

THE HISTORICAL EVOLUTION OF THE TWO NOTIONS :
A COMPERATIVE STUDY.

CHAPTER - II

THE HISTORICAL EVOLUTION OF THE TWO NOTIONS:

(A) COMPERATIVE STUDY.

"The general notions about human understanding..... which are illustrated by discoveries in atomic physics are not in the nature of things wholly unfamiliar, whole unheard of, or new. Even in our own culture they have a history, and in Buddhists and Hindu thought a more considerable and central place.....".

== J.R.Oppenheimer.

INTRODUCTION.

The outline of the discussion of the topic as mentioned in the title be commenced with the quotation in a book "The Tao of Physics", composed by Fritjof Capra, a celebrated Physicsts.-

"Five years ago, I had a beautiful experience which set me on a road that has led to the writting of this book. I was sitting by the ocean one late summer afternoon, watching the waves rolling in and feeling the rythm of my breathing, when I suddenly become aware of my whole environment as being engaged in a gigantic Cosmos dance. Being a physicists, I know that the sand, rocks, water and air around me were mode of vibrating molecules and atoms. I also knew that the Earth's atomsphere was continually bombarded by a shower of 'Cosmic rays' particles of higher energy undergoing multiple collisions as they penetrated the air. All this was familiar to me from my research in high-energy physics, but untill that moment I had only experienced in high-energy physics, but untill that moment I had only experienced it through graphs, diagrams and mathematical theories. As I set on that beach my former experiences came to life; I 'saw' atoms of the elements and my body percipated in cosmic

dance of energy; I felt its rhythm and I 'heard' its sound, and at that moment I knew that this was the Dance of Shiva, the Lord of Dances worshipped by the Hindus. I had gone through a long training in theoretical physics and had done several years of research. At the same time, I had become very interested in Eastern mysticism and had begun to see the parallels to modern physics..... it is followed by many similar experiences which helped me gradually to realize that a consistent view of the world is beginning to emerge from modern physics which is harmonious with the ancient Mysticism"¹.

With the reference to the question of Quantum physicists e.g. "Did a particles with momentum exist before we conducted an experiment to measure its momentum? Did a particles with position wexist before we conducted an experiment to measure its position? Did any particle exist at all before we thought about them and measured them? Did we create the particles that we are experimenting with? Though it seems to be incredible, this is a possibility that many physicists recognise.

John Wheeler, a well known physicist at Princeton wrote:

"May the Universe in some strange senses be 'brought into being' by the participation of those who participate?.... The vital act is the act of participation. 'Participater' is the inconvertible new concepts given by quantum mechanics. It strikes down the term 'observer' of classical theory, the man who stands safely behind the thick

1. Preface, Capra, Fritjof, The Tao of Physics, Fontana Paperback, 1989. pp-11.

glass wall and watches what goes on without taking part. It can't be done, quantum mechanics says.^{1.}

The idea of Brahman according to Upaniṣd, the participator of the creation is intermingled with each other so that they are not distinguishable. The Creator as the Cosmic energy is always acting behind the scene of his creation. The Supreme Energy manifests itself in his own creation. He pervades all in the Universe.^{2.}

Thus, from above it is evident that the language of Eastern Mystics and Western physicists are becoming very similar.

With the evolution of classical physics in the West a revolutionary trend in the technology which is the main fountain-head, is marked. Modern Physics influenced almost all aspects of human society. In contrast to the classical physics the modern physics goes beyond technology. The conceptions of natural science become necessary.

The changes brought about by modern physics have been studied by scientists and philosophers over almost five decades, but often it has been realized that they present before us an identical view of the world which has been found to be identical with Eastern Mysticism.

The foundations of 20th.-century physics - Quantum mechanics, High-energy particles physics, Relativity theory, Holographic Paradigm and Idea of existence of Superforce - led us to see the world very much in the way of a Hindu or a Buddhist see it.

The dramatic developments originated directly from the number of major advances made in fundamental physics over the last decade

¹1. Wheeler, J.A., Thorne, K.S. and Misner, C. "Gravitation", Sanfracisco, Freeman, pp-1273.

2. 'Sarboṅg Khvlīdam Brahman'--Chhāndogya Upaniṣd.

especially in the area known as - high-energy particle-physics. From the experiment it has been found for the first time a deep relationship between sub-nuclear particles and the forces that remain dormant within the matter. By the advances in theoretical understanding are more beautiful. Two new conceptual schemes are currently becoming evident. One goes under the name of 'Grand Unified Theories' the other is called 'Supersymmetry'. Together these investigations point towards a grand idea, that all nature is ultimately controlled by the activities of a single SUPERFORCE. Though superforce would have the power to bring the Universe into being and to be the cause of light, energy, matter and structure - it is more than these. It would represent an co-ordination of matter, space-time and force into an whole and harmonious framework out of which the Universe with grand unity emerges.¹

The concepts of modern physics often represents surprising parallels to the idea expressed in the religious philosophies of the Eastern countries like India and China.

The purpose of this thesis is to explore the relationship between the concepts of modern Physics and Eastern mysticism will emerge out and in some cases both the doctrines become so identical, it is almost impossible to say whether they have been made by physicists or by Indian Mystic.

The words 'Indian Mysticism' signifies the religious philosophies of Hinduism, Buddhism and Jainism. Although the systems differs

¹ 1. Davis, Paul, "Superforce", Unwin Paperbacks, London, 1990, pp-6.

from each other so far as their spiritual discipline and philosophical systems, the basic features of the world-view is not limited to India. but can be found to some extent in all mystically oriented philosophies and as such, mystical elements can be found in many schools of Western philosophy. The parallels to modern physics appear not only in the Vedas of Hinduism, or in the Buddhists SUTTRA and Jainas religious scriptures.

The difference between Eastern and Western mysticism is that mystical school have always played no so much role in the WEST as it plays the vital roles as the originator of Indian philosophical and religious thought.

In the preceeding pages attempt were made for their comparative and constrasting study of the Indian philosophies and Western view of scientific notions along with its philosophies are made.

THE DAWN OF THE INDIAN CIVILIZATION.

"Come, O! Aryan and Non-Aryan,
 Hindu and Muslim,
 Come, O! English and you Christian
 Come, O! Brahmine,
 Purify your mind and clasp the hands of all.
 Come, O! downtrodden
 And let vanish all burdens of your humiliation.
 Tarry not, but come you all
 To anoint the Mother on the shore of Bhārata
 Where man of all races have come together,"

--Rabindranath Tagore.

The uncertainties of Indian chronology present a most difficult problem. Five thousand years or more of India is generally classified into three periods - ancient, mediæval and modern. There are different views on both nomenclature and definite dating covering each period. Actually from Greek sources some important dates are known and there was an almost complete absence of dating in Indian History. Even now the dates of political events and a great number of literature which form the basis of cultural study of ancient India are imperfectly known. It has been felt that historical facts of ancient India are imperfectly known. It has been felt that historical facts of ancient India mingle with the epic, poetry, sagas, mythology and legends. Time was unreal and of secondary importance. So, Genesis of Indian Scientific and philosophical ideas is a harder.

If there is a land where the most ancient customs and tradi-

tions survive upto the present days often in their highest forms of developement that land is India. There must be two reasons for this CONSERVATISM. One reason might have been that ancient thinkers had sublimated a' and rendered the more sophisticated to the most simple and human intuitions. This is the deep significance of such primitive philosophies. The other reason may be that the intuitions of ancient man were not after all so low as some may suppose. The old Indian view of the degrading process of the Four-Eras might have had some basis in reality.

Palaeolithic (ca. 500,000 B.C.) and Mesolithic (from 10,000 to 4,000 B.C.) sites have been discovered or excavated in most part of India. Men's dwelling places are various pits, caves, shelters under rocks and so on. From earliest times men fed on what he got from wild nature and from hunting. The earliest chopping stone tools in India dating from ca. 500,000 B.C. were found in Himachal Pradesh.

How were the life and feelings of the men in the more remote Palaeolithic and Mesolithic Eras? From some of their sketchy drawings, colour paintings, symbolic and magical representations of hunting scenes and so on. We can say that after all primitive man had a culture and real feelings. From these it is evident that they lived in groups, they shared their goods with the community, they buried their dead nearby, they made flakes, axes, chopping tools more and more refined.

The earliest known civilization were found almost contemporaneously in India, Egypt and Mesopotamia.

At the dawn of civilization there was a regular contact between societies, frequent exchanges of ideas and artistic. The speed of cultural evolution of man had been very much rapid when compared with the organic evolution of man. This is due to distinctively urge of human being of one kind of civilization to learn from ones neighbour and capacity of adopting inventions and devices created by one society according to their own different requirements.

CHARACTERISTICS OF INDIAN CIVILIZATION.

The distinctive characteristic of Indian civilization is that whilst other ancient civilizations have long been ceased to exist, Indian civilization has continued to grow despite revolutionary changes. In the past Indian civilization has received, adopted and digested elements of different culture, like Indo-European, Mesopotomian, Iranian, Greek?Roman?Turkish, Persian and Arabian. This has become possible due to the fact that the conquerers from outside India mingled with India in the long run and become Indian. However, the English occupation in India is an exception. Due to this new influence it has somewhat changed. Now it is gradually assimilating the culture of the West. Thus it retains its continuity and will retain the continuity in future. The ancient cultures of Egypt, Mesopotomia and Persia have not survived and their present culture no longer form an unbroken chain linking past and present. Modern Egyptians are almost completely dissociated from the civilization which flourish on the Nile thousands of years ago.

But in India today, Hindus seek inspiration from concepts

similar to those originally advanced by their ancestors. Social institutions and relationships, language and literature, are far more continuous than even those of Greece and Italy. The antiquity of Indian Civilization may itself be a doubtful virtue, but the fact that it has survived would imply an extraordinary vitality and self-perpetuating quality surpassed nowhere. Apart from this innate vitality, the continuity of Indian civilization has been largely due to its ability to adopt alien virtues to harmonize contradictions, and assimilate new ideas. It has been named as 'SANĀTAN DHARMA' and it has got no individual prophet who are supposed to be a preacher of the religion as marked by their names, rather it is the synthetic form of different cults and creed existing from ancient and upto date.

No country was more frequently invaded and occupied by foreigners, yet in ancient time no civilization spread abroad more extensively than that of India.¹

(B). THE EUROPEAN AND ARYANS.

"Indian ideas on the origin and evolution of the Universe are rather a matter of religion and due to the fact that Indian philosophies are rather religious one. The idea of Cosmology and Cosmography are developed depending upon these philosophies.

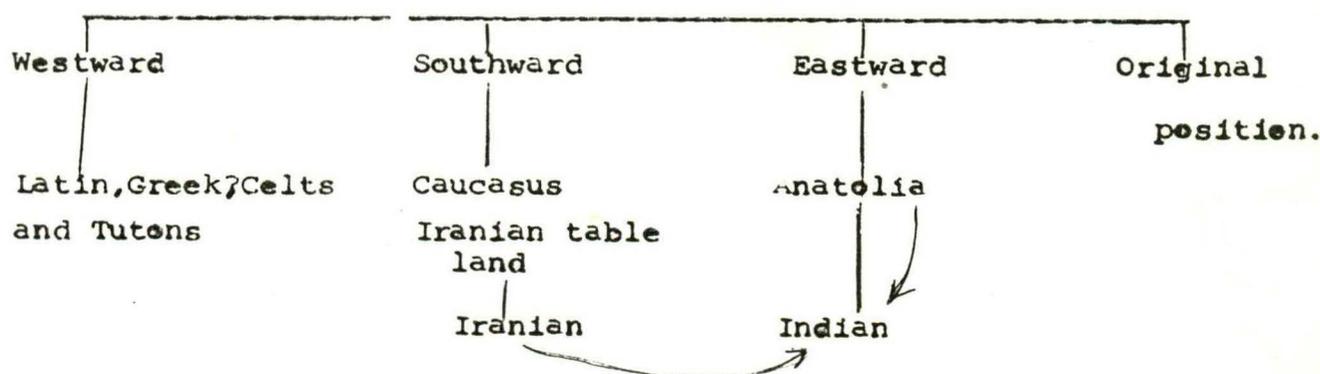
Greek philosophy which in turn explain the origin and the evolution of the Universe, developed from observations which may be treated

as the characteristics of a scientist. As such, the Indian philosophers were mainly regarded as 'men of science'. But it would be rather unjust to say that there was no possibility of a divine agency in Greek philosophy. Thales, Anaximander and other Milesians did not exclude the possibility of a divine agency but their conception of such agency was different from the contemporary Greek polytheism."

The second stage of civilization in India after the decline of Harappa and Mohenjodaro city-culture, began around 1500 B.C. with the coming of the Aryans who brought a civilization very different from that of Indus.

About 2000 B.C. the great steppeland which extended from the Poland to Central Asia was inhabited by seminomadic barbarians. They were tall, comparatively fair and mostly long-beard. They had tamed the horse, which they utilized to draw light chariots with spoked wheels. They were mainly pastoral, but practised a little agriculture also.

Semi-nomadic barbarians (Poland to Central Asia).



In the early part of the 2 2nd. millenium from pressure of population of dissociation of pasture lands, and from both causes, these people were to move in different directions. They migrated in bands Westward, Southward and Eastward. They conquered the local populations and inter-married with them to form a ruling class. In most of the lands in which they settled their original language gradually adopted by the conquered peoples. Some invaded Europe. They became the ancestors of the Greeks, Latins, Celts, Latins and Tutons. Others went to Anatolia, and form a mixture of these with the original inhabitants and a great empire of the Hittites appeared. Some of them remained in their old abode place and became the fore-fathers of Baltic and Slavonic people. Others moved southward to the Caucuses and the Iranian table land.

The Aryans at about the time of the Hittites emerged in Anatolia, were spreading into north west India and they constituted the Indo-Europeans language includes most of the language of Europe, North America and India. Despite certain anomalies the linguistic resemblance between the language in this group can be represented in a convincingly systematized form which indicates a common source.¹

* 1. Linguistic evidence indicates that the Aryans falls into two distinct groups. Hundred is known as the Centum (hundred in Latin) and the Satam (hundred in Avesta). The former group includes the Hellenic, Italic, Tutonic and Celt branches and the latter group includes the Indian, Iranian and Armenian.

The Eastern branch of the Indo-European movements referred to as the Aryans movement, because the ancient peoples belonging to this group called themselves as Aryans. It is inevitable, therefore that Indian contacts with Iran should be the oldest and most prolonged,

Among the many peoples who entered in India in the 2nd. millenium B.C. was related tribes whose priests possessed a poetic intuition to compose the hymns in praise of Gods and those are sung in sacrifices. These tribes, chief of which was that of the BHĀRATAS settled mainly in east Punjab and in the region between the Saltez and the Yamūna which later known as BRAHAMĀVARTA.

The period of the Vedas, Brahmanas and upanishd is a sort of transition from pre-history to history. It may be said that India's history begins with the Aryans. Aryans of India constitute a brance of Indo.European stock. we can except some similarities between thoughts and ideas of ancient India and Greece. In the 6th. century B.C. they met as atranger, soon both of them becoame associated in a common cultural enterprise some similarities in language, and similarities in religions beliefs, indicates that these two peoples must have either been in close contact at some early period or have had a common origin. For example the gods of heaven (Varūna --- Ouranos; Dyaūs ---- Zeus and Usās---Aurora) were common to the Greeks and Indians. The most chacteristics of the gods of the both races was their power of regulating the order of nature and banishing evil.

Greeks and Vedic beliefs had a common background. The Greek concepts of LOGOS* was very close to the Vedic Vāc, which corresponds to the Latin term VOX. In a passage of the Rg-Veda, Vāc is praised as divine being is omnipotent, moves amongst divine beings, and carries the great Gods, like Mitra, Varūna, Indra and Agni within itself.¹

ii In contrast with the Greek philosophy the philosophical thought in India in the 600 B.C. had become quite mature. It had reached a stage which could have been arrived at only after sincerest philosophical quest. Jainism and Buddhism, had emerged in this line. But even before the advent of these two thoughts, the philosophical reflections of the early Upaniṣds (900 - 600) had become the fundamental concepts of Hindu thoughts.

CHRONOLOGY.

G ^o reek philosophy	Indian philosophy.
Thales - 6th. century B.C.	Protohistoric (Vedas) period-
Anaximander - (610 -545 B.C.)	B.C. 1500 - 900 Composition of the
Pythagores (530 -	Hymns of the Rg Veda.
Socretes - (B.C. 900- The Mahābhārata war.
Plato - (428 - 3480	B.C. 900 500 - 500, Period of the 1
Science in Alexandria.	later <u>Vedas</u> , <u>Brāhmaṇas</u> and early <u>Upa-</u>
(332 B.C. - A.D.642)	<u>nīṣds</u> Buddhist Period-
	B.C. 566 - 486 Goutam Buddha.
	B.c. 327 - 325 Invation of Alexander
	Macidon.

¹ 1. Rg Veda X? 125, 1.

If philosophy did emerge in India earlier than in Greece and if the two countries were in close contact soon after the emergence of Greek philosophy, it is not unlikely that Indian thoughts had some influence on Greek philosophy.

The similarity between the theory of Thales that water is the material cause of all things and the Rg Vedic idea of premeval water as the origin of the Universe¹ was first pointed out by Richard Garbe, whereas the Milesians of Ionians, in eastern Greece had sought the first principle of all things in matter and were interested in a scientific explanation of the Universe.

Pythagores in Western Greece is a founder of both Greek mathematical science and philosophical Cosmology. Pythagores first stated the immortality of the soul, in the existence of individual and a Universal soul and in the purification of the soul. According to the Pythagoreans society demanded that in addition to the purification of the body by abstinence and self-control, purification of mind. In common with the early thinkers of Upanisds. Pythagores believed that all souls are similar in class and the apparent distinctions between human and of being are not ultimate. Pythagorus's Cosmic dualism of matter and form on one side, the world of nature and the elements, on the other, the spirit, body being combined in organic nature. This idea is as same as the DVAITA (dualistic) philosophy of Sāṃkhya which recognises two ultimate realities PRAKRITI (nature) and PŪRŪSA (Spirit).

1. Rg Veda I, 125.

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Pythagores in Western Greece is a founder of both Greek mathematical science and philosophical Cosmology. Pythagores first stated the immortality of the soul, in its transmigration from body to body, in the existence of individual and a Universal soul and in the purification of the soul. According to the Pythagoreans society demanded that in addition to the purification of the body by abstinence and self-control, purification of mind. In common with the early thinkers of Upanisads. Pythagorus believed that all souls are similar in class and the apparent distinctions between human and of being are not ultimate. Pythagoras Cosmic dualism of matter and form on one side, the world of nature and the elements, on the other, the spirit, body being combined in organic nature. This idea is as same as the DVAITA (dualistic) philosophy of Samkhya which recognises two ultimate realities PRAKRITI (nature) and PŪRŪṢA (spirit).

1. Rg Veda I, 125.

Pythagoras, a mathematician, expressed his Cosmology in mathematical terms. The world in his philosophy is a mixture of darkness,¹ good and evil, the formless and the form. The limited (peperasmenon) is formed by the imposition of limit(peras) on the ~~the~~ unlimited(aperon). In the Indian scheme; Prakriti is the ultimate Cosmic energy-primal matter which exists externally- and is the basis of all objective existence, physical and psychical, the conscious principle of creation, co-exists eternally with Prakriti.

The very naming of the Sāmkhya system of philosophy signifies that it observes a precision of reckoning in the enumeration of its principles. Hence its analogy to the Pythagorean philosophy is quite evident.

It was Sir William Jones, the founder of comparative Philology, who first pointed out the similarities between Indian and Pythagorean beliefs. Later, other scholars such as Colebrooke, Garbe and Winternitz also established the relation between Pythagoras and Indian Philosophy.

Though his doctrine of rebirth had been considered to be adopted from Egypt, but, it is now quite evident that the Egyptian did not believe the transmigration of souls at all. The source of this type of influence on Pythagorus; as pointed out by Gompertz as follows :-

1. Dampier, Sir W.C. A History of Science, 4th edition Cambridge University Press, 1948, pp-17.

"There is a far closer arguments between Pythagorésm and the Indian doctrine not a merely in their general features, but even in certain details, such as ~~t~~vegetarianism, and it may be added that the former which asummerize the whole creed of 'cycle and wheel' birthhs are likewise the same in both. In fine, it may be said that almost all the doctrines ascribed to him, may be religious philosophical or mathematical was known to Indian in the 600 B.C.%. .

A contempory to the Pythagorous doctrine known as the Eleatic school, an offshoot of Milesion thought of monoistic character was developed. This idea become the foundation of Greek metaphysics, in 545 B.C. Xenophanes, Parmindes and Zeno of Elea sought for the 'One' reality underlying material phenomena. This is the same spirit of the later Vedic hymns and the Upanīds. They tried to prove that neither multiplicity nor movement could exist, and they pleaded in favour of monoism and existence of an absolute BEING.

This idea is similar to the Upanīdic doctrine of the ALL-ONE.

Paramenides, the founder of the Elatic school which led the Greeks on the path of abstract thought that there is absolute existences behind the World. This was a kind of death-blow to material monoism. His philosophy of the absolute existence which is being and thought (SAT and CHIT) at the same time, his treognition of non-being (MĀYĀ) as to the idea of BEING and as essentially non-existent. His explanation for the plurality of the world which is only appear his distinction of the phenomenal and normal (the vyāvahārikā and paramārthikā) are akeen to the Upanīadic teachings as interpreted by Śamkārācharya.

With Socrates as with Plato later, the central pre-occupation came to be man, the philosophical thoughts began to originate through an understanding of man's nature and behaviour relating to GOD and the Universe. Socrates preached that most important thing in life was for man to know what he was and what he was for. He prayed, 'O GOD' let me be happy within myself' and believed that 'Virtue is knowledge'.

Historically, Socrates marks a definite point in ancient Greek thought. Socrates did not precisely formulate a doctrine and is therefore hardly may be treated as great philosopher. He devised the process of induction and founded the study of ethics in its own right. He sought for the truth which reveals GOD for the reality which makes goodness and GOD, for the reality which makes goodness and God are all one. He did not attempt to prove his faith. He could not think of real causes which was not good, which was not wisdom. In fine, all his questions were but variations of a single question. The essence of his Questions e.g. What kind are knowledge and ignorance? What is the One? What are the many, right and ideal state? He tried to find the answers of these questions. He fused metaphysics, ethics, politics and all other disciplines into an integral Unity. Just as the Indian thinkers had done in relating all their thoughts to the one.

His saying 'GNOTHI SEATON' is similar to the Indian's thought 'ĀTMĀNĀM BIDDHI'.

The whole history of Greek and Indian philosophy seems to be a continual dialogue between rational thought and analysis on one side and religious mysticism on the other. But there is some difference between the realization of God is within the soul, or integral 'thought' or 'creative insight' and in Greek philosophy God exists in the sense of ecstatic exaltation of the soul.

The mystic tradition finds its fullest expression in Plato, a great admirer of the Pythagorean school. It is interesting to note that Pythagoras is the only great Greek thinker whom Plato, never criticized.

Plato lived in a period when the great classical age was coming to an end in Greece. The Peloponnesian War (431 - 404) had weakened the Greek city states and Plato wrote in a period of transition. He participated in politics for a while during his early life and wrote mostly on this subject. His composition, the 'Dialogues' and 'Republic' remain the priceless treasure of the world, where Plato reduced to a book.

In Plato's philosophy the central issues concern man and his social, political and religious conduct. But for his solutions he looks beyond appearance to reality. The material world is made up of 'appearances' or phenomena which are only shadows of reality. These phenomena be predicted by the senses but are unreliable as a source of truth. The truth are truly real is something unchanging, external and divine. It is the world of forms or ideas with its ultimate principle, the good. Plato's idea of the good is very close to the SUPREME GOD of the Upanisads, prayer of the oldest Upanisad.

During the period when Aristotle (384 - 322 B.C.) flourished contact between India and Greece become much more closer, almost direct, Alexander, his prince-pupil, had established Greek occupation in the north-western part of India.

Among his many writings the 'Physical Discourse' deals with the philosophy of nature, the principles of existence of matter and form, motion, time and space. He imagined the existence of an 'Unmoved Mover' who keeps the evercoming sphere. Aristotle's book on 'The Heaven' gave an account of creation of oppositions as hot and cold, dry and wet produced by their mutual action in pairs the four elements e.g. fire, air, earth and water. As regards the terrestrial element he mentioned that AETHER moves in a circular and makes up the heavenly bodies perfect and incorruptable.

Earth, water, light, air, ākāśa, time, space, manas and soul - the nine substance were considered as to comprise all corporal and incorporeal things in Indian philosophical literature.

Vaiśeṣika school of philosophy admits the existence of two kinds of substances viz. material and non-material. Except 'Soul' all these are extended; have relations of distance and proximity. They are capable of action and possess speed¹. ākāśa, time and space are all-pervading. They have the largest dimension are the common receptacles of all real things.² Soul and Manas, ākāś, time and space and air not only ordinarily perceptible.³ A distinction is between Corporal substance (mūrta) and elementary (bhūta) substances.

1, Nayakandali, pp- 21 - 22.

2. Ibid pp- 22.

3. Vaisesika Sutra .

The former have definite dimensions

The former have definite dimensions¹; act and mode. Elemental substance, singly or in combination becomes the material cause of the products of the world. Manas does not produce anything else, while akasa, though all-pervading, produces sound, earth, water, light and air, are both corporal and productive².

From above it is clear evident that there occurs some similarities between Aristotlean idea and philosophical idea of elemental substances consisting the universe.

According to the book (On the Soul' written by Aristotle, the plant kingdom was the 'Soul' and the animal kingdom was the 'Absolute Energy' had manifested fully in man.

Is this idea of "(Absolute Energy" to some extent equivalent to the all-pervading "Energy" of the "Brahman", the "Absolute One" in Upanisids?

In ancient time in Greece different kinds of new facts were establishes depending upon different intuional ideas; but Aristotle was the first person to introduce deductions of different ideas in biology which were depended upon various kind of experiments and observation and thus tried to arrive at some rational ideas. But some time as the observations could not be explained rationally when their explanations were based on some predetermined "AXIOMS". Based on this Aristotlian ideas a system known as "Scol-

asticism" derived which extends to mediable periods of the European civilization and which explained natural phenomena in a rational manner.

Another kind of mode of gaining knowledge or consciousness; the intuitive and this has traditionally been associated with religion. Both the religions in West and East adopted the intuitive methods, but in the West the intuitive religious type of knowledge was often devalued in favour of scientific knowledge. The traditional Eastern attitude is in general just the opposite.

Notwithstanding this, the Eastern attitude of religious knowledge, as evident in the Upaniṣd speaks about the both type of knowledges, namely 'Parā-Vidyā' or intuitional and 'Aparā-Vidyā' or rational. A higher knowledge of the 'Absolute Brahman' and lower knowledge, with various sciences. Buddhists talk 'relative' and 'Absolute knowledge' or about 'conditional truth' and 'transcendental truth'.

These begins the contradictions of ideas in East and West.

After Plato and Aristotle the most important was the Science Alexandria. Alexander, the great, of Macedonia in Greece founded about seventy new cities with the aim of creating a mixed Greek and Asian empire. Amongst the scientists Uclid (287- 212 B.C.) were geometrician and Archimedes (287- 212) B.C.) were by far the distinguished scientists.

GREEK ASTRONOMY VS. INDIAN ASTRONOMY.

Greek astronomy originated for explanation of the Cosmological ideas of human being extending from early period of civilization It

is not only to the Greek cosmologists and later types of various natural phenomena came into beings to explain how things came to be as they are.

In case of Hindu astronomy at first Vedic Aryans felt the requirements critically with a view to perform 'SACRIFICE' (Yjñā) in a befitting manner. In the Vedic era the sages studied visible world around them and also the vast space, above them through critical observations and explanations.

It is evident that mental faculties of a society or clan develop at the demand of their culture. Ancient culture of India developed on the basis of religion and as such, their intellect was also developed on the basis of the spiritual aspect of life.

But it will be unjustified to consider religion as some dogma devoid of any rationality. Here in Indian religion and have been based on the reality.

Ideas of the shape of the earth and arrangement of the planets around the earth were explained by Homer (c. 900 B.C.). Thales and Anaximander rectified this idea Pythagoreans idea of rotation of planets around a central fire, in terms of number and imagination of counter earth. Anaxgorus, Plato and Aristotle's astronomy like physics was influenced in 438 - 300 B.C. by the reactionary attitude of Plato and Aristotle. Plato's scientific beliefs were not based on observation of knowledge, but simply on individual views.

With the development of science in Alexandria scientists like Aristarcus of Samos (310 -230 B.C.); Hippercus (190 - 120B.C) and Ptolemy (- 168B.C.) had tried to explain the arrangements of different kinds of luminaries of the sky. Unlike their predecessors they treated astronomical observation in a true scientific spirit, and made deductions from them by strict mathematical methods known at that time. They tried to find out the movements of planets., stars. Except Aristochus all of them advanced the idea of Geo-centric views.

Astronomy in Greece took to new turning with the scientific postulations of Copernicus (1473 - 1550 B.C.A)D.) and John Kepler (1571 - 1630 A.D.).

Origin of Indian astronomy dates back from the time of the Rg Veda in 1500 B.C. or earlier and which has been found more rational and scientific one. In Rg Veda sukta we find that an year ,the p period of rotation of the earth around the Sun is 360days and 360 nights. The annual rotation of the earth around the Sun was composed with a wheel containing twelve spokes.

Further, the ideas of UTTARĀYŪN and DAKSHIĀN and the divisions of elliptic path of the rotation of the Moon into 27 divisions and finding this division of the path on the basis of 27 constallations ons effective. The Eliptic path was divided into signs of Zodiac, each Zodical consists of $2\frac{1}{2}$ stars.

PAURANIC AGE (-- 1200 A.D.).

At the time of the 'SIDDHĀNTA' astronomy Greek influence on Indian Astronomy are evident. The five astronomical systems summerised byVarahamihir in the sixth century A.D. In his 'Panchatantra'.Romaka

and the Paulisha may well have been influenced Roma and Paul of alexendria. The Romaka is more likely text of Astronomy to have come under Greek influence. It is quite likely that the "ROMAKA" was composed by a Greek who settled in India as well as Alexandrian astronomy.

The Hindus possessed an important body of astronomical knowledge no less significant than the Hellenic astronomers long before they come into contact with Greece itself or with Alexandrian science. The tradition of astronomy in Indian was ancient and independent. It was certainly influenced by Alexandrian astronomers. There are further more, some technical terms both in Greek and Indian astronomy which are borrowed from each other. For instance. 'AUX' of European astronomy is from the sanskrit 'UCCA' through the Arabs. Greek 'PEPTON' base from 'LIPTA' in sanskrit. Thus 'DEKANOS' B become 'DRANAN' and 'TRIGNOS' and 'TRIGNNOS' to 'TRIKONAS'

SPECIALITY OF INDIAN ASTRONOMY.

Hindu astronomy works under the following defects:-

- (a). Absence of general theory.
- (b). Unequal refinement of the different portions now present.
- (c). Want of demonastrations and of recorded observations.
- (d). Want of the instruments used.
- (e). Inaccuaracy in observations.
- (f). Suspension of all progress at a certain points.

Inspite of these disadvantages Hindus made great advance in astronomy. This shows great marks of imperfection with proofs

of very extraordinary proficiency. Due to this a sense of speciality is observed and this may be elaborated by considering following points which are in favour of special characteristics in Hindu Astronomy:

- (I). In the first part of their progress as well all other nations, were still greater ignorance.
- (II). In the more advanced stages, their mode of producing is peculiar to themselves, but it is founded on principles unknown to other ancients.

This shows that new discoveries were made in India. As far as their astronomical conclusions depend on these discoveries and they cannot have 'borrowed'. It is evident that persons who had such resources within themselves, must not depend on others. Hindus took hints from the Greek of Alexandria, but they never copied the doctrines of others. Hindu writers speak respectfully of the Greek astronomy. Though they considered Greek as 'YAVANA' but admitted the supremacy of the of the Greek 'YAVANA'

Indian astronomy resembles regarding the use of certain apparatus or eccentrics and epicycle are observed. Hence it may be said that the Hindus received from the Greek that knowledge enabled them to rectify their imperfectness in astronomy¹.

1. Majumder, A.K. Cosmo publication, New Delhi, p - 779.

(c) THE DYNAMIC UNIVERSE.

IN

EASTERN MYSTICISM AND OCCIDENTAL SCIENTIFIC VIEW.

In Eastern mysticism dynamical power is the ultimate reality. This is seen as the essence of the Universe, which underlies and unifies the multitudes of things and events. The Hindu call it 'BRAHMAN', the Buddhists 'DHARMAKAYA' (the body of Being), or 'TATHATA' (Suchness). This ultimate essence manifests itself in various forms which come into being and distinguish themselves into one another without end. In its phenomenal aspect the Cosmic One is thus essentially dynamic and this is the basic apprehension of basic dynamical characteristic of all schools of Eastern Mysticism.

This dynamicity is best understood from the description of various aspect of creation as depicted in 'SHRIMADVĀGĀTAM'¹ which is the gist of all Vedas, Upaniṣds and Pūrānas ascribed 'BRAHMĀ' as the creator of the Universe. In this treatise it is mentioned that when asked by the sage Narada who reaches the 'BRAHMALOKA', Brahman reveals the secret of creation to him. He says that he is regarded as the Creator but in fact, 'Param Pūrūṣa', 'Paramesvara, Vasūdeya, has absolute control over him, and according to his wishes, he (Brahman' is regarded as 'JAGATGŪRŪ' (The Lord of the universe). Elaborating the purpose of creation of Brahman says that just like the Sun, Fire, Moon, stars, planets shed their light being energised by the power of 'ĪSVARA' (GOD), in the same manner he has created the universe on receiving energy from the 'ĪSVARA' who has been assigned as the designer of the Creation of the universe, and Brahman as the Creator.

This dynamicity is best understood from the description of various aspect of cœation as depicted in "ŚRIMADBĀGAVATAM"* ¹ which is the gist of all the Vedas, Upanisds and Puranas ascribed BRAHMĀ as the Creator of the Universe. In this treaties it is mentioned that when asked by the Sage Narada who reaches the BRAHMALOKA, Brahma reveals the secret of creation to him. He says that he is regarded as the Creator, but in fact, Parama Pūrūṣa, Paramesvara, Vasūdeva, has absolute control over him, and according to his wishes, he (Brahmā) created the Universe, for this reason he (Brahmā) is regarded as JAGAT-GURŪ (The Lord of the universe). Elaborating the process of creation of Brahma says that just like the Sun, Fire, Moon, Stars and Planet shed their light being energized by the power of ISVARA (GOD), in the same way he (Brahmā) has created the Universe on reaching energy from the ISVARA, Vasūdeva. Evidently Vasdeva (Nārāyan) or Vīṣṇu has been assigned as the designer of the Creation of the Universe, and Brahmā as the Creator.

Based upon this process this process of creation, Srimadbhagavatam further explains three kinds of pride:-

- (1). The first arising from Jaṅṅa (Wisdom) terming it as VAIKĀRAKA AHANKĀRA.
- (2). The second arising from Karma (Actions as RAJAS AHANKĀRA.
- (3). The third from Dravṣa (Material gain) as TAMASAHANKĀRA.

The Ādi AHANKĀRA, which is the principle one, evolves in the quality and limitation of akas. Sound (Śabda) generated the sense of sight and gives birth to the observer. With the evolution again of ĀKĀŚA, the quality of the senses of touch springs up, and

- *1. Srimadbhāgavatam; 9=(Hindi), Nārāyan Sagar Press, Lucknow, pp-88-91-

the touch realizes the existence of Air (VĀYU). This also contains the quality of sound. Air is the life of the universe, provides energy and light to it. Air then transports light to the planetary bodies. RŪPA (shape) is the quality of the light-energy, and there is the quality of sound and touch of Air and of ĀKĀŚA in RŪPA with evolution of VĀYU the quality of GANDA (perform) springs up, and thereafter gives birth to the Earth. In it there are four quantities of sound-RASA (Water), RŪPA (form) SPARŚA (Touch).

From VAIKĀRIKA AHANKĀRA mind and ten SATWIKDEVAS take birth. These are (i) DISĀ (direction) (ii). VĀYU (air), (iii) SŪRAY (sun), (iv) ASVINIKUMĀR (God of medicine) (v) PRECETA (learned and Varūna-raingod) (vi) (fire) (vii) Indra (king of gods), (viii) UPENDRA (younger brother of Indra) (ix) MITRA (brother and companion of Varūna) and (x) PRAJĀTI Brahma).

From RĀTAS AHANKĀR the following qualities spring up, viz. wisdom, life and also five senses of hearing, sight, smell, taste and touch. These in turn give birth to the five limbs for action, namely mouth, hand, leg, anus and sexual organ. Brahman continued that there was an assemblage of all these qualities, and the result was the formation of the body. The energy of the body; Īśvara then gave life to the actionless Egg - the first Germ, from which a huge person was born with thousands of things, legs, arms, eyes and heads BHŪLOKA (neither world) is situated on the legs of the huge person - VIRĀTA PŪRŪŚA BHŪLOKA (Earth) on the naval; SWARĀLOKA in the heart, and MAHARĪLOKA (the best region) on the chest) Brahma adds that PĀTĀLA (neither world) Earth and heaven) exist on the legs, naval and head of this IDEAL PERSON (Brahman)

From above discussion the dynamic quality of the Eastern philosophy seems to be one of its most important features.

The emphasis on movement, flow and change is not only characteristic of Eastern mystical traditions, but has been an essential aspect of the world view of mysticism of all the ages. In ancient Greece, Heraclitus taught that everything flows and compared the world to an ever-long fire.

The derivation of the word BRAHMAN e.g. from the Sanskrit root BRI to grow and thus suggests a reality which is dynamic and alive. The word BRAHMAN means growth and is suggestive of life, motion and progress.¹ The Upanishads refer to BRAHMAN as this uniformed, immortal, moving,² and with its continuous it transcends all forms.

The Rg Veda uses another term to express the dynamic nature of the Universe, the term RITA. This word comes from the root RI- to move, its original meaning in the Rg Veda being 'the course of all things' the order of nature; it plays an important role in the legends of the gods and connected with all Vedic Gods. The order of nature was conceived as a dynamic principle in the Universe.

There is a Hindu conception of PANCHATANTRA OR FIVE ELEMENTS PERVADE THE EARTH. These are five natural phenomena. They are KSITI (Earth), APA (water), TEJA (fire), MARUTA (Wind) and VOOM (space), while taking into consideration the nature of the dynamic dancing, the ancient

1. S. Radhakrishnan, Indian Philosophy, Allen Unwin, London, 1951.

2. Bihadaranka's PpUpanishad 2.3.3.

Experts and thinkers of the subject took into account these five elements; and more particularly in the case of Tāndava (mainly and viril) and Lāsya (womenly and soft) types of dancing. These two kinds of movements were originated from the three elements - - fire, water and wind, and dance was closely associated with the removing two - earth and up space (VOYM) or Cosmos). Vyom or space or the cosmic region is a place where one gets CHIRANDA (eternal joy) according to Hindu conception - a land of peace, where Siva and his consort 'KĀLI'; dance with their cosmic dance.

The Buddha taught that all compound things are important and that all sufferings in the World arises from our trying to cling to fixed forms - objects, people or ideas, instead of accepting the world as it moves and changes.

Thus it can be realized that the Eastern mystics see the Universe as an inseparable Web is alive, it moves, grows and changes continually.

DANCE OF NATARĀJ : MATTER AND ENERGY.

"A great motif in religion or art; any symbol becomes all things to all men, age after age, it yields to man such a treasure as they find in their own hearts."

..... A.K. Coomarswami.

Matter and Energy are synthesized and man conceived Nataraja as the Supreme Energy or Eternal Force of the Supreme Being. Nataraja was conceived as the Creator of the Universe and the Cosmic Dance was attributed to him. Nataraja has been given innumerable names in Hindu Mythol-

As he is deemed to possess enormous earthly and external powers,

significant names are as follows:-

- (1). Śīva (auspicious, welfare, pious, white, pure).
- (2). Jagat Samaharta (destroyer of the Universe).
- (3). Isāna (GOD of human beings, preserver)
- (3). Kṛttivās (GOD of unmanaginable activities)
- (40). Gīrīs (GOD of living int the mountain)
- (5). Chandraśekara (holding moon on the head)
- (7). Tryambaka (Husband of Dūrgā)
- (8). Dharjatī (having matted hair)
- (9)+ Voymakes (hair adorning the Cosmic space).
- (10). Bhava (gurdian of the Earth).
- (11). Mritūnjoy (who has triumphed over death.
- (12). Mahes and Maheswara (Great GOD).
- (130). Paśupati (God of Paśūs, livings).
- (14). Rūdra (Furious).
- (16). Nara (destroyer).
- (17). Natarāja.

From the above it is evident that Śīva pervades the Universe with all its creation. The last named attribute of Siva is perhaps, the greatest of all names.

Natarāja dances out the creation of the Universe. The manifestation of the world through his creative activity is not the coming into being of a complex objects designed for a pre-ordained purpose. It is not that the God has brought the Universe into being so that men and other living being of a complex object designed for a pre-

determined purpose. It is not the GOD has brought the Universe in to being so that men and other living beings should glory him. Rather is that he dances out the Universe simple as an expression of his luxurian personally, his creative activity is an end itself. He enjoys it . But just as the dancer gets tired so. Natarāj periodically relaxs into inactivity. The Cosmos becōmes chaos and destruction follows the period of creation, as he is both Creator and The Destroyer.

The image of Siva are divided into four classes:-

- (a). The Samhāra Mūrtī (destructive)
- (b). Dakṣīna Mūrtī (Yogic aspect).
- (c). Anūgraha Mūrtī (boon-giving aspect).
- (d). Nrītṭha Mūrtī (dancing aspect).

His gesture are the world process, his speech is the entire language and his custom is the moon and stars. We bow to that Sāttika Śiva.

We come across Śiva's dance in seven different forms:-

- (i). Ānanda Tāṇḍava or the Joyous dance
- (ii). Sandhyā Tāṇḍava is tye dance in the evining.
- (iii) Kālīkā Tāṇḍava is the staying of demons of evil and ignorance.
- (iv). Trīpūra Tāṇḍava the slaying of demon Trīpūra.
- (v) Samhāra Tāṇḍava is the dance of destruction.
- (vi). Gaurī Tāṇḍava is the dance with Gaurī, consort of Siva.
- (vii). Umā Tāṇḍava is the dance with Umā, consort o Śiva.

The Tandava dance represents the GOD's five activities - Pan-cha kṛitya, viz.

- (1). the creation and evolution (Sṛṣṭi),
- (2). maintenance and preservation (Sthitī).
- (3). destruction and involution (Samhāra), Drawing into oneself.
- (4). embodiment of souls (Tirobhāva).
- (5). their release from the cycle (Anūgraha).

These separately considered are the activities of the deities like - Brahmā; Viṣṇu; Rūdra, Maheswara and Sadāśiva. The damarū or drum in his upper right hand stands for creative sound, the fire in the upper left hand for destruction. The PĀTAKA hand which depicts the poses of Abhaya Mūdrās for boon, peace, content and maintenance. The foot held aloft gives release. The cosmic process of destruction and creation, manifestation and non-manifestation, the worldly evolution and change are fundamentals in Hindu theology and Śiva's dance is the depiction of the same.

Śiva dances with symmetrical dances comprising rhythms, the world tries to find out symmetrical dynamics in all its movements for creating matter and energy.

In scientific world all the movement of microscopic and macroscopic matter also also direct towards the symmetry which is considered as beauty, as a guide to truth. This idea is also applicable in the case of different kinds of energies active behind the Universe and this accomplished with the help of Grand Unification Theory or 'GUT'. In this case all kinds of energies are unified; the SUPERFORCE, to direct the Universe towards a symmetrical beauty.

The Superforce is almost similar to that of 'MAHĀSAKTI' propagated by India.

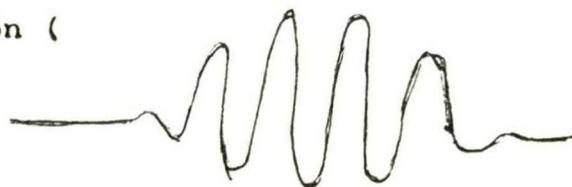
In quantum theory it is discussed from this aspect of nature, it becomes evident that subatomic particles are confined to a small region of space, and move around within the confined space which are known as orbit. The smaller the orbits the faster will the particle revolve around in orbit. This behaviour is a typical 'Quantum effect' and is feature of the subatomic world which has no macroscopic analogy. The following wave pattern, for example, corresponds to a particle located somewhere in the region of 'X' where exactly we cannot say with certainty.



a wave packet.

Fig. 1.

if we want to localize the particles more precisely, i.e. if we want to confine it to a smaller region, we have to squeeze its wave packet into this region (



Squeezing the wave packet into a smaller region.

Fig. 2.

Due to this wave length or the wave packet, and consequently the velocity of the particles undergoes some changes e.g. the more it is confined, the faster it will move. TT The tendency of particles to react to

confinement with motion implies a fundamental 'RESTLESSNESS' of matter which is characteristics of the subatomic world. Again in this world, most of the material particles are bound to the molecular, atomic and nuclear structure as such the material particles are also always in a state of motion. Thus matter is never in static state but always in a state of motion. Again in the vibrating atoms the electrons are bound to the atomic nuclei by electric forces which try to keep them as close as possible, and they respond to the confinement by some moving around extremely fast. In the nuclei, finally, the protons and neutrons are pressed into a minute volume by strong nuclear forces, also move with tremendous velocity.

Thus matter in the modern physics are to be considered as dynamic one. This is also the way in which the Eastern mysticism see the material world. The Universe then, pictures not at all as passive and inert but as being in a continuous dancing and vibrating motion whose rhythmic patterns are determined by the molecular, atomic and nuclear structures. Eastern mystics see the material world. They all emphasize that the Universe has to be grasped dynamically, which has been above as the dances of Śiva or Natarāja.

In physics, we recognized the dynamic nature of the Universe not only when we go to small dimensions- to the domain of atoms and nuclei - but also when we turn to the world of stars and galaxies, now it has been established that the Universe in ceaseless motion. Rotating cloud of hydrogen gas contract to form stars, heating up in the process until they become burning fires in the sky. When they have reached that stage, they still continue to rotate, some of them ejec-

ting material into space which spirals outwards and condenses into a planets circling around the stars. Eventually after millions of years when most of its hydrogen fuel is used up, a star expands, and then contracts again in the final gravitational collapsed. This collapse may be involved gigantic explotations, and may be even turn the star into black hole.

The spinning, contracting, expanding or exploding stars clusters into galaxies of various shapes - flat discs, spheres, spirals etc. which again are not motionless but rotate, Our galaxy, the Milky Way, is an immense disc of stars and gases turning in space like a huge wheel. All its stars including the Sun and its planets - move around the galaxies centre.

VIŚVARŪPA DARŚAN YOGA. (THE LORDS'S TRANSMIGRATION).

In Viśvarūpa Darśan Yoga, a beautiful description of the Universe so far as the varied fuctions like Creation, Sustension and destruction are concerned, depicted in a very quite poetical and logical manner. Here it is proposed that the living beings are susceptible to destruction, creation follows the destruction and these two appear as distinctive ones due to 'TIME' which is relative. 'TIME' is eternal, past, present and future are relative terms used for needful purpose. Here an outline of the structure of the Universe is also evident.

STRUCTURE OF THE UNIVERSE.

In the Kūrūksetra war-field, Arjūna intended to see the divine and mystical form of Lord Kriṣṇa, the Diety and the Lord best.

towed him an eye-divine¹ to see His divine form and power.

Then, Hari, the greatest lord of the possessor of mystic powers, showed to the son of Prithus His SUPREME divine-form having many mouths and eyes, having (within it) many wonderful sight, having many celestial ornaments, having celestial weapons held erect, wearing a celestial flavours and vestments full of every wonder the infinite diety with faces in all directions.² If in the lustures of a thousand Suns burst forth all at once, that would be like the lusture of that mighty one. There the son of Pandu then observed in the body of Gods, the whole of the Universe (all in One). And divided into numerous divisios. Then Dhanajoya filled with amazement and hair-standing on the end, bowed his head before the God, and spoke with joined hands:-

" O God I see within your body the gods as also all the groups of various beings; and all the sages and celestial snake.

1. In all various kinds of diety an eye is imagined to be placed between the two existing eyes which are counted as the third-eye. the eye-divine. This aye could see the divinity of the cosmos; whereas two natural eyes could see the physical world as it is. Likewise in case of man, one should possess the divine-eye or the third eye to see the Divine- Cosmos.
2. Samkara explains it as meaning 'pervading everything'. The expression occurs in the Nrisimha - Tapini Upanisd, where it is said., 'aswithout organ, it sees, hears, goes - takes from all sides and pervadibg everything'.

I see you, who are of countless forms, possessed of many arms, stomachs, mouths and eyes on all sides. I do not see your end or middle or beginning. I see you bearing a cornucopia and a discus - a mass of glory, brilliant on all sides difficult to look at, having on all sides the shining of a blazing fire on the Sun, and indefinable. I believe you to be eternal being. I see void of beginning, middle, having the Sun and the Moon for eyes, having a mouth like a blazing fire and heating the Universe with your radiance. In you groups of gods entering - some being afraid are praying with joint hands, and the groups of great sages and Siddhas are saying 'WELFARE'¹ and praising you with abundance (hymns) of praise. The Rūdras and Ādītyas, the Vasū, the Siddhas are saying two asvīnīs, the Marūtas, and the groups of Gandharvas, Ykṣas, demon and Siddhas are looking at you amazed seeing your mighty forms, with many mouths and eyes, with many arms, thighs and feet with many stomachs and fearful with many jaws, all peoples, and I likewise, was much alarmed. I am much alarmed in my most self and feel no courage, no tranquility. And seeing your mouths terrible by the jaws and resembling the fire of destruction I cannot recognize the (various) directions, All these sons of Dhrīstarāstra together with all the bands of king and Viśma and Drona and this charieters, warriors also rapidly entering in your mouths, fearful and horrific² by (reason of your) jaws and some with head are seen (to be)

1. Seeing signs of some great description, they say, "May it be will with the Universe" and then proceed to pray.

2. By reason of the ruggedness and distortion of face.

struck

struck in the spaces between the teeth. Swallowing all these people, you are licking them over and over again from all sides, with your blazing mouths; O! Viṣṇū filling the whole Universe with (their) shining are heating. Tell me who are you in this fierce form.

In reply the Diety said., "I am death, the destroyer of the worlds, and I am now active about the overthrow of the Worlds. Even the warriors standing before us shall all cease to be. Therefore, be up, obtain glory, and vanquishing (your) foes, enjoy a prosperous kingdom. All these have been killed already by me. Be only the instrument, O Savyasāchin,¹ Drona, Viśma, Joyadrata, Karna and likewise other valiant warriors also, whom I have killed, do you kill".

Arjūna again spoke of fear, "It is quite improper, O! Hriṣīkeṣa that the Universe is delighted and charmed by yours renown, that the demons run away affrightened in all directions and that all the assemblage of the Siddhas bow down (to you). And why, O! high One, should they not bow down to you (who are) greater than Brahman and the first cause. O Infinite Lord of gods, you pervading the

Universe you are indestructible, that which, that which is not, and what is beyond them,² you are the primaval GOD, the ancient being, you are the highest support of the Universe. O you of infinite form you are the wind, Yama, Varūna, the Sun, the Moon, you are the

1. Arjūna, as he could shoot with his left and as well as right hand.

2. This is interpreted as to mean the perceptible, the unpercievrd, and the high principle.

Prajāpatī and the great grandiser obessance, bow down to thee a thousand times again and again obessance to thee. I am delighted at seeing what i had never seen before, and my heart is also alarmed by fear, show me that same form, O God."

EVOLUTION OF THE METHODOLOGY OF STUDY OF SCIENCE
IN EAST AND WEST.

"From the unreal lead me to the real;
From the darkness lead me to light
From death lead me to immortalit.

-- Brīhadāraṇyaka Upaniṣd.

The eternal yrge of studying philosophy, religion and science is reaveal from the identical verses as depicted in the Vedas, Upanoṣads and different kinds of Indian philosophical literature.

An identical idea is recognized in the words of William James in occident :-

"Our normal waking consciousness, rational consciousness, whilst as we call it, is but one special type of consciousness, Whilst all about it, parted from it by the obstacles of screens, there lie potential forms of consciousness entirely different,"

Thus to find out the potential forms of consciousness, from darkness of ignorance, Iiegh Hunt expressed:-

"Lead kindly light, amid the encircling gloom,
Lead Thou on".

The objective attitude of the both the types of disciplines namely (i) Eastern mysticism and (ii) Scientific study ao all

the nature is to unfold the mystery of the Universe, and for the methodology of these two types of disciplines are to be considered for making comparison between the two. Western ideas which has been developing through ages beginning the time of earliest Greek civilization in Europe where science and philosophy had been considered to be identical upto modern science expressed in the highly sophisticated language of modern mathematics.

To establish the proper framework of this comparison we must firstly ask ourselves what kind of knowledge we are taking about? Secondly what kind statements are we going to compare? What are we going to select from the experimental data, equations and theories on the one side, and from the religious scriptures, ancient myths or philosophical treaties on the other?

Throughout history, it has been recognized that the mind is capable of two kinds of knowledge or two modes of consciousness which have been recognized as (1) RATIONAL and (ii) INTUITIVE? These have traditionally been associated with science and religions, respectively. In the West at the early period and in the mediæval period the intuitive, religious types of knowledge is often devalued in favour of rational, scientific knowledge, but in modern time the later type of knowledge becoming predominates due to establishment of new facts.

In the East the values attributed to the two kinds of knowledge, as PARĀVIDYĀ AND APARĀVIDYĀ. Parāvīdyā is the knowledge about the ultimate reality behind the COSMOS whereas Aparāvīdyā bestows knowledge about all things in the world, e.g. science and technology, grammar, material and social etc. Parāvīdyā has been

and technology, grammar and social etc. Paravidua has been deemed to be lower type of knowledge. Notwithstanding the ideas in the Indian philosophical literature both kinds of knowledge are dealt as is evident from the Upanisads where both the types of knowledge are instructed to be followed. Buddhists talk about 'relative' and 'absolute knowledge', or about 'conditional truth' and 'transcendental truth'

Rational knowledge is generally derived from the experience with objects and events in our everyday. The intellect of our mind and head which can divide, compare, measure and categorize. In this way, a world of intellectual distinctions is created and a sense of judgement comes into play and as such, a knowledge, relative is formed. Rational knowledge is a system of abstract concepts, symbols, characterized by the linear, sequential structure which is typical of our thinking and speaking. In most languages this linear structure is expressed by the use of alphabets which serve to communicate and experience and thought in the terms of language.

But in actual senses the world is not so simple but it is full of infinite varieties and complexities. World is a multidimensional one which contains no straight lines or completely regular shapes where things are not happened in consequences as we thought. From the modern physics we are aware that even the empty space is curved, It is clear that our abstract system of conceptual thinking could not experience about the world. Our all rational knowledge is therefore essentially limited.

It is doubtless that the domain of rational knowledge

'is necessarily the realm of science which measures and quantifies, classifies and analysis. But with the developement of modern science the limitations of the rational knowledge has become evident. W.Heisenberg thus states, "that every word of concepts, clear as it may seem to be, has only a limited ranges of application".

For most of us it is very different to be constantly conscious of the limitations and the relativeness of our conceptual knowledge, because we try to understand the reality itself in much easier way and thus could grasp the reality itself. As such we find to confuse the two and to express our concepts and symbols for reality. It is one of the main aims of Indian traditional thinking to get rid of this confusion.

The Eastern view of thinking are concerned with a direct experience of reality which transcends not only intellectual thinking but also sensory perception. In the words of the Upanishd :-

"What is soundless, touchless, formless, imperishable,
Likewise tasteless, constant, odourless,
By discerning THAT, one is liberated from the mouth
of death".

The Buddhists considered knowledge is absolute one which originates from such an experience as it is not based on the discriminations, abstractions and classifications of the intellect which in terms may be considered as relative. According to Buddhism it is the knowledge of SUCHNESS which is undifferentiated, undivided and intermediate.

But it would at the same time true that the central characteristics of all mystical experience of the Western as well.

In Western science of early age which had originated from the philosophy of that time also played a great part in gradual arriving to the experimental science whose methodology of study in the latter age, namely EXPERIMENT, OBSERVATION and INFERENCE. This methodology of studying science in the mediaval age extending from period of renaissance in Europe and Newton. They followed Bacon's methodology but in later ages intuition of human intellect played a great part in forming the scientific attitude of human being. Notwithstanding the Baconian's methodology, the scientists of West have followed the methodology which is much akin to the rational intuitions at some scientific conclusion.

Indian's tradition of repeatedly insists on the fact that the ultimately reality or absolute one is never adequately expressible or reasonable. It never be destroyed by words, it has no form, no shape, in fine, it lies beyond the domain of the senses and of the senses and of the intellect.

"There the eye goes not.

Speech goes not, nor your mind,

We know no, we understand not

How one would teach it. ¹

Absolute knowledge is thus an entirely non-intellectual experience of reality. This arises in an uncommon state of consciousness * 1. Kena Upaniṣd; "The varieties of Religious experience, W. Tames (Fontana, London.

which may be referred as a MEDITATIVE or mystical state, Existence of such state is also indicated by psychological research in West, In the words of William James:-

"Our normal waking consciousness, rational consciousness, as we call it, is but one special type of consciousness, whilst all it, parted from it by the filmist of screens, there lie potential forms of consciousness entirely different. "

Although physicists are mainly concerned with rational knowledge and mystics with intuitive knowledge, both types of knowledge occur in both fields. This fact becomes evident when we examine the how knowledge is acquired both in science and Indian mysticism.

In fine, for an worthy comparison of the two methodology for the disciplines rational producer should be undertaken. The Western science mainly concerned with rational knowledge and Indian with intuitive knowledge, again both types of knowledge occur in both fields. This becomes evident when we examine how knowledge is obtained and how it is expressed both occidental scientific view and Indian scientific mysticism.

It has been marked that in physics the interpretation of experiments are called models or theories, and realization that all models and theories are approximate is basic to modern scientific research, Within the period extending from 600 B.C. upto the later part of the 20th. century physicists knew that their methods of analysis and logical reasoning can never explain the whole domain of natural phenomena at once and so they single out a certain group of phenomena and try to build a model to describe this group. In doing so

they do not take into account and the model will therefore not give a complete description of the real situation. The phenomena which are not taken into account may either have such a small effect that their inclusion would not change the significantly, or they may be left out simply because they are not known at the time when the theory is built.

For illustration, the best known models in physics, Newton's CLASSICAL MECHANICS. Here the effects of all resistance or friction are generally not taken into account in this model, because their effects on this mechanism is negligible one. Again Newtonian mechanics was a long time is considered to be the final theory for the description of all natural phenomena, until electric and magnetic phenomena were discovered. These have not been considered in the classical mechanics. The discovery of the phenomena showed that the model was incomplete as it could be applied only to a limited group of phenomena as to the motion of solid bodies.

There is another reason for the theory to be approximate because of study a limited group of phenomena e.g. physical properties etc. only over a limited range. The aspect of the approximations is quite implicit because we never know beforehand where the limitation of a theory lie. These are known to us due to our experience and intuition. The 20th. century physics showed that classical mechanics is essentially a limited one. Now it is known to us that the Newtonian model is valid only for objects consisting of large numbers of atom only for velocities which are small compared to that of light, In absence of the first condition, classical mechanics has to be replaced by quantum theory, when the second condition is not

satisfied, relativity theory has to be applied. This does not mean that Newton's model is "wrong" or that quantum theory and relativity theory are "right". All these models are approximations which are valid for a certain range of phenomena. Beyond this range, they no longer give a satisfactory description of nature and new models, have to be found to replace the old ones - or, better, to extend them by improving the approximation. Specification of the limitations of a given model is often one of the most difficult, and yet one of the most important tasks in its constitution. According to Geoffrey Chew "Bootstrapping theory" is essential that one should always ask, as soon as a certain model or theory is found to work : why does this work? What are the model's limits? In that way, exactly, is it an approximation? These questions are seen by Chew at the first step towards further progress.

SCIENTIFIC ACHIEVEMENT OF INDIA AND OCCIDENT.

"One wishing to be a philosopher must
learn to be scared"

--- Bertrand Russel.

The scientific achievements of the Indian are closely related to their national character, and this has influenced them on all their work. What strikes most a student of the history of Indian scholarship is the excessive development of the history of the imagination of the Indian. In any work some imagination is absolutely necessary. Not to speak of poetry and philosophy, no hypothesis is possible without imagination. Its exceptional or prominent development, however, becomes a setback; it alienates a person from reality, thus the gulf between fantasy and reality may become unbridgeable.

Bertrand Russel's above mentioned quotation is fully applicable to the Indian method's of work. Such disposition of the people, it is clear, made them take up primarily those sciences which were dominated by the method of speculation. Their inference is of a result of theoretically from some principles established or accepted beforehand on belief. This is why philosophy has been the strongest side of Indian scholarships.

As regards experimental science, one can not say that the Indians did not at all know experiment and observation. On the contrary they were good observer. During the glorious period of Indian philosophy they had got the idea.

Indian physics represents the transition state from pure philosophical speculation to the experimental science. We have number of theories about the structure and evolution of the material

world from the primary substances. From the most ancient we find in India, number of cosmogonic systems gradually passing over from mythological conceptions to distinctive scientific theory. The earliest system is fit to be called scientific is the Samkhya. According to it, the whole world with all its diversely - everything of the nature of unorganized matter, all the plants and the entire world of animals - everything is basically and essentially material. This diversity includes not only the inert mass but also active forces and conscious process. But they in their turns are derived by evolution from one primaval matter, This system cannot be called fully materialistic, for here the consciousness process do not invariably arise out of the materials ones, and a special conscious constituent is assumed to exist separately from matter. This is present in the process of evolution of matter, as it were, but does not participate in it. By itself, it is absolutely inactive. All physical processes are the process of matter and special forces. But among the constitution of matter, there is one that is akin to the spiritual one and is capable of perceiving and reflecting its being. This spiritual element can, however, be safely ignored, for it plays no role in the process of evolution of matter. In all other respects, the system is fully materialistic, for the whole complex process of evolution is accomplished by matter from out of its own forces. Without any outside interference or control of the conscious will. Therefore, in the beginning of the Universe we have only shapeless, indivisible, unbounded, all-pervading, indestructible, eternal primaval matter, which none has created and none controls. But its unity and immoveli-

bity are caused only by the fact that forces flow

bity are caused only by the fact that forces flowing in it are linked in a state of equilibrium, when this equilibrium is discovered under the influence of undetermined transcendental cause the primeval matter is found to have three different constituents i.e.

- (1). the constituents mentioned above, which is capable of developing into consciousness.
- (2). the opposite constituents of inert mass; and the active constituents of inert mass.
- (3). the active constituents of forces or energies.

In the occident, this kind of evolution of thoughts in physics had not been regarded as correct one, due to the deterministic scientific attitude of the World which emerged from Newton's and Rene Descartes. But afterward, as the creation and evolution of the Universe had been deduced from probabilistic and superdeterministic notion of the Universe, the principle of the creation and evolution become identical with the Indian's idea as stated above.

All the three constituents - mass energy and consciousness - are inseparably linked with each other. The primeval matter is a continuous limitless substances. The nature of their interaction is such that one cannot exist independently to the others. Energy cannot exist without mass, the conscious presentation do not occur without energy. The presentation finally obtained depends upon the constituents, that is predominated. Thus e.g. material body in a state of rests shows the predominance mass, energy here mentioned is linked - but the conscious constituent is not developed. The same body in motion shows a dominance of the constituents energy, the mass i.e. resistance is overcome and the conscious constituent become evident.

This idea is almost identical with the Newtonian mechanics, The laws of motion of Newton, where force and inertia of mass, are found to be identical for mass and energy of a moving body in Indian view.

The conscious process begin when the individual particles the elements scattered in differently in the primal matter, arrange themselves from a whole under the influence of natural affinity, This results in uneven pressure in various parts of matter, and a single undifferentiated matter yields to various bodies which go on forming gradually all different from each other.

In Newtonian mechanics this conscious entity may be compared with the affinity of one element for other. With further development of occidental science that the conscious namely, affinities of different elements, not be considered wholly as external one i.e. the energy of the atoms constituting the matter, remains in dormant condition. Within the atoms themselves. This may be designated as the 'atomic energy' which with the expenses of certain mass. The relation of mass energy in Western thought may be considered from the famous Einstein's mass-energy relation namely $E = MC^2$; E - amount of energy; M = mass annihilated; C = velocity of light.

When atomistic view is considered, evolution does not take place only the accumulation of atoms. The atoms are there by they are formed later. There are still three stages of inter-atomic development and the atom is not the first one. Every atom has all the three Universal constituents of primal matter.

In the process of evolution, nothing is added or taken off, matter can neither be created nor destroyed. The sum total of . . .

itu

matter as a whole - its three constituents - remains constant. The atoms of matter are in eternal motion, which cannot stop even for a single moment. Any material process - any growth or decay is nothing but a redistribution of the particles of matter, its transition from past to present, from present to future, from potential to actual state. The distribution of mass and every energy give rise to all the diversity of material world, plants and animals. The process of evolution of primeval matter begins when its three components constituents are separated from each other. Later the separation becomes obvious. All the Indian systems are formulated on the basis that matter, fully determinate and cognizable, consists of a number of sensual activities - of smell, taste, touch, colour and sound. We know that there is no other matter outside these qualities. Therefore there are five forms of matter corresponding to our five senses, and they are called earth, water, fire, air and ether.

In occidental science there are many elements which are formed by the sub-atomic particles - electrons and nucleons and Indian conception of elements are different from the occidental system of elements.

Conservation of mass as well as the conservation of energy during change of one system of atomic form to other remains the same which supports the view of laws of conservation of mass and energy in western science.

In Indian view the energy remains associated with the mass of a substance, this can be shown as follows:- formation and evolution take place at first, in the most subtle rarified primeval matter are formed at separate points.

the nine substances were considered as to comprise all corporal and non-corporal things in Indian philosophical literatures.

In Vaisesika philosophy idea about 'anū' and 'paramānū' are evident, but Vaisesika is not materialism, and it admits non-material substances like 'souls' which are extended, have relation of distance and proximity. Akās, time and space are all-pervading. As a largest quantity present in the world, they are the common receptacle of the real things, soul, manas, akasa, time and space are not ordinarily perceptible. These elements again are divided in two classes- CORPORAL (Mūrta) which have definite dimensions, action and movement and ELEMENTAL (Bhūta) which becomes the material cause of the products of the World.

In the fifth century B.C. the Greek philosophers tried to reconcile the sharp distinction of Heraclitus's idea of BECOMING, an ever moving entity in the Universe and Parmenides's idea of eternal 'BEING' a self controlling, spherical and motionless entity of the Universe. It was assumed that BEING is manifested in some variable substances. Synthesis of these two ideas gave Birth of atomism in west.

The metaphysical idea of the western atomism was finally put forward by Leucippus and Democrites in their atomic theory which may be deemed as the primary qualities of the material and it also the 'mind' or 'soul' is only a particular forms of atomic matter, it is composed of the fire atoms which are smallest and which move about in all directions. It is omnipresent and it is also part and parcel of the human body to some extent. Due to this consciousness appears and this again disappear with the destruction of the body. Thus Greek

atomists drew a clear line between spirit and matter.

Indian's early idea of atomic nature of elements is evident from the conversation of Uddālaka and Ārūṇi in early Upaniṣd viz. in Chhāndogya Upaniṣd, that Universal spirit entered in the chaotic mass of matter. In order to develop name and forms, to be distinguished from each other, the Universal spirit as a loving principle enters into fire, water and earth. After separating their components which are qualitative distinct parts, it made numerous new combinations of them. This idea of Uddālaka may be treated as the atomic theory of Kanada.

Uddālaka established atomic theory of the combination and separation of particles. Some eternal evidence for speculation of the atomic theory had been recognized from the question of Svetaketu to his father Uddalaka. Svetaketu asked how the immensely gross (Atyanta Sthula) physical world come out of the infinitesimal (Atyanta Sūkṣma). In answer it is said due to 'SAT', the root cause, immensely gross element are formed from the infinitesimal particles.

According to Vaisesika view conjunction and disjunction are important so far as the material products are concerned. The process of creation (SRISTI) states that when movement is produced in the separate atoms and it takes them to get joined one another again. The process of dissolution (PRALYA) starts when movement is produced in the atoms consisting body and compels them to get separated from one another.

In Nāya-Vaiśeṣika school it is assumed that the paramāṇus cannot be classified from the stand point of size, shape, weight and density rather, they are classified according to the qualities which they

produced. It is assumed that there are four classes of objects e.g. earth, water, fire and air and there are four classes of corresponding objects. These four classes of paramānūs said to have four classes of touch, colour, taste, smell tangibility, thus special senses reveals a single quality. These four classes of paramānūs said to have four classes of corresponding objects. These four classes of paramānūs said to have four classes of touch, colour, taste, smell, tangibility, thus special reveals a single quality. These always found in their respective atoms. As for earth and the atoms of earth some qualities are produced by heat (Pāka) water, light, and air do not suffer a similar change. In this texts there is also 'pīlūpākhavāda'- the doctrine of the chemical change due to heat takes place in the atoms of themselves.

When Dalton's atomic theories are modified, idea of 'molecule' - the smaller particles consisting at least of two 'atoms' of independent existence, is obtained for an element In Vaiśeṣika - we come across the existence of 'dyād' or 'dyānūka' and then three dyāds combine to form a triad or 'tryānūka'. As the new molecules are formed due to the collision between the energized molecules, having greater energy than the ordinary molecules. In Vaiśeṣika school of philosophy each and every conjunction between atoms does not give rise to a new substance and accordingly the conjunction may be either productive (ārambhaka) or nonproductive.

In the Sāmkhya philosophy the 'tanmātras' are equivalent of the 'paramānūs' or atoms of the Nāya-Vaiśeṣika. The atomists here could understand multiplicity of a sources for the physical world name the atoms which are manifested or VAYAKTA, while the Sāmkhya tries to find out the origin of the

the origin of the atomism to a single cause, namely PRAKRITY or AVAKta . This may be considered as the sub-atomic particles like electrons, protons and neutrons etc. in modern science.

In the Buddhist philosophy the combination of atoms is a 'volitional' (Chetanā) process. This gives impetus to our actions and sets the ball rolling. Different kinds of combinations of two kinds of fundamental particles, nucleons and electrons due to the 'volitional process'

Buddhists generally started by neglecting the existence of every eternal substance. They pictured the world as a photoplay consisting of unceasing flashes of light. Strictly speaking there is no matter, there exist only forces. Modern western science admits these facts from the consideration of the mass-energy equivalent equation of Einstein as $E = MC^2$ and it has been observed in quantum electrodynamic atoms are formed of the energy of the void. The Buddhists, on the whole, were greater negators. They negate the existence not only of God and Soul but also every substance. The soul was replaced by separate mental elements or ideas. The flashes were linked to each other in the regular whole of the Universe only by the fact that their appearances or flashes were regulated by laws of strict causality. There is a new flash of light every moment exactly so, all other material elements i.e. colour, sound, taste and smell and touch are nothing but a chain of receiving flashes. This may be compared with the quantized sub-atomic particles, e.g. electron, proton, positron in the quantum level and neutrons and other sub-atomic particles in the nuclei associated with some energy are responsible for exhibition of the properties of atom, an element.

According to Buddhists not a single atom like this is ever met in nature, rather nature is consisting of complex atoms, each atom having at least eight parts of which four are the nature of primary forces, and the other four of dependent secondary forces. The primary forces are earth, water, fire and air, but what we actually mean by this forces of reflection, adesion, heating and movement. Besides this atom there are four complex atoms each of which has four secondary qualities, just as the atom of colour, the atom of taste, the atom of smell and the atom of touch. Each of these secondary qualities, janas individual element, linked yto the rest only in the sense that it appears simultaneously flashes pout.

The complex atom consisting of eight atoms explained as above, the primary and secondary atoms may be compared q with sub-atomic particles and high energy particles as well.

The atoms organized matter in living bodies is still more complex in structure. These atoms of living body may be recognized as to be identical with the organized cells of the living bodies as their function is found to be to some extent identical with the p function of the living cells. The whole living body is represented as covered with the light matter. It has no weight, it cannot be dissected since a hard object can pass freely through it, no trace of it is found in the dead body. It also had atomic structure. In the same way, we have secondary atoms of matter, which are living, visual, auditory, and which percieves the smell, the taste and the touches.

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INTERPRETATION OF THE 'MAHĀBIJA AUM' IN REFERENCE TO
SOUND OF 'GONG' OF PRIMORDIAL --- THE BIG-BANG.

(THE GREAT CAUSE).

"Om, SacchIdākam Brahman".

Om, the ONE BEING Consciousness Brahman.

"Om" -- A.U.M. means Creation, Preservation, and Destruction but this may be represented as the sound of 'GONG', 'tom', t-o-m. (The 'O' is to be pronounced as 'AW' in dawn). It is the merging of the 'Līla' in the Nītya: the gross, the subtle, and the causal merge in the Great Cause; waking, dream and deep sleep merge in Tūria. The striking of the gong is like the falling of a heavy weight into a bog ocean. Waves began to rise; the Relative rises from the Absolute. Thus waves arising from the Great Ocean merge again in the Great Ocean. From the Absolute to the Relative, and from the Relative to the Absolute. Thus an illustration of the gong's sound is 'TOM' is perceived. It revealed that there exists an Ocean of Consciousness without limit. From it come all things of the relative plane, and in it they merge again. Millions of Brahmanda rise in the 'CIDAKASA' and merge again.

How beautiful, how absolutely beautiful, the Nature of Reality is described in the best elegant manner. The very same idea is brought into the light of understanding for modern people by some contemporary scientific observations? Though the language at times may appear a little comical (for example, the "Big Bang", the essential ideas is the same, no doubt.

The mechanics of creation, the physics of this beautiful Universe in all its Splendour is portrayed in elegant terms. Here

one can see the similarity between the 'GONG' and the 'Bang'. Before space-time was created, before energy and matter were invented. Out of something less than the size of a single atomic particles out of something so infinitely small that it cannot be comprehended, the Primordial Explosion, the Big Bang (the Great Cause) appeared.....expanding, in the first split seconds of space-time, to the size of a grapefruit a little ball of unimaginable Power and Light.

Three minutes later, as space-time spreads out, the luminous Plasma (the causal) appears. It is opaque, filled with highly charged, free moving particles and electromagnetic forces that have to become atoms.

Three hundred thousand years later, under the influence of profound gravitational force, space-time spreads out even more so. The Luminous Plasma becomes the Gragantuan Vapour Clouds (the subtle). These colossal clouds are filled with warm and cool areas, the warmer areas will eventually become the galaxies. Atoms are forming under the influence of gravity. Here one witness the similarity in nature between these Clouds of Cosmic Mist and the 'HIRANYAGARBHA'? the luminous golden embryonic womb of this Universe, the cosmic universal dream state.

Now, in the fabric of space-time, some fifteen billion years later, what we term the present, there exists the Great Wall of Galaxies the Field of Superclusters (the gross). And within each of these innumerable galaxies exist as red giants, while dwarfs, neutron and Pulsars.... like so many personalities, characters, beings and souls. One can mark here the parallel between the great galactic fields, these luminous milky oceans of stars and the conception of 'VIRĀT', i.e. the physical creation itself, the Universal cosmic waking state, the

field of the waking physical creation.... GOD and His Splendour, an e
 field of the waking physical creation.... GOB and His Splendour, an e
 ternity to us is but a twoday experiment, a magic show lasting three or
 five days. The LILA(Cosmic Play) merges in the NITYA(the Eternal), like
 the sound of the gong, gravity(the essential force)reaches its extent
 and then the gross, the subtle and the causal begin to make their re-
 turn to the Great Cause, the Primordial Beginigless Being, what is so
 comocilly called the 'Big Crunçh' in astrphysics. The fabric of space-
 time somehow reverses, the sound of the gongs recedes back into itself,
 but a natural question arise what phenomenal created objects ever go
 forever? These are the elegant and beautiful thoughts given to us from
 the two schools of thought. But the same conclusion is there if we can
 look behind the viel of language, the interesting and funny choice of
 words. The Bang, the Gong, both are humorous in their own ways and both
 illustrate to us some essential truth, some wonders, awe-some reality
 before us, right in front of our faces.

Science (knowledge) speaks to us saying, "Oh yes, we have
 heard these concepts. We have seen these things". Ramkrishna, a great
 seer and devotee of the Mother Kali expressed one of his many experien-
 ces to us, "I have clearly percieved all these things..... millions of
 BRAHMANDAS arise in that CIDAKASA and merge in it again". BRAHMANDA is
 the knowledge Space. Our ideas that are prejudiced us what we think is
 bdy and small limit our perception of reality. Let us consider on the
 smaller scale is the same as the creation of the Universe. Gravity sepa-
 rates from the other. Other is not really described by science. It is a
 continuum a previously existing something is left in question as to its
 Nature. Thep, in the course of thing, the strong, weak and electromagne-

tic forces separate. This jars the formation of Quarks that eventually join together to create particles, which in turn become the nuclei of atoms. And atoms are born. The creation of atoms and galaxies go hand in hand as the fabric of space-time expands.

(D) IDEA OF GOD IN INDIAN PHILOSOPHICAL LITERATURE

AND IN WESTERN VIEW.

"Kasmai devyā habiṣā bīdhema?"

--Rg Veda. X, 121.

"God is conceived as the infinite, external, uncreated personal reality, who has created all that exists out of nothing - Creatio ex nihilo- and who is revealed to human creatures as holy and loving".

--Judio-christian concept of GOD.

The images of God as conceived and portrayed in various religions are mere fancies of an ego-building mind. And almost all concepts of God, are anthropomorphic,* based on man's socio-religious life. In Rg Vedic era the chief objects of worship were the DEVAS, a word cognate with the Latin 'DEUS' - the root from which this word is derived. DIV is connected with brightness and radiance; and the "DEVAS" is considered as "the shining ones". The early gods of the Āryans, like those of the Greeks, were mainly connected with the sky and were mainly male e.g. Indra, Marūts, Sūrya, Agnī, Soma etc. A few goddesses occur in the Rg Veda; e.g. Prithvi, personification of Earth; Aditi the great mother of the gods who is mysterious and slender figure Usas - the goddess of the dawn, Ratri - spirit of the night and Arany-
ānī- the lady of the forest.

* Most theologians speak of God as "personal" rather than "a personal". The latter phrase suggests the picture of magnified human individual. Thinking of the divine in this way is called "anthropomorphism", from the Greek "anthrops" man and shape- in the shape of man".

In the earlier period the ancestors of the Aryans - ~~Ira-~~ndians, Greek, Slaves., Romans and Celts had similar, though not identical, beliefs; As they had entered India their religion had developed far from the old Indo-European peoples, who The great father god of the Indo-European peoples, who appears in Greek as ZEUS and in Latin as JUPITOR, was known to the Aryans as DY AUS, the personified heavens, but his star had already set. Indra, who fulfilled the dual function of war-god and weather-god had many of the characteristics of the Greeks Zeus and the Germanic Thor. Like Zeus and Thor he holdd the thunderbolt (VAJRA), with which he destroyed his enemy. . As the god of rain he slew the evil dragon Vrtra who held back the waters, and thus he broeght rain to the hot and dry land.

Two of Indra's traits connect gods and heroes throught ancient Europe

Two of Indra's traits connect him with Indo-European mythology. where it is mentioned that god Marduk was a dragon-slayer, and a wild rider of the stirm.

The fire-god, AGNI which means simply "fire", and is related to the Latin IGNIS, was the objects of much primitive mysticism and speculation.

Varūna was a god of a type rather different from others and seemed to in importance. Varūna is considered to be identical with the shadowy Greak heaven-god Urans. Varūna is considered to be the gurdian of RITA, the Cosmic Ofder, which is considered as the h highest flight of Rg Veda thought. Rta depended on Varūna, who was s sometimes looked on as its maker, and was thus a sort of creator-god.

Varūna is the severe punisher of sin. Not only did Varuna punish the sins of the individual but, like the Yahweh of the Old Testament, he visited the sins of his ancestors upon him, and his omnipresence ensured that there was no escape for the sinner.

Varūna was first and foremost a king, a mighty emperor sitting in a great palace in the heavens often associated gods around him. Most important of these was MITRA, a god with some solar characteristics. Mitra was represented in the Zoroastrian pantheon, and, under his Greco-Iranian name MITHRAS, was widely worshipped in the Roman Empire in early Christian times.

YAMA, lord of the dead, was a sort of Adam, the first man to die. He became guardian of the World of the Father, where the blessed dead, those who have performed the rites of the Aryans live happily for ever.

Rūdra, like Varūna, had a dangerous side to his character. Rūdra dwelt in the mountains, and was generally an object of fear, who threw his arrows of plague and disaster. He resembled the Greek Apollo in that he was an archer-god, whose arrows brought disease.

In later period of time the words and syllables of the were analysed and, the letters of the alphabet were recognized and personified as eternal divinities. A God, a SUPREME energy is the ruler of these anthropomorphic gods.

The images of God as conceived and portrayed in various religions are mere fancies of an ego-building mind. And almost all concepts of God are anthropomorphic, based on man's socio-religious life.

An almost identical theory to the 'Anthromorphic' principle, namely 'Anthropic' Principle' was first emanated by the astrophysicist Brander Carters who was inspired by the numerical coincidence that have come together in the formation of stars where a constant struggle are going on between the force of gravity and the force of electromagnetism. This observations signifies that activities of observation at all points in time are constantly self-organizing and streaming back through time. This principle of self-organizing properties is due to some act of force which remain unobserved behind the scene.

As a remote period the ancestors of the Aryans, Iranians, Greeks, Romans, Germans, Slavs and Celts had similar, if not identical, beliefs; but by the time the Aryans had entered India their religion had developed far from the old Indo-European faith. The great father god of the Indo-European peoples, who appears in Greek the personified heavens, but his star had already set.

Hindu mythology and the epics abound in gods and goddesses who are mainly embodiments of the father concept or the mother concept as prevalent in the then society. At the top of this hierarchy of gods, demigods, minor gods and goddesses of graded powers there is a sort of Fuehrer-god, who presides over the multiplicity of these shining ones.

Each god must have had his own specific functions and have had his own special devotees and priests, and the Rg Veda is the

result of an imperfect syncretism of many tribal beliefs and cults. In the Vedantic hymns gods are equated or paired together, and there are doubts as to which god is really the greatest. In one hymn this important question is asked as a refrain to every verse -- "Whom, then, shall we honour with our oblations?" Later theologians were so puzzled by this that they decided that there was a god called KA (Who), to whom the hymn was addressed.

According to modern scientists there is a connection of us with the Cosmos again it may be said that we humans are connected to the Universe, to the distant past of the creation and the remote future as well. This idea is quite identical with the ideas of Creation and evolution of the Universe in Indian philosophical literature.

"The thing known is in the knower according to the mode of the knower"

----- Summa Theologica.

Among the great religious traditions, and particularly within their more mystical strands, a distinction is widely realized between the Real or Ultimate or Divine AN SICH (in him/her/itself) and the Real as conceptualized and experienced by human beings. The widespread assumption is the Ultimate Reality is infinite. As such, exceeds the grasp of human thought and language. Thus the describable and experiencible objects of worship and contemplation are not the Ultimate in its limitless reality but the Ultimate in its relationship to finite perceivers. One form of this distinction is the between NIRGUNA Brahman which is without attributes, and is beyond the scope of human thought, and SAGUNA Brahman, which is with attributes, encountered within human experience as Ishvara, the personal creator and governor of the Universe. In the west the Christian mystic Meister Eckhart drew a parallel distinction between the Godhead (Deitas) and God (Deus). The Jewish Kabbalist mystics distinguished between En Soph, the absolute divine reality beyond all human description, and the God of the Bible. Paul Tillich has spoken of * "the God above the God of theism".¹ A.N. Whitehead, and other theologians who follow him, distinguish between the primordial and consequent natures of God; This makes someone to distinguish between the "real God" and the "available" God".² These all seem to be somewhat similar (though not identical) distinctions. If we suppose that the

1. Whitehead, A.N. "The Courage to Be" (New Haven: Yale University Press, 1962) pp-190 2. Gordon Kaufman, "God and the Problem" (Cambridge, Mass: Harvard University Press) * 1972, pp-86.

Real is one but that our human perceptions of the Real are plural and various, we have a basis for the hypothesis,, This is the different streams of religious experience represent diverse awareness of the same limitless transcendent reality This again is perceived in characteristically different ways by different human mentalities, forming and formed by different cultural histories,

Immanuel Kant has provided a philosophical framework within which such a hypothesis can be developed. He suggested the world as it is AN SICH as the noumenal world, and the world as it appears to human consciousness, which he called the phenomenal world. In the interpretation of various kinds, according to one interpretation the phenomenal world IS the noumenal world as humanity experienced. Kant considered that our environment as we perceive it is a joint product of the world itself and the selecting, interpreting, and unifying activity of the perceiver. Kant was concerned mainly with the psychological contribution to our awareness of the world, but the basic principle can also be seen at work on the physiological level. Our sensory equipment is capable of responding to only a minute proportion of the full range of sound and electromagnetic waves - light, radio, infrared, ultraviolet, X, and gamma rays, As a result, the world as we experience it represents a particular selection from the many and richness of the Ultimate Reality.

We may form the hypothesis that the Real AN SICH is experienced by human beings in terms of one of two basic concepts. One is the concept of God, or of the Real experienced as personal, which presides over the theistic forms of religion. The other is the concept

concept of the Absolute, or of the Real experienced as nonpersonal, which presides over the various nontheistic forms of religion. Each of these basic concepts is, however, made more concrete as a range of particular images of God or particular concepts of the Absolute formed within the different religious histories. Thus the Jahweh of the Hebrew Scriptures exists in interaction with the Jewish people. He is a part of their history and they are a part of his; he cannot be abstracted from this particular concrete historical relation. On the otherhand hand, Kṛiṣṇa is a quite different divine figure with its own different and distinctive religious ethos. Based on this basic hypothesis of the reality of the Divine, we may say that Jahweh and Krishna (and likewise, Śiva, and Allah, and the Father of Jesus Christ) are different PERSONAE in streams of which the divine Reality into human consciousness different streams of religious life. These different PERSONAE are thus partly projections of the human consciousness itself as it has been formed by particular historical cultures. From the human end they are our different images of God; from the divine end they are God's PERSONAE in relation to the different human histories of faith.

A similar account will have to be given of the forms of nonpersonal Absolute, or IMPERSONAE, experienced within the different strands of non-theistic religion - Brahman, Nirvana, Sunyata, the Dharma, the Dharmakaya. Here, according to our hypothesis, the same limitless ultimate Reality is being experienced and thought through different forms of the concept of the Real as non-personal.

another point of view for explanation of his proposition. In a Universe in which mind is Software, it is possible to imagine an over-GESTLET of consciousness;¹ a supermind, which encompass all the fundamental fields of nature and takes upon itself the task of ordering the laws of physics.

Davies states, "There would not be a GOD who created everything by supernatural means, B but a directing, controlling, universal mind pervading the COSMOS, and p operating the laws of nature t to achieve some specific purpose. We could describe this state of af affairs by saying that nature is a pròduct of its own technology, an and that the Universe is a mind: a self observing as well as self-organizing system.

Our own minds could then be viewed as localized "ISLANDS" of consciousness in a sea of mind, an idea remóniscent of the oriental conception of mystecism".----- " 2.

¹ 1. GESTLET CONSCIOUSNESS :- Gastelt Consciousness founded by Max Wetheimer and his associates, was based on the assumption that living organization do not percieventhings in terms of isolated elements but in terms of GESTALTEN. This term signifies a meaningful WHOLES which exhibit qualities that are absent in their individual parts. Kurt Goldstein then applied the gastelt view to the treatment of the brain disorders in what he called an organismic approach with the aim of helping people to come in terms with themselves and envie ornment.

2. Davies, Paul, "God and the new Physics" (London, J.M.Dent &son sons, 1983) pp-210.