I would attribute this role to the continuous dialogue between the real and virtual states that sustains life. The final one, Shiva, is the Dissolver, and this would relate to the return to equilibrium in the Virtual field. In a cosmological sense we could say that Vishnu is the continuous expansion of the universe, resulting from Brahma's initial input. Thus, Shiva might be considered to be the contraction of the universe which ends this particular cycle.

If, as Yoga tells us, the first disequilibrium is caused by the entrance of consciousness, then clearly consciousness is not part of Prakriti. A possible explanation is that consciousness is indeed external to the whole, whether from an entirely different dimension or something like the Brane, as theorised by some scientists as part of an alternative to the Big Bang. Whatever the cause may have been, if we liken it to dropping a stone into a still pond there could conceivably be similar ripples. Driving the ripples is the initial force of the impact, and this force would move in every direction. In other words, it is an expansive force that is the result of the initial effect persisting at the edge of the evolving physical space. Einstein called this expansive force the cosmological constant and has come to be known as the dark force.

The concept of birth, death, and rebirth, is a human analogy of this ongoing cosmic process. We should also consider the question of life after death. I suggest that the concept of soul is analogous to self, as part of our way of asserting the individual in the context of a family or group. You may recall the Chinese character, Shen, which represents man, mankind, and mankind

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after death. In other words, it represents the spirit or noumenon of man, both living and dead. Obviously Shen must reside in the virtual state, and will remain there after one's death, just as *our* memory remains there after our death.

And, provided that the mind is not stubbornly fixated on that particular body, the contents of our memory, and therefore our mind and soul, can become undifferentiated and revert to general or unassigned information. In theological terms this equates to going to heaven. In a similar vein, a mind fixated on the life it has lived may not become undifferentiated. I would say this particular field of information is available to sensitive people, and can account for the paranormal effects encountered in haunting. This highly disputed phenomenon is not any different to the capacity for space to retain information, as we mentioned many times before. This information becomes active in a context, and some people unwittingly are such a context and will therefore experience a presence in an apparently empty room for example. I would say that this active information fits in the context of spirit and acts through the potentials shown earlier in **Fig. 11.3**.

We can now simplify this diagram to point to the composite information that was self-organised in the virtual state. In this state the information can be assumed to exist outside of time, and therefore would remain intact after death.

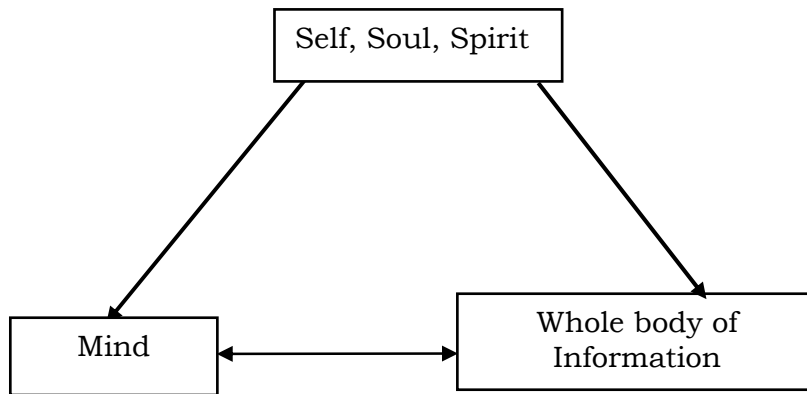


Fig. 11.5.

I am suggesting this is what we call Spirit. (To further define Spirit is difficult, because I believe it is in the same realm as Plato's world of ideas, and that too is really part of mind as I suggested earlier). When a new entity is conceived this body of information is available to participate in this entity through the process of self-organisation, and I believe all or part of this information can be selected by the newly created DNA. So rather than a new spirit, we can have a reconstituted one, or perhaps a composite of many bodies of information. Thus a past life is not necessarily a specific life of the present individual but rather a restructured composite of many lives. For a spirit to be a specific entity suggests to me that it has retained a specific identity, and this identity comes from the mind of the person perceiving this information rather than from the spirit.

Returning to our consideration of life itself, in view of the obvious benefit that all life derives from this alternation between the real and virtual states it is reasonable to attribute some reverence to this process. This is especially so if we consider this process to be the provider of all our needs. When man found that, on occasion, his desires resonated with their outcomes he would assume he had set up a dialogue with a Divine Provider and a system of belief was born.

From here it is a small step to say that this relatively inaccessible being exists in a different dimension that has become known as spirit. At the same time the providential nature of the desires providing specific outcomes has become known as God. I have no difficulty with that particular notion. What does not fit is the notion of individual spirits, and of God as an individual entity. Individuality is a mental viewpoint, just as much as an individual memory and the individual self.

What the mind is conscious of is the activity arising in Ahamkara of any relationship between this individual viewpoint and its immediate focus. Our awareness of this activity is momentary, but with the aid of memory it is perceived as a stream of consciousness. One only need meditate for a sufficient period of time to have this dialogue between mind and its immediate environment (either physical or mental) to have the flow of information cease; that is when we discover the detached observer and can make the distinction between the observer and the mind's "I". If we take our meditation far enough we discover the elusive

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unity that is the whole reality. It is in this unity that we are able to unravel the notion of separateness and individuality. Also in this unified state we can understand the impersonal nature of the whole, something which makes a nonsense of any group of individuals being chosen in the biblical sense.

The approach Yoga takes in this situation is to encourage the seeker to reach that state of unity. What each makes of any realisation arising in that state is her/his own business. One thing that is very clear for such a person is the simple fact that this realisation exists outside of language, and that any attempt to communicate the experience to someone else who hasn't had that experience is pointless.

Let me say that as a child I was taught that God is everywhere; here is part of everywhere, so God, as well as being here must also be non-local. I was taught that heaven is where God is, so heaven too must also be here and non-local. Perhaps the reason we don't see God is because we are God. Not in an individual sense mind you, but as part of the whole collective information field, and its process, that is God. The reason God is both here and everywhere is because here and the non-local everywhere is in superposition, and we are part of that entanglement.

Moreover, this collective field of information has the latent capacity for self-organisation, and this particular faculty is what has been observed as the creator in every culture. For this reason I say that God is in fact a metaphor for the natural characteristic of self-organisation evident throughout the whole reality. When mankind evolved the capacity to observe his environment, and to deduce the apparent order evident therein, it became necessary to have some way to explain the observable world. The search for this explanation was, and still is, an ongoing task. Nowadays we call it science. What was perceived as effortless creation was deified, and given the title of God, not so much as an explanation of reality, but as an admission of the need to seek an understanding of it.

What I believe to be synonymous with the idea of God is what people call Spirit. Furthermore, the manner in which God and Spirit work (the will of God) is, once again, a function of self-organisation within the non-local field. That function is not necessarily directed by any specific mind as many would believe.

The conscious awareness latent in the field drives self-organisation, and we can understand that function through what scientists such as Prigogine, Folke and Günther tell us about nested living systems.

Any matter is in the presence of the field of information, and whether you may call that information God or Spirit it is essentially the whole potential. How it relates to individual parts of the universe, from the micro level to the cosmic, is a function of how every part of the whole is relating to the rest of the whole in any given moment because of the entanglement of the whole potential. To put this in simpler terms, spirit is the noumenon of what will become body, mind and personality; noumenon is soul or self. It is in fact our very essence, that in which we have our being. Beyond the noumenon is the detached observer.

While we, as observers apparently separate from this whole reality, may deduce a plan or design based on our observation of these moments, it is not necessarily true that what we perceive is in fact the result of a design. I concede that we can seek comfort in the notion of a designer, but the idea falls apart when we are the victims rather than beneficiaries of this designer's handiwork. Rather than a Designer as such, I believe that each recurrent cycle of collapse and subsequent expansion of the universe will inevitably accumulate experience from each cycle. Therefore the amount of experience in potential is mind-boggling in its enormity. The existence of this totality of experience through successive collapses to nothingness in a single point can be difficult to comprehend, and it will beg the question, "Can memory exist in no-time, no-space?"

For any given circumstance, there will be a number of responses to accommodate both the immediate participants and their extended environments. With such a library of potential informing these responses, and given that the conscious awareness of the participants' minds is really a common ground, then the notion of a conscious designer is quite understandable. However, from a viewpoint beyond mind this notion will not necessarily be tenable.

A healer heals, not by any miraculous means but by interacting with the subject's status quo so far as the personal body field is concerned. Prayers relating to the welfare of another, or of

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one's self use the same interaction with mixed results. What is important is that we note both healing and prayer require a mind. On the macro level of geological or meteorological phenomena I take the view that physical forces restructuring the earth/atmosphere due to existing instabilities are another example of self-organisation. I do not believe there is any design or designer involved. I am even more certain that if there was a designer, it would have scant regard for the fortunes of humanity in preference to any other forms of life.

Returning to Spirit, I want to consider Spirit in terms of those who have died, and how their experience can be made available to the living. This is really Self rather than Spirit. I would assert that in the process of self-organising, information will associate with any informational context which is similar. For example, people researching a particular subject can tumble on to similar ideas of other researchers despite being separated geographically. I found this particularly so in Amin Aczer's book about Entanglement, although I have read of similar coincidences in the development of flight and radar. Further back we find that many modern engineering inventions were strikingly similar to early Roman and Greek solutions to the same problems.

So when people are seeking spiritual guidance, the body of information that would have surrounded any now dead person will still be a body of information in the virtual field. Spirit therefore is this body of information, and thus we can say that what was the person is now in spirit, which really means that this entity is now part of the whole information field. Whether truly general, or still individuated, depends on where this spirit sits on the Yoga diagram.

How one interacts with that body of information is driven by both context and intention. What we need to bear in mind here is that context in this instance is a mental one rather than a physical context. Memory here is once again dependent on context, and the individual's viewpoint is confined to its own experience. Our intention can resonate with the intention to pass on her/his information in the period prior to death; indeed the intention within a discarnate body of information is as capable of self-organisation as is the rest of the information field, so this capacity within information anywhere should be self-evident.

As for a new life; we will not be able to access experience from an earlier life because the access is determined mainly by the context having the experience. Of course there will be moments of the kinds of realisations we call déjà vu, and that is understandable. Déjà vu can appear in many forms. For example, Sheldrake's Morphic resonance is much the same as the cycling of time symmetry and time asymmetry. Twenty years ago Bevan Reid was talking about the cycling between coherence and incoherence of information across the interface of 10^{-33}cm , so we can say that information itself has a cyclic quality to it. In a similar vein, it is possible to have embedded viewpoints and proclivities towards particular philosophies and beliefs, without any apparent reason for this. Yoga suggests we recognise these tendencies, and from time to time take the opposing viewpoint as a means to becoming detached from whatever may define us.

Having reached this point in the narrative, I want to say that in this final chapter I have tried to create an understanding of what and how we can believe about reality. For some, my assertion that God is a metaphor for a natural process of self-organisation within a universal field of information may be untenable. However, there is a little more to say before you, the reader, reach any conclusions, definitive or otherwise.

Taking the teachers from every culture into account, I believe the trance/meditative state described by the Buddha, Mahomet, Lao Tzu, Jesus, Zarathustra and some Biblical prophets of Judaism is essentially the same state. What each sought to convey has been a way for all of us to attain that state; not because it contained any general or specific law but because it is the state of our true nature.

In that state there exists what has been described as "that which surpasses all understanding", and therein lays our greatest difficulty. How can anyone possibly understand something which is beyond understanding? The answer has to do with understanding itself, and the very human perception of the need to understand. Science seeks understanding through examining physical reality, while religion seeks to provide understanding through belief/faith.

Religion began by defining the activities which separated us from that state, and from these definitions came regulation

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through law. The simple fact is that both are essentially right, and any dispute between science and religion is more about control and market share rather than truth. Each are devoted to philosophical views about the other, and to find any clarity at all we need to return to the point of their common search for understanding, which is, of course, that elusive state we all find at some point however fleeting the visit.

All of this brings us back to Patanjali's Samapatti and intuition. What we employ in both science and religion is mind, and its child, imagination. The basis of Samapatti is intuition; the basis of healing is intuition; the basis of the spooky knowledge accessed by Sheldrake's dogs is intuition, although they are part of the natural (intuitive) order. The implicate order of Bohm's whole reality was recognised through his intuition, just as the insightful state of Mahomet was recognised through intuition. Bohm said the central problem facing mankind is the notion of separateness, and this problem is what meditation, and to a lesser extent religion, seeks to address.

The works of Socrates and Plato are similarly intuitive. Sunlight is perceived as being white, yet when we introduce a prism into the beam we see all of the wavelengths of light implicit in that whiteness. Moreover, science tells us that the sun emits far more than just white light, but all of these emissions are beyond our visible capability. We cannot see them, but through measurement we can believe they exist.

Chaotic systems are susceptible to order through self-organisation, and so far as our understanding is concerned, meditation achieves the same result for our innately unstable field of mind's information – our memory. When we bring this instability to rest in meditation we find an understanding that can be difficult to put into words. For the person hearing those words, understanding becomes even more difficult and we must resort to the use of metaphor. A metaphor is a bridge between minds because it pushes us to bring our own mind to a halt, moving away from our imaginative understanding of the information and, momentarily, hearing the speaker's understanding intuitively.

The implicate order Bohm spoke of is present universally, and it is not possible to define the self-organising process evident to

the emotions as we contemplate the sea, a forest, river, our children or loved ones. It is present in every part of the chaos, becoming ordered only when observed without the mind's intrusion. This, along with my confession of an implicitly inadequate description, is part of the essence of that metaphor.

All that I have written has been directed at logical and imaginative minds, which are in the majority. Essentially, what both Patanjali and Bohm have said is that consciousness is in superposition with the tangible *and* the intangible parts of reality. This is exactly what Arya's diagram tells us. Therefore our viewpoint, (which is intangible) is in superposition with the body. Our brain is organised to provide a representation of every part of the body, and therefore will have the same representation of the body as a collective potential in the virtual state. Iterations in the information there bring potential into that representation through the microtubules, and take experience back into the field of potential across the Fermi surface.

I realise that I have said a lot about the wavelength of 10^{-33}cm in respect of the virtual field, and perhaps not enough emphasis on the fact that a whole spectrum of wavelength will also reside in that field. The variations in the dimensions of the microtubules can select particular frequencies for our body's energy pathways, such as those found in acupuncture, and the potentials as well as the effect these have on the body are part of the whole body of information we call a particular life.

Let me take a look at one of my starting assumptions, namely that most of the Judeo Christian traditions have their roots in Hindu teachings. In the phrases such as "world without end", and "has no beginning, has no end" I detect some knowledge of the characteristics of the non-local state. If the western and middle-eastern cultures really understood what these phrases meant they would have seen the contradiction in the notion of a genesis or beginning. If there really is a son of God then surely it is the universe that has arisen from no thing through the process of self-organisation.

So far as the beginning is concerned, I cannot help but notice that in the non-local state the effect of the first disequilibrium would persist as the expansion of the universe. Similarly, in that same first instant the first appearance of space would manifest

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the same impetus as a distortion of that space and therefore of all space, giving rise to the other non-local force we call gravity. These two sides of what is essentially the same coin appear in Chinese philosophy as Yin, the expansive force and Yang the contracting force. The same philosophy holds that at a point of extreme Yin there is an alternation to Yang, and vice versa. This too is in line with the Hindu concept of a cycling of the appearance and ending of the universe. Of course, if the universe does exist in an endless stream of cyclic events then it does infer a degree of autonomy and therefore has no need of an interventionist God.

What I want to leave the reader with is an understanding of the non-local mind. This understanding is what my dying friends valued most, because it allows one to be confident that conscious awareness persists beyond the death of the physical body. Along with this understanding of mind is the need to understand the process of thinking. Mind is in the presence of the body, and we need to understand that to be “in the presence of” anything means to be part of a set in a mathematical sense. This set is exactly what is meant by the term *causal set*, and for our purposes here we must equate the whole set as being the physical body, memory, the whole field of potential and consciousness.

Moving to cells in the neural network, the same virtual force or potential will have an effect on the physical components of the network as part of a set or superposition. From the virtual side of the picture, the potentials are in the presence of a physical structure, and they meet at the Fermi surface or interface we call zero throughout this book. In Bevan Reid’s papers he talks about space-borne waves in the context of cells. What the science shows is that when matter is in the presence of the virtual state the charge on electrons do not repel other electrons; rather, they form pairs of electrons as one would find in superconductivity. Perhaps this superconductivity is what is detected when acupuncture points are located by ‘feel’ or by a measurement of skin resistance in the case of electronic point detection.

Wolff’s spherical standing waves, with their in-waves and out-waves are strikingly similar to the Vedic system of Kundalini forces and chakras. When drawn over a human body-form the Kundalini energy lines intersect with the chakras to form the

familiar medical symbol of the Caduceus; twin snakes wound along a winged staff.

On a mental level, information in mind is there through being in the presence of the body, perhaps from being in the presence of another person. In the case of the new-born mentioned earlier, its presence extracts the potential to be nurtured from its mother, while that mother's potential to nurture extracts the potential to experience being nurtured from the infant. All of these informational transactions take place through a Samapatti state within a far deeper superposition. The infant has its mother's DNA within its tissue, and this common factor makes them both part of a set of both tissue and information.

When we come to consider thinking per se the same process is at work, although the superposition is far more complex than the one just described for mother and child. Our superposed information is really the content of our memory, which is a whole grab bag of emotions, prejudices, ideologies, beliefs and desires. Rarely is an issue seen on merit alone: we might use circumstances to gain benefit at someone else's expense, or make a decision to help someone without any prospect of personal gain.

Each step in the process exists in our awareness, and it is the awareness of each step that we call a thought. Obviously one thought will lead to the next in a series of connecting steps, and at times we may leap rather than step. It is valuable to develop the habit of taking an opposite view to that which our process had generally taken. With a bit of practice we can focus on the issue rather than a desired outcome, and that can be very rewarding indeed.

Finally, another meeting point for Patanjali and science is the commitment to challenge our theories of reality. This has been ongoing for as long as mankind shared its observations of nature. This is probably the most significant difference between science, Yoga and religion because all religions are steadfastly attached to a starting premise. I doubt if any religion would lay claim to a theory of its origins.

So there you have it. Looking back over the pages I think I have exercised both your mind and your thinking processes. I do not expect you to believe any of the material; that was not the purpose. If you reached this point you have indeed been engaged

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at a mental as well as an intellectual level, and can recognise the difference between the two. You can also appreciate that no two people think in exactly the same way, and if we accept that we will have taken a big step towards understanding one another.

So far as thinking is concerned, we should realise that thinking is an action in which information is self-ordering in relation to the immediate content of mind and its parameters, which we have learned from Yoga to be our samskaras. On the other hand, knowing is purusha's observation of this self ordering without 'distinguishing mark' or parameters. The one who is knowing is what some call spirit, soul or self; I call it Buddhi to make the distinction between Buddhi and mind.

GLOSSARY

Acognitive knowing. Knowing that is not memory based, for example, intuition.

Acognitive samadhi: the state in which there is the total cessation of the modifications of the mind; wherein the modifications no longer produce Karma and their fruition.

Action-at-a-distance: is the long-range effect of an influence or process without any direct connection to classical forces.

Active information: a term coined by Bohm and Hiley to describe the effect of

Ahamkara: Ego; ego process; the identifying principle by which the composite sentience (asmita) begins to identify itself as such-and-such a being, e.g. "I am that body". In western terms this is spirit.

Akasha: Space; the expansive space of Buddhi, which is to say non-physical space.

Being-in-the-presence-of: The classical Hindu analogy of the effect of a ruby placed alongside a crystal. The crystal appears to an observer to be red.

Bell's Theorem: For any two co-emergent particles, a measurement made on one will immediately become apparent on the other, irrespective of the distance between them.

Bhutas: gross element; there are five gross elements, namely space, air, fire, water and earth. See diagram on page 38.

Big Bang: theoretical event at the beginning of the universe.

Brahma knowledge: knowledge obtained at the buddhic level of reality.

Brane: A theoretical dimension beyond the conventional three, related to String Theory. Brane theory suggests that this dimension collided with the conventional spacetime dimension and brought the universe into being.

Buddhi: the faculty of intelligence, intuitive wisdom, intellection and discrimination in a sentient being. An inherent relationship

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existing between self and matter is an eternal attribute of prakriti, the cause of mahat and buddhi.

CAT scan: medical imaging using Computer Aided Tomography.

Chi: energy flowing through the body as defined in Traditional Chinese Medicine.

Christian Trinity: Father, Son and Holy Ghost.

Classical physics: the physics of the material world.

Co-emergence: physics: any two particles simultaneously arising from a common cause e.g. electrons from a heated cathode.

Cognitive samadhi: samadhi arising from focus on an object or sound.

Cosmological constant: A factor inserted into Einstein's relativity to account for the expansion of the universe.

Creationism: A Christian fundamentalist movement based on the literal interpretation of the Bible. One of its tenets is that the universe is only 4000 years old, and all of history is therefore interpreted in this Biblical span of time.

Dark force: The force which is expanding the universe.

Dharma: virtue, righteousness; attribute; characteristic; purpose.

Entanglement: the relationship between any two particles involved in a common quantum event.

Ether: a traditional idea of a special substance permeating space.

Evolute: an attribute arising from the descent of consciousness into matter; a material entity.

Fermi surface: The common surface of two interacting wavefronts.

First disequilibrium: the original fluctuation in a singularity which caused the appearance of the current universe.

Gunas: the three attributes of unmanifested prakriti, which are in equilibrium before the creation of evolutes and whose disequilibrium constitutes the process of creation. All material entities, including mind, are composites of the three gunas. Purity and illumination (sattva), activity (rajas) and inertia (tamas).

Guru: teacher.

Hard wired: In the context of the brain this term infers permanent connections within the neural networks.

Healing: The term means to make whole.

GLOSSARY

Hidden variables: undetectable influences on quantum events, e.g. information in space. This can be related to 'being in the presence of.'

Hindu Trinity: Brahma the Creator, Vishnu the Sustainer and Shiva the Dissolver.

Hologram: an image projected by a number of lasers which has the unique property of being able to be reconstructed from any part of the original image.

Holomovement: movement throughout the whole (hologram).

Homeopathy: the traditional practice of treating a disease with a diluted version of the cause.

Huntington's chorea: a neurological disorder in which the body's extremities shake uncontrollably. It is caused by random firing of neurotransmitters in the brain.

Imaginary numbers: numbers used in the mathematics of theoretical physics to denote elements in the virtual space, denoted by the symbol i .

Implicate Order: a term used by physicist David Bohm to infer properties of the whole space. It is a property of wholeness in the sense that the whole universe is a hologram.

Instanton. A theoretical particle whose existence is momentary.

Instrument of apprehension: the agent of apprehension; the one who grasps experiences or cognises, the knower.

Intelligent Design. An offshoot of Creationism expressed as 'science', in which the hand of a designer is evident in what science calls evolution.

Interface: in our context it is the junction between the real and the virtual state.

Introjection: to assume the opinion or indeed the reality of another.

Kaivalya: isolation, self-realisation, where the self dwells in its own nature.

Karma: action determined by the mind-field.

Ksana: the interval between successive moments of time.

Mahat: finest and purest product of the prakriti; the first disequilibrium, the first evolute.

Meditation: the practice of bringing the mind under the control of self.

Memory in space: the retention of information by space itself.

Mind Field: the mind as a field of awareness.

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Modifications of the Mind: a structure of memory in which events and responses are related, leaving little input from choice as we know it.

Morphogenic Field: a term invented by Sheldrake in which living form is related to a field of information.

MRI scan: a medical imaging process using magnetic resonance induction.

Neurotransmitters: brain chemical substance emitted at a synapse to pass a signal along to the next point in the neural network.

Non-local: a quantum state in which the dimensions of time and space are absent or negligible in terms of the theoretical mathematics.

Noumenon: In the philosophy of Immanuel Kant, the thing in-itself as opposed to the phenomenon - the thing as it appears to an observer.

Object of apprehension: the object grasped or known in the process of cognition or memory.

Orthogonal: perpendicular to.

Paranormal: events outside the accepted parameters of classical science.

Parapsychology: the study of paranormal phenomena.

Particle: a single entity; a discrete quantum of energy such as a photon of light.

Place memory: see memory in space.

Planck Length: 10^{-33} cm or 10^{-35} m. This is the distance at which the so-called quantum fluctuations in the very metric of space-time should be so large that the normal idea of a smooth space-time continuum ceases to apply.

Prakriti: Brahman's nature.

prakriti: principal not evolved matter; the existence principle without; what is prior to the creation.

Process and instrument of apprehension: process and means of apprehension by which one grasps experiences or cognises; mind and the senses.

Psychic: of the spirit. See buddhi.

Purusha: the conscious principle, ever wise, ever free; spiritual noumenon; the one in whom knowledge reaches its ultimate dimension.

Quantum biology: the study of biology at the quantum level of being.

GLOSSARY

Quantum Mechanics: the physics of particles and non-local states.

Rajas: the guna which impels and energises Tamas and Sattva.

Reiki: a form of psychic healing that is very effective, especially in its action-at-a-distance form. An analogy is that of Samapatti in Yoga.

Reincarnation: the principle of successive lifetimes, not of the body but of its inhabiting spirit.

Samadhi: mastery and control of the mind-field.

Samapatti: field of command; field of coalescence of the mind on an object or person.

Samskara: a modification of the mind-field.

Sattva: a guna characterised by purity, luminosity, lightness, harmony and the production of pleasure.

Schizophrenic: split mind, a state of mental illness.

Self-organisation: a natural process in which disparate elements combine in a specific way to become a separate entity; in biological terms this process is sometimes called self-focussing.

Sentience-at-a-distance: the state in which the awareness or memory of an event is apprehended by a person other than the one experiencing that event; to know what someone else is experiencing.

Shen: the Chinese character which means both mankind and mankind after death.

Singularity: a single point that occupies no space; when a star collapses to a single such point without space.

String Theory: A theory relating to fluctuations in the non-local energy, in which vortices within the energy are of infinite length as a thread or string.

Superposition: a quantum situation in which a particle is effectively in two places at the same time.

Sutra: a unifying thread, a set of aphorisms or rules.

Tamas: the guna which characterises stupor, darkness, stability, stagnation, inertia.

Tan-matras: the five evolutes of tamasic ahamkara; the five subtle elements in the subtle body: sound, touch, form, flavour and odour.

The Hard Problem: is the question of how physical processes in the brain can give rise to subjective experience.

Time asymmetry: no time dimension; the time equivalent of non-local space.

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Time symmetry: the conventional view of time, in which there is past, present and future time.

Upanishads: means sitting in the presence of the teacher; sitting at the feet of the teacher.

Vedas: Hindu traditional knowledge; Epic knowledge in which all knowledge is gathered together as a unity.

Virtual state: the non-local state of no space-time; the inverse of tangible reality.

Wavefront: the leading edge of a wave form.

Wavelength: the physical length of one cycle within a wave form.

Yoga Sutras of Patanjali: the expression of the most ancient science that has existed for thousands of years. It was systemised by Patanjali.

Yoga: to join, union.

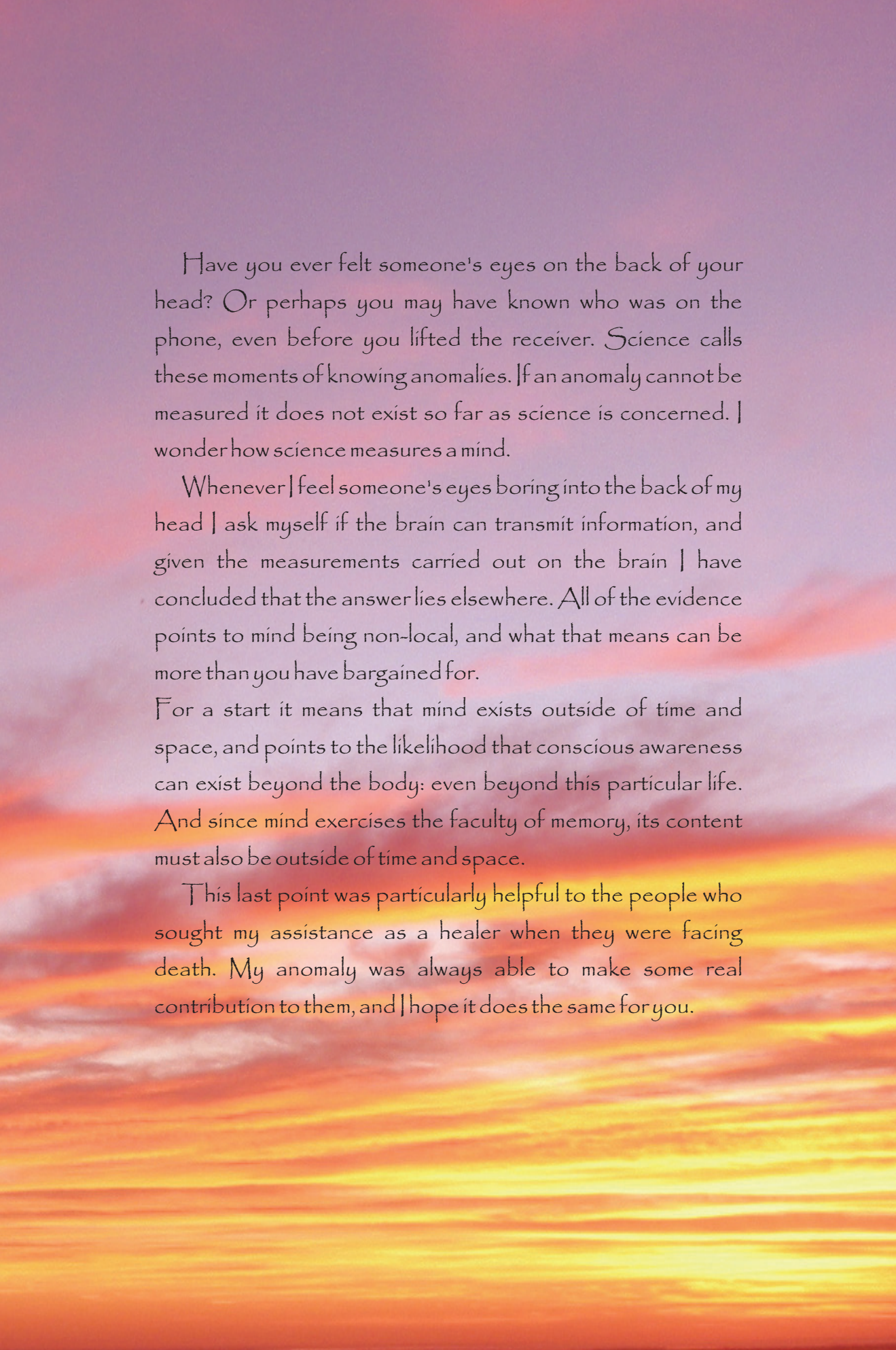
Zero: the symbol used in mathematics to denote any empty set. In a general sense it means nothing, as in no-thing. In the context of this book it signifies the boundary between physical matter and non-physical reality.

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Have you ever felt someone's eyes on the back of your head? Or perhaps you may have known who was on the phone, even before you lifted the receiver. Science calls these moments of knowing anomalies. If an anomaly cannot be measured it does not exist so far as science is concerned. I wonder how science measures a mind.

Whenever I feel someone's eyes boring into the back of my head I ask myself if the brain can transmit information, and given the measurements carried out on the brain I have concluded that the answer lies elsewhere. All of the evidence points to mind being non-local, and what that means can be more than you have bargained for.

For a start it means that mind exists outside of time and space, and points to the likelihood that conscious awareness can exist beyond the body: even beyond this particular life. And since mind exercises the faculty of memory, its content must also be outside of time and space.

This last point was particularly helpful to the people who sought my assistance as a healer when they were facing death. My anomaly was always able to make some real contribution to them, and I hope it does the same for you.

Afterword, January 2010

In May, 1971 my youngest child developed cancer overnight; he was fine in the morning and was very distressed that night. The following day he was diagnosed with an aggressive cancer which necessitated the removal of his bladder that day. This was. After his death in October 1972 I had no grief but was completely unaware of this. I just kept on doing what needed to be done and wondered why my wife thought I didn't care; we separated nine years later. Most of that intervening time I had pondered what changes in a person from one day to the next. Surely there must be some internal information prior to the condition; if one could access that information, in what nowadays in computer terms would be a System Recovery, perhaps it would be possible to reset something and remove the disease.

For a number of years I searched for answers, and eventually found some in the Yoga Sutras of Patanjali. Most helpful was the duagram given in that book, which has given much food for thought. In particular, the reference to an **absence of grief**, which is described in the Yoga Sutras as a marker in the progression away from Ego and into Sattva. The other markers from the Sutras are described in my book in the parts about **two kinds of memory and Samapatti**. I had drawn the obvious conclusion that consciousness is not a product of the brain; rather, brain is a product of consciousness. On reflection I would disregard what I wrote in Chapter 11; I can now recognise that in my effort to draw a parallel between Patanjali and conventional science I had completely missed the importance of these markers in the book, just as I missed it in two earlier books. These two issues have led to my having no imagination, not so much as a condition of itself but as a validation of a diminished Ego as it exists on the Yoga diagram. I have known for most of my life that others had difficulty in following my thinking process, and I eventually called it **unstructured thinking**.

When I look at the Yoga diagram now I can see the role Ego (as identity, I AM) plays in the way one thinks. I have said, **HOW** one thinks determines **WHAT** one can think. An example is the reluctance to accept an opposing viewpoint or theory, especially when one is defined by that view or theory. Above Ego on the diagram there is Mahat/ATMAN which confers the faculty of discrimination, this and not that. There one can discriminate without the influence of what I believe myself to be and the consequences of deviating from that position in making a judgement or decision which might involve some internal conflict. At the point where Ego appears I had referred to the way consciousness operates is **Objective Subjectivity**, where one is both the doer and the observer. As we proceed down the diverging arms of the diagram consciousness (Sattva) is in the presence of the Body, and, as **Mind**, is subject to whatever viewpoint I AM/Mind is dominant. How this plays out in life depends upon whether we regard ourself as the observer, the player or the role we play. The interplay/contest between observer and the other two produces action (**Rajas**).

One of the aspects of unstructured thinking is that I cannot readily formulate a question; rather, I am better suited to answering questions, and when I do there is no pre-answer considerations. I will not always be correct and I don't have any difficulty with that; there is no fear of being wrong.

On the matter of quantum entanglement, which would sit at the bottom of the diagram, I suggest that particles created in any quantum event producing an entanglement would have a common identity and therefore would act as one. In the case of identical twins, this is possibly the case, although one should realise that this is only applicable to the minds involved, not the physical twins. This view is related to the earlier comment that consciousness is not a product of the brain.

Alan Oliver

