



SCIENCE VS. MEDITATION AND PRESENT SCENARIO

Dr. Yasmin Saima

Associate Professor

Vivekananda College, Madhyamgram, W.B

Abstract: The comparison between science and Buddhism is not just an academic matter. Science without a transcendent aspect seems cold, heartless, and mundane, and it is becoming clear that transcendence is a basic human need. So it is that some 21st-century men and women are rejecting science and are searching for the meaning of life in religion, dogmatic Marxism, the occult, and alternative ways of life.

Buddhism offers humanity a simple and moderate lifestyle giving up both extremes of self-deprivation and self-indulgence. The satisfaction of basic needs, reduction of wants to the minimum, frugality, and contentment are important characteristics. According to moral principles, every individual has to order their lives, exercise self-control in the enjoyment of the sense, perform their duties in various social roles, and always behave with wisdom and self-awareness in all activities. Only when each person adopts a moderate and straightforward lifestyle will humanity stop polluting the environment. It seems to be the only way of overcoming the present crisis of ecology and alienation. Giving simple suggestions within everyone's means for solving the problems that are continually haunting us is an essential and significant contribution of Buddhism to the present society in the 21st century.

Keywords: Science, Meditation, Buddhism, Transcendent.

Introduction

Science is the objective investigation into nature's laws to establish generalizations and explanations for observed facts. As the French physiologist Loeb has stated: "The ultimate objective of science is to predict".

The way of deliverance taught by the Buddha can be described as an Experimental and Experiential one. Just as in science, a researcher goes step by step, so also in Buddhism one proceeds towards the goal by gradual training and gradually gained knowledge. It is not sacrilegious to question; blind faith leads one nowhere. A sustained application of righteous thought, word, and deed will transform one to noble inertness culminating in a complete and utter termination from the cycle of birth and death.

Inevitably, over the last two and a half thousand years, *Buddhist meditation* has diversified as it has spread from one culture to another; it has become encrusted with ceremony and tradition. As a result, today a bewildering array of Buddhist meditations; the proponents of any one of them often lay great stress on minor aspects to differentiate their tradition from the others. Despite this variety, most Buddhist schools still succeed in getting people enlightened.

In the Abhidhamma, Buddhist writers have made a detailed analysis of meditation into its constituent parts. It is an excellent analytical method which is based upon direct experience. Science can take this as a basis, add to it, and relate it to the modern day knowledge of nervous system. This will give the would-be Buddhist meditators an objective criterion against which to judge the value of this or that technique or tradition. In time, it should also give rise to such a specifically Western form of Buddhist meditation as is thoroughly at home in the modern world.

The first thing that a novice meditator has to tackle is the *posture*. There are a great many of them which are very painful, and some are even bad for the legs. Different schools prescribe different posture and emphasize seemingly minor points such as the position of the hands. Which posture should the western world choose?

Fortunately, Japanese scientists have researched some of the postures used in Buddhist meditation. Out of these, they have found that the full-lotus is the most stable¹. They have also concluded that no one posture is of vital importance in meditation. They have found what matters is the meditators' mental state;² this view is also found in the Abhidhamma analysis. It appears that any posture which allows the meditator to be both relaxed and alert will do. Scientific findings like these can save Western meditators from quite unnecessary bodily contortions and the agony which goes with them!

In Buddhist meditation, there is no rigid *breath control*, as is there in some Hindu meditations. Instead, the Buddhist meditator breathes naturally, using the breath, if at all, simply as something to concentrate on or be mindful of. The Japanese scientists have studied this aspect of Buddhist breathing becomes slower and lesser air is breathed in,³ that breathing is done mainly from the abdomen;⁴ this is the normal sort of breathing if the body is pleasantly relaxed.

Then, what emerges so far is that the first fundamental of Buddhist meditation is not the posture or breathing, but *bodily relaxation*. The second fundamental found in all Buddhist meditation is *non reaction*. The meditator does not react physically or



mentally to any stimulus or, if he does react, he does so slowly deliberately. All automatic responses are checked. Since emotion plays an important part in giving rise to physical and mental activity, this non-reaction is largely a matter of avoiding emotional responses. The Abhidhamma writers speak of the meditator cultivating non-desire or non-attachment and non-ill will and equanimity.

Inhibiting emotional responses is scientifically known as desensitization and is nowadays used in behaviour therapy to cure phobias.

How this process works neurologically is not yet clear. Various hypotheses are in the process of being tested experimentally.⁵

However, the application of desensitization therapy has already provided some practical information. For example, in this therapy, while relaxing, one deliberately concentrates on objects which usually evoke an emotional response. In Buddhist meditation, at the moment, these objects are mostly left to arise of their own accord. It could be that they should be more deliberately picked as subjects for meditation. These 'emotional objects' must also be experienced at first in a mild form, and then, step by step, in stronger forms. Once again, in Buddhist meditation, this gradual escalation of the intensity with which emotional objects arise is left largely to chance. Once again, it could be that a more deliberate grading of intensity should take place. In desensitization therapy, at each level of intensity, relaxation must be maintained, and only when this is done with ease should the next level to be attempted. According to one theory, to move on too quickly and thereby lose relaxation and succumb to an *emotional* response *reinforces* emotional responses, not inhibit them. This echoes the emphasis in Buddhist meditation on the importance of maintaining a relaxed and non-reacting state. It also shows that if non-reaction cannot be maintained, it is probably crucial that meditation should stop at once. In many ways like this, work on desensitization therapy, both practical and theoretical, can provide essential scientific information about Buddhist meditation and make it more efficient.

The third fundamental of all types of Buddhist meditation is *attention*. This aspect of meditation is likely a relatively simple process of learning. It is training the brain's attention faculty, just as one would train any other faculty of the body to gain a skill.

The Abhidhamma account is apparent. The meditator begins with the ordinary faculty of attention. He deliberately applies it to the object of his meditation, whereupon it becomes applied attention. With training, the meditator learns to sustain attention for long periods. Thus attention that is found in even the most advanced stages of meditation is none other than ordinary awareness, trained to a high degree.

Attention meditation is of two primary sorts, according to whether the object of meditation is *one* or *many*. This is the basic Buddhist division of meditation into *Samatha* and *Vipassana*.

Attention focused on one thing only is called in the Abhidhamma *one-pointed attention* or *ekaggata*. It is said to be synonymous with *Samadhi* or concentration and the right concentration in the Eightfold Path. The Buddhist meditator may not always be aware that he is doing this sort of meditation. It crops up in Tibetan Buddhism as 'visualizations' and throughout the Mahayana schools, as meditations on *mantras*, such as the invocation to Amida Buddha used in the Pure Land School of Japan. In short, any meditation which focuses attention on one thing, to the exclusion of all others, is one-pointed meditation. In Hinduism, this meditation can be an end in itself. The meditator gains mind by maintaining fixed attention on one thing and treating it into a trance. Suppose a sudden tragedy strikes anyone in ordinary daily life. In that case, he stifles mental suffering by slipping quickly into this meditation, locking his attention on to his object of meditation and keeping it there. The Abhidhammas make it very clear that this is only the tranquilizing of mental confusion, not a proper cure, which is probably why it is called *Samatha*, or tranquillity. So long as meditation lasts, unhealthy cognitive factors such as desire and anger are inhibited, but the moment it comes to an end, they all arise again. Modern science has also found that mere disuse is not sufficient to eradicate emotional responses.⁶

On the other hand, pointed meditation is used in Buddhism to develop attention. As much, modern science should be able to contribute to its efficiency in many ways. Research on attention could probably decide which objects are best to focus attention on—visual or auditory simple or complex, and so on. In general, research on learning could determine the optimum length of time for doing this meditation and the frequency and duration of rest periods. Technology might even provide a system whereby a bell sounds when attention strays, a system that could prove more efficient than even the most watchful of Zen masters!

Once developed, attention can then be used in meditation proper.⁷ True or genuine Buddhist meditation is called insight meditation, or *Vipassana*. According to the Abhidhamma, *Vipassana* begins with the Four Foundations of Mindfulness is yet another term for attention, and it is applied, in the first foundation, to the first, in the second to the pain and pleasure, in the third to states of mind and the fourth, to the contents of the mind. Taken together, the Four Foundations cover almost everything which possibly arises in experience. *Thus in Vipassana, attention is applied, not to just one thing, but everything.* Attention is broadened out until it becomes what Trungpa calls 'panoramic awareness'.⁸



This sort of meditation is no longer merely a subject for scientific examination. Instead, *it is a scientific examination itself!* The meditator trains himself to observe fully and accurately in a detached and unemotional way, just as a scientist strives to do. Again, like a scientist, he observes direct experience, does so without assumptions, without interference, and strictly in the present. The meditator *doesn't* do to conceptualize his observation because he is observing experience as a whole. Consequently, concepts, ideas, theories are all on the same footing as sense perceptions; they also are just material for detached observation.

However, there is a second stage of mindfulness, which is called 'clear comprehension'⁹, and moves on bare attention to an *active investigation* of the object of meditation. The meditator now observes objects of experience in the light of Buddhist doctrines. For example, in the first Foundation of Mindfulness, the body is viewed as ever-changing, without any enduring essence or soul, and as the cause of present suffering. "This process is repeated in the remaining three foundations, and also in the third, fourth, and sixth 'Purities'. The sixth *Visuddhīs* divided up into nine kinds of insight, which is a meditation on the arising, passing away, and disappearance of things, and the futility of trying to cling to them.

It is easy to misunderstand this kind of meditation as a sort of self-imposed brain-washing, an auto-indoctrination in a set of religious dogmas in an attempt to eradicate doubt. In religions that demand complete faith in dogmas, such as Roman Catholicism, this may be the case. But it is not so in Buddhism. On the contrary, the meditator is using a form of *experimental method*. He is adopting Buddhist doctrines and is *testing them against experience*.

Observing the contents of experience with attention and detachment, he discovers for himself that they are indeed changing all the time. Try as he may, he cannot find any evidence of an everlasting core and or soul in himself or any other object or process. In the *vipassand-nanas*, the meditator comes to *see* that what he took to be his body and mind are simply a stream of experiences in which perception and ideas continually arise, fade, and disappear. Since things do fade and disappear, it is dangerous, vain, and an utter waste of time to cling to them. He comes to know by direct experience that the only way to escape from this life of clinging to insubstantial things is to give up emotional desire and aversions and maintain, instead, equanimity towards all things. Each new meditator, in the process of meditation, can repeat in Buddha's own observations and test for himself the Buddha's doctrines. This investigation of Buddhist theory and philosophy in the light of personal experience is called the development of wisdom or *prajñā* is the fourth and last fundamental Buddhist meditation. There are two definitions of wisdom in Buddhism, which, on closer examination, turn out to be merely two stages.

In the Abhidhammas of the early schools, descriptions of *Panna* make clear that it means scientific knowledge. In more recent Theravadin commentaries, it is specifically compared to the knowledge possessed by a chemist, who knows the chemical properties and constituents he everything he sees. Similarly, while observing the contents of his mind, the meditator considers the physical constituents of his body and the causes of mental events. We often hear it said that Western culture, particularly science, has led Westerners away from the wisdom acquired in meditation. But it is quite the opposite! Westerners' native scientific attitude actually gives them an *advantage* so far as this first sort of wisdom is concerned. After four hundred years of science and two hundred years of atheism, most Westerners cannot believe in an everlasting soul if they *want* to! And, after Freud, they hardly need to be told that mental events have a cause. Nor, in the age of biochemistry, is it news to them that the body is a self-organizing collection of molecules.

Indeed, some aspects of Abhidhamma analysis can now be replaced by more modern scientific information. For example, a meditation on the constituents of the body, which is found in both *Samatha* and *Vipassana*, should no longer analyse the body into the four elements of primitive Buddhist physics but into the modern elements of carbon, oxygen, nitrogen, and so on.

Some psychotherapists might question whether such knowledge really helps us to solve mental problems. I think it does. We acquire most of our deep-seated fears and phobias when we very young; this is when we are most ignorant. If we fall into a river as an adult, we do not acquire a fear of water because we know enough to blame, not the water but our own clumsiness. As scientific knowledge eliminates ignorance, so it eliminates fear. The doctor is not afraid of illness and death because he knows their causes and consequences.

The weakness of the early Buddhist view of wisdom is that it seems to limit it to certain Buddhist doctrines, and, despite protestations to the contrary by the Theravadins, it seems to make them into dogmas. Revising Buddhist principles in light of the latest scientific knowledge improves the situation. However, the fact is that any experience, yet sound and scientific, will be incomplete and open to error and subject to change. Consequently, the Mahayana school has classed all Buddhist doctrines as part of relative truth and has given wisdom a more profound meaning. It has defined wisdom as seeing the ultimate basis of all knowledge. It means seeing that everything is *experienced* and seeing experience *just as it is, in its true suchness*, without the intervention of any conceptualization, however profound or subtle it may be. Intellectually, this is total liberation from the darkness of ignorance.



The early Buddhist and Mahayana views, in fact, describe two stages on the path of wisdom. The early schools such as the Theravada stress the *way* to ultimate wisdom, which is still within the world of relative truth, while the Mahayana stresses the ultimate wisdom itself.

In this brief survey, combining and comparing the Abhidhamma analysis with modern scientific research, we have been able to pick out four '*pillars*' of Buddhist meditation. *They are muscular relaxation, non-reaction, attention, and wisdom.* This seems a touchstone by which to judge the nature and value of the meditation practices of any particular Buddhist tradition.

Buddhism offers humanity a simple and moderate lifestyle giving up both extremes of self-deprivation and self-indulgence. The satisfaction of basic needs, reduction of wants to the minimum, frugality, and contentment are important characteristics. According to moral principles, every individual has to order their lives, exercise self-control in the enjoyment of the sense, perform their duties in various social roles, and always behave with wisdom and self-awareness in all activities. Only when each person adopts a moderate and straightforward lifestyle will humanity stop polluting the environment. It seems to be the only way of overcoming the present crisis of ecology and alienation. Giving simple suggestions within everyone's means for solving the problems that are constantly haunting us is the important and significant contribution of Buddhist meditation to the present society in the 21st century. So, science and Buddhist meditation both are basic needs of our developed society.

References

1. Ryutaro Ikegami. Psychological Study of Zen Posture, in Psychological Studies on Zen, edited by Yoshiharu Akishige. Circulated in photocopy.
2. Suzuki, T. Electroencephalographic study during Zen practice Proc. 15th Convention of J-EEG-S, 1966, 28. Quoted by Akishige. Ch. 1. Ibid.
3. Hiromoto Matsumoto. A Psychological Study of the Relation Between Respiratory Function and Emotion. Ibid.
4. Yoshiharu Akishige. A Historical Survey of the Psychological Studies on Zen. Ibid.
5. Beech, H. R. Changing man's behaviour, Pelican 1969, Ch.9. for review of these theories.
6. Jones, M. C. The Elimination of children's Fears. Journal of Experimental Psychology, 7, 383-90. (1924).
7. This distinction between the training of attention and the application of attention in meditation is made by Christmas Humphreys, in Concentration and Meditation. Buddhist Society Publication. London. 1935.
8. Chogyam Trungpa. Cutting Through Materialism. Watkins London. 1973. Pages 167, 168.
9. Nyanaponika Thera. The Heart of Buddhist Meditation. Rider & Co. London. 1962. Ch.2

Bibliography

1. Buddhism and science; Edited by Buddhadasa P. Kirthisinghe; Motilal Banarasidas publishers private limited, Delhi 2015.
2. Humanity, Truth and Freedom; Raghunath Ghosh, Northern Book Centre, New Delhi, 2008.
3. Humphreys, C., The Buddhist Way of Life, London: Buddhist Society, 1989.
4. Dalai Lama, Universal responsibility and the Good Heart, Dharmasala: Library of Tibetan works, 1976.
5. H. R. Beech: Changing Man's Behaviour, Pelican, 1969