

Bridging Science and Spirituality through Buddha's Middle Way to Knowledge

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*“All Scientific knowledge is provisional.
Everything that Science “knows,”
even the most mundane facts and long-established theories,
is subject to reexamination as new information comes in.”
– Scientific American editorial, December 2002*

Much of our contemporary schooling is dominated by the Western materialist scientific worldview. The worldview (German word *Weltanschauung*) sets the fundamental cognitive orientation of an individual, group or society. It encompasses the entirety of the individual or society's knowledge and point-of-view including natural philosophy, dharma, ethics, and code of behavior. Worldview develops within the context of language, culture and commerce and conditions the general mindset, mental models, perception and volitional habits of human beings. It is significant that the ancient path discovered by Buddha that set the Wheel of Dhamma in motion is called The Middle Way. This way of moderation and wisdom is nothing other than the 'Noble Eightfold Path'. "Avoiding both of these extremes (*of self-indulgence and self-denial, and everything exists and nothing exists*), the middle way realized by the Tathagata — producing vision, producing knowledge — leads to calm, to direct knowledge, to self-awakening, to Unbinding."¹ This paper advocates the view that The Middle Way can be rediscovered today as a way to Knowledge that may bridge the gaps in the worldview of Material Science and Spiritual Science.

The purpose of this paper is to explore a few significant points of departure between the Buddhist and modern Scientific approach to knowledge. The Sanskrit word 'Veda' means knowledge. Vedas (500–1000 BCE) belong to the sacred texts that are said to be 'revealed' to rishis and rishikas of ancient India. However, the founders of Buddhism, Jainism and Sikhism denied the authority of Vedas. Buddha in particular spoke against blind faith, dogmatic beliefs, rituals, animal sacrifice to please gods and the belief that spiritual knowledge comes from memorizing sacred texts or hereditary privilege held by upper caste Brahmins in India. Unlike Vedic-Brahmanism, the renunciate ascetic tradition of Shramana is a non-Vedic heterodox movement that existed parallel to Vedic Hindu tradition. 'Shrama' means labor or making personal effort to perform austerities to attain liberation.

The word 'science' comes from Latin "scientia" meaning knowledge. Science is a process of gathering knowledge of natural world and human-social behavior using the scientific method of observation, empirical research, hypothesis, repeatable experiment, measurement, and conclusion. Modern notion of science and scientist date only to the 19th century. The Oxford English Dictionary dates the origin of the word "scientist" to 1834. For what we call Science today used to be called *Natural Philosophy* since classical antiquity. It involved study of physical universe from very large to very small. Newton

¹ Thanissaro Bhikkhu's Translation. Dhammachakkapavattana Sutta: Setting the Wheel of Dhamma in Motion; Samyutta Nikaya 56.11. www.accesstoinsight.org

called his famous book *Mathematical Principles of Natural Philosophy* (1687) and Francis Bacon believed that he had provided a new method for natural philosophy.

Spirituality is an inner path of contemplative practice that allows anyone to discover the nature of mind-reality-self and one's connection to living Universe, God or Great Spirit. Religion came from the Latin word *religare*, which means: "to tie, to bind." Organized religion usually adopts and institutionalizes a worldview and belief system in the authority of an external supernatural God, savior or gods; sacred or revealed scriptures, moral codes, sacred symbols, rituals, liturgy, commentary by scholars and hierarchy of priests, monks and clerics. Dhamma, as Buddha taught is not a religion, but a way of life that is noble and directed to inner peace, happiness and freedom of humankind by ending suffering through right understanding. The Middle Way helped the spread of Buddha's teachings around different cultures without war and violence. It has been a healing force as it reduces conflicts of heart and mind and polarizations of views and values within self, society and cultures through right understanding.

The Noble Eightfold Path that leads to knowledge, vision, cessation of kamma is a complete coherent path for opening the psycho-spiritual potential for Awakening (*Bodhi*) inherent in all human beings. The path must be walked and developed in the relative by practitioners of each generation in different time and cultures. A simple way to propagate Dharma in the modern world would be to translate the Triple Refuge as taking refuge to supreme Knowledge (of Buddha), Truth (of Dhamma) and Wisdom of the Noble Ones (Sangha). According to the commentaries there are three factors that defile the going for refuge — ignorance, doubt, and wrong views. If one does not understand the reasons for going for refuge, the meaning of taking refuge, or the qualities of the refuge-objects, this lack of understanding is a form of ignorance which corrupts the going for refuge.

The Buddhist term '*putthujjana*' describes ordinary world ling, monk and layperson who still possess all the ten fetters binding to the round of rebirths and yet to reach any of the four stages of awakening of *ariya-puggala*. Both the Triple Gems and Noble Eightfold Path factors can be deeply realized in a personal, interpersonal, transpersonal and transcendental domains. The sutta on 'right view' (*Sammaditthi Sutta*) as expounded by Venerable Sariputta goes to the heart of Buddha's core teachings and can be understood first on conceptual and mundane level (*lokiya*) of intellectual understanding and the secondly on nonconceptual experiential level. The latter supramundane level (*lokuttara*) brings true emancipation from the cycle of repeated suffering due to greed, aversion and delusion. All non-sectarian Buddha dharma practitioners in all traditions need to study the core teachings under right view to have a proper orientation to Dhamma practice.

Modern western empirical science has given us the most impressive intellectual concepts and ideas since the 16th century but it has also created a duality of mind and matter. Our education is failing to address large systemic problems in human society and economy because education is sheltered from actual experience of 'dukkha' in human social life. As such, our leaders are often missing the heart connection and heart's intelligence. If we do not see, recognize and accept suffering in our own experience, then there is no further possibility of psychological movement to recognize cause of suffering, no prospect for ending of suffering and no path. The Middle Way connects the world of spirituality and science of our world through development of the faculty and spiritual power of mindful awareness, the first of seven factors of enlightenment.

There are four dimensions to our nature: the body and its feeling sensations (*vedana*), and the mind and its contents. These provide four avenues for the establishing of awareness taught by Buddha in *Satipatthana*. Since all the six sense doors are contained in the body, every contact of the outside world is at the body level. The

constant awareness thorough understanding of impermanence of vedana in body-mind stream is known in Pali as *sampajana*. The research done by Institute of Heart Math shows that human heart emits powerful electro-magnetic field around the body that is fifty times more powerful than human brain; and that the communication between heart and brain can be significantly improved with positive emotions of love (*metta*) and appreciation (*mudita*).² Meditation teaches us how to stay present with our experience as it arise without judgment and bring awareness to it. Buddhist practices on metta, tonglen and four immeasurables trains our heart-mind to remain open and generate positive emotions for the healing of pain in self and others.

The orientation of the entire Noble Eightfold Path is Buddha's System Theory and begins and ends with 'Right View.' The order of the steps and what precedes and what follows is important to become accomplished in the path.

*"Bhikkhus, just as the dawn is the forerunner and first indication of the rising of the sun, so is right view the forerunner and first indication of wholesome states. For one of Right View, bhikkhus, Right Intention springs up. For one of Right Intention, Right Speech springs up. For one of Right Speech, Right Action springs up. For one of Right Action, Right Livelihood springs up. For one of Right Livelihood, Right Effort springs up. For one of Right Effort, Right Mindfulness springs up. For one of Right Mindfulness, Right Concentration springs up. For one of Right Concentration, Right Knowledge springs up. For one of Right knowledge, Right Deliverance springs up."*³

"Bhikkhus, Ignorance, avijja is the forerunner of the arising of demeritorious factors; lack of moral shame, ahirika, and lack of moral dread, anottappa, are only its followers,¹. Bhikkhus, one who is ignorant and lacking in wisdom would hold Incorrect View. In one who holds Unwholesome View there would arise Incorrect Thinking, one who has Unwholesome Thinking, would utter Unwholesome Speech; one who utter Incorrect Speech would take Unwholesome Action: one who takes Erroneous Action would engage in Wrong Livelihood; one who engages in Wrong Livelihood would make Unskillful Effort; one who makes Unskillful Effort would practise Unskillful Mindfulness: one who practices Unskillful Mindfulness would develop Unskillful Concentration."⁴

There are six unsurpassable qualities of Buddha Dharma. The teachings of Buddha are i) *Svākkhāto* : "personally verified" and not speculative, ii) *Sanditṭhiko* : "able to be examined" and amenable to scientific scrutiny, iii) *Akaliko*: "timeless and immediate" in results and not limited by relative time, iv) *Ehipasiko*: "which you can come and see" for yourself, v) *Opanayiko*: "leading one close to" liberation and vi) *Paccattam veditabbo viññūhi*: "personally realized by the wise" and noble disciples. Knowledge or Truth of reality is superficially dual but represents a unity in deeper layers of quiet mind.

Mind is said to be co-extensive with space and awareness, especially in Dzogchen tradition of Tibetan Buddhism. Vedic knowledge and science (Sanskrit *Vijñāna*) in

² Childre Doc and Martin Howard; The HeartMath Solution: The Institute of HeartMath's Revolutionary Program for Engaging the Power of the Heart's Intelligence. Harper Collins, NY :1999

³ Right View: The Sammaditthi Sutta and its Commentary; Translated by Bhikkhu Nanamoli; Edited and Revised by Bhikkhu Bodhi; Anguttara Nikaya 10:121; www.accesstoinsight.org

⁴ Ibid; Samyutta Nikaya 35:80

ancient India gave central place to consciousness (Pali *viññāna*) in understanding the living universe, including human beings. In Buddha dharma, all of material worlds is made of very tiny units of Kalapas, smaller than atoms (paramanu). Kalapas may be termed as units of consciousness. These kalapas like smallest quantum particle are all in a state of perpetual change or flux and make all things in the universe. In the real world of quantum physics no elementary phenomenon, is a phenomenon until it is an observed phenomena. Observation or cognition takes place in the consciousness of the observer. All phenomena are arising together in a mutually interdependent web of cause and effect. The union of mental phenomena (*nāma*) and physical phenomena (*rūpa*), are conditioned by nonlocal consciousness (of the observer) in the causal chain of dependent co-arising (*patīccasamuppāda*).

Reality is fluid but we are continually creating and modifying structures to hold our position to feel secure instead of allowing space for change or growth to happen naturally. Structural dysfunction and compounding of 'dukkha' starts with reductionist dualistic and materialistic view. The middle way is not only a way for self-awakening but can also be applied towards social awakening and transformation of cultures. Buddha envisioned this task of social transformation and enlightened society to take place through his noble disciples in the four-fold sangha (parisa) of monks, nuns, laymen and laywomen practitioners. The word 'sangha' has two levels of meaning: (i) on the ideal (arya) level, it denotes all of the Buddha's followers, lay or ordained, who have at least attained the level of srotapanna; ii) on the conventional (samvtri) level, it denotes the orders of the Bhikkhus and Bhiksunis" [ref] Instead of struggling for social justice and human rights and ending war through man-made secular laws and legal institutions, Buddha dharma teaches of letting go of the struggle through personal and community study and practice of mindful living.

There are four conditions for enlightenment; i) association with the wise and noble person; ii) listening to the Dhamma; iii) 'wise consideration' of Dhamma; and iv) practicing Dhamma. (Samyutta Nikaya, Maha-vagga, Kindred Sayings on Stream-winner, Chapter I, par. 5). The study and practice of mindful living helps us gradually integrate our inner mental state with outer physical forms. If we lose our spiritual connection with all life through our mindful breath we lose our connection to earth and its elements and greater life in cosmos. Dharma based approach to knowledge can give us the deep insight (prajna) that is needed to solve large scale systemic problems in society, economy and ecology.⁵ Prajna comes from continual inquiry, digging deeper with the second factor of enlightenment 'dhamma vicaya' or investigation of dhamma.

American Historian, Daniel J. Boorstin commented, "*The greatest obstacle to discovery is not ignorance - it is the illusion of knowledge.*" If our education is such that knowledge is misaligned from reality with unwholesome world views, poor theories, wrong views and blind leaders, then society begins to destroy its habitat and local economy and finally destroys itself from within. Just like Right View, Kamma divides into two classes, the wholesome and the unwholesome. The former are actions motivated by detachment, kindness, and understanding, the latter actions motivated by greed, hatred and delusion. The first kind leads to good rebirth in happy planes of existence and the latter to rebirth in planes of misery. It is by complete understanding of *Anicca, Dukkha and Anatta*, that one is able to rid oneself of the Sankhara accumulated in one's own kamma or mindstream. The Buddha's advice to monks is that they should maintain the awareness of *Anicca, Dukkha or Anatta* in all postures throughout the day.

⁵ Barua, Susmita; A Radically Creative approach to Mindful System Change; Jagojjyoti: 2555 Buddha Jayanti Centenary Vol. Bengal Buddhist Association, Calcutta: 2011

While science has marginalized the rich domain of human experience, Buddha gave primacy to direct perception and experience above all other sources of knowledge in his famous *Kalama Sutta*. His most remarkable meditative discovery is the Satipatthana (*Vipassana*), or development of the four foundation of mindfulness that leads to ultimate Knowledge and Nirvana. The Noble Eightfold Path can be visualized as the steps of a great pyramid with spiraling staircase inside the pyramid leading from each steps to the top to one pointed Samadhi of stillness. Concentration can produce laser like beam to bridge time-space and knowledge in the relative time with absolute knowing in the timeless, dropping off of the veil of duality of self and world, dukkha and samsara to the bliss and freedom of emptiness. The Middle Way is also about synchronizing our mind-body bridging the gap between the inner and outer reality as a musician tunes his instrument. Since the reality of war and peace originates in the mind and consciousness, it is there it needs to be addressed through practice, dialogue, mutual communication and participation in safe practice and learning communities. Any meaningful action or decision-making in Buddha dharma, including social action must be done with wise consideration of worldview, intention and speech.

In philosophy, the study of knowledge is called epistemology, and the philosopher Plato famously defined knowledge as “*justified true belief*”. This definition was not ultimately endorsed by Plato and others. So the problem of defining knowledge in epistemology is on-going even with scientific-method of acquiring knowledge. In Judeo-Christian and Islamic tradition knowledge comes from divine source or God. In Indian philosophy highest knowledge is synonymous with direct experience of enlightenment, bodhi and ultimate liberation. Early Christian groups called *Gnostics* regarded ‘*gnosis*’ or mystical enlightenment as spiritual knowledge. Sharing of knowledge is considered a great form of gift (*dana*) in all Dharmic traditions in India. In Dharma knowledge is for altruistic happiness of all living beings. In *Kalama Sutta* Buddha gives the post-modern ethics for deciding what to believe in one’s search for knowledge or solving the Scientist’s dilemma of ‘means versus ends.’

*“Do not go upon what has been acquired by repeated hearing; nor tradition; nor rumor; nor what is in a scripture; nor surmise; nor axiom; nor specious reasoning; nor bias towards one’s beliefs; nor upon another’s seeming ability; nor upon the consideration, ‘The monk is our teacher.’ When you yourselves know: ‘These things are good; these things are not blamable; these things are praised by the wise; undertaken and observed, these things lead to benefit and happiness,’ enter on and abide in them.”*⁶

Studies have shown human brain has unlimited capacity to learn and remains infinitely plastic and malleable even in grownups. Modern Cognitive Science is an interdisciplinary study of human mind, but tend to heavily rely on artificial intelligence. Both Buddha Dharma and Science encourages impartial investigation of nature and can come together in the spirit of right knowledge and understanding for the benefit of all beings. Buddha’s discovery of the Middle Way to Knowledge (transcendent awareness) has the potential to uplift the entire state of human civilization from its current confused and conflicted state by awakening the natural capacities of human heart and human brain within a few, if not one generation. “*Be a light and refuge unto yourselves*”. This was Buddha final teaching.

⁶ Kalama Sutta: To The Kalamas; Anguttara Nikaya 3.65

