Chapter 6

A Philosophical Interlude

Sources · The great uprooting · Language · Aristotle · Plato & Socrates · Plato's Allegory of the Cave · Plato's Allegory of the Sun · Truth, Rationality and Reason · Authentic wholes · Digging a hole · The seat of the soul · The foundations of the modern world · The Astronomers · Galileo · Descartes and Newton · Summary

The spirit
likes to dress up like this:
ten fingers,
ten toes,
shoulders, and all the rest
at night
in the black branches,
in the morning
in the blue branches
of the world.
It could float, of course,
but would rather
plumb rough matter.
Airy and shapeless thing,
it needs
the metaphor of the body,
lime and appetite,
the oceanic fluids;
it needs the body's world,
Instinct
and imagination
and the dark hug of time,
sweetness
and tangibility,
to be understood,
to be more than pure light
that burns
where no one is --
so it enters us --
in the morning
shines from brute comfort
like a stitch of lightning;
and at night
lights up the deep and wondrous
drownings of the body
like a star.

by Mary Oliver
(Dream Work)

As we gradually home in on the topic of embodiment and dissociation, it becomes important to illuminate the ways of thinking, experiencing and viewing the world that make Western cultures (in my view) more prone to dissociation. A second, perhaps more important, aim of this particular chapter is to very briefly describe an alternative way of thinking – of being - that embraces the Natural world and the experience of living in a human body. Much of the following is derived from a small selection of books. David Bohm's remarkable[1] "Wholeness and the Implicate Order" was written as an introduction to the scientific paradigm of Holism. Henry Bortoft[2,3] was a lecturer in the philosophy of science who assisted Bohm, and over the years gravitated towards the scientific writings of Johann Wolfgang von Goethe[4]. "The Wholeness of Nature" is almost required reading for anyone interested in a truly holistic world view. His deconstruction of Descartes (who has been placed on a somewhat elevated plinth in the last few years) has been given a more neurologically oriented and accessible slant by Antonio Damasio[5] (e.g. "Descartes' Error"). It's also worth mentioning Scott Turner's "Purpose & Desire", which, although I don't specifically mention in this chapter, has a very similar theme to Bortoft, though more specifically directed at the "hard" questions of consciousness, life and evolution[6]. Other particularly notable books which take a more spiritual and Nature-oriented approach include Abram's "Spell of the Sensuous[7]" and "Future Sacred" by Julie Morley[8].

> *The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato*
>
> *-- Alfred North Whitehead*

The depth to which ancient Greek philosophy has affected every nook and cranny of modern culture is rarely recognised or acknowledged. Much of 21st century Western culture is based on structures of thought developed within the Medieval and Renaissance Roman Catholic church. Which were themselves based heavily on various Greek philosophers, and particularly Socrates, Plato and Aristotle. Almost all that followed until fairly recently – including Hume, Spinoza, Kant, Descartes – was simply a re-write or clarification or distillation or adaptation or extension of the philosophical outlook that began to clarify 12th century Europe as the Church's doctrinal hold strengthened, and many of the more Earth and Mystery-oriented branches of Christianity were driven out – well, at least officially. The result was a synthesis of Catholic (Christian) theology, intermeshed with a distorted interpretation of Greek (mainly Aristotlean and Platonic) philosophy. The Roman Empire – which had fostered the Christian Church for its first few hundred years was very "catholic" in its tastes. So, rather like Tibetan Buddhism took on parts of the pre-Buddhist and Shamanic *Bon* tradition, the Roman Church also practised a Christianity heavily infused with various Arcana from the Kabbalah and other ancient mystery schools. For instance, early medieval Christian colleges taught trainee priests a

range of subjects that included the prediction of the phases of the moon and eclipses[9].

Rather being than representing some *prima facie* way in which the universe is organised, these Greek and Medieval ways of thinking are a *choice*. Philosophy – the view of what reality is – is always a choice, and there is no absolute way to test that choice other than to live it as if it is real, and then experience the effect of that belief. The specific historical choice of philosophical belief system in European culture has in turn created its own secondary belief structures, language structures, logical systems and ways of thinking that are deeply embedded in all aspects of Western culture... In short, an invisible hand of human construction is constantly ruling the ways in which we experience the world. For – as has already been seen – meaning is dependent on language, and it is not easy at all (or even possible) to experience anything unless there is already some inkling that it might exist. It was therefore not unreasonable for Descartes to torture dogs and honestly declare that their cries were just meaningless noises of Automata. Which then further allowed 19th and early 20th Century physicians to declare that human babies and animals are not conscious sentient beings; and therefore any attempt to relate their cries and behaviour to something understood by adult humans is an act of misguided anthropomorphism.

As Goethe stated, "*the history of science – is science!*" - and this apparently trivial comment describes the intimate relationship between science and the cultural milieu in which it takes place. As has been recognised in philosophy for some time – there is no unique "scientific" way of thinking as opposed to a "normal" way of thinking. Rather, at any one time and place there is a cultural way of thinking which influences everyone – including scientists; causing subtle yet non-trivial shifts in the meaning and use of language; and which focusses human attention in certain directions. Scientists cannot be extracted from the culture in which they were born and educated as if they ware being isolated part of an objective laboratory experiment. So the mindset and way of seeing adopted by "science" is essentially no different from that of the general culture and society in which it exists. What we are looking at here is therefore not only the practice of scientific investigation – it is the cultural mindset that we are marinated in from birth, deeply affecting the relationship we have with ourselves and with the environment within which we exist.

The great uprooting

I have been and still am a seeker, but I have ceased to question stars and books; I have begun to listen to the teaching my blood whispers to me.
– Hermann Hesse

By the time urban civilisation had existed for a thousand years or so, it was beginning to experience serious problems. It is no coincidence that the major philosophies and religions of the world – the Abrahamic traditions of Judaism, Christianity and Islam (along with the now almost extinct Zoroastrianism), Greek Philosophy, Hinduism (the Vedic religions), Buddhism and Confuscianism/Daoism of the far East arose in a series of more or less simultaneous waves[10,11], with cross-fertilisation of ideas travelling in both directions[12].

The trouble that Civilisation found itself in arose due to urbanisation and its physical separation from Nature. The long periods spent living in a brick or dressed stone human-made environment of square angles, straight lines and simplified texture and geometry changed the human brain, making it more interested in the abstracted but identifiable (biased towards the Left hemisphere of the brain) and less interested in the specific but archetypal (and associated Right-brain processes)[13]. This is the root of the fundamental societal dissociation that underpins (and maybe even causes) all other dissociations in Western culture. As in all large dissociations, it is an absence that can only be revealed when there are very substantial changes to a personal life that require an internal reorganisation.

The recovery of small absences are fairly common experience. Many people undergoing extensive personal development work or following a meditation practice will suddenly realise that colours are brighter, or sounds clearer – and until they became brighter or clearer, there was no way of knowing that the previous state of slight dullness or muffledness was in any way less than optimal. The physical relationship with the Earth can also be affected in this way. In 2004 Tim Cope travelled 10,000 kilometres by horse from East to West along the Silk Road[14], alone except for horses and a dog. For almost all of this journey he slept under the stars, on the Earth. On entering Eastern Europe he booked himself into a hotel, and found it impossible to sleep in the bed, or even in the room. He became aware that something was missing – the vastness of the sky above and the beating heart of the Earth beneath him, that over two years travel had imperceptibly (until they were no longer there) become a vital part of his sense of aliveness, and presence. But when they were gone, he then knew there was an absence that disturbed his soul. A similar experience was related by an Australian aborigine elder[15] who had been removed from his family as a child and taken to a government-run

school. He recalled how the hardest part of it was the separation from the Earth when he was forced to sleep in a bed.

> *Quietly, before you is the mystery of a new dawn, the new day. Emerson said: "No-one suspects the days to be gods." It is one of the tragedies of modern culture that we have lost touch with these primal thresholds of nature. The urbanisation of life has succeeded in exiling us from this fecund kinship with our mother earth. Fashioned from the earth, we are souls in clay form. We need to remain in rhythm with our inner clay voice and longing. Yet this voice is no longer audible in the modern world. We are not even aware of our loss, [and] consequently the pain of our spiritual exile is more intense in being largely unintelligible.*
>
> *- John O'Donohue (Anam Cara)*[16]

So in those early urbanised civilisations, it became necessary to institutionalise what had been "second nature" and replace it with a religion[17] – because belonging to a community is no longer enough once that community is collectively dysfunctional (because of its collective loss over a few millennia of embodied interdependent communion with the Earth and the rest of the living world). What was missing was a moment-by-moment experience of the world as a profoundly allegorical and symbolic, and almost dream-like archetypal story that unfolded in a very personal way – and at the same the profoundly physical connection with the unadulterated raw soil, grass, rock. This simultaneous duality of experience – of the dream-like symbolic and the very physical specific - is the relationship of the Shaman and hunter-gatherer to the environment in which they co-exist. In ancient Greece, Gods still literally walked with Men, because – it was believed that they did, and so that was a common experience. Any stranger you met on an ancient Greek road could be Zeus, or Hermes, or Aphrodite. But even at this early stage, civilisation had also abstracted them. The Gods had a primary existence of their own (the "*Really Real*") that was more important than, and somehow "above" or "beyond" the everyday world that humans normally move around in. But in the self-world experience before the coming of urbanised civilisation, the numinous and the very physical were the same thing – one is immanent in, and an expression of the other. The Earth is the body, the is the Earth; and the Spirit pervades their continuity in the rustling of leaves across entire forests or blades of grass across the steppes and great plains, the calls of crows, and in the way that even a single bacterium understands meaning as it moves through its tiny world. Any being not tuned to this intrinsic subtle warp and weft will inevitably wade through its tracery wearing great hob-nailed boots.

When Laurens van der Post one night
In the Kalihari Desert told the Bushmen
He couldn't hear the starsLaurens van der Post
Singing, they didn't believe him. They looked at him,
Half-smiling. They examined his face
To see whether he was joking
Or deceiving them. Then two of those small men
Who plant nothing, who have almost
Nothing to hunt, who live
On almost nothing, and with no one
But themselves, led him away
From the crackling thorn-scrub fire
And stood with him under the night sky
And listened. One of them whispered,
Do you not hear them now?
And van der Post listened, not wanting
To disbelieve, but had to answer, Laurens van der Post
No. They walked him slowly
Like a sick man to the small dim
Circle of firelight and told him
They were terribly sorry, ...

From "The Silence of the Stars" (David Wagoner)

Its not that this loss happened when the first stone hut was constructed, or the first seed sown – the process of uprooting probably took millennia. But at some point the loss became palpable, though so much time had passed that few could identify exactly what was missing. The loss has grown exponentially, accelerated by the Reformation and the Age of Enlightenment. But particularly by the human manufacture of raw materials (plastics), streetlights and populations who live their entire lives in urban environments, the dawn of industrial megacities in the 19th Century, and most recently by minaiturisation – all of which in their own way separate the end user and the use of a manufactured object from its manufacturing process and the raw materials. Cobbled and then tarmacadamed and concrete roads separate our feet from the soil, and central heating extend that separation to the flow of weather and seasons. And street lights veil us from the glory of stars that illuminated the minds of our ancestors and induced awe not so many generations ago. Many people growing up in the modern European world do not even know how their food is grown. I was particularly struck by a friend who led a group of inner city children on a days outing to rural Norfolk. They walked through a meadow used to graze sheep. After a few minutes, one of the kids asked *"what are all those small round black things on the grass?"* and was appalled to learn that they were

sheep droppings. *"What?? You mean they let them do that??"*

> *Preparation contributed to the appreciation of finished objects because, in the traditional world, products and the processes that made them were intimately linked. This is borne out in literature: in the Iliad – just at the fateful moment when Pandarus decides to break the truce between the Achaeans and Trojans – Homer interrupts the dramatic flow of the narrative to describe the materials and manufacture of the Pandarus' bow and arrow. (The bow was made from the horn of an ibex that Pandarus had killed, polished by a craftsman, tipped with gold and strung with ox-git. His arrow was feathered and notched with an iron point.)*
>
> *Like bows and arrows, paintings were valued because of the materials that they contained. But they were also valued because of the mysterious ways that craftsmen could convert raw materials into something with a fateful power. Without a craftsman[18], a small piece of iron, two pieces of gold, an ibex horn, a shaft of wood, some ox-gut and feathers are just that. Individually they are quite unremarkable. Yet after the transformations wrought by a craftsman, and in the hands of Pandarus, those modest materials helped precipitate a tragic epic[19].*

What had been lost in this abstracted separation of "Heaven and Earth" was a deeply ingrained sense of the universality of life, of humans being part of an endless and infinitely complex web of familial and constantly shifting interrelationship. These numinous experiences are still found in the shamanic cultures of the Arctic circle and the vast grasslands of North America and Asia, the rainforests of East Asia and South America, and the arid zones of of Australia and the Kalahari. Or – like the Ayahuasca[20] and Peyote of the Americas – the numinous world is encountered in hallucinogen-assisted dream journeys[21]. Geographically, these are all places that have remained well outside or on the very fringes of the physical urban environment, and have preserved cultures that go back over 10,000 years to the last ice age (or the one before that). For instance, present-day Australian Aboriginal songs contain accurate descriptions of the landscape that existed before the last glacial period ended, at least 6-7,000 years ago[22].

The particular focus I wish to take here is on Western culture – the systems of religion, philosophy, politics, government and science that arose in the melting pot of the eastern Mediterranean (literally "*in the centre of the Earth*")[23], Mesopotamia, and the area of Western Asia including Georgia, Kazakhstan, Iran, Iraq and Afghanistan[24]. In the rest of the world the story has been somewhat different, and one can perhaps gain a sense of the degree of separation by observing the degree of environmental damage caused by humans. It is now thought that the Amazon basin and much of Argentina were farmed; and almost the entire Amazon forest at one time was carefully cultivated in a way similar to the modern system of permaculture. In both countries there are signs of an extensive (abandoned) system of shallow engineered ponds and levees, in which a natural fertility cycle was maintained in an ecologically diverse managed habitat. First peoples cultures are often associated with sustainable technology. On the Northwest coast of America,

there are stone fish traps designed to make use of tidal movements and take fish in a sustainable manner - that have been in constant use for thousands of years. In contrast, it is also clear that this separation from Nature is not restricted to purely stone and brick urban cultures. The first known desertification and environmental collapse in Southern Africa took place in the 18th century (just a short time before European settlers arrived) when too many trees were cut down for firewood and dwelling construction in the region that is now Eastern Botswana. The period of expansion of human civilisation has coincided with a gradual drying of climate which continued thousands of years after the end of the last glaciation and retreat of the ice sheets. Maybe the civilisation responsible for extensive permaculture farming in South America came to an end as a result of this slow and inexorable shift in climate. Anthropogenic carbon production over the past 200 years has added to and accelerated that long term trend of drying.

Ritualistic drumming or dancing for hours on end, or sweat lodges that take the participant to the edges of physical exhaustion and then beyond – are very physical and earthbound practices that require both physical stamina and an understanding that the numinous is inherently part of the physical world[25]. The !Kung call the resulting experience[26] "boiling energy".

> You dance, dance, dance. Then n/um lifts you up in your belly and lifts you in your back, and then you start to shiver. [N/um] makes you tremble, it's hot. . . . Your eyes are open but you don't look around; you hold your eyes still and look straight ahead. But when you get into !kia, you're looking around because you see everything, because you see what's troubling everybody . . . n/um enters every part of your body right to the tip of your feet and even your hair.

It's perhaps not surprising that raves and music festivals have become increasingly popular over the past 50 years, though I feel that the participants are being short changed. They know instinctively what they need, but they are only getting the external form of it, and the deep spiritual connection with the Earth that should come with these rituals is deafening in its absence.

The human body-mind evolved in mobile hunter-gatherer communities, not in ploughed fields or brick and glass houses. One aspect of the way that this original way of being might be experienced is to be found in the Anna Breytenbach "Animal Communicator" documentary[27] (particularly the short interviews with bushmen, who seem to be very familiar with Breytenbach's way of perceiving). Living naked in a landscape requires mental and physical presence. But Greek philosophy and the great world religions arise from a brain that deals in abstractions, and even the Gods themselves are abstracted and separated from the material world. As a consequence, the physical world and the physical (human) body also became devalued, externalised, almost unimportant. Once

the physical world has been abstracted, then the greatest "reality" becomes the world of ideas – so arises the Greek notion of a separation between the "real" normally experienced world and the "Really Real" - a mysterious and invisible, higher level of reality (see Plato's "*Allegory of the Cave*", below) – also called the "two-worlds" philosophy. This separation of Reality from embodied experience reduces Reality to an idea, which than can easily degrade to a set of opinions. And when it comes to religion, opinions are dangerous. The 30 years war[28] was fought between Catholics and Protestants because it became important not only to have faith (in Christ), but also to have a certain *type* of faith. It resulted in the violent death of about half the population of central Europe in one of the most vicious, bloody and pointless wars that the world has ever experienced. In fact, this xenophobia of small differences drives much conflict today in the middle east – between the three Abrahamic religions, and between different Islamic sects. Once we begin to act as thought-police and insist that not only *must* God be worshipped, but that has to be God with a specific name and denomination, who demands to be worshipped in a very specific way (otherwise it is sin or blasphemy and so the person is no longer fit to be treated as a human being) – then the world gets very messy. Such violence is only made possible by a massive and culturally driven dissociation, an abstraction of a diminished God that allows human doctrine to be superposed on it; and an abstracted concept of "other people" that allows them to be perceived as being sub-human. The religion of Atheism is no different, except perhaps that it often allows for an even greater separation from Nature; because humans (by nature of their large cerebral cortex) are considered even more special, with no limitation on their capacity to be masters of all they can conceive and invent.

> *I am fully committed to the idea that human existence should be rooted in the earth....Nature, the psyche and life appear to me like divinity unfolded – what more could I wish for?*
>
> *– C.G. Jung*

The void that arises when there is no longer a very personal, immediate and largely unbroken contact with the natural world with its daily and seasonal fluxes - could only be filled by a comprehensive theology or philosophy of life, such a might be found in a Greek philosophy school or one of the great religions. Each continent produced its specific form of spiritual response to this urbanised void. In China, Daoism related directly to the Natural world, and strove to live in harmony with its ebb and flow (the Dao) whilst also staying in a human-constructed world – a movement continued in Japanese Zen practices. The difficulty in attaining the essential moment-by-moment embeddedness in time and place simplicity of Sartori gives some indication as to the width of separation from the Natural world that has arisen in the human psyche. In India, meditative practices explored the depths of human consciousness and even the structure

of matter and energy and distant galaxies. The ancient Greeks took a different path, in that they explored the world with their intellect, systematically charted its conceptual possibilities – and then lived according to the rules they had inferred through rational inquiry. The intellectual nature of Greek philosophy – as opposed to the more experiential focus of Daoism and the Vedic traditions – required that it was committed to writing. And this in turn created the potential for future misunderstanding – for the lived experiential meanings of words changes over time. Many Greek works were lost over a period of several centuries, as the Roman Empire gradually fell apart. The great library of Alexandria was a repository for all the accumulated wisdom of the ancient world, much of which was accidentally burned by Julius Caesar in 48BCE.

Language

Man is free, and everywhere he is in chains

– Rousseau

The meaning of words drifts over time, and sometimes words even end up with the opposite meaning to their original. "Nice" used to mean the sharpness of a blade, but now (when applied to e.g. food) in English as spoken in England can mean anything from the greatest delicacy ever cooked through to something totally unpalatable (but slightly short of having to vomit). "Sophos" originally meant "wisdom", later became "sophisticated" (specious and superficial), and then did another U-turn, when it was used both with and without irony to describe the artistic tastes of 20th century nouveau riche. "Epic" used to mean something heroic taking up someone's life and covering vast distances, but it is now used in *Generation Z* argot when someone arrives unexpectedly with a bag of crisps.

There are rather more serious changes from words used in ancient Greece that have an influence on how we perceive the world. To take a few specific examples :

> The word "**idea**" comes from Greek ἰδέα idea "form, pattern," from the root of ἰδεῖν idein, "to see." So an idea is how we see (or perceive) things, but it is also the what might be called the creative pattern or force that brings something into existence. This is an interesting combination. In the Chapter 5 (Meaning) there was a discussion around how "what" is being seen already has to be known before it can be seen. There is sensory perception (light, sound), and there is meaning (or cognitive perception), which takes place somewhere other than sensory organs. The modern meaning of "Idea" has placed it on a purely mental and imaginary level. Ideas come into the head from a mysterious and definitely disembodied, ethereal source. And we talk of "bringing ideas into action" - something needing conscious effort - whereas in the original meaning, the mere act of "seeing" was itself considered to be creative. It is not dissimilar to "theory", which comes from Greek θεωρία (theōría, "contemplation, speculation, a looking at) – yet another

kind of seeing.

"**Rational**" is from Latin rationalis ("of or belonging to reason, a Translation of λογεῖον (logeîon) or perhaps λόγιον (lógion, "oracle"). Oracle! The modern way of understanding "reason" is that it is a logical and purely mental process. One does not feel or intuit reason – one thinks it, and feelings are ir-rational. It also relates to the word "ratio" - since in Neoplatonic thought, geometry, the prime numbers, mathematics – were an insight into the Mind of God. The ratio of the edges of (e.g.) a 3-4-5 right-angled triangle or the 3:2 of a perfect 5th in music was therefore the ultimate in "rationality". The compass (a pair of dividers – a means to mark out a ratio) are one of the most important symbols in Freemasonry.

"Analysis" derives from the Greek ἀναλύω (analúō, "I unravel, investigate"), from ἀνά (aná, "on, up") + λύω (lúō, "I loosen"). It is related to "lysis" (Greek λύσις lúsis, "a loosening") - and also the word for a foundation stone of a temple. It is about breaking up into constituent "building blocks" - so this word has very much retained its original meaning.

Roman and medieval Christianity had to make do with the small surviving selection of the works of the Greek philosophers – with no oral or experiential tradition to provide direct insight into its original meaning. It is, on reflection, disturbing that much of our culture is based on interpretation of written treatises by people living outside the original cultural context in which those treatises were written. The modern technological culture implicitly assumes that information can be transferred by the written word – because we tend to record and transfer technology by this means. But information/words and Meaning are two very different things. There are many forms of meaning that cannot be directly transmitted in direct writing, and at the very least rely on poetry to hint at their presence. Information is a left-brain abstraction, whether that abstraction is an idea, a principle, or a set of numbers in a table – even the numbers are abstracted qualities, because in the real world an abstracted "two" does not truly exist except for its occurrence in *specific* instances. But Meaning is a right-brain function that fundamentally depends on sensory embodied experience of the specific. I can describe a dance or a piece of music, but that description is not the dance or music, and the interpretation of the Meaning of the note or movement sequence is shaped by my culture, expectation, prior experience. Most of the time, we can only experience something new if it is presented to us by someone who already lives that principle and wears it like a skin.

So Meaning is culturally skewed. It is impossible to read anything from another culture and truly understand the meaning that it had in that culture – unless I were to immerse myself in that culture so deeply that became part of how I think and dream. Anthropologists have increasingly recognised this, and so have increasingly immersed themselves as far as possible in culture they are studying. But one cannot immerse oneself in a culture that no longer exists – the Roman Empire or the ancient city-state of Athens. What would that mean? Well, for one example - in Europe and the Middle East

from pre-Abrahamic up to late medieval times, written letters were also assigned numeric values - and anyone literate would know the numeric value of a written word just as immediately as they would know the superficial "meaning" of the word. Numerology is a way of thinking found in all ancient cultures, and so any word or sentence could have multiple meanings by virtue of its numerological significance. In a similar way, each rune of the Nordic *Futhark* had a symbolic meaning relating to the Shamanic level of experience described above. The *written* word or sentence was therefore also a powerful spiritual statement or spell, and even a single word could be unpackaged into a rich well of implicit dynamic meaning. Similarly, colours possessed symbolic meaning (that was understood by both artists and their patrons) whose specific was pregnant with alchemical and spiritual potency[29].

Spoken language probably originated as a series of sounds that directly conveyed meaning, and it is thought that human speech arose after we first learned how to sing[30]! One can listen to a chimpanzee, and the quality of sound matches its body language and the situation. Calm socialisation, or urgency or fear – all are conveyed in the quality of sound. That is easy to relate to, given that chimps are fairly close relatives. In fact, chimpanzee gestural communication follows the same rules as human language (which probably explains why they learn human "signing" so easily). It is necessary to observe birds for some time to be able to distinguish the difference between normal song and alarm calls, but that too can become a familiar language. At this primitive visceral level of communication, sound and movement are closely related. The language has not been abstracted – i.e. separated from its somatic Meaning. This kind of relationship to vocalised sound and Meaning has been explored in many cultures, and these systems always converge on the vowels as having a primary quality (modulated by secondary consonants) such as the primal sounds of the Japanese Kototama, described by Nakazono[31]. The vowels are special in that they are spoken with the breath, whereas consonants interrupt the breath – and the breath is a representation of and direct means of access to Life.

However, once abstraction takes place, the language becomes a code, and Meaning is only able to be conveyed purely through sound in a few words that have survived the evolutionary process of linguistic abstraction. At this point, there is no ability to truly know the subtle cultural associations that give a word its full Meaning *unless the abstracted form carries a culturally recognised pantheon of symbolic form*.

This problem of communication is even found by native speakers of the same modern language. But so many things are assumed during verbal and written communication, that the problem is not immediately apparent. "Consciousness" is a good case in point. Most people think they know what it means, but actually there are vast individual differences in perceived meaning which only come out on deliberate introspection and careful questioning. However, it is possible to have a conversation in which everyone

thinks of the word "consciousness" in a different way, but assumes that everyone else uses the same meaning as they do. The fact that the word we use is a noun-thing rather than a verb-process should give a clue. For nouns are always abstractions from the specific, and invite a, slightly fuzzy ways of thinking – mentally confusing the class of things with the real example. You will see this used daily in political statements, because almost all politicians use (abstracted) nouns instead of (active) verbs when talking about unpalatable truths[32], which subliminally removes the listener and speaker from the reality and so decreases the emotive response. e.g. "W*e are considering the removal of Palestinian settlements from the West Bank*" sounds less violent and immediate than "*We are considering removing Palestinian settlements from the West Bank*". Nouns are also used collectively – as a form of self-identity, but also sometimes in ways that are well recognised to be deliberately racist. So a newspaper might report a "black mugger" or a "Jewish banker". Part of the effect is the abstraction of the label – which helps to depersonalise (it's not the same black or Jewish person that you might know) and to separate. The fact that these racial and politically motivated distortions are deliberately invoked by using common everyday linguistic structures tells us that the linguistic structures themselves are inherently distorting. The way that language is used to induce hypnotic altered states is another clue to the abstraction that is embedded in it. And the illusion created by the left brain[33] is that language is precise and that we really know exactly what we are talking about. In reality *everything* is symbolic unless it is a specific example. All that is known of the non-symbolic world arrives through the sensory system, and that sensory system is not restricted to the external senses – it includes the internal senses, including emotions. And the internal senses are also sensit-ive to the symbolic world.

"... but how does it feel to misunderstand how you might think about not knowing what to believe ..?"

So a philosophy that distrusts the senses, constrains the most trustworthy of the untrustworthy senses to the external, and ignores the symbolic – as does our so-called science-based culture – is (as McGilchrist has pointed out) constructing its own hall of mirrors.

It is particularly important to remember that nouns are almost inevitably abstracted classes rather than the real thing. There is not the specific orange in front of you with its very individual colour and oily dimpled rind – but instead, one unremarkable example of a class of "Oranges". The simple naming distances the observer from the reality, because it is no longer necessary to be interested in the detail[34]. And this abstracted quality of language allows a self-deceptive world view based on abstraction. Oranges, bacteria, people – can all exist in a rarified objective space in which they are removed from their normal everyday moment-by moment interrelationships and subtly varying individual uniqueness. "Tree" - you all know what a tree is, but each person reading this will have a

very different internal representation of what a tree looks like, and what it Means. After all, there are (approximately) 60,065 known species of tree. Which one did you pick? What shape and colour are its leaves? What insects and animals and birds make it their home? How many years have its roots had time to seek out other hidden relationships under the surface of the earth, and to be integrated into many other root systems through neural networks of soil fungi? What does this tree say to the grasses and other trees that are in contact with its roots? What kind of soil does it grow in inhabited by which insects? What are your *feelings* about this tree that made you pick it out of all possible trees? How did you abstract a tree from the landscape, soil and other plants – when there are no trees in existence in a truly abstracted form in which soil, microbes, air, water, animals etc. do not also co-exist?

> Looking at life from a different perspective makes you realise that it's no the deer that is crossing the road, rather it's the road that is crossing the forest.
>
> – Muhammad Ali

The example of a pen used in one of Henri Bortoft's lectures[35] gives insight into one aspect of this abstraction. If you take a pen in your hand and look at it, or even feel it – you immediately know its identity and purpose. So the word for "Pen" appears to be capable of standing on its own as an objective fact. However, it is only by virtue of the cultural context of a pen – the familiarity with handwriting, alphabet, calligraphy, language, ink, paper, signatures (and identifying oneself through them), letters (and love letters), and all the secondary cultural ideas and life experiences that surround these core significators – that we understand "pen". A term often used for this contextual information is "*Implicit Knowledge*". Someone coming from a culture in which none of these existed (say a human being in a fully digitised age, where handwriting was a forgotten art) would look at this strange pointed stick and have no immediate comprehension of its purpose or function[36]. Even more, they would have no somatic experience of using one, or converting speech and ideas into movements of the hand and arm. The abstracted objectification provided in our language by nouns is a universal experience – so familiar that its effect is somewhat invisible. Arthur Haines[37] describes various reasons he is learning an indigenous language, including that of the issue of nouns vs verbs :

> *"English is really about abstracting integral parts of our environment and making them into a thing that can be viewed as separate from the rest of the world. We think in a noun-based manner. A good example is the word wind (e.g., the wind is blowing hard today). In Passamaquoddy, wind is a verb: wocawson (it is windy). In fact, Passamaquoddy has over 50 words for wind (depending on its strength, direction, what it does, etc.), all of which are verbs. Using one more example, in English, a cleared open area dominated by grasses and other herbaceous plants is called a field. It is noun, a thing that is deemed to be a static entity and owned. In*

> *Passamaquoddy, there is no noun for field, it is a verb: pomskute (there is a field, a field extends along). It represents an understanding of how dynamic the landscape is, always changing from year to year. It represents a much more mature view of the environment. Now imagine how different our society would be if we considered the world to be built of many, complex, dynamic, pieces that cannot be separated from one another (rather than viewing the world as individual pieces that can be made into commodities for profit)."*

There's no doubt that the noun has its uses(!) One is that they provide a shorthand of recognition by both the user and whoever s/he is communicating with. And nouns[38] reduce the need for attention in an information-saturated world. If I can label something, it can then go in a filing cabinet drawer that itself has a label something like "*I know what it is and where it is and the details are for the moment unimportant*". If I say "*that is an oak tree*", there may be some use in putting the object into a collective grouping that includes dozens of different species in dozens of different landscapes and environments, of ages ranging from few years to several centuries, through which light passes in a myriad of different ways and around which a whole host of creatures make their home. However, if abstraction becomes the default position – if everything is automatically abstracted – then the world ceases to be real. The various side effects that can potentially emerge from this loss of connection to immanent reality – mental illness, susceptibility to PTSD, degradation of relationship with the physical world) including the body - are discussed in later chapters.

Processes (verbs) on the other hand demand a very different quality of attention because they are constantly evolving, and they are much more likely to be relational and contextual rather than abstracted. The linguistic definition of a mature and conceptually rich language is one whose verbs (process-descriptors) far outnumber its nouns (abstracted thing-descriptors). An interesting expansion of this is presented in the science fiction novel Neverness by David Zindell[39]. He describes a language which has dropped nouns altogether, possibly based on David Bohm's rheomode[40]. Medical biology – the language we use to describe and understand the human body - is still largely a descriptive (noun-based) science rather than one dealing with processes (verbs). Because its vocabulary is dominated by nouns, the thought processes that are generated by use of the language of Biology are somewhat static, fixed and abstracted. It is somewhat reassuring that the one of latest developments in biology (though admittedly biology is still some distance removed from medicine) is to think of Life as a multi-level process[41] with discernable identity occurring on multiple levels - rather than a unitary and material "thing". This multi-layered process view of life will be seen later (Chapter 8) to be far closer to the real thing – both in terms of its biological functioning and the lived experience of being a human life-form.

Physics, mathematics, and even ecological biology have for some reason gone some

distance beyond medical biology. Quantum Mechanics (QM) is inherently relational, and since the nature of reality is inherently relational (rather than atomist-reductionist), this should not be particularly surprising. Physicists have proposed on several occasions that native languages (such as one of the Australian Aborigine dialects) should be learned as a way of better understanding the principles of QM.

> *The inventor Buckminster Fuller was fond of holding up his hand and asking people "What is this?" Invariably they would respond "It's a hand." He would then point out that the cells that made up that hand were continually dying and regenerating themselves. What seems tangible is continually changing: in fact, a hand is completely re-created within a year or so. So when we see a hand – or an entire body, or any living system – as a static "thing", we are mistaken. "What you see is not a hand", said Fuller. "It is a 'pattern integrity', the universe's capability to create hands."*[42]

The English language itself also gives rise to misconceptions, by means of its commonly used grammar, that relies on static noun-based abstractions. The phrases "I have measles", "I want love", "I am a postman" all take a process - something rich, transitory, multifaceted, and turn them into relatively static "things". As soon as we hear the word for a thing (such as the oak tree example above), we think that we know what the thing is (as one example of a class of similar things) - and so can cease to enquire as to its nature. Its process-nature then begins to become slippery to the mind. Processes that should be viewed (and experienced!) as ephemeral (like pain, or an infection) become unchangeable facts of life. Processes that could touch us deeply are skated over because they can no longer be seen clearly through the fog of abstraction.

Take the example of measles. Everyone now thinks (due to cultural norming of Germ Theory) of measles as being an infection - "I have measles" is what you will hear people say. Modern microbiology and virology recognises that there is a human microbiome and virome that has its own ecology, and which usually contains "infective" organisms all of the time. It may well be that that many people might be hosting the measles (*rubeola*) virus. But the human bug cloud – the virome and microbiome - will in most cases retain a sufficiently robust ecology such that *rubeola* does not proliferate. So it's not that we "catch a thing" - it's that there are changes to the ecology of human and non-human cells in and around our body. This is a process. Germ Theory on the other hand gives the impression that we live completely pristine and free of all viruses and "germs" until they "infect" us, and this impression (and its abstracted woolly nature) is expressed in the use of "*I have measles*" (rather than a phrase something more like "*I am measling*"). In this case, *measling* is a process of immune activation as the body attempts to return to healthy homeostatic balance. Similarly, the phrase "*I have a broken leg*" implies something fixed. In reality within 24-48 hours the body's repair systems (whatever they are!) will normally have made a temporary amorphous patch of bone with about 30%

normal strength; and right from the very first impact there will be regenerative healing forces at work... The English language, dependent so heavily on nouns, is inadequate to describe this ongoing process - and so the subliminal message conveyed to the non-conscious through language is that the break is still there. I honestly wonder how quickly breaks (or anything else) might heal if they were not fixed so powerfully by the non-based language we use to talk and think about them.

Other words we have made into nouns instead of processes are the concepts of "True" and "False". I write them with a capital letter because that is how they are often spoken, and thought of. Something polarised and exclusive, absolute, immovable, safe and certain. The strongly dualistic logical system we employ in all aspects of life from science to law and beyond was devised by Aristotle over 2300 years ago as an investigative philosophical tool. It is now even enshrined in our computing system (the binary 1-0).

It might be easy to misconstrue the above as a tirade against nouns. However, they have great use; and it is only when they are stripped of relational complexity (as they have been in the sanitised post-19th Century Western cultures) that this problem becomes critical. So the numerological layer of meaning originally attributed to written Roman and Hebrew letters, or the archetypal qualities attributed to the symbols of the Futhark, are ways in which additional richly symbolic layers of meaning can be embedded in language so that it ceases to be static. Another way that evolved was in the Hawaiian language – which constructed words from smaller words, so there was already a richness of association within every word[43] – and then they also had several layers of possible meaning for each word. All languages naturally attempt to return to complexity in spite of dictionaries, by individuals developing their own subtly different shades of meaning and association for each word (such as "epic"!). The fact is – given that we exist in a culture that has fixed the meaning of its words and stripped as many archaic relational complexities from them as possible – we are called to be more vigilant in recognising the way in which the word-abstraction can create separation from the material and uniquely complex and interconnected reality that is in front of us.

Aristotle

> *A human being is a part of the whole called by us universe, a part limited in time and space. S/he experiences her/himself, her/his thoughts and feeling as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."*
>
> *– Albert Einstein*

The ancient Greek masters were revered in medieval European academia[44] almost as much as were the words of the Bible. The period approximately 400 to 1400AD was characterised by a general loss of confidence, where most intellectual effort was expended in interpreting and synthesising with reference to the Bible and to the surviving texts from Greek and Roman authors such as Galen. So the Christian conquest of Spain created an academic and spiritual earthquake[45] when some of the "lost" works of Aristotle were discovered in an Islamic library in the mid 12th Century. The intellectual dangers of Aristotle's philosophy – in its capacity to confuse the mind and take it down an increasingly narrow pathway – had been recognised early on by the Arabic scholars, and so access to it was restricted, and it was only viewed by strict permission. The 12th Century Christian Church (which was also the vehicle for almost all European intellectual thought and scientific research at the time) did not realise this. It therefore devoted a huge effort in translating Aristotle from Arabic to Latin and Greek, and in disseminating it throughout the known world. In the long term, these ideas would lead (amongst other things) directly to Luther's declaration and the Protestant split from the Church of Rome, the Age of Enlightenment, the rise of secularism, the formulation of the modern scientific method of investigation, and much of 21st century Western culture. So what did Aristotle say? What ideas written in a book could have such a profound effect on history?

It is worth stating more clearly what the tenets of Aristotelian logic are, so that we can be more aware of their undercurrents and pervasiveness, and so that we can also remember that this logical system is merely an *investigative tool* - a powerful one, but still just another spanner in the toolbox. Instead of remaining a useful tool, it has become a largely unrecognised (unconscious) belief system for almost everyone in the West, on which our entire culture is based. It is a way of life, to the extent that, being so fixed in English (and European) linguistic structure, it is so difficult to see possibilities beyond its limited horizons :

1. **The Law of Identity** : everything is what it is : there is no ambiguity - e.g. "A spade is a spade" or "What You See Is What You Get" (WYSIWIG).
2. **The Law of Non-Contradiction** : both A and its opposite "not-A" cannot be true - e.g. "You cannot be both dead and alive"; "If it is cloudy, then it cannot be sunny".
3. **The Principle of the Excluded Middle** : every statement is either true or not true - e.g. "You are reading this, or you are not."

From this was derived the basis for our legal system (guilty/not-guilty), ideas on causality and reality (which dominate scientific and medical thought), and the beginnings of the modern scientific method via Roger Bacon. Theologians such as William of Ockham[46] built on Aristotle's system of logic, piecing together a philosophical toolkit for investigating the nature of truth.

However, whilst it is true that the structure Nature is based on polarity (e.g. positive and negative charge) and our experience of the world is strongly polarised (e.g. up/down, Left/right, large/small), it is important to recognise that all of these naturally occurring polarities are relational and inclusive. The presence of one automatically implies the immanent presence of another. Most (if not all) natural processes are relative and polarised, and the existence of one (e.g. an electron) requires (rather than negates) the existence of its proton opposite. Big is only big when compared to something smaller[47]. The Sun is big compared to Earth, but is tiny when compared to a red supergiant star such as Aldebaran. Similarly, the real world is full of ambiguities, which may be clarified if sufficient information is available, but usually not. For instance, an encapsulated infection in the body is an ambiguous *process* in which it is not clear how much the bacteria is keeping the immune system out, and how much the immune system is keeping the bacteria in. But Aristotle's system of True/False is absolute and exclusive.

Aristotle's logic (*as interpreted post-hoc with a 1000 year gap between writing and interpreting*) also requires that pure objectivity is possible. The fundamental problem associated with so-called "*objective*" observation was defined in 1931 by the mathematical logician Kurt Gödel[48], who showed that[49] :

> *"within a formal system questions exist that are neither provable nor disprovable on the basis of the axioms of that system".*

Which is otherwise known as "*Gödel's Incompleteness Theorem*". Some 10 years previously, the brilliant philosopher Bertrand Russell had completed *Principia Mathematica* – three hefty volumes of logical categorisation of the knowledge and potential knowledge encompassed by mathematics. That one paper by Gödel virtually assigned Russell's finest work to the dustbin. Putting it into plain English, Gödel's theorem showed that there are problems that cannot be solved by any set of rules or procedures

because this would always require a higher set of rules[50]. A rough translation of his work into more common language would go something like

> *"It's hard to know what's in the box unless you're outside the box looking in".*

Which can be further expanded to say something like :

> *"if you are inside the box, you can never see all its contents, and the ones that you can see will always contain ambiguities and inconsistencies that will only be revealed to be a consistent whole once you can see them from – outside the box. Of course, when you stand outside the box, you are then always inside another, bigger box."*

This principle will be familiar to anyone who had received psychotherapy or counselling of any kind ... The mere presence of a non-judgemental external observer (who is not snarled up in all your innate personal contradictions) allows us to achieve an expanded awareness of ourselves. However, a "box" can be anything – including a belief system or expectation as to how the world works. Gödel's principle can also be seen to be inherently contradictory to Aristotle's Law of Identity, because what you see is determined almost entirely by the particular perceptual "boxes" that you and it are contained in. If the "thing" is trivial enough, then WYSIWIG might be true, but most things are not inherently trivial due to the relational web they exist/participate within.

One of the greatest hurdles to seeing something truly new – the epitome of scientific discovery – is that even if it is presented in front of our eyes, it is invisible until we have gone through a process of recognition – which may require many stages. Galileo had to observe Jupiter's moons through his telescope for weeks before he realised that they were moons rotating around Jupiter just as the Moon rotates round the Earth. It wasn't an immediate "eureka" moment at first sight through the telescope, but a long process of Not-Knowing and confusion. *Not-Knowing* is so important for seeing something new. It is unfortunate that modern science has increasingly emphasised falsification as a central tool of investigation; thus placing an almost insurmountable barrier to the *Not-Knowing* that precedes new discovery. *Not-Knowing* is a state very familiar to Shamen, poets and artists, who know by direct experience that this state is the portal to a profound engagement with the ever-changing and unfathomable strangeness of reality.

Classical geometry, arithmetic and Aristotelian logic were considered for centuries to be absolutes in the natural world, to the extent that philosophers and theologians considered them to be the small set of truly understandable and knowable information about God's creation. In the 20th Century, Mathematicians and Logicians realised that these logical and geometric systems were merely choices in an infinite set of possibilities. Regarding logic, it is most people assume that the "True/False dichotomy is the only

"true" (!) expression of Logic. However, no formulation of Logic (mathematical or otherwise) is specifically ordained by the processes of nature. John Barrow[51] points to many other equally rigorous, equally possible forms of logic in his book "Pi in the Sky", and notes that :

> *In a non-western culture like that of the Jains in ancient India, one finds a more sophisticated attitude to the truth of statements. The possibility that a statement might be indeterminate is admitted as well as the possibility that uncertainties exist in our analysis. These would correspond to statistical statements in which we simply give the likelihood that a certain statement is true or false. Jainian logic admits seven categories for a statement, which reflects both its intrinsic uncertainty and the incompleteness of our knowledge of it :*
>
> 1. *Maybe it is*
> 2. *Maybe it is not*
> 3. *Maybe it is, but it is not*
> 4. *Maybe it is indeterminate*
> 5. *Maybe it is, but is indeterminate*
> 6. *Maybe it is not, but is indeterminate*
> 7. *Maybe it is and is not and is also indeterminate...*

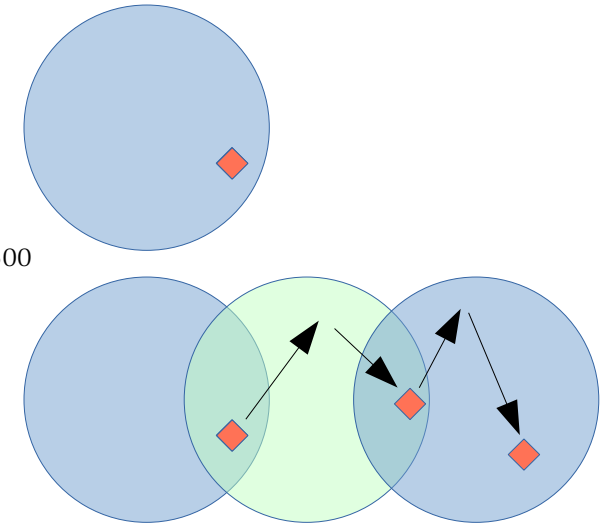
The Church eventually came to rue the day it embraced Aristotle's logical absolutism. Absolutism taken out of its purely mathematical/scientific setting and shoe-horned into softer, more social (or theological) contexts results in irreconcilable arguments over minutiae. The ideas it spawned led to major schisms, forced the expansion of the Inquisition, and eventually ushered in the Age of Reason and rang the death knell of Papal dominance over European affairs (and as mentioned previously, genocidal religious intolerance). Prior to this split, the study and contemplation of spiritual matters and the scientific study of nature were considered to be part of the same task - understanding and worshipping the created universe and its creator. It is another irony that Aristotle's original system of philosophy (which came to cause the conceptual split between spirit and matter, and their vehicles religion and science) *also* contains ideas of mysterious properties which are fundamental to nature, immutable, and a priori, such as life, weight, and so on. Applied as laws governing matter they held back science for hundreds of years. However, when considered as archetypal rules (which is perhaps their original purpose), they become the familiar landscape of the imagination...

I feel that something like Jainian (rather than Aristotlean) logic is far more appropriate for describing both biological life and the spirit which moves through it. Strange as it may seem, Aristotle would probably have considered the above Jainian system to be equally

valid. It is most likely that his definition of "what you see is what you get" included the component of subjective experience that is excluded in modern translations of the Meaning of his work. The reduction of Aristotle's Logic to only include mental rationality is in effect a final separation from the Real of the experienced physical world. It allows for an abstracted separate observer to exist in an idealised incorporeal state. The logical contradiction – that this bodiless state of observation is a more reliable way to observe the world than an embodied somatic form of observation – is heavily laced with unintended irony. It may take another few hundred years for our society to drop 19th century science and medieval theological philosophy. Meanwhile, when working with real human beings, there is often no clear black and white answer. However, there are miracles, there is beauty, and there are times when life is present in its full rawness of being.

Plato and Socrates

Plato (c. 427 – 348 BCE) was the pupil of Socrates (c. 470 – 399 BCE). It is the philosophical system of Socrates – as told by Plato, and as re-interpreted 1600 years later from Greek texts and Latin translations of Arabic translations of Greek texts – that has dominated Western thought. In particular, Plato's "*Republic*" is highly considered. Translated into the present-day cultural context (as opposed to the one that the Greek philosophers lived in 2500 years ago), much of the *Republic*[52] is reduced to a series of arguments between one person of superior intellect and several people of lesser intellect. He takes their arguments, turns the arguments round, and uses them to prove that he is correct. It may be a powerful demonstration of the dangers of purely intellectual logic – showing that any specious conclusion may be drawn if the debate is taken through a series of stages of abstractions leading to specifics, leading to further abstractions, leading to further specifics.



The Venn diagram (above) illustrates the structure of the logical arguments displayed in the Republic. The original specific exists in its own particular abstraction (top figure). The sleight of hand applied by Plato (writing as Socrates) is the mutual agreement on a slightly different overlapping abstraction (green), chosen to exemplify the original specific, and from here on it's all mischief. Now a new specific that also suits the second abstraction can now be infallibly demonstrated, and then abstracted, and shifted again, and brought once more back to a specific. The final specific is only superficially related

to the original abstraction, even though logically everything appears to make sense. The person will know they have been tricked, but will usually have no idea what sleight of hand twisted their words to mean what was never intended. If you want to convince someone that black is white – this is the way to do it.

However, the real Socrates (as opposed to the Socrates depicted in the *Republic*) was also known for teaching his students to reason for themselves rather than spoon-feeding them the answers, so it leads to a question – what is one to make of the *Republic* debates described in detail? Socrates was deeply committed to discovering truth, and would never provide an answer to a question directly. So, assuming that Plato was intelligent enough to know what he was doing here, there are not many explanations. We are either looking at

i. a deliberate demonstration of the fallacy of any intellectual argument that relates to abstractions – which has subsequently been taken at literal face value, or

ii. an unfortunate demonstration that Socrates' most famous pupil Plato – had seriously misunderstood what he was being taught and had confused the external form of the teaching method for the teaching itself.

The "Universal Truth" or "Goodness" that Socrates sought can only be perceived and lived according to the particular individuals capacity, of being able to expand outside their own personal box to meet a more universal level of perception. Swedenborg attempted to describe his journeys within this expanded reality in several books, including "Heaven and Hell". Like the visions of the Shaman, none of these accounts are intelligible without some degree of experience of them, and (as Gödel's theorem tells us), even then, this relatively universal overview will not necessarily be recognisable or make any sense whatsoever. Or it might well have the form of an elephant, and one person's trunk might be another person's leg or tail.

Aside from the debates in the *Republic*, it also contains are two particularly important allegories : the **Allegory of the Cave**, and the **Allegory of the Sun**...

Plato's Allegory of the Cave

In the *Republic*, Socrates asks us to imagine a cave where people have been imprisoned for their whole life, and have no other experience. For all this time they have also been restrained by chains so that they can only gaze at the wall in front of them, and have not been able to see anything else – not even each other or their own body. Behind them is a fire; and between the fire and the prisoners is a walkway with a low wall so that people may walk along a pathway without casting a shadow. However, they do carry objects or puppets "*of men and other living things*", and lift them up as they walk so that these project shadows onto the wall on front of the prisoners. They also make sounds which

echo from the walls. The prisoners therefore falsely believe these sounds come from the shadows they can see moving. Socrates suggests that the shadows constitute reality for the prisoners because they have never experienced anything else. Imagine then what would happen if one prisoner was freed and able to turn and see the fire. The light would hurt his eyes and make it hard for him to see what was casting the shadows. If he were told that what he saw before was not real but instead that the objects he is now struggling to see are, he would not believe it. In his distress he would turn away and turn back to see the familiar wall and its shadows.

The allegory continues: "*Suppose...that someone should drag him...by force, up the rough ascent, the steep way up, and never stop until he could drag him out into the light of the sun.*" The prisoner would be further distressed, and this would increase even more when the bright light of the sun overwhelmed his eyes and blinded him.

The sun is itself in turn an allegory of the new reality and knowledge the prisoner is experiencing. As his eyes slowly adjust to the bright sunlight, first he can still only see shadows. Then, gradually reflections in water and then later he can see people and things directly as they are – not shadows or reflections. Eventually he is able to see stars and the moon - until finally he can look directly upon the sun itself. It is only then that he "*is he able to reason about it*" and what it (i.e. the Sun) really is.

Given this profoundly different understanding of reality and the world, and the Sun, he would naturally wish to bring it back to the other prisoners. At first, being now used to the brightness of the sun, he would be as good as blind in the darkness of the cave. The other prisoners would infer from the returning man's blindness that the journey out of the cave had harmed him - and that they should not undertake a similar journey. And they would then defend themselves from anyone who subsequently attempted to drag them from the cave.

Anyone who is used to hearing lies will feel affronted when told the truth.
– Bruno Groening

Plato's Allegory of the Sun

Also in Plato's Republic, Socrates talks of sight being useless and the visible world being unable to be seen - without the presence of a third element – light from the sun. Thus we have three elements. Two of them are "given" - solid objects which are capable of reflecting or absorbing light, and the source of light. The observer may only observe a) if there is something for him to see, and b) if that-which-may-be-seen is visible because it is illuminated. Here, Plato is spreading a multi-layered tapestry in front of us, as the Sun gives "real" light and is also considered as a metaphor for goodness. Thus, the idea of goodness (the Sun) illuminates what is intelligible (potentially visible objects) with truth (light). In this light, truth is a concept that has absolutely no use (just like eyes are of no

use in an unlit room) unless it is possible to discern truth because of the existence an even more fundamental concept – goodness.

One way to translate this is that the nature of the world cannot be comprehended by the senses alone. We cannot see or hear or otherwise detect goodness with our external senses. The external senses cannot convey enough information by themselves to allow us to know what is true of false. We therefore need to make use of another "higher" sense - the mind.

> "Understand then, that it is the same with the soul, thus: when it settles itself firmly in that region in which truth and real being brightly shine, it understands and knows it and appears to have reason; but when it has nothing to rest on but that which is mingled with darkness—that which becomes and perishes, it opines, it grows dim-sighted, changing opinions up and down, and is like something without reason."

Therefore, ultimately, it is goodness (the Sun) that stands above and comes before everything else – all knowledge and wisdom, and all that we believe and sense. He further limits the scope of human understanding and knowledge in his *Analogy of the Divided Line*. This subdivides human experience into several distinct categories, none of which is anything like universal in nature (there being a limit to what we can understand or have an awareness of), and much of which carries some degree of interpretation and conjecture.

Truth, Rationality and Reason

> *He who can no longer pause to wonder and stand rapt in awe, is as good as dead; his eyes are closed*
>
> *– Albert Einstein*

As may be seen in Plato's description of how truth may be identified, it is as much a state of mind as it is something that may be objectively observed. And furthermore, it relies on discrimination based on a sense of what he calls "goodness". I don't believe that the Greek philosophers were deluded enough to consider goodness to be a mental construct. It would be rapidly obvious to anyone attempting to put this philosophy into practice that each person had a different idea as to what is good and therefore would have a very different version of the truth. Indeed, this is a common experience in the world today, that people have different views of the truth, of reality, of the meaning of what they have witnessed or heard about. However, Plato was not talking about this common-or-garden truth, but rather something more universal – Truth with a capital T – that was somehow equally accessible to anyone who sought it.

Although “Truth” in the above context implies topics of ethics and beauty, this also reminds me of Swedenborg’s scientific method. He would accumulate evidence both himself, and from the very finest scientists of his age, travelling widely and making copious and detailed notes; sometimes spending weeks or months with these experts to observe and contribute to their experiments. Then he would assimilate all of this evidence and apply both his considerable capacity for intellectual analysis and his capacity to feel for the truth. Thus, he was literally applying the rational process of discerning Truth described by Plato, by discerning “goodness”. In this way, he wrote a description of the brain that was the definitive medical text for over 170 years, only being superseded in the early 20th century. Ironically, the experiments on flow of cerebrospinal fluid (CSF) carried out in the 1920’s that “replaced” Swedenborg’s work were technically flawed. Fluid was injected into a frog’s nervous system with such force that the delicate lymphatic vessels along which flow takes place were compressed; whilst other membranous barriers that should have remained intact were ruptured so as to allow unnatural motion of the injected tracer dye. Modern MRI imaging and nucleotide tracer research has resulted in a model of CSF flow[53] much closer to that described in Swedenborg’s book, published in 1746. If this were a general theory, then it would be easy to dismiss. After all, the theory of the Atom was first devised in ancient Greece as just one of many “mind experiment” investigations into the general nature of the physical world. However, here we are not talking about generalisations. Swedenborg accurately described detailed functional anatomy, including the production of CSF in both the ventricles (cavities) of the brain and parenchymally (in the neural structure of brain itself), and its outflow to the rest of the body through nerve roots and the spinal canal.

What particularly interests me is how he used both intellect and “something else” so effectively, and – what was that “something else”? What is this sense of goodness? If Truth cannot be detected through the external senses, then there is only one other route by which we may become conscious of it – through the internal senses. Thus, truth, beauty, love, create a harmonious feeling in the body which may be deliberately accessed. I suggest that Swedenborg used this method – so that in his intellectual analysis of the data he had collected, he also sought out a very specific feeling of “rightness”, or as Plato described it, “goodness”. In its purest form, this feeling is a universal human experience. When we are witness to a glorious dawn or sunset, or a rainbow, or a child’s delight; and something lights up inside us. If Plato's Sun is viewed in this way – he is describing an inner light – then his Allegories begin to “make sense”.

There highlights one way that the writings of the Greek philosophers contains a glaring inconsistency. The Allegory of the Cave assumes that the chained prisoners do not feel anything – their only knowledge comes from the external senses of sight and hearing. But did they not feel the chains, or have any other awareness other than their external senses? Surely this would have been an important qualification to the Allegory?

Although it is true that Plato's distrust of the senses continued in the Neoplatonic line of thought through Descartes to modern times, it is difficult to account for this omission, other than to consider the possibility that the ancient Greeks lumped all internal experiences / processes (thoughts, feelings, emotions, somatic sensations, etc) together. What I would like to suggest here is that this omission was no mistake – because for ancient Greeks their internal "subjective" somatic experience was as much a part of what they called "rationality" or "thought" as was their intellect and logic. Chapter 4 describes how they found little need to describe colour – possibly the most externally visible attribute of many material objects – because they were much more interested in the internal experience that came from its intersection with their lives.

An analysis of medieval paint recipes by the art restorer and historian Spike Bucklow[54] throws up an interesting subtlety in pre-modern thinking that sheds some further light on Plato. The making of pigment was an essentially alchemic practice, and a practical exercise in combining the mundane real and the spiritual "Reality". The very practical formulae inherently recognised that true Reality was not "just" spirit, just as it was not "only" matter, because both of these were by themselves incomplete. Thus, the images on the wall of Plato's Cave were both unreal (in that they were only fleeting shadows and reflections), but also real – in that they could only exist because something real threw a shadow or reflected light.

> *Things are real in as much as they participate in Reality and are seen as partial expressions of that Reality (which is, of course, God). Yet those are also unreal inasmuch as they are not Reality and have no existence independent of Reality. Participation in Reality implies that things are in some way the same as their origin (God is immanent in them). One has the capacity to understand things by virtue of recognising both their "sameness" and their "difference". Recognition of differences between things involves the rational faculty, using the outward-looking mind's eye. And recognition of the sameness of things is provided most profoundly by the imagining faculty, using the inward-looking eye of the heart.*
>
> *[note iv] This is best understood by considering something familiar like our face in a mirror. The reflection is neither our face nor the mirror, but owes something to both. Experience suggests that our face is relatively real (it cannot be absolutely real, because it changes with our mood, state of health and age). Experience also suggests the reflection in the mirror is relatively unreal (it ceases to exist when we look away). Reason indicates that they are different (one is warm and rounded, the other is cold and flat). Yet imagination finds similarities in our face and its reflection (otherwise there would be little point ,making mirrors or looking in them). The image is the offspring of our active (form-like) face and the passive (matter-like) mirror.*

Alchemical relationships are essentially polar, and involve a seemingly endless repeated hierarchy of inverted polarities, so it is perhaps not surprising that the *same* and *different*

described by Bucklow are (in one sense!) the polar opposite of the *same* and *different* described by Bortoft. In truth, as a result of our divided brain, there are always two ways to look at everything. Sameness arises from rational analysis of perceived common factors (Bortoft's *Unity in Multiplicity*), but the connected sense of sameness that we feel for family arises from a fundamentally imaginal heart connection. Likewise, difference may be experienced by choosing to engage with the specific (as was practiced by Goethe in his participatory "*Multiplicity in Unity*" scientific method), but may also arise from a rational discriminatory mindset, such as the Linnaean categorisation of species.

Authentic wholes

> *As the ego does not represent the whole psyche, the western mind cannot speak for the whole world*
>
> *– James Hillman*

Henri Bortoft spends some considerable time in his books describing Goethe's way of seeing (or the methodology of **hermeneutics**[55]). He came - along with David Bohm, and modern philosophers such as Husserl (Phenomenology), Heidegger and Jung - to see this as the most fundamental and valuable way to experience the world, both from a scientific and a personal perspective, and talks of "Authentic" vs "Counterfeit" wholes. The analogy of the hologram has been made available by modern science, and is a useful analogy of a natural holistic form. In the early to mid-20th century it was discovered that when coherent (laser) light is directed at a solid object and the reflections recorded on a transparent plate, the same light cold then be used to project a three dimensional image back from the two-dimensional storage film. Holograms may explain a lot about the world that we live in, but their properties are rather different from most other things we experience in daily life. If we print a photograph onto a glass plate and then shatter it (or we cut up a photograph from a magazine), we end up with lots of fragments of the image that have the same sharpness of focus as the original. But in order to discover the original image we have to stick all the pieces back together. However, if a glass plate containing a Hologram is smashed, we end up with lots of pieces of glass, each of which will project the Holographic image in its entirety. Starting with the image of a bus: one piece of the shattered photographic plate might show a wheel or a headlight or a section of the metal roof, another might show a window with a passenger looking out, another might show some background scenery, etc. Each piece of shattered Holographic plate, on the other hand, will show the whole bus. The fact that the Hologram has been shattered does have some effect – since the fragmentation causes a loss of information. So the bus viewed from a small fragment of Hologram will be fuzzy and out of focus, but still recognisable as a bus. If the fragment is small enough (and so the information degraded enough), the hologram will still show a rectangular blob that might be a bus.

These two images – the photograph and the Hologram – are useful analogies for the two fundamental ways that we are able to view the world. On the one hand a reductionist approach sees the world as something that can be broken into small pieces and then joined mechanically back together again. On the other hand, a Holographic view sees that each part of the world reflects and (in one sense contains) everything else, and the more it is fragmented by our experimental method, the less clearly we are able to see the real picture. In a hologram there is ho hierarchy of precedence between the parts and the whole – because the whole contains the parts and the parts express the whole. If one looks at the smallest piece of a hologram, it may contain a very blurry and distorted image of the whole, but nevertheless, it is of the form of the whole and "reflects" the whole. The smaller scale "parts" are infinitely varied, but each of them contains the wholeness, so the whole points to the parts just as the parts point to the whole.

To see this fully in its true form in the real world (a Hologram is a very over-simplified, one-dimensional kind of authentic wholeness) requires that one enters whole-heartedly and subjectively into a process of observation – rather than simply observing a "thing". The reason that this participation is required is that there is in truth no separation between observer and observed. But whereas one can say of a holographic plate that the parts are necessary parts of a primary whole, an Authentic whole has no direction of primacy. An ecosystem is a thing of beauty in its own right as is each species and each individual. The beauty of the entire system can be observed in the minutiae of comings and goings of a single life form, just as the quality of these is inherent in the experience of the whole ecosystem. One cannot have an ecosystem created and sustained by animals, plants, insects, bacteria, etc without each life-form's existence being equally dependent on the presence of the ecosystem. Each part of the ecosystem has grown and metamorphosed out of the *entire* previous ecosystem, and reflects that wholeness, and the entire present ecosystem reflects the contribution and relational presence of each specific part. Thus it is with the various anatomical parts of the human body-mind, including its microbiome, virome, mitochondria, and the family and society and historical context in which it exists. There is a mutuality that is "greater than the sum of the parts", and it is not possible to know this "greater-than" by any process that starts with viewing the parts – as parts.

By becoming a relational part of the system that is being observed and allowing ourselves to feel that participation affecting our whole being, apparently subjective information becomes part of the information entering our awareness. Counter-transference is one example of this hermeneutic communication. Goethe used it to study plants and colour – and although Newton's rainbow colour system is most widely known now to the general public, it is Goethe's colour theory that is used by most artists and printers. The experience of hermeneutic "seeing" is a shift of the point of awareness so one is *inside the oberv-ing* instead of *being the observ-er*. It is easy to become lost in the modern

atomist (reductionist) way of viewing (resulting in a "Counterfeit" wholeness), by seeing all the pieces and then imagining them together. Doctor Frankenstein's "*to understand life, one has to begin with death*" is one of many statements writ deep in Western culture that think of Life as being a construction of parts, like a complex watch which only requires sufficient intellectual discernment to reveal the secret of how its individual parts should be brought (back) together. Bortoft described this process of re-assembly as "belonging <u>together</u>" (emphasis on parts that come together). Conversely, an Authentic whole is whole as of itself – it is "seen" (experienced) from the inside in a process of relationship – which he described as "<u>belonging</u> together" (emphasis on *belonging : a mutually relational state of being*). This also fits with the classical and medieval conception of "knowledge" - as a way of being/seeing (rather than a collection of facts).

Goethe had a slightly different way of describing these two very opposite forms of observation. "Multiplicity in Unity" is a holistic system, such as is found in Nature. One can take a leaf, and then another and another, and each will be every so slightly different – there are infinite variations, but each variation (the multiplicity) still points back to the whole (unity), just as the whole points to each leaf (for a tree looks very much like its leaves, for very good reason). Multiplicity in unity can only be seen by using a participatory and intuitive, relational frame of mind. Once it is "Seen" (i.e. experienced), then the relationship between the parts and the whole (and vice versa) becomes crystal clear – as described by Goethe[56] in his "Metamorphosis of Plants". On the other hand, "Unity in Multiplicity" is a generalisation – an abstracted average generated by rational analysis of the parts.

We cannot in truth only carry out this seeing of Multiplicity in Unity all of the time, because given the way our brains have been trained for millennia it is almost impossible to completely leave the rational-analytical behind. But it is possible to *choose* to drop into Multiplicity in Unity and the Holistic universe that unfolds from its rabbit hole. The practice is rather like learning for the first time how to shift ones attention from the surface ripples to seeing below water – one must realise where to place attention, and then there is something of an effort in both refocussing and letting go of the previous attitude of focus.

This again comes back to the material in Chapter 5 (Meaning), and Bortoft talks of "*coalescence of the organising idea with the sensory" [data-perception*]. Seeing requires that there is an organising idea around which the raw sensory information can be structured so that what is there becomes visible. The mind itself becomes a creative force (hence the Greek concept of an "Idea"). A seed is not just a good analogy for an Idea – it is a representative example ...

> *It's common to say that trees come from seeds. But how could a tiny seed create a huge tree? Seeds do not contain the resources needed to grow a tree. These must*

> *come from the medium or environment within which the tree grows. But the seed does provide something that is crucial: a place where the whole of the tree starts to form. As resources such as water and nutrient are drawn in, the seed organises the process that generates growth. In a sense, the seed is a gateway through which the future possibility of the living tree emerges*[57].

Scientific knowledge becomes a combination of what is seen, and the way that it is seen – which is actually the direct (subjective) experience of scientific investigation. But this holistic way of seeing has far more relevance than just being yet another way of scientific investigation. It is more of a way of being that reconnects us to the Earth...

> To acknowledge that "I am this body" is not to reduce the mystery of my yearnings and fluid thoughts to a set of mechanisms, or my "self" to a determinate robot. Rather, it is to affirm, the uncanniness of this physical form. It is not to lock up awareness within the density of a closed and bounded object, for as we shall see, the boundaries of a living body are open and indeterminate; more like membranes than barriers, they define a surface of metamorphosis and exchange. The breathing, sensing body draws its sustenance and its very substance form the soils, plants and elements that surround it; it continually contributes itself, in turn, to the air, to the composting Earth, to the nourishment of insects and oak trees and squirrels, ceaselessly spreading out of itself as well as breathing the world into itself, so that it is very difficult to discern, at any moment, precisely where this living body begins and where it ends.[58]

The description of complexity in Chapter 2 focusses mainly on physical forms, because they are relatively easy to visualise. But the same chaotic relationships that create fractal (spacial) morphologies also create physiological relationships in time, order, and biophysical process (see Chapter 8). One theory of life is that it is purely emergent, and that the complexity of Life in individual organisms and in ecosystems, along with consciousness in higher organisms, is purely down to Emergence – i.e. the structure of organisms, their physiological processes and even behaviour are essentially mathematical patterns that arise from complexity and random variation. The fact is that these theories are speculative, because it is impossible to observe or understand time-dependence emergence of the complexity of a living organism. Simply put, most fractal patterns that are comprehensible have only a handful of variables – maybe two or three at most. But there are perhaps tens or even hundreds or thousands of variables in the organisation of a living system. Or maybe even an infinite number of variables. Each cell optimises its own environment, which self-optimises, and each group of adjacent cells also self-optimises, as does each larger grouping, each layer of an organ, each organ, each "system" of the body. Although we focus on either individual cells, individual organs and individual people as being recognisable units, in fact there is a continuity of organisational connection and cooperative optimisation at whatever scale one wishes to observe – which is by definition a fractal (as opposed to hierarchical) system. So, yes –

with that level of complexity it is possible that Life and Consciousness are emergent. The problem with that view is that it is impossible to define in a non-arbitrary manner the point at which Life or Consciousness begin, leading to the Cartesian conclusion that Life is "only" a physical thermodynamic illusion, and Consciousness is similarly an illusion.

The question ultimately comes down to whichever philosophical conceptualisation of consciousness is chosen a priori. If one assumes that the world is made of small physical particles (the Atomist model), then consciousness can only be emergent, and is explicable by emergence from systems too complex for us to understand *how* it emerges. However, it is also possible to conceptualise existence as being based on a universal Consciousness. Amit Goswami, a now retired professor of theoretical physics[59], has formulated Quantum Mechanics (QM) based on a series of different initial postulates. It is interesting that the only version of QM that gracefully accommodates all the known experimental results[60] is the one formulated based on Consciousness being an underlying basis for the physical world. This system is called "Monistic Idealism". "Monistic" refers to the single unified underlying field (of Consciousness), and "Idealism" refers to the fact that this ground of existence is Consciousness – the "Idea" being from the Greek definition of an Idea as a creative pattern or template or "form".

Monistic Idealism is a version of the philosophical principle of Panpsychism that arose in the mid to late 19th Century in response to the necessity of clocks! Until the advent of the railways, travel was so slow that it was not necessary to coordinate time between different places, and everyone used local solar midday. The speed of a train means that a clock set at London time carried from London to Bristol shows a substantially later time than a clock set for Bristol solar time. This created a large debate in the 19th century about the nature of time, and one response was the philosophy of Henri Bergson (1859 – 1941)[61]. Bergson recognised the discrepancy between the measured time of the Positivists/Atomists (*everything is measurable and all processes in the universe are explicable through physics*) and the richness of *experienced* time. Whilst he spent his life attempting to reconcile experience with science, he also noted that the physical material measurable world is only a small part of human experience. He saw *both* consciously experienced and physical reality as being a participatory embeddedness in the flow of time, and noted that the Kantian view he was arguing against treats[62] "*sensations as signs of reality, not as reality itself*."

Measured (Atomist) time is a sequence of discrete "nows", whereas experienced time is an interpenetration of past, present and and future. Bergson argued that the description of time as a 4th dimension was really just a re-wording of the mathematical representation of time – which itself was based on an Atomist understanding of reality, a classic example of *backwards causation*. Whereas the general trend in philosophy had been away from spirituality, Darwin's theory of evolution showed to Bergson that creation was something

that takes place in time – or "*Time is God*". The experience of the flow of and interpenetration of time, along with the formation and recall of memory, is a central part of our sense of existence and is definitive of what we think of as "the mind". Time is experienced as a "confusion" - it is both indistinct and bound up with (con-fused) with the way that past and future coalesce around the present moment. From this point, the most direct conclusion is to end up in Goswami's position – that Consciousness is the *prima materia*, the basis of physical reality.

It is now recognised through advances in physics – that a vast field of energy underpins the observable physical world. Describing this from the usual Atomist perspective ... Quantum particles are tiny, apparently random variations within that energy, rather like the thin and ephemeral layer of froth and bursting bubbles that you might see on top of a barrel full of lemonade - and are constantly dissolving back into the ocean of energy from which they arose. These subatomic particles combine to make atoms, then molecules, rocks, plants, animals, planets and galactic superclusters. All of these are subject to the fluctuations at the Planck scale, where the fabric of space and time is pixellated in increments of 10^{-20} x the diameter of a proton, giving Kronecker's[63] famous aphorism

God made the integers, all the rest is the work of man

an interestingly transcendent spin. The Planck distance is tiny, and compared to an atom, is about the same size as if an atom were compared to the sun. Since these fundamental subatomic comings and goings are so tiny, if consciousness is a fundamental ground to what we call physical reality, then it is not unreasonable to think that shifts in consciousness might affect their activity, or even that they *are* consciousness. Thus, we would be living in a universe that responds to expectation and perception. A universe not unlike the shifting archetypal world of myth and shamanic journeys. A universe in which the observer interacts with the observed (and there is in reality no meaningful distinction between observer and observed) because they are both profoundly enmeshed in each other.

Digging a hole

> *And then I spotted her ... an interlocutor who would be my toughest questioner of the day. She was about 6 years old and clutched her mother's hand as she craned her neck to stare at us. Her mother stopped, but the girl hesitated. "It's OK," I offered. "Do you have a philosophical question?" The girl smiled at her mother, then let go of her hand to walk over to the booth. She looked me dead in the eye and said: "How do I know I'm real?"*[64]

That conversation with a 6 year old is only possible because the Idea of senses being fallible and untrustworthy is totally entrenched in our culture. It's not that children have

to be taught these philosophical principles – they infer it from the way in which adults around them talk and behave. The philosophical route that took us from Plato to the modern world, the modern scientific method and the modern mindset (including how we apply our perception to the world) is useful information, because it can help unpick the worst excesses of rational objectification and abstraction. I have presented a very potted version, and the books described at the start of this chapter should be referred to for clarification. Unlike the traditions that developed in China and India, the Greek philosophers saw the discrepancy that could exist between what thinking says and what the senses tell us as a reason to distrust the senses. Most of them therefore came to the conclusion that reality could only be discovered by thinking, and their explanation had to somehow account for the discrepancy between the thoughts and senses. Atomism and the philosophy of Socrates/Plato were two very different approaches to this problem.

Atomism only re-entered Western mainstream philosophy when Galileo combined it with Neoplatonism. Applied by philosophers such as Leupiccus, Epicurus and Democritus, as a way of thinking it was originally intended to dissolve the fear of death, but the Idea of atoms as physical entities gradually came to be viewed more and more physically. Eventually Atomism (or "corpuscularianism") led to the idea of the Sun being a star – but not through observation, but as a result of the logical conclusion that came about when atoms were considered to be physically real. On the other hand, it is thought that Socrates considered the universe to be composed of elements (Earth, Air, Fire, Water), the elemental humours (as in black and yellow bile, phlegm and blood), and qualities (such as colour, weight, scent, etc).

> *The knack of our species lies in our capacity to transmit our accumulated knowledge down the generations. The slowest among us can, in a few hours, pick up ideas that it took a few rare geniuses a lifetime to acquire.*
>
> *Yet what is distinctive is just how selective we are about the topics we deem it possible to educate ourselves in. Our energies are overwhelmingly directed toward material, scientific, and technical subjects and away from psychological and emotional ones. Much anxiety surrounds the question of how good the next generation will be at math; very little around their abilities at marriage or kindness. We devote inordinate hours to learning about tectonic plates and cloud formations, and relatively few fathoming shame and rage.*
>
> *The assumption is that emotional insight might be either unnecessary or in essence unteachable, lying beyond reason or method, an unreproducible phenomenon best abandoned to individual instinct and intuition. We are left to find our own path around our unfeasibly complicated minds – a move as striking (and as wise) as suggesting that each generation should rediscover the laws of physics by themselves.*
>
> *– Alain de Botton*

The seat of the soul

In 21st century usage, the term "rationality" has come to have a very different meaning. Its common usage implies only the medium of thought and a purely mental logical/intellectual "objective" analytical evaluation with no room for subjectivity or feeling. In the very modern definition of rationality based on Descartes integration of Neoplatonist and Atomist (e.g. Democritus) philosophies, the mind and body have been separated as surely as if Madame Guillotine had intervened.

> [Descartes] liked to spend his mornings in bed "meditating" in a thinking kind of way. In this situation his attention was with drawn from the world, as well as from his own body, and directed into the activity of thinking. Thus, whereas his body was inactive, his thinking activity was by comparison hyperactive. The psychological effect of this was to produce an awareness of the world and his body as being outside himself, together with the feeling that he himself existed in this intensified activity of his mind. Hence he experienced a strong sense of being separate from the world and even his body, which therefore seemed unreal compared to his mental activity ... He felt himself to be identified with his thinking activity, and he expressed this feeling that he existed in thinking by "I think, therefore I am" or by saying "I am, I exist" as a being whose nature is to think, and no more[65].

What Bortoft is describing is now called "Depersonalisation" - a form of psychosis resulting from dissociation.

So the hanging question is – was Plato himself (like Descartes) so dissociated that he dismissed the somatic senses altogether (and so his omission them was a statement of his reality)? Or did he consider that the somatic senses were so tied into the mental processes that all of the information contained in somatic awareness was included in the idea of rationality? The chained prisoners in the cave have no inner, embodied sense of reality. They are held transfixed by the external largely meaningless and deliberately confusing, flickering images on the cave wall because there is insufficient somatic grounding to bring them back to Earth. Not unlike the computer generated characters (or even the audience) in a CGI Hollywood blockbuster. Having watched films with Bortoft's concept of "Authentic wholes" in mind, I have come to realise that they tend to emphasise a few characters and reduce external context – producing a state not unlike the one that Descartes must have experienced.

Of course, if the internal experience is strongly reactive (i.e. mainly emotive), then there is no Truth, because reaction is personal, and not universal (other than the fact that some other people may also experience it sometimes, if they happen to react in the same way). However, the feeling of Love/Appreciation is universal. And it is very specific – consisting of a warm internal glow that breaks out into the face and eyes, a sense of

becoming more connected/integrated and energised and awake and interested in an engagement with the world, whilst at the same time the mind becomes gently quiet like a still deep lake and begins to expand out – to infinity if it is given the time to do so. If an experience or a thought generates this effect then it arises from what Plato terms "Goodness", and something about what we are in relationship with has a quality of "Truth". As a working rationality, we therefore can mobilise both the logical intellectual brain-mind (Sun/Heaven) and the feeling body (Moon/Earth) to arrive at a marriage of Heaven and Earth. All of our faculties are engaged, and simultaneously our whole being is brought into contact with something bigger than ourselves. We are in an immanent state of Love.

Tyger Tyger, burning bright,
In the forests of the night;
What immortal hand or eye,
Could frame thy fearful symmetry?

In what distant deeps or skies.
Burnt the fire of thine eyes?
On what wings dare he aspire?
What the hand, dare seize the fire?

And what shoulder, & what art,
Could twist the sinews of thy heart?
And when thy heart began to beat,
What dread hand? & what dread feet?

What the hammer? what the chain,
In what furnace was thy brain?
What the anvil? what dread grasp,
Dare its deadly terrors clasp!

When the stars threw down their spears
And water'd heaven with their tears:
Did he smile his work to see?
Did he who made the Lamb make thee?

Tyger Tyger burning bright,
In the forests of the night:
What immortal hand or eye,
Dare frame thy fearful symmetry?

In this poem, Blake is describing Awe – a state of overwhelmingly embodied Love that roots us as firmly in the reality of the moment just as much as a dissociated overwhelm transports us away from it. Thus, Plato's "goodness" may also only be experienced from

that state of rootedness and fully embodied presence. If there is dissociation instead of Awe, then it is fear that has consumed our being. With fear, then there is not Love. Without Love, then there is no depth of appreciation that connects to a sense of "goodness". And then all that is left for us is that we attempt to discern what is good by the means we have left – the rational mind. Instead of Heaven and Earth, Mind and Body acting in a harmonious symbiosis; the degenerative aspects of mind and body start to take hold of all thoughts, feelings and actions. We talk about something being "reasonable", meaning that logically it sounds OK. But, if we are aware of our inner being, then describing the idea as "reasonable" often also implies that we have some kind of ambivalent feeling in our core that shades our mind with an unnamed unease, or at least a few "maybe's".

> *I hold moreover that there is a phytognomy, or physiognomy, not only of men, but of plants and vegetables; and in every one of them some outward figures which hang as signs of their inward forms.*
>
> *– Sir Thomas Browne[66] (1605-1682)*

Browne's re-working of Plato indicates that not everyone was enamoured of the dissociated Really Real that could never be distinguished except as flickering shadows. The phenomenalist approach developed by Goethe over a century after Browne cuts through all of the problems that derive from Plato's cave. The ur-leaf is visible within each specific leaf, if only one has eyes to see it – to have an empathic, embodied connection to it instead of trying - as Descartes did – to maintain a cerebral distance. Thus, the ancient Greek word for "mind" also relates to the sensible inner world of feelings. In reality we know this. It is "unreasonable"(!) to separate the mental chatter of words (symbolic sounds) from all other experiences in our consciousness and to place them on an elevated pedestal. Why choose one sense and declare that it rules over all, and "has the final say"? A little reflection tells us that our sense of being alive, of being present arises from the somatic senses and not from thoughts. So "mind" is a whole-body thing that includes the senses (which brings us directly back to the description of an alternate Greek rationality, above). After all, it is only in the last couple of hundred years that the mind has been attributed to the brain. Previous to that, the anatomical seat of the mind/soul – was the heart. Given that our current cultural definition of "mind" has gravitated towards something that just means "intellect" and "brain", its full meaning is far better described as Body-Mind. The conceptualisation of rationality as being thought and not feeling, of brain and not body, is itself dissociative - and further encourages dissociation by devaluing the benefits of embodiment.

This cultural trend towards dissociation from the Earth/Gaia ecosystem of which we are part is always deeply resisted, and that resistance comes out in often interesting ways. The early Christian church had a strong connection to the divine feminine or Earth,

particularly in the mystery schools and Gnostic tradition (and the Celtic branches of Christianity, which were strongly influenced by their Celtic origins). Although this was soon dropped by the Church of Rome in favour of a sole heavenly Father, it quickly re-emerged and survived as the Mary / Madonna cult, and in some cases even the Black Madonna; and almost 1000 years later through some Protestant mystics as the divine Sophia. The medieval shrine of Walsingham, close to where I live, was once second only to Lourdes as a place of pilgrimage. It is well known for its Black Madonna and its typical holy water – the water of life that arises mysteriously from the darkness of the earth.

The foundations of the modern world

> *To the judgemental eye, everything is closed in definitive frames. When the judgemental eye looks out, it sees things in terms of lines and squares. It is always excluding and separating, and therefore it never sees in a compassionate or celebratory way. To see is to judge. Sadly, the judgemental eye is always equally harsh with itself. It only sees the images of its tormented interiority projected outwards from itself. The judgemental eye harvests the reflected surface and calls it truth. It enjoys neither the forgiveness nor imagination to see deeper into the ground of things where truth is paradox. An externalist image-driven culture is the corollary of such an ideology of facile judgement.*
>
> *John O'Donohue (Anam Cara)*[67]

The dominant philosophical line that has influenced European (and hence almost universally world-wide) thinking began with Socrates (470-399 BCE). First and foremost, Socrates aimed to teach people to recognise their own ignorance (aporia), as a starting point for any further investigation. Rather than inducing confusion or doubt, the aim of this recognition of ignorance was to cultivate a true spirit of curiosity, critical yet open minded thinking, and a clarity of observation. He proposed that abstract concepts could be used to describe common themes of experience, but did not require these idealised states to have an existence of their own. So it would be possible to debate about the common basis for defining a virtuous life (or one of its sub-qualities such as compassion) or to define the qualities that were common between all kinds of footwear or chairs. But this Ur-shoe or Ur-chair did not have to exist. Just as the universal principle of "Virtue" may be defined, but did not have an abstract existence outside the Virtue that was lived in a concrete fashion in the sum of all exemplary lives – or indeed, in each exemplary life.

This open and pragmatic approach was adulterated by later philosophers who followed the Socratic tradition, including Plato, who considered that the abstractions described states of perfection that had a reality of theirs own – even more real than the less perfect worldly examples we see in front of our eyes, because the ultimate reality was believed to be the Spiritual realm. Virtue with a capital V (along with the Ur-shoe and Ur-chair) was considered to have a real existence of its own, as an expression of perfection, and

the abstracted perfect state was considered more "real" than the numerous practical examples of its manifestation. In one (higher) world are ideal original and perfect Forms which manifest through invisible mechanisms into a second (manifest) world. In the second, Earthly world, are poor damaged and incomplete copies of the perfection of original Forms or Ideas. In addition to having certain uses, this Platonic two-world philosophy has caused inestimable damage throughout history.

Some of the present-day confusion brought about by the two-world philosophy arises because there is insufficient distinction between man-made and living entities – both of which are named (i.e. using nouns) in the same manner as external objectivised "things". But shoes and chairs are not the same as (e.g.) a frog because – unlike a frog - the intrinsic intelligence that designs them is not embedded in their matter. Although we name them as an external object, their existence is continuous with (and dependent on) a human intelligence. Or to put it another way, although each part of a shoe is dependent on all the other parts being present to make up an entire shoe, they do not exist of each other – in contrast to the Holographic way in which frog-cells and complete-frog and frog-environment are intermeshed and indivisible, with no particular hierarchy of precedence. There is no intrinsic organising intelligence, no mutual interdependence of organic and physiological function in a shoe. That transcendent organising element (of a shoe) is only visible when we realise that a shoe is totally dependent for its existence on humans (who themselves have an organisational complexity and intelligence) – because like all other tools and human artefacts, each shoe is an extension of a human being – of an Idea, manifested by a human being. In contrast, a cell in a human body (or in a frog) is totally dependent on (and contributory to) a mutually supportive process in which all the other cells are also participating, and on the extended environment lying outside the cell walls.

Pluto's *analogy of the cave* gives a mechanism (fire, prisoners in chains, cosmic jokers carrying strange objects with the intention of causing confusion) whereby the shadows (i.e. the illusions that our senses detect) are formed. But - beyond the mechanism contained in Plato's entertaining analogy - the two-world philosophy that it describes contains no inherent practical explanation as to how the *really real* of the higher world undergoes distortion before it hits our senses so that we might have a chance to reverse these distortions. Neither does it explain how real-world "imperfections" (i.e. variations) arise. In fact it assumes that these variations are necessarily imperfect unless they happen to accidentally express some new perfection. This Platonic viewpoint can be seen expressed to perfection in the study of Genetics. One almost inevitable outcome that results from an exclusive adoption of the philosophical two-world view - is a belief that there is a lack of mechanism for natural variation other than random chance : because this randomness and consequent belief in nature making mistakes is (excluding divine intervention) the only way (in a Platonic mindset) in which a pre-existing

perfection may be altered. So in taking up the two-world philosophy of Plato, we are necessarily led directly to believe that new organisms may only emerge when DNA suffers random mutations – and then these mutations are naturally selected by some filtering process that determines their fitness to exist. Therefore it is only by having a predisposition to view the world in terms of idealised perfections and non-idealised materialisations - that we can consider random DNA mutation and natural selection as being the primary means by which all the marvellous variation in Life may come about[68]. The "bombproof" paradigms of genetic inheritance, random mutation, and Darwinian evolution are therefore seen to be constructs of the particular historical and cultural framework within which early 21st century science is practiced. Turtles, tortoiseshell butterflies, archaic bacteria and elephants, blue whales and chameleons, stick insects, bower birds and humans are all here purely by random chance. The stripes of a zebra and the spots of a giraffe equally result from damage to a pre-existing perfection, which then accidentally creates a different perfection.

Most problematically, the two-world philosophy automatically assumes that the senses are faulty. If they were not faulty we would be able to sense the perfect (really real) world. And in sensing it, we would then live in it - instead of living in the imperfect apparently real second world that we usually experience. In the first higher world there is a perfect Virtue, a perfect God, a perfect example of human or butterfly DNA, a perfect structural ideal beam holding a perfect point load, a perfect line of infinite length and zero width, a perfect point of zero dimension; and many other perfections besides. And the ultimate perfection is mathematics (well, Geometry to the ancient Greeks). A complete description of the natural world was contained in the Quadrivium[69] – a system of knowledge consisting of Mathematics (pure knowledge), Geometry (mathematics in two and three-dimensional space), Music (mathematics in time), and Astronomy (mathematics in space and time). All other phenomena, including Life, were considered to be secondary to these universal and perfect Forms.

So a mathematical model of reality was/is often considered to be more "really real" than the "reality" that presents to our senses. This Platonic confusion between the model and the real thing[70] is also highly visible in modern society, encouraged by the technological successes of 20th Century physics.

It is not as if the abstract reductive really real does not reflect some truth about the world. The effectiveness of Plato's two-world system cannot be denied in terms of its ability to dissect and utilise the material universe. However, its claims to be capable of describing all phenomena and chains of causality and all of reality is at best optimistic. In most cases it is a position of hubris that chooses to ignore the many "Gods of the Gaps" that are comfortable so long as they are ignored. Particularly in the Life sciences. Especially with regard to phenomena related to consciousness[71]. But it was the wholesale absorption of Plato (and Aristotle) into Roman Christianity that caused their influence to persist and

become the mainstay of Western thought, science, society and Christian doctrine up to this day. The logical end result of medieval Christian atomist Neoplatonism is a scientific secular materialist viewpoint that believes consciousness and life are emergent from interactions of physical particles and forces; and that it is possible - and indeed normal - to separate everything out into discrete and unentangled entities. The logical conclusion of *this* position is to think that we can manipulate Nature (and Life) with no consequences.

It is ironic that the scientific advance that has generated the greatest technological advances – Quantum Mechanics – points us back to universal entanglement. But that definition is too large a pill to swallow, so these holistic interpretations have been repeatedly skirted round, ignored and even denied.

> *Go, wondrous creature! mount where Science guides;*
> *Go measure earth, weigh air, and state the tides;*
> *Instruct the planets in what orbs to run,*
> *Correct old Time, and regulate the sun;*
>
> *(Alexander Pope, Essay on Man)*

The Astronomers

> *Why waste words? Geometry existed before the creation, is coeternal with the mind of God, is God himself (what exists in God that is not God himself?); Geometry provided God with a model for the creation and was implanted into man, together with God's own likeness – and not only conveyed to his mind through the eyes.*
>
> *– Johannes Kepler*

Astronomy – the study of the heavens – was intimately tied in with Astrology until well after Newton's time. During the Renaissance, both were very much in the intellectual and spiritual domain of the Church – because the motion of the planets, Moon and Sun were considered to be visible expressions of Divine will. Platonism (or more specifically in Kepler's time, Neoplatonism) is a perfect vehicle for mathematics; and mathematics and geometry (particularly the pure geometry expressed by the circle, the sphere and the Platonic solids) are seen to be expressions of the "mind of God". There was a harmony of the Spheres (solar system) that was reflected in the perfect intervals of music. Ptolemy (an Egyptian/Roman Astrologer-Astronomer who is known to have visited Stonehenge) – had devised a set of 30 epicycles – circular motions – which accurately represented the movement of the heavenly bodies through the sky against a background of stars rotating around the Earth[72]. Ptolemy's geocentric model of the solar system was applied for over 1500 years and is probably the most successful and long-lived scientific model ever applied.

Jonhannes Kepler (1571 - 1630) lived through to the end of the Renaissance in a time when Neoplatonism was becoming popular. His Heliocentric model of the solar system was not based on either observation or calculation, but on a doctrinal belief system that required God (i.e. the Sun) to be at the centre of Creation (i.e. the Solar System as we call it now, or Universe as it was thought of at that time). A heliocentric arrangement had been proposed (and calculated, and deduced from observation) several times in the past, but it was only in Kepler's time that the societal viewpoint had shifted sufficiently for it to be embraced. In contrast to Nicolaus Copernicus (1473 – 1543) who had published the same idea of a rotating Earth in 1543. Looking back it seems logical to take this position, and there is no doubt that it does easily explain retrograde planetary motion. But the solar system was thought to rotate around the Earth because this is the logical conclusion most observers would make who stand on the surface of a planet. Modern science is not so much about "coming to ones senses", as learning how to ignore them to find a higher (more "Really Real") Truth.

Practically speaking Ptolemy's geocentric system had been tried and tested for over 1500 years, and so why make the change? There were several reasons – very fundamental reasons – why the Heliocentric model was at the time a very unreasonable model to

adopt. Most importantly, Kepler's revision required that the Earth rotate once every day, and it was known that anything on a rotating body would be thrown off. So there were unanswered questions as to how humans were not thrown off into space, why there was not a huge wind constantly blowing from East to West, and why the stars did not shift slightly in position as the earth moved round the sun ("parallax"). And because Kepler still insisted that the orbits were circular, he still needed as many epicycles as Ptolemy to approximate the planetary motions. The observations of stellar parallax needed to rigorously confirm Kepler's Heliocentric model through direct measurement required highly specialised optics. They were first taken by Frederick Bessel in 1838, some 200 years *after* Heliocentrism was accepted a scientific "fact". A Heliocentric model arise naturally out of Atomism, because the Sun could be seen to be a Star, and not a Planet, and the Stars were like Atoms, spread out through space. But this was a truly Earth-shattering change in perspective, because instead of the Earth being special and the Universe being centred around it, we were now just a tiny and unimportant speck of dust in an impossibly endless expanse of other suns and other planets.

Galileo

> *The book of nature is written in the language of mathematics.*
>
> *~ Galileo Galilei*

Galileo Galilei (1564 – 1642) has been variously called "father of observational astronomy", the "father of modern physics", the "father of the scientific method", and the "father of modern science". He was the first person to attempt to combine the highly incompatible philosophies of Neoplatonism and Atomism (also called Corpuscularianism). Remember that Plato's two-world model required the Really Real to be a metaphysical truth, and the physical world was too imperfect to reflect its purity – which was indeed, the very motivating force behind Astronomy and Astrology because they were observations of a more perfect, more Divine layer of existence. Galileo's experiments dropping weights from the tower of Pisa were partly aimed at measuring the westward drift of objects as they fell towards a rotating Earth. He had the remarkable insight that the objects on earth were indifferent to its rotation, and he turned this apparent problem into a solution by proposing that this *indifference* was a fundamental property of motion. Later defined by Descartes as "inertia", the idea of indifference requires the concept of Atomism, in which the atoms are devoid of properties – because Plato's philosophy requires that properties such as motion, colour, smell – are intrinsic. Mathematical abstraction was also part of this insight into this Really Real, and mathematics required measurement – making Atomism an ideal vehicle for a mathematical description of planetary motion. Platonism on the other hand, being based on qualities and the four elements, could not underpin a quantitative basis for observation.

To complete this shift in perception, he also had to take the radical and brilliant step of separating the motion of the body from the body itself. Up to then, motion had been an intrinsic – such as the growth of a child. From now on it came to be seen as an extrinsic, contingent property. This may be a reasonable way of viewing planetary bodies and other passive lumps of matter, but motion is intrinsic in Life, and absolute motionless is in almost all circumstances an indication of lifelessness.

Descartes and Newton

Descartes (1596 – 1650) was the first person to successfully merge Neoplatonism and Atomism into a coherent philosophy, but there was a cost; and as has already been pointed out, he suffered from psychosis because of his extreme attempts to separate from his body – to live the two-world ideal of mind and matter. Most importantly, he devised the idea of inertial motion – the principle that matter continues to moves how it is already moving unless it is disturbed. But although the principle of constant motion in a straight line became one of the foundation stones ("Ideas") of Newtonian physics, it has never been experimentally demonstrated to be true.

Isaac Newton (1643 – 1727) is another of the great founders of modern mathematical science, and his *Philosophiæ Naturalis Principia Mathematica* is one of the first demonstrations and practical applications of calculus. Newton was not so much an Astrologer (the use of Astrology and its equivalence with Astronomy was beginning to fade, from roughly the beginning of the 17th century) – but was a keen Alchemist, as were many intellectuals of his age. Newton's achievement was to codify physical motion into a metaphysical (mathematical, abstracted) framework. His three "Laws" of motion are based on "demonstrations". As Bortoft (2009) points out, inertia is a way of seeing; but the very nature of seeing a demonstration requires that the Idea of it is already embedded in the experiment - so there is no fundamental experiment devised so far that can be carried out that incontrovertibly proves Inertia exists. The Idea of Inertia allows us to see predict behaviour of "inert" - passive – bodies that are so passive that for all intents and purposes they can be thought of as not taking part in the relational-holistic and constantly moving holographic universe of Life.

Summary

We are all taught Geometry at school, and the philosophical issues that arise in defining a point of zero width, an infinitely long straight line of zero thickness, a circle contained in no context other than the blackboard it has been drawn on – are quickly skated over. In this often unconscious sleight-of-hand we are also taught to accept metaphysical abstractions to exist in the physical world in much the same way that the ancient Greeks believed that Gods walked amongst men. The specific manifestation of the metaphysical "object" has changed, but the way of accepting the existence of this dual reality without question has not. And whilst the Greek Gods were rich with complex and sometimes ambiguous metaphor that fed their culture, a line of zero width is something of an empty larder. The Natural world that we evolved in is itself – whether *represented by* a small grain of soil, or patch of grass, or human body, or a supercluster of galaxies - a complex relational and metaphorical Wholeness within which none of those – soil, grass, human, galaxy – would be whole without the others. Which is exactly why Jung returned to the complex metaphors of Alchemy, Greek Mythology and Astrology as tools to understand and heal the human psyche.

What I have attempted to do here is draw together just a few of the simpler arguments found in modern philosophical thought that show how these ancient philosophical ideas are intimately embedded in how we have learned to experience the world in a modern Western culture. These ways of seeing separate us from Nature, and from embodied experience, and provide a set of ideas that are a distinct barrier to re-embodiment and to re-connection with the Nature we are so much a part of. So human activity in the broader world is able to ignore Natural relationships to the point that it becomes possible to trash the one planet we have to live on. And the inner relationship between mind and body – a potentially rich mutuality - has become separated into "Mind" and "Body" in a way that makes their re-connection one of parts recombined into a whole - rather than the holographic wholeness that they really are. This separation of Human (vs.) Nature and Mind (vs) Body creates plenty of opportunity for dissociation – and creates an endemic state of dissociation, where full embodiment is the exception rather than the norm. This is simply why dogs and other pets are for the most part (provided they are treated with reasonable care) physically and mentally healthier than the humans they live with.

The Neoplatonic-Atomist-Aristotlean way of thinking has also led to a tendency to be blind to the complexity of life, and to keep presenting human contraptions that mimic some aspect of life – as if they are life itself. The illusion is not unlike that of mathematical "Laws of Physics" in that the mathematics is too easily confused for the real thing, just because it is capable of reproducing a set of conditions which have a similarity

to that found in Nature. And the illusion of superficial similarity being taken as equal to equivalence is prevalent throughout human societies. When this equivalence is archetypal – such as a crow flying in a certain direction, it connects us to a greater whole. When it is a mathematical equation, it disconnects. But the tendency in Western culture has increasingly been to argue in favour of the maths and against the crow. Ever since automatons (mechanical devices that in some way mimic human or animal actions) were first described in texts from Ancient Greece, they have been used as an analogy for how living systems work. Despite there always being insurmountable "Gods of the Gaps" in these analogies, they caught the imagination of the public and of philosophers. The illusion was then turned around to face back where if had come from, and by the 17th century Hobbes and Descartes were describing even human actions as automaton-like. It was then only a small insignificant step to all of non-human life being considered completely mechanistic; to the point of no longer appearing like Life at all. By the 19th century, Mary Shelley's Frankenstein was reflecting (and attempted to counter) the growing unease and realisation that this essentially soulless philosophical description of humanity contained no basis for moral action or for love. We tend to think of machines as arising in the Industrial Revolution, but this is a significant underestimate of the ingenuity and skill of people in the a less mechanised past. Automata were particularly prevalent in temples in Greece, Rome and Byzantium. The Antikythera Mechanism – a 2nd century BC mechanical calculator able to accurately predict eclipses and the motion of the moon and planets over several hundred years – was not a one-off, and was not constructed in a mechanical or technological vacuum.

Later in the medieval cathedrals, and it was commonplace for effigies of the Virgin Mary or Jesus to be outfitted with mechanisms allowing for tears to flow and for the head or arms to gesture. A gilded devil automaton from 15th century Lombardy is another example of this kind of device. To anyone unaware of the mechanical contrivances, presented with these moving statues in flickering candle light, the effect must have been very powerful – awe inspiring or terrifying. I have already explained the importance of experience in determining meaning, and particularly embodied experience. These religious (and other) mechanical illusions, produced by a church that felt it had to convince its congregation by trickery – is a point beyond which it is hard to reach any lower or more disembodied experience of life. As a result of the widespread use of these automata, even the most profound spiritual experiences of everyday folk were often the result of a con. It is extraordinary that at the same time as these automata were being deployed to inspire religious awe and fear through deceptive trickery, St Theresa of Avila and St John of the Cross (Theresa's mentor) were creating a clear and lucid description of the most subtle, elusive and profound authentic internal spiritual experiences.

The written characters are not the full exponent of speech, and speech is not the full expression of ideas.

– Confucius , in the Great Treatise

From a philosophical point of view, mainstream Western thought hardly changed from this point on, with even Hobbes and Descartes only reiterating and consolidating a medieval distortion of Aristotle. That is, until the psychologist Henry James and late 19th/early 20th century (mainly) German philosophers began to recognise the importance of direct somatic experience; and to unpick the experience-distorting errors in thought that arise from reductionism and mind-body dualism. To a great extent, 21st century global culture is still fascinated by automata, and makes confusions between machines and Life. The same contradictions contained in Frankenstein can be seen in Asimov's "I, Robot" series of novels, and in manga classics such as "the Ghost in the Machine".

The problem this presents for humans and for human health is typified by the highly schizophrenic attitude towards the body-mind found in Western medicine. If you recall, Socrates and Plato considered the mind to be the *really real*, and matter to be illusory because mind was equated with spirit, and the ultimate reality was not that of humans, but of the Gods and the spirit realm they inhabit. As this philosophy was passed down over a couple of thousand years it morphed into the belief that the brain is the mind, and that the mind is superior to the physical body (despite the fact that the brain is an irreducible part of the physical body). This reversal could only have come out of a materialist philosophy that had rejected spirit but had retained the trappings of philosophies based on a spiritual universe. So we have the Copenhagen and other material interpretations of Quantum Mechanics that wriggle uncomfortably round the possibility that mind, thought, intention, belief and expectation might have some influence on the physical world. There is absolutely no way that mind may affect matter... But then we say "mind over matter" when treating the human body-mind relationship, and have a mystical and somewhat over-ambitious view of the power of human will to affect the body. The lack of clothes worn by this particular Emperor is attested by the level of physical sickness in human societies.

Rupert Sheldrake[73] talks[74] about the “ten scientific dogmas” - theories about the fundamental nature of the world that have become so normalised that they are no longer perceived to be theories, but rather have degraded into a dogmatic belief system that underpins modern scientific method and practice. These are :

1. Nature is mechanical (machine-like, machine metaphors, heart is a pump, brain is a computer etc.)
2. Mechanical nature is made up of matter, and therefore (i) matter has no consciousness and (ii) obeys only mathematical laws
3. "Laws" of Nature (as we find them now) are fixed and have not changed over time
4. Total energy in the universe is the same/constant (since the Big Bang). *[To which I would add another associated dogmatic fallacy: closed systems exist everywhere, therefore the 2nd Law of Thermodynamics “rules” the observable and experienced world.]*
5. Purposeless - especially evolution (a consequence of the machine mataphor)
6. All biological inheritance (except for cultural) is material/chemical/DNA
7. Memories are stored in brains/head
8. Mind is only brain ("its all inside your head") : neurology = consciousness
9. Psychic phenomena are illusory (because of #7 & #8)
10. Mechanistic medicine is the only kind that works (because bodies are machines)

As can be seen, these all relate to spheres in which Gödel's incompleteness theorem applies most strongly – physics on a cosmological scale (a box physically difficult to step outside), and issues related to consciousness and the nature of Life (metaphysically impossible to step outside).

And there is the tricky issue of Placebo (and Nocebo[75]) – an effect that cannot truly be quantified because it’s not possible to know exactly what is going on “in somebody else’s head”. Medically it is recognised that beliefs and expectations can affect medical outcomes; and the basis of measuring pharmacological effectiveness is the “Placebo Effect”. If someone believes (expects) they will get better, or that they will become more ill – then that belief may not have an absolute affect on their circumstances, but it will definitely have some effect. For some people and in some situations the Placebo effect is immensely powerful and its result defies conventional medical wisdom. For others it provides a small additional benefit. Nocebo, on the other hand, inevitably ends badly, and due to the ubiquity of Nocebo-inducing beliefs it is impossible to define exactly how many people end up dying before their time because they have inadvertently been treated by Nocebo. Certainly all the hysteria surrounding Cancer is a strong Nocebo. As is the popularised medical culture that thinks of the human body rather like a car that inevitably will need spare parts – hips, knees – or some chemical fix in order to eke out

its allotted time. Placebo is not a fixed unit in the same way that time or distance might be measured, because of its internal subjective and very nuanced reactive nature. However, the most spurious of statistical contortions are carried out using this capricious thought-phenomenon as their basis, whilst simultaneously denying that mind affects matter. The blatant internal contradiction of this position – of the endless cycle of having the existential cake and eating it – seems to be so familiar that it has become invisible.

... and onwards

This somewhat lightning tour of the vast topic of philosophy brings Section 1 to a close. In these first six chapters I have attempted to present a series of fundamental principles that underpin the discussion on dissociation and embodiment that is to follow in Section 2 of this book. What has been laid out is more a way of thinking – a way of being – much more than it is a set of facts. And given the generations of cultural heritage that has shaped our ways of thinking, the Ideas of *Wholeness* and *Wellness* cannot usually just be taken in to any significant depth just by reading a book. Many of these ideas are counter-cultural, and involve an almost upside-down and inside-out reversal of thinking compared to the ones that most people (born in a Western technological culture) have been marinated in for a lifetime. So taking them on board in a way on which they are lived is not a trivial matter. It has taken me about two decades of participation and daily application these principles, and I still find that the cultural norms I am surrounded by – particularly linguistic ones – draw me back into a reductionist and problem-solving, illness-oriented way of thinking just as surely as if I were floating on the event horizon of a Black Hole. The only way this can be done wholeheartedly is to find fellow travellers who also wish to tread this particular path, and are prepared to adjust their language and behaviour so that they assist in this re-learning of a different kind of congruency.

But it is most fortunate that *Wholeness* and *Wellness* do not have to be fully *"grokked"* in order to be applied; and the choice of applying them is completely individual. In the following chapters, the practical everyday consequences of everyday reductionist, Platonic (or Neoplatonic) belief systems will be clarified, along with the wider implications – for health and for the environment. We are rapidly approaching a time where there will no longer be a choice of whether to take these different paradigms up – wholeheartedly (or not). The very brief and broad-brush foray into philosophy above gives, I believe, a very clear sense of how all-or-nothing these belief systems are when it comes to the structure of society and the relationship that we have with our bodies and with the natural world. My experience is that a deepened relationship with the organic, biological body and its innate intelligence (and its innate consciousness) is a very powerful way to enter this different and necessary paradigm. With a deepening experience of the animal body that is or vehicle in this life, comes a deepening trust in the intelligence that Life itself expresses. As this appreciation and trust in Life increases

through direct experience, the importance and trustworthiness of the sensory language of the body also increases – and then real embodiment begins to take place. As embodiment progresses (and dissociation lessens), then the Natural world begins to be experienced as an extension of that body – fleetingly at first, and then more frequently. These direct relational experiences of Nature can be disorienting at first because they are unfamiliar. They are simply not allowed in a scientific secular framework of knowledge that is strongly rooted in Aristotlean, Atomist and Neoplatonic world views. But having used these Greek ways of thinking about the world (and filtering our sensory experience) for about 2300 years it is possible to see where they have led us – to and material and technologically rich society. But also to a society crippled by physical and mental ill health, that is so out of touch with the Natural world that we are destroying not only our own bodies, but the planet that we live on.

In stark contrast to the dysfunctional end-product of Platonism, I can say that a more embodied relationship with ourselves based on an appropriate trust of the senses requires self-compassion. As that self-compassion is learned, it spills over into human relationships and then into the relationship with the Natural world. The net result is increased mental and physical health, along with the basic building blocks for a "right" relationship with the family of Life.

Notes : Chapter 6

1 David Bohm (2002) Wholeness and the Implicate Order (Routledge Classics) ISBN-13: 978-0415289795

2 Henri Bortoft (1996) The Wholeness of Nature: Goethe's Way of Science. Publ. Floris ISBN-13: 978-0863152382

3 Henri Bortoft (2012) Taking Appearance Seriously: The Dynamic Way of Seeing in Goethe and European Thought. Publ. Floris ISBN-13: 978-0863159275

4 JW von Goethe (1790), Transl. G Miller (2009) The Metamorphosis of Plants (The MIT Press) Publ. MIT Press ISBN-13: 978-0262013093

5 Antonio Damasio (2006) Descartes' Error: Emotion, Reason and the Human Brain. Publ. Vintage ISBN-13: 978-0099501640

6 J. Scott Turner (2018) Purpose and Desire: What Makes Something "Alive" and Why Modern Darwinism Has Failed to Explain It. Publ. HarperOne; Reprint edition ISBN-13: 978-0062651570

7 David Abram (1997) The Spell of the Sensuous: Perception and Language in a More-Than-Human World. Vintage books ISBN-13: 978-0679776390

8 Julie J. Morley (2019) Future Sacred: The Connected Creativity of Nature. Publ. Park Street Press ISBN-13: 978-1620557686

9 Gerald of Wales (Giraldus Cambrensis) (c1188) The Journey Through Wales and the Description of Wales. Betty Radice (Editor), L. Thorpe (Translator) Publ. Penguin Classics; Reprint edition ISBN-13: 978-0140443394

10 Karen Armstrong (2007) The Great Transformation: The Beginning of Our Religious Traditions. Publ. Vintage Books Canada ISBN-13: 978-0676974669

11 There were two major nexuses in pre-Christian history during which the foundations of most of the world's dominant religions and philosophies were laid down. Zoroaster and Abraham lived about 1500 BCE (around the time of the history-changing eruption of Thera on Santorini). This was probably also the time of writing of the first Vedas. Then the early Greek philosophers, along with Confucius and Gautama Buddha all lived about 500 BCE.

12 There were very well-used trade routes for luxury goods (such as silk) running between Europe and the far East over 2000 years ago - maybe they had already existed several millennia before that. Trade also probably resulted in a substantial transfer of information, technology, religious belief and philosophy between Europe, China and India. For instance, modern archaeology is starting to link Han Chinese art with Greek culture, possibly as a result of the campaigns of Alexander the Great (d. 323BCE). Shaolin temples in China were originally set up by an Bodhidharma – and itinerant Indian (Vedic) monk. It is not unreasonable to think that there may also have been exchanges in the opposite direction, from East to West.

13 It has been amplified in recent years by technology changes, such as computer and communication technology, street lighting (so that even the stars invisible from inside major cities), central heating that insulates us from season change, and contrails that even make the clouds linear.

14 Tim Cope (2014) On the Trail of Genghis Khan: An Epic Journey Through the Land of the Nomads. Publ. Bloomsbury Paperbacks; ISBN-13: 978-1408831304 http://timcopejourneys.com/page/about/

Notes : Chapter 6

15 Maybe Paddy Japaljarri Stewart? Unfortunately I can't remember who it was I saw in a TV documentary sometime in the early 2000's.

16 John O'Donohue (1997) Anam Cara: Spiritual Wisdom from the Celtic World. Publ. Bantam ISBN-13: 978-0553505924

17 Paul Elie (2018) Ecological Conversion. Emergence Magazine. https://emergencemagazine.org/story/ecological-conversion/

18 Craft is an ancient word meaning "Power". Etymology from Wiktionary : From Middle English craft, from Old English cræft ("physical strength, force, might, courage, art, science, skill, ability, trick, fraud, trade, calling, work or product of art, hex, tool, machine"), from Proto-Germanic *kraftaz ("power"), from Proto-Indo-European *ger- ("to turn, wind"). Cognate with Saterland Frisian kraft ("strength"), West Frisian krêft ("strength"), Dutch kracht ("strength, force, power"), German Kraft ("strength, force, power"), Norwegian kraft ("power, force"), Swedish kraft ("power, force, drive, energy"), Icelandic kraftur ("power").

19 Spike Bucklow (2009) The Alchemy of Paint: Art, science and secrets fro the middle ages. Publ. Marian Boyars. ISBN-13: 978-0714531724

20 Luis Eduardo Luna & Pablo Amaringo (1999) Ayahuasca Visions: The Religious Iconography of a Peruvian Shaman. Publ. North Atlantic Books ISBN-13: 978-1556433115

21 Erin Blakemore (7th May 2019) Ancient hallucinogens found in 1,000-year-old shamanic pouch. The ritual container, made of three fox snouts, contains the earliest known evidence of ayahuasca preparation. National Geographic online https://www.nationalgeographic.co.uk/history-and-culture/2019/05/ancient-hallucinogens-found-1000-year-old-shamanic-pouch

22 Nick Reid & Patrick Nunn (2015) Ancient Aboriginal stories preserve history of a rise in sea level. The Conversation online journal January 12, 2015 7.28pm GMT http://theconversation.com/ancient-aboriginal-stories-preserve-history-of-a-rise-in-sea-level-36010

23 Borrowed from Latin **Mediterraneanus**, from medius ("middle") + terra ("earth, land") + -anus (adjectival suffix) + -eanus (adjectival suffix)

24 Peter Frankopan (2015) The Silk Roads: A New History of the World. Publ. Bloomsbury Publishing ISBN-13: 978-1408839973

25 So it's not surprising that the Rave has emerged as a defining aspect of 21st century culture. Alcohol, drugs, endless dancing to the point of exhaustion – all of these are attempts to fill a spiritual void by returning to a shamanic kind of practice. These are not deliberate – they are "instinctive" - and arise from a collective unconscious. Unfortunately, without a spiritual intention and a few other key ingredients, although the external form of shamanic rite is being performed, the inner aspect is missing, and for many people the gesture ends up empty, unfulfilling and therefore addictive (because it does not give what it promises – just a small taste of a possibility).

26 Richard Katz (1984) Boiling Energy: Community Healing Among the Kalahari !Kung. Publ. Harvard University Press ISBN-13: 978-0674077362

27 The Animal Communicator : Anna Breytenbach. https://vimeo.com/223069653 There are also some short extracts available on Youtube.

Notes : Chapter 6

28 Lasting from 1618-1648, the 30 Years War took place in, and caused the final decline of the Holy Roman Empire – the remaining vestige of the Roman Empire in Western Europe. The war started as a politico-religious difference, and deteriorated for the most part into a set of mercenary armies moving from place to place just plundering and killing. This was a time of great religious and political turbulence throughout Europe. In some sieges of cities, the defeated population committed suicide *en masse* before the invaders finally breached the walls, because they knew what kind of death awaited them if they were caught alive. The English civil war (again nominally between Catholics and Protestants) likewise began in 1642, and no doubt was partly influenced by events in mainland Europe.

29 Spike Bucklow (2009) op. Cit.

30 Steven Mithen (2006) The Singing Neanderthals: The Origins of Music, Language, Mind and Body. Publ. W&N; New edition ISBN-13: 978-0753820513

31 Masahilo Nakazono (1984) Inochi : The Book of Life (revised ed.) Publ. Kototama Institute, Santa Fe, New Mexico. ISBN:0971667411

32 The Economist, May 3rd 2018. How to change emotions with a word: Science looks at the subtleties of semiotics https://www.economist.com/science-and-technology/2018/05/03/how-to-change-emotions-with-a-word

33 McGilchrist (2012) ibid

34 Franklin Foer (9th May 2019) 'Attention Is the Beginning of Devotion'. The late poet Mary Oliver warned against looking without noticing. In an age of distraction, her work is more urgent than ever. The Atlantic (online) https://www.theatlantic.com/technology/archive/2019/05/mary-olivers-poetry-captures-our-relationship-technology/589039/

35 Henri Bortoft (c 1998) Talk on 'Perception' at Abbey St. Bathans House, Berwickshire https://www.youtube.com/watch?v=SpMDRYm9ykQ

36 A nice demonstration of lost meaning ... Teenagers (familiar with digital technology) trying to work out how to use an old dial telephone https://www.youtube.com/watch?v=oHNEzndgiFI

37 Arthur Haines (November 7, 2013) Blog ¦ Why I'm Learning an Indigenous Language. http://www.arthurhaines.com/blog/2014/6/13/why-im-learning-an-indigenous-language

38 And abstracted collective groupings in general – q.v. lecture Douglas Hofstader on the "analogical nature of language" at https://www.youtube.com/watch?v=Kr3QDMkMGmQ Analogy as a basis for language. And ana-logical (as in – language is not logical, it only has to provide the correct analogy for understanding to take place. The analogy does not have to be coherent or related in any way – its purpose is to connect the listener to the image/relationships that the speaker is connected to.

39 David Zindell (2008) Neverness. Publ. HarperVoyager ISBN-13: 978-0007305179

40 David Bohm (2002) op cit

41 David Krakauer, Nils Bertschinger, Eckehard Olbrich, Jessica C. Flack & Nihat Ay (2020) The information theory of individuality.

Theory in Biosciences (2020) 139:209–223 https://doi.org/10.1007/s12064-020-00313-7

42 Betty Sue Flowers, C. Otto Scharmer, Joseph Jaworski & Peter M. Senge (2005) Presence: Exploring Profound Change in People, Organizations and Society. Publ. Nicholas Brealey Publishing ISBN-13: 978-1857883558

43 For instance *Ho'oponopono* is *Ho'o* (to make) *pono* (good) *pono* (doubly good = very good), which also means "forgiveness", with associations of reconciliation and mutual respect of boundaries.

44 "Academia" at this time equates to the hierarchy of the Church of Rome – which controlled and ran all higher education. The most important subject of study was the Bible, and everything else was secondary. For instance, a Bishop recognised in about 1200AD – through astronomical observation and calculation - that the Earth rotates round the Sun. But he did not pursue the idea any further because the Bible states that the Earth is the centre of the Solar System. It took another 300 years for Galileo to be declared a heretic for suggesting the same thing.

45 Richard E. Rubenstein (2004) Aristotle'S Children. How Christians, Moslems and Jews rediscovered ancient wisdom and illuminated the middle ages. Publ. Harvest; First edition ISBN-13: 978-0156030090 https://archive.org/details/aristotleschildr00rube_0

46 William of Ockham (1285-1347) devised Ockham's Razor – the principle that, all things being equal, the simplest explanation is likely to be the correct one. Of course, to his way of thinking, the Bible would have been the simplest explanation of all, and the Religious assumption that was originally used to formulate the Razor remains indelibly embedded in its substance. One cannot apply Ockham's Razor without implicitly invoking the *a priori* assumptions that went into its formulation. So although the Razor is used almost universally in modern scientific debate, it is a fundamentally flawed tool. To put its author and the Medieval Church of Rome into a cultural context, Chartres cathedral and its Labyrinth had only just been completed a few years before William was born. The Chartres Labyrinth is a rather strange combination of pre-Christian feminine (Earth) symbolism combined with a 112-division Lunar / Solar eclipse calculator directly equivalent to the 56 Aubrey Holes at Stonehenge. In fact, the Labyrinth of Chartres divides the circle more accurately for the purposes of eclipse calculation than did the Aubrey holes.

47 See The tale of the Rat and the Ox in Vikram Seth (1999) Beastly Tales (from here and there) (New ed.) Publ. W&N ISBN-13: 978-0753807743

48 Gödel was one of those slightly crazy geniuses. He was almost refused entry to the USA when he attempted to convince the immigration official that its constitution had logical gaps that could be exploited to turn it into a dictatorship – and it was only Einstein's intervention that shut him up. Perhaps that conversation should have been recorded – it might have relevance to the modern world. He eventually starved himself to death when he stopped eating because he was convinced his food was being poisoned.

49 Douglas Hofstadter (1989) Gödel, Escher, Bach: An Eternal Golden Braid. Publ. Basic Books ISBN-13: 978-0465026562

50 Although Gödel's proof was based on integers, it is widely considered to apply to any logical system or knowledge base, and indeed, is only applicable to "rich" logical systems, so it cannot be applied to the more fundamental branches of mathematics such as set theory. The difficulty with any interpretation of Gödel's work is that there are still only a handful of mathematicians in the

world who truly understand the derivation and complexities of his proof. Rather like the worlds of quantum mechanics and general relativity, which are also only truly understood by a handful of experts worldwide, the reality is only expressed by the equations, and any other description or analogy is of necessity incomplete and possibly wrong. Therefore, the applicability (or not) of the Incompleteness Theorem to non-integer systems (such as Life!) is debated fiercely. This debate is all the more intense because its inherent implication is that science as a self-consistent system of knowledge can never be a complete description of the universe in which we live.

51 John Barrow (1992) Pi in the Sky: : Counting, Thinking, and Being. Publ. Publisher: Back Bay Books; 1st edition ISBN-13: 978-0316082594

52 The Republic is one of the most influential philosophical and political works ever made. It was written by Plato in about 380BC, and supposedly reports a series of dialogues that took place between Socrates, his companion Galucon, and various other Athenians and foreigners in Piraeus, possibly sometime during the Peloponnesian War.

53 See slide presentation by Dan Greitz https://www.iahe.com/docs/articles/Greitz-D.pdf0.pdf and this account of recent (2017) discovery of brain lymphatics https://www.theatlantic.com/health/archive/2017/10/scientists-somehow-just-discovered-a-new-system-of-vessels-in-our-brains/542037/

54 Spike Bucklow (2009) op. Cit. esp. pp 245-6 & 252

55 A word originating from before the ancient Greek civilisation, "hermeneutics" has associations with Hermes, the messenger of the Gods, later with Hermes Trigestimus (and the secret or Hermetic doctrine), and means something like "interpretation" or "translation". *"A divine message must be received with implicit uncertainty regarding its truth. This ambiguity is an irrationality; it is a sort of madness that is inflicted upon the receiver of the message. Only one who possesses a rational method of interpretation (i.e., a hermeneutic) could determine the truth or falsity of the message."* The interpretative element is intimately bound up with the sense of "Goodness" described by Plato, and applied by Swedenborg.

56 29. JW von Goethe (1790) op. Cit.

57 Betty Sue Flowers, C. Otto Scharmer, Joseph Jaworski & Peter M. Senge (2005) op. Cit.

58 David Abram (1997) op. Cit. Pp 46-7

59 Amit Goswami (2003) Quantum Mechanics. Publ. Waveland Pr Inc; 2nd edition ISBN-13: 978-1577663218

60 Amit Goswami, Richard Reed & Maggie Goswami (1993) Self-Aware Universe: How Consciousness Creates the Material World. Publ. Jeremy P Tarcher ISBN-13: 978-0874777987

61 Melvyn Bragg (9th May 2019) Henri Bergson. In Our Time, BBC Radio 4

62 Henri Bergson (1913) Time and Free Will. Publ. Macmillan, New York.

63 Leopold Kronecker (1823 – 1891), a German mathematician, quoted by Weber (1893) "Gott gemacht, alles andere ist Menschenwerk"

Notes : Chapter 6

64 Lee McIntyre (February 6, 2019 11.43am GMT) 3 philosophers set up a booth on a street corner – here's what people asked https://theconversation.com/3-philosophers-set-up-a-booth-on-a-street-corner-heres-what-people-asked-110866

65 Henri Bortoft (1996) op. Cit, p. 112

66 Quotation of Sir Thomas Browne from Kevin Faulkner (August 28, 2019) Elective Affinities : Johann Goethe and Thomas Browne http://aquariumofvulcan.blogspot.com/2019/08/elective-affinities-johann-goethe-and.html

67 John O'Donohue (1997) Anam Cara: Spiritual Wisdom from the Celtic World. Publ. Bantam ISBN-13: 978-0553505924

68 J. Scott Turner (2018) op. Cit.

69 Miranda Lundy, Anthony Ashton, Jason Martineau & Daud Sutton (2010) Quadrivium : The Four Classical Liberal Arts of Number, Geometry, Music, & Cosmology. Publ. Wooden Books. ISBN-13: 978-0802778130

70 Having worked for some time with mathematical models, I can attest to the power of a model and the caution that has to be exercised so as not to confuse the model with reality. In the Goethean world, mathematics requires a reduced common model ("unity within multiplicity") - a distillation of numerous apparently real examples into an idealised really real equation - and has no provision for the specific (non-random) creative variation found in the natural world it is used to synthesise, resulting in a sterile and one-dimensional view of the world. I saw many attempts to reproduce that variation in "stochastic" modelling (i.e. modelling based on embedded statistical distributions of properties). But anyone involved in the process of producing accurate stochastic data sets for the purposes of modelling can tell you that – they never equate to reality – they just approximate it. The whole point of modelling is to produce an answer that is "close enough" and "reliable enough" (or "trusted enough").

71 Karl Popper realised that anything that could be properly investigated by the reductionist scientific method must necessarily be subject to falsifiability – i.e. there has to be some way to show that it might not exist in order to prove conclusively that it could exist. If the test for non-existence fails, then the possibility of existence is considered to have been proven. This has resulted in a recent trend in claiming that anything that cannot be falsifiable is non only not subject to science, but it does not exist at all. This extreme metaphysical position is certainly not the one taken up or described by Karl Popper, and is founded on the belief system that "anything that is not addressable by the scientific method is illusory". This is in effect a modern expression of Plato's two-world philosophy. The non-existence arises because the mechanism of the "unscientific" phenomenon is "hidden" to the senses, and - if only we could find it – a rational (and therefore falsifiable) mechanism would be found to exist in the higher world.

72 This Ptolemaic system of epicycles was the mathematical basis for the Antikythera mechanism.

73 Rupert Sheldrake (2012) The Science Delusion Publ. Coronet ISBN-13: 978-1444727944

74 Rupert Sheldrake : The Science Delusion (Science Set Free). Lecture at Bridport Literary & Scientific Institute, April 2019 https://www.youtube.com/watch?v=jShyXnyv_Q4

75 Nocebo is the opposite of Placebo – i.e. it is a reduction in health due to a belief in the inevitability of illness and death.