

SPEECH BY

PRESIDENT J. R. JAYEWARDENE

on

Thursday 21st September, 1989
at 6.00 P.M.

at the

**BANDARANAIKE MEMORIAL
INTERNATIONAL CONFERENCE
HALL**

on the occasion of
the 1989 Annual Sessions of

**"THE ORGANISATION OF
PROFESSIONAL ASSOCIATIONS
OF
SRI LANKA"**

පරි. අංක	6574
වටය	808.51
දිනය	

“THE BUDDHA DHAMMA AND THE NEW PHYSICS OF THE 20TH CENTURY”

Yours is a very formidable organization; numbering 17,000 members, belonging to 28 different associations ; representing the talents of 20 different disciplines, founded 14 years ago.

Your members therefore have varied interests; their experience spreads over many professions and accomplishments. Truly, may each one of you say, with Tennyson's Ulysses –

“Much have I seen and know; cities of men
And manners, climates, Councils,
Governments.”

To many of you, therefore, what I say today may be of interest; certainly can afford matter for thought in moments of peace that I wish each one of you may in the future be privileged to enjoy.

It was Sri Surendranath Banerjee, in the days before the Gandhian movement for India's Freedom, one of India's famous orators in English, when heckled during a speech at the Oxford University replied, “Young friends, when

your ancestors were swinging by their tails from the trees of the primeval forests of your land, my ancestors on the banks of the Ganges River had perfected and practised a system of philosophy that is still the Wonder of the World." One of these was the Buddha Dhamma. I am speaking this evening of the Dhamma and the new Physics of the 20th Century.

The 6th Century B.C. has been described by H. G. Wells in his "History of the World" as "the period of the adolescence of the Human Race." In Persia, Zoroaster; in India, the Hindu Sages and the Buddha; in China, Confucius; all taught the impermanence of matter, of insubstantiality or change in matter, without a solid or permanent core. The Greek Philosophers then were thinking on similar lines to the Asian Sages.

The Greek Philosophers (600 B.C.)

In Greece, there were various schools of philosophy and they became important in the light of the place the Western Hemisphere took in World Affairs in the centuries to come. In this first period of Greek philosophy, the philosophers believed in a culture where science, philosophy and religion were not

separated. Their main concern was to discover the essential nature of things which they called 'physis.' The term 'Physics' is derived from the Greek word 'physis' and means "the endeavour of seeing the essential nature of all things, of matter, energy, motion and force."

This scientific knowledge of antiquity became systematised following the teachings of the Greek Philosophers, especially Plato (427 B.C. to 347 B.C.) and Aristotle (384 B.C. to 322 B.C.), who turned away from the earlier thinking and developed a view which was in sharp contrast to the views of the Asian Sages, their contemporaries in time and in thought. Greek Science and Culture then accepted the division between spirit and matter. Philosophers turned their attention to the spiritual World rather than the material World. The Christian Church supported Aristotle's doctrine.

The Renaissance Philosophers (17th Century A.D.)

2,000 years had to pass from the time of Aristotle before the Western nations settled down to thinking anew and in a more scientific way

during the Renaissance Period, in the 17th Century A.D. The barbaric wars which brought the Roman and succeeding Empires down; the invention of gunpowder and printing, and other happenings in the Western World, such as the discovery of the new sea routes to India and the Americas, opened the eyes of thinkers of some of the Western nations, bringing knowledge and wealth to them. Galileo (1564 A.D.–1642 A.D.) was the first to combine empirical knowledge with mathematics and he may be called the “Father of Modern Science.” It was Isaac Newton (1642 A.D.–1727 A.D.) who propounded the theory of Gravitation and the Laws of Motion, leading the World of Science on a new course which continued till the 20th Century.

After Galileo and Newton (17th Century A.D. to the 20th Century A.D.)

According to this school of thought, the World and its partners in the Solar System were fixed. They were solid masses of matter, placed by God who had created this Cosmos (Universe). God would see that chaos would not occur and adherence to the Universal Laws identified by Newton would ensure that too. As a matter of fact, when the first satellite on its way to the

Moon had left the gravitational field of the Earth, the Astronauts exclaimed, "We are now in the hands of Isaac Newton!"

All Western Scientific thought from then on to the end of the 19th Century was dominated by the image of a God who ruled the World from above. The Fundamental Laws of Nature searched for by the scientists were thus seen as Divine Laws, invariable and eternal, to which the World was subject.

Einstein and After (20th Century A.D.)

The exploration of the atomic and sub-atomic World in the 20th Century became a journey to the World of Infinity. The concept of matter in sub-atomic physics is totally different from the traditional idea of a material substance in classical physics. The same is true for concepts like space, time, cause and effect; the whole World view has begun to change. Scientists now got the first glimpses of the essential nature of things, experimentally.

From then onwards, the models and imaginations of modern Physics, the Quantum Theory and the Relativity Theory,

became once again, after 2500 years, akin to those of the Asian Sages, particularly the Buddha.

The 20th Century thus began with the scientific experiments leading to the discovery of more information about atoms. There was no firm foundation to be seen anywhere, upon which one could build. New concepts had to be thought of for space and time, matter and object, and effect. A classical mechanistic World had to be abandoned after the discovery of the Relativity Theory in 1905 and a new way of looking at electro-magnetic radiation, both by Albert Einstein. These teachings stand together as the pyramids of modern civilisation. Discoveries tumbling upon discoveries enabled physicists to accept the basic oneness of the Universe as one of the important revelations of modern physics.

20th Century Physicists, the Asian Sages and the Buddha

The 20th Century Physicist tackled the question about the ultimate nature of matter, with the most sophisticated technology. They probed deeper and deeper into nature, uncovering one

layer of matter after another in search of its ultimate "building blocks." The existence of atoms was verified; their constituents were discovered, namely the Nuclei and Electrons; –the components of the Nuclei – the Protons and Neutrons ; the components of Protons and Neutrons – the up-quarks and down-quarks ; – and many other sub-atomic particles. The delicate and complicated instruments of modern experimental physics penetrated deep into the sub-microscopic World and made this World accessible to our knowledge.

Change seems to be the main operation going on in the Universe which is our home. Solid matter melts into the intangible. Wave mechanics have reduced the whole Universe to a system of waves. Electrons and Protons consist of very short waves and radiation of waves which are longer; of bottled-up waves and unbottled waves.

As I have said, Scientists arrived at their new conclusions of the nature of things, experimentally. The Asian Sages and the Buddha had arrived at similar conclusions through the non-sensory experience of reality, gained through meditation. They had seen the World of

Matter very much in the way that modern scientists see it today.

An attempt must be made to combine these two theories in order to describe the properties and interactions of the sub-atomic particles, of which all matter is made. A consistent view of the Universe is beginning to emerge from modern Physics which agrees with the wisdom of the Buddha and provides a consistent and philosophical framework accommodating the most advanced theories of the physical World.

The Ego (I) Athma and Enlightenment

Then again to consider ourselves as isolated "I"s (Ego's "Athma") in the World, is an illusion which is called "Avijja," or "Moha" (ignorance), in Buddhist Philosophy, and is seen as a state of a disturbed mind which has to be overcome. When the mind is attached to that which is constantly changing ("Anicca") the mind is uneasy; disturbed; in a state of "Dukkha;" a multiplicity of things is produced. When the mind is quietened, the multiplicity of things disappears.

The highest aim of the Sages is to become aware of the unity and mutual relationship of all

things; to transcend the ocean (Sansara) of an isolated individual self, and to identify oneself with the ultimate reality. The emergence of this awareness – known as “enlightenment” (Nirvana) – is not only an intellectual act, but is an experience which involves the whole person and is religious in ultimate nature. This is also the World view emerging from modern physics.

Meditation and the Satipatthána Sutta

The Buddha has shown the path to attain this goal through meditation in the “Satipatthána Sutta” (the discourse regarding the attainment of mindfulness). He describes this as “The Way, the only Way,” in detail.

The Sages speak of direct mystical experiences of reality. The autobiography of a Yogi, Swami Paramahansa Yogananda, who died in 1952 aged 59 years, relates some of these experiences and his meetings with many of India's Master Yogis. To quote, “The Northern Himalayan crags near Badinavayam are still blessed by the living presence of Babaji Guru of Lakisi Mahasaya. The secluded Master has retained his physical form for centuries, perhaps for milleniums. The deathless Babaji is an “Avatara.”

“The modern physicist experiences the World through an extreme specialization of the rational mind; the mystic through an extreme specialization of the intuitive mind. The two approaches are entirely different and involve far more than a certain view of the physical world. However, they are complementary, as we have learned to say in Physics. Neither is comprehended in the other, nor can either of them be reduced to the other, but both of them are necessary, supplementing one another for a fuller understanding of the World.” Thus says Fritjof Capra, who is well known for his research about the relations between modern Physics and Eastern Mysticism, including Buddhism – “When the relations between these are well understood, the time will be ripe for considerable advances in our comprehension of the Universe.” So says Professor B. D. Josephson, Noble Prize Winner, 1973 and Professor of Physics, University of Cambridge.

Forty years ago, in an address to the Science Association, I dealt with a similar subject and said that the Indian Sages taught by precept an example that man could transcend the limited knowledge available through the senses by right attentiveness, (“Samma Sati”) and right

concentration (" Samma Samadhi ") and attain Enlightenment.

Whether we go to the Cosmos as a whole or to the innermost structure of the atom, they are of the same nature, viz., – "Sabbe Sankhara Anicca;" "Sabbe Sankhara Dukkha;" "Sabbe Dhamma Anatta." All formations are impermanent ; All formations are subject to frustration; All formations, formed and unformed, (including Nibbana) are without a self. "He who practices correct meditation, understands phenomena according to their reality," says the Buddha, and such a person could be in the presence of the "murmurs and scents of the infinite sea."

CONCLUSION

Scientists, including Physicists, deal with the structure of the Universe and not with its purpose. They deal with humans and other forms of life in it, in the same manner, as part of the atomic and sub-atomic structure.

The Buddha has not only dealt with these aspects; He has gone beyond and especially advised Human Beings, to follow His Eight Fold

Path and attain Enlightenment (Nibbana) which is Supreme Bliss (Paramam Sukham); firstly, while living in this World; and after death to attain "Parinibbana" (Full Nirvana) and the cessation of future births.

These questions need more reflections, elucidation and experience to explain if explanation is possible. To one who follows the Eight Fold Path, explanations are not necessary for each step will show the correctness of the Path, for -

" Within ourselves Deliverence must be sought Each Man his prison makes."

REFERENCE