

Climate Change and Cultural Transformation

Chapter 9 **The Field of our Being: On *Emptiness***

Like a star, an aberration, or a flame,
Like a magical illusion, a dewdrop, or a water bubble,
Like a dream, lightning, or a cloud,
Know all things to be this way.

Buddha Shakyamuni, *The Diamond Sutra*

Of all teachings, the ultimate is emptiness of which compassion is the very essence. It is like a very powerful medicine, a panacea that can cure every disease in the world. Atisha

In 1965 the Japanese philosopher, Nishitani Keiji, wrote an article, entitled “Science and Zen”, for the Asian journal, *The Eastern Buddhist*. In his article he suggested that modern science, in excluding teleology from the natural world, had “dealt a fatal blow to the whole of the teleological world view, which leads from the “life” of organic beings in the natural world, to the “soul” and ‘spirit’ or ‘mind’ of man, and finally to the ‘divine or God’”. In Nishitani’s view science had destroyed the old chain of being which gave pattern and coherence to the universe and had put nothing in its place. The thread which unifies matter, life, and mind, as expressions of the universal spirit which runs through everything, had been broken. There was, for instance, no longer thought to be a ground of pre-established harmony between the “internal” and the “external”. Instead the world was considered only to be “external”, with its own laws and existing by itself alone.

Following the Newtonian view, it was thought that these laws were universal and invariable - that they had a cosmic universality. Central was the notion that everything which exists in the universe is thought to consist of nothing but matter, devoid of life and devoid of spirit. Nishitani continued to describe the implications of these laws:

Further, this view sees matter, in its usual state, as subject to conditions that could never serve as an environment for living beings (for example in conditions of extremely high temperatures or extremely low temperatures). The range of the possibility of existence for living beings is like a single dot surrounded by a vast realm of impossibility: one step out of that range and life would immediately perish. Thus to this way of thinking the universe in its usual state constitutes a world of death for living beings. ⁱ

In reducing all things in their various modes of being to material elements “modern science”, wrote Nishitani, “has deprived the universe of its character as a ‘home’” and, in doing so, has given the world “a countenance” entirely different from that presupposed by most traditional religions. And, since we have our “field of being” in that world, the field of possibility for our being has diminished as the field of impossibility has opened up. The field of being is our “teleological dwelling place” – the place where we live as conscious rational beings. And yet

..... it is disclosed as a field merely floating for a brief moment within a boundless, endless, and meaningless world, governed by mechanical laws (in the broad sense of the term) and devoid of any *telos*. Our human life is established on the base of an abyss of death. ⁱⁱ

The nihilism of modernity

The destruction of the system of teleology by science does not stop at the “external” world. The various activities of human consciousness itself come to be seen in the same way as phenomena of that world: “they, too, now become processes governed by mechanical laws of nature In this progressive exteriorisation, not even the thinking activities of man elude the grasp of the mechanistic view”. With this collapse of the teleological world view - and the flattening of the human mind at the same time – humankind, as a mode of being, has become part of the wasteland. The result is tantamount to Nietzsche's description of European nihilism, a nihilism

arising out of the modern rational, scientific world view. But modern science has, as Nishitani points out, yet “to realise to the full this grave consequence arising in the wake of its own activity”.

It is half a century since Nishitani wrote his article and it may be that science is now beginning to see the grave consequences. Certainly the climate change scientists would claim that they do with respect to the ecological changes we are responsible for. Yet, the consequences are not just about material changes. The human sciences have yet to realise the gravity of the crisis. Nietzsche, himself, considered modern nihilism as an opportunity for us to move beyond our belief in the old mythologies and understand ourselves anew. Unfortunately, despite his advocacy of an “active”, even joyous nihilism, which, with the death of God, would see the emergence of the *Uebersmenschen*, modern philosophy, and particularly Existentialism, has remained indifferent to, or despairing about, the future of humanity. Their nihilism has been a negative one. The human race, despite all its material conquest of the Earth has never, in another sense, been more disconnected with the planet it lives on.

For all the discoveries and insights of quantum physics in the twentieth century about the universe, scientists do now acknowledge they are deeply ignorant about the nature of reality. In fact they recognise that the matter they are examining – in the cosmos or the subatomic world – comprises just 4% of what there is. ⁱⁱⁱ This means that 96% of the universe is unknown to us. This is what the scientists call “dark matter” and “dark energy”. If it is true that the objective universe is an illusion and that we see things not as they are but as we are, then perhaps we can assume that we know only 4% of ourselves. No wonder we are so detached from our “home” and our “field of being”.

For science to acknowledge its ignorance is to step away from its customary hubris. In fact it is a step towards the beginning of a new kind of knowledge. If science has been examining an illusion – a fascinating one - for the past five centuries then how does it begin to see through the illusion? While it has developed and refined many of its instruments so inventively and so impressively down through

the centuries, it has neglected to use its primary instrument – the evidence of the human mind itself. Science may have made amazing discoveries about matter and life but it has neglected the life of mind. The human mind has emerged, along with everything else, from the world we are so curious about. Is it not then made of the same reality as the universe it is examining? To look into the mind is to look into the nature of the Universe itself.

“Dark matter” and mind

As the American astronomical physicist, Evalyn Gates, writes in *Einstein’s Telescope*, her recent book about the search for dark matter and dark energy, the most urgent and compelling question facing scientists who study the universe - and one of the oldest posed by humans in their attempt to understand the world around them - is: *What is the Universe made of?* Some scientists at the end of the twentieth century were willing to claim that they had the answer and that the end of science was in sight but they were “spectacularly wrong”.

Gates claims that “the rush of scientific adrenaline” addressing this question today is “fuelled by a new understanding of the question itself, a recognition that the boundaries of our previous searches were far too limited; that they focused on but a tiny fraction of the bizarre constituents of our Universe”. Research from sub-atomic physics on the one hand and observations of the distant cosmos on the other have joined forces “to reveal an incredible picture of the Universe” in which the original question has been “completely rewritten”:

We now know that most of the matter in the Universe is very different from the matter we have so thoroughly dissected here on Earth, and that most of the matter in the Universe is not even in matter of any kind, but in some new substance whose strange properties we do not understand at all. ^{iv}

One answer to the question - What is the universe made of? - is that it is made of us. For, surely, we – body and mind – are made of the same “substance”. We are

as much a product of the Universe as anything else, yet it hasn't occurred to science that, in trying to see into the nature of reality, we might begin by looking at our minds as well as our bodies. We might reframe the question: not about what the Universe is made of, but what we are made of.

This is not about examining ourselves objectively as a biological or cognitive phenomenon. Nor is it about analysing ourselves simply with the aid of reason and the intellect. It is about examining our experience of ourselves. In this we might do well to draw on the wisdom and insight of the world's contemplative practices, which are all based on the importance of inquiring into one's own nature, the kind of thing that mystics have done for thousands of years but which modern science has ignored or thoughtlessly dismissed. Ramana Maharshi, the modern Hindu saint, for instance, taught his students to simply ask the question continually: Who am I? ^v For Buddhists and many of the world's contemplatives this question cannot be answered except in the negative, in terms of what we are not. Who "I" am turns out ultimately to be beyond definition, beyond words, beyond predication.

This doesn't mean we are nothing because, as we continue to ask the question, we have a very strong sense of ourselves as the enquiring subject, as though who we are is the questioner even though there is ultimately no answer to the question. In Schopenhauer's words we are "the knower who can't be known". Could this be a clue to the enigmatic identity of "dark matter" and to the nature of the universe itself?

Shunyata and *The Perfection of Wisdom*

In the modern world we have forgotten to ask in this way about the nature of our nature perhaps because we fear that, in the absence of a positive answer, we will be left with an intimidating nothingness. This has been the understandably wary response of the West to the Eastern notion of "emptiness", which the Buddhists call *shunyata*. ^{vi} Shunyata is traditionally translated as emptiness, the void, or even nothingness, but this is misleading. Shunyata is not an empty "emptiness". It connotes fullness, a sense of the infinite, a reality that includes the phenomenal world but also sees through and beyond it.

According to shunyata the universe is not empty. It is fuller than we could ever imagine. I have always wondered about the gap between the vast seeming emptiness of space on the one hand and the teeming variety of life on Earth on the other. How could such an empty Universe, devoid of life as we know it, evolve this tiny miracle of a planet? How could the infinite variety of species in an African rainforest or the vital chaos of human life in a modern megapolis emerge from the vast emptiness of space? Space is not empty, it has to be a fullness. We may not see this with our physical eyes but with our imaginations we can begin to divine it.

The wisdom, or “insight”, into the emptiness – shunyata - of all things was expounded in a series of Indian Mahayana sutras known as *The Perfection of Wisdom Sutras* – in Sanskrit *Prajna Paramita*, literally *wisdom-gone-beyond*. The initial sutras were written between 100 BCE to 100 CE and varied in length from 8,000 to 100,000 lines. They were restated and summarised in short sutras such as the famous *Diamond* and *Heart Sutras* somewhere between 300-500 CE. The influence of the *Perfection of Wisdom Sutras* in the development of Buddhist thinking and practice throughout the following thousand years in India, China, Korea, Japan, and Tibet was profound. They answered the intriguing question that the *Upanishads* had asked some few hundred years before them: “What is that by knowing which all things are known?”

The answer was shunyata, the emptiness of all things, as of the universe itself. According to the notion of emptiness, entities are not separate, independent things. Counter to what our common sense tells us, they have no fixed, permanent nature of their own, no self-nature, no “own- being”. Their essentiality resides in their composite, or interdependent, nature. They are compounded of the elements that comprise them, and their compound form is always changing. Things only appear to have a separate nature but they are forever transforming, however gradually. Is this not a principle on which a new teleology could be founded – the essential interconnectedness of all things?

As Edward Conze points out, the Sanskrit word *sunya* comes from the verb *svi*,

meaning “to swell”.^{vii} *Sunya* means literally: relating to the swollen. To use this root verb in the compound *shunyata* is to indicate the true nature of a swelling or a bubble. A bubble may appear to be an enclosed entity but in reality it is hollow or contentless. That, according to Mahayana Buddhism, is the true nature of the universe and all things in it, including ourselves. This can be quite a shocking prospect to anyone committed to material science, but as Mu Soeng writes in the introduction to his translation of *The Diamond Sutra*:

When one is deluded, one assumes that what is apprehended by the senses (that is, the bubble) contains something identifiable or graspable; the corrective application of prajna wisdom allows one to see that all appearances are illusory, with nothing inherent to grasp. This prajna wisdom does not automatically invalidate appearances, but challenges us to investigate the nature of reality more closely.^{viii}

In expounding the notion of “emptiness” the sutras did not deny the existence of the phenomenal world and of its infinite multiplicity of forms but it did suggest that we continually mistake the world perceived by our senses for ultimate reality. We assume the world, as it appears to us, is the world “as it is”.

Nagarjuna

The great exponent of emptiness was Nagarjuna, a major figure in the rise of Mahayana, who lived in the late 2nd century CE and was said to be the founder of the Madhyamaka School of Mahayana Buddhism. His most important and best known work was *Mulamadhyamakakarika* (*Fundamental Verses on the Middle Way*) which emerged from the *Prajna-paramita* tradition. Legend has it that Nagarjuna was presented with the texts of the *Prajna-paramita Sutras* by the king of the Nagas, a mythical race of serpents with magical powers. Nagarjuna was often thought of as “the Second Buddha”.

The *Mulamadhymakakarika* is a difficult text and invites – and needs – interpretation, as it has always received throughout the countries that embraced

Mahayana Buddhism. Recently there has been more than one translation – with commentaries - into English. Nagarjuna’s central theme is *shunyata*. He takes a variety of subjects – material and psychological – and argues - from the perspective of emptiness - how none of them can be said to have independent, inherent, or essential existence. As Jay Garfield, his American translator and commentator, writes in his Introduction:

Nagarjuna relentlessly analyses phenomena or processes that appear to exist independently and argues that they cannot so exist, and yet, though lacking the inherent existence imputed to them by naive common sense or by sophisticated realistic philosophical theory, these phenomena are not non-existent – they are, he argues, conventionally real. ix

Garfield thinks that the complex doctrine of the two truths or two realities - a conventional truth and an ultimate truth – and the subtle, sophisticated, and surprising relation between the two is “Nagarjuna’s greatest philosophical contribution” to Buddhist metaphysics and epistemology. Nagarjuna’s originality lay in showing that the two truths are not two. He succeeded in avoiding the dualism we might begin to accuse him of, such as the distinction Plato is understood to have made between the phenomenal and real world of forms – a distinction that could be said to have bedevilled Western culture ever since - by arguing that emptiness is itself empty. Emptiness, for Nagarjuna, was not “a self existent void standing behind a veil of illusion comprising conventional reality, but merely a characteristic of conventional reality”. x Conventional reality is not separate from ultimate reality but the phenomenal expression of it. In this sense there is a deep unity between the two truths.

Mulamadhyamakakarika has, through the centuries, inspired a huge body of commentarial literature in India, Tibet, China, Korea and Japan and perhaps there is a case for arguing that Nagarjuna was akin, in these Asian countries, to Plato in Christian Europe - particularly his rediscovery in the Renaissance - and to Aristotle in medieval Islam and European Catholicism and early modern science. Given the current nihilism of modern society we might wonder about the significance of

Nagarjuna's recent translation into English and other modern languages. One noted Tibetan scholar and teacher has entitled his own recent English commentary of Nagarjuna's "Middle Way" text - itself based on the commentary of Ju Mipham Rinpoche, a great nineteenth century Tibetan master - as *The Sun of Wisdom*.^{xi} As Tsultrim Gyamtso explains, Nagarjuna showed how the Buddha's teachings have "turned the wheel of Dharma" at significant times in history. Might it be that the wheel is set to turn again?

Stephen Batchelor, who has recently given us his own original verse interpretation of, and lively introduction to Nagarjuna's text, might agree. In the preface to his version, subtitled *A Buddhist Vision of the Sublime*, Batchelor laments how the central work of this most important figure in Buddhism has been ignored today and locates Nagarjuna's central and much-misunderstood idea of emptiness in the wider context of Buddhist, Taoist, and Western literary and existential traditions. In doing so he offers us a contemporary interpretation of Nagarjuna's vision.^{xii}

Infinite Possibility

Despite Nagarjuna's analysis, emptiness – as ultimate reality - defies definition since definition will always limit what is defined. This, of course, makes it hard to write about. Any description is a finger pointing at the moon, not the moon itself. The experience of emptiness will be different for everybody and depends on the practice and experience of any particular person. Another contemporary perspective is that of Yongey Mingyur Rinpoche, one of the young generation of Tibetan lamas, who recently suggested that the Tibetan word for *shunyata* – *tongpa-nyi* – implies a "sense of something beyond our ability to perceive with the senses and our capacity to conceptualize" and that a better translation would be "inconceivable" or "unnameable". The word *tongpa* means empty. *Nyi* doesn't have any particular meaning but, when added to a word, Mingyur Rinpoche suggests, "it conveys a sense of 'possibility' – a sense that anything can arise, anything can happen. So when Buddhists talk about *emptiness* we don't mean nothingness, but rather an unlimited potential for anything to appear, change, or disappear".^{xiii} The definition of emptiness might, then, be "infinite possibility":

A subtler meaning, which might have been lost on early translators, implies that whatever arises out of this infinite potential – whether it's a thought, a word, a planet, or a table – doesn't truly exist as a "thing" in itself, but is rather the result of numerous causes and conditions. If any of those causes or conditions are changed or removed, a different phenomenon will arise. ^{xiv}

Emptiness, then, implies both what we know as absolute contingency and also what lies beyond it.

Shakyamuni Buddha taught that every form of experience is an appearance arising from the infinite possibility of emptiness. Emptiness is absolute or ultimate reality, from which the world appears in all its infinite forms. Appearance and reality are not separate registers but different expressions of each other. Without phenomena, emptiness would be imperceptible and without emptiness, phenomena could not appear. As Mingyur Rinpoche puts it:

Emptiness, or infinite possibility, is the *absolute* nature of reality. Everything that appears out of emptiness – stars, galaxies, people, tables, lamps, clocks, and even our perception of time and space – is a *relative* expression of infinite possibility, a momentary appearance in the context of infinite time and space.

^{xv}

The Gateless Gate

Shunyata can, then, be understood in its absolute sense or in its relative sense. In its absolute sense it is not easy to understand. The Chinese capture its paradoxical nature in their use of koans. A koan – meaning "universal and particular" - is a question or a story for which there is no simple logical answer. As a teaching facility a koan is designed to defeat a student's purely logical mind, encourage him to go beyond the rational, and consider the paradoxical meaning of the question itself. Famous examples are: What was the nature of your original face before your parents conceived you? Or what is the sound of one hand clapping? There is the

legendary story of Bodhidharma, the sage who brought Buddhism to China, when he met the Emperor Wu of Liang. The emperor asked him, “What is the first principle of the holy teachings?” Bodhidharma replied “emptiness, no holiness”. Emperor Wu did not understand this answer and, wondering who Bodhidharma actually was, asked: “Who is this standing in front of me?” “No knowing” replied Bodhidharma enigmatically. This only confused the emperor further. Thereupon Bodhidharma, it is said, crossed the river and went to the land of Wei. The emperor was left to ponder for the rest of his life what Bodhidharma had meant.

In the absolute sense shunyata cannot be understood in any conventional way. Buddhists speak of mind as the foundation of everything and, according to Zen Buddhism, “the gateless gate” as its entrance. The gate that is no-gate is the central paradox of all wisdom traditions. Ultimate reality has no boundaries. ^{xvi} It is infinite, limitless, and beyond description. Any attempt to catch it in words or concepts will always miss the mark, however learned the sage might be: “As for those who try to understand through other people’s words, they are striking at the moon with a stick; scratching a shoe, whereas it is the foot that itches.” ^{xvii}

Ultimate reality can only be realised through one’s own inner experience but it is available to everybody if they have determination. For some it may be “like catching a glimpse of a horse galloping past the window; in the twinkling of an eye it will be gone”. But to those who are determined:

The Great Way is gateless,
Approached in a thousand ways.
Once past this checkpoint
You stride through the universe. ^{xviii}

Dependent Origination

There exist no phenomena that do not originate in dependency.

Therefore there exist no phenomena that are not emptiness.

Nagarjuna

For those of us, however, who balk at entering at “the front gate”, the gateless gate of pure Zen practice, there is an alternative way. Nagarjuna did most to expound the conceptual as well as the non-conceptual understanding of shunyata and wrote of the two truths – the ultimate and the relative. In our dualistic perspective we tend to oppose these two as if they were separate and distinct domains, as does orthodox Buddhism sometimes too. But while they may be distinct, they are also interdependent. Emptiness can be understood in its relative sense as essentially the dependent origination, or interdependence, of all things.

The doctrine of Dependent Origination, or Dependent Arising, is the Buddhist teaching on causation and its relationship to being. Just as for emptiness, for which dependent arising is a synonym, there is nothing that comes into being through its own power or volition and therefore there are no separate entities or metaphysical realities, such as God or the human soul, which are independent of the causal chain. The Buddhists elaborated this chain in their *bhavacakra* – “the wheel of life”. The *bhavacakra*, traditionally, has twelve interdependent links – *nidana* - which describe the processes by which a being comes into existence and bind him to the wheel of becoming.

Being a wheel, or cycle, there’s no starting- or end-point, but, as ignorance is the primary root of existence and as enlightenment is aimed at our understanding of our ignorance, it is usually placed first. What follows from ignorance - such as the desire in our biological and psychological drives and the grasping of consciousness itself – can, in circular fashion, serve to reinforce it. There’s little authority for regarding the links as fixed in number or connected by any logical sequence. The relation between them is not one of simple causal sequence but rather of mutual dependence or circular causality. “That arising, this becomes; this ceasing to be,

that ceases to be”. ^{xix} This is the essence of Buddhist teaching. By contrast with the classical Western Great Chain of Being, there’s no first cause, no fixed hierarchy, and no linear sequential linking.

Western scientists may wonder what the Universe is made of. Buddhists are likely to ask, contrastingly, what the Universe and all its phenomena are empty of. The fourteenth Dalai Lama thought it crucial to ask this question, given that many people might think “emptiness” implied a form of nihilism. If we do not understand what phenomena are empty of, then we might assume that objects do not exist at all. That mistake comes from failure to distinguish between the absence of *inherent* existence and non-existence. In his recent book, *How to See Yourself As You Really Are*, is a section entitled “How to Undermine Ignorance”. In it he writes:

Emptiness is not an utter void that denies the existence of all phenomena but is an emptiness of inherent existence. Phenomena are empty of their status, they are not empty of themselves. A table is empty of inherent existence, it is not empty of being a table. Hence, due to emptiness – due to lack of inherent existence – agent, action, and object are possible. ^{xx}

To understand dependent-arising is to appreciate that nothing has an independent nature but that everything is interrelated. Not only are entities interdependent with everything else but they are interdependent in their own essential nature. To the Dalai Lama it seems easier to understand emptiness by reason of the fact that persons and things are interdependent rather than that an object has to be dependent-arising due to the fact that it is empty of inherent existence.

The “ignorance” that ties us to suffering on the wheel of life is ignorance of the true nature of emptiness and the universal essentiality of interdependent arising. Understanding these, according to Mahayana Buddhism, leads to liberation and freedom from conditioning in all areas of life. Psychologically we make the mistake of assuming people are inherently individuals while their individuality arises from their interdependency with everyone and everything around them. This also applies

to group life in all social, political, and economic spheres. No group entity has a life of its own independent of the world around it. The context is as much the identity of a thing as the particular form it takes. If we truly understood this in relation to ourselves individually and to our social and political natures this world would have a very different face. This “knowledge” depends on experiencing ourselves, each, as empty of inherent existence and may seem to imply a certain profundity of self-knowledge, but it can also relieve us of many of the anxieties and terrors of life in the uniquely deluded materialist modern world.

Compassion and skilful means

Wisdom and compassion are traditionally “the two wings” of enlightenment. Without compassion, wisdom can be useless. Without wisdom, compassion can be misguided, even stupid. The “skilful means” – *upaya* in Sanskrit – that Mahayana Buddhists employ, enables them to harmonise these two. Wisdom and compassion are sometimes seen to be incompatible. All schools of Buddhism agree that that the Buddha’s approach to teaching was primarily therapeutic rather than metaphysical, but whereas the earlier schools tended to follow a prescribed path towards enlightenment, the Mahayanist considered all teachings to be provisional and remained open to a potentially infinite number of means by which they might be realised. The skill was in using a pragmatic, rather than an ideological, approach.

There is the famous Buddhist simile of the raft which one uses to cross a river. A skilful person will build a raft to get to the other side of the river but only an unwise one will continue to carry the raft on his back as he continues his journey overland. Mahayanists hold that teachings are not absolute in the sense of rigid rules or principles that have universal application irrespective of particular circumstances. Rather, they have relative value and truthfulness and require translation and reinterpretation with respect to context. When used skilfully any teachings then have a way of transcending themselves. This is a non-dogmatic approach to truth where rules of conduct and beliefs have respect for local cultures and different ways of thinking. This skilful approach to Gautama Buddha’s teachings was the key to the extraordinary success of Buddhism in countries beyond India, particularly China,

Japan, Korea, and Tibet.

Early Buddhism taught enlightenment for the individual. The path of the *arhat* brought enlightenment and *nirvana* for the individual self. Mahayanists thought, on the other hand, that individual salvation amounted to nothing if it was for oneself alone. Shunyata revealed the self as an interdependency, a “no-self” in an individual sense, an expansive self as an interdependent one. Compassion is an instinctual recognition of one’s essential interconnectedness with everything else. In Mahayana terms it is one of the four “divine immeasurables” or “joyous states”, along with kindness, sympathetic joy, and equanimity. It is interesting to note that Mahayana Buddhism emerged at the time that Christ lived and taught. Which tradition of teaching may have influenced the other is perhaps of less significance than the common ground between Buddhist compassion and Christian charity. While both traditions taught the central importance of love - as compassion - Buddhism also insisted that compassion is strengthened by being in essence the practice of the wisdom of emptiness.

To understand how everything is dependently arisen is to see into the nature of our essential interdependency. To understand the reality of emptiness – one’s own emptiness – is to realise your identity with everything around you. While you would seem to lose yourself in emptiness, at the same time you gain the whole world. This again echoes Christ’s own teaching. Shunyata encourages us to loosen the boundaries with which we commonly frame our experience of life and, in doing so, we become more comfortable and more intimate with the world beyond them.

Notes

ⁱ Nishitani Keiji ‘Science and Zen’ in Frederick Franck (Editor) *The Buddha Eye. An Anthology of the Kyoto School and Its Contemporaries*. Foreword by Joan Stambaugh. World Wisdom, 2004. (Originally published by Crossroad in 1982) P. 109

ⁱⁱ Ibid. p.110

ⁱⁱⁱ See ‘Five Minutes with Brian Cox’ on News – bbc.co.uk/2/hi/4526608.stm, 20th February 2010, where the Manchester University Professor of Physics talks to Matt Stadien about his enthusiasm for physics and our understanding of the solar system and the universe.

- iv Evalyn Gates, *Einstein's Telescope. The Hunt for Dark Matter and Dark Energy in the Universe*, New York: W. W. Norton, 2009. P 6
- v Ramana Maharshi 'Who Am I?' in *The Spiritual Teachings of Ramana Maharshi*. Foreword by C.G. Jung. Boston: Shambhala, 1988. (Originally published in 1972)
- vi See Roger-Pol Droit, *The Cult of Nothingness . The Philosophers and the Buddha*. Translated by David Streight and Pamela Vohnson. The University of North Carolina Press, 2003. (Originally published in 1997 as *Le Culte du Ne'ant*) Droit, a researcher in philosophy, shows that the major nineteenth century philosophers saw Buddhism as a religion of annihilation calling for the destruction of the self - in Nietzsche's words a 'negation of the world'. Droit argues that these views reflected the collapse of traditional social, political, and religious values in Europe at the time rather than an accurate description of Buddhist thought.
- vii Edward Conze, *Buddhism. Its Essence and Development* New York: Harper Torchbooks, 1959. P 130 – 131.
- viii Mu Soeng *The Diamond Sutra. Transforming the Way We Perceive the World*. Boston: Wisdom Publications, 2000. P 41.
- ix Jay L. Garfield, translation of, and commentary on, *The Fundamental Wisdom of the Middle Way. Nagarjunja's Mulamadhyamakakarika*. New York: Oxford University Press, 1995. P 88
- x Ibid p 91
- xi Khenpo Tsultrim Gyamtso, *The Sun of Wisdom. Teachings on the Noble Nagarjuna's 'Fundamental Wisdom of the Middle Way'*. Translated and edited by Ari Goldfield. Boston: Shambhala, 2003.
- xii Stephen Batchelor, *Verses From the Center. A Buddhist Vision of the Sublime*. New York: Riverhead Books, 2000. P xvi.
- xiii Yongey Mingyur Rinpoche, with Eric Swanson. *The Joy of Living. Unlocking the Secret and Science of Happiness*. Foreword by Daniel Goleman. New York: Harmony Books, 2007. P 59-60
- xiv Ibid. p 76
- xv Ibid. p 63
- xvi A book that captures clearly the sense of the limitlessness of ultimate reality – its quality of emptiness - is Ken Wilber's early and one of his most popular works, *No Boundary. Eastern and Western Approaches to Personal Growth*, Boston: Shambhala, 1979, 2001. Wilber's map of human consciousness is at the same time a guide to the psychologies and therapies available from Western and Eastern traditions – from psychoanalysis to Zen, and from existentialism to tantra. Though written at the end of the 1970s it is a book that is even more revelatory today, especially in the way he expounds absolute and relative values in cultural terms that we can understand.
- xvii Mumon Ekai, 'Preface to "Mumonkan" (The Gateless Gate)' in *Two Zen Classics. The Gateless Gate and The Blue Cliff Records*. Translated with commentaries by Katsuki Sekida, edited and introduced by A.V. Grimstone. Boston: Shambhala, 2005. P 26.

xviii Ibid. p 26

^{xix} The twelve links are described in *Taisho Shinshu Daizokyo* as quoted in *Buddhist Philosophy. A Historical Analysis*. David J Kalupahana, University Press of Hawai, 1976, p 31:

‘When this is present, that comes to be; on the arising of this, that arises. When this is absent that does not come to be; on the cessation of this, that ceases. That is to say, on ignorance depends dispositions; on dispositions depends consciousness; on consciousness depends the psychophysical personality; on the psychophysical personality depends the six ‘gateways’ (of sense perception); on the six ‘gateways’ depends contact; on contact depends feeling; on feeling depends craving; on craving depends grasping; on grasping depends becoming; on becoming depends birth; on birth depend ageing and death,. sorrow and lamentation, suffering, dejection and vexation. In this manner there arises this mass of suffering.’

^{xx} His Holiness the Dalai Lama, *How to See Yourself As You Really Are. A Practical Guide to Self-Knowledge*, Translated and edited by Jeffrey Hopkins. Rider, 2007. P 75