

Atomism of Maharṣi Kaṇāda

“The Indians came closest to modern ideas of atomism, quantum physics, and other current theories. India developed very early, enduring atomist theories of matter.”

- Dick Teresi, *Lost Discoveries: The Ancient Roots of Modern Science - from the Babylonians to the Maya*

Atomism of Maharṣi Kaṇāda

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DEDICATION

Dedicated to the undying memory of my wife Late Niharika Das, the then Lecturer and Head, Department of History, Cuttack City College, Rajabagicha, Cuttack who suffered from a rare disorder, systemic sclerosis, and was treated in S.C.B. Medical College & Hospital, Cuttack, All India Institute of Medical Sciences, New Delhi and S.G. Post-Graduate Institute of Medical Sciences, Lucknow, but left for her heavenly abode on the 14th of December, 1994 putting an end to all our hopes for her survival.

FOREWORD

Dr. Narayan Mohanty happens to be one of my earliest students in the Post-Graduate Philosophy class at Utkal University. I was then a Teacher Fellow engaging some tutorial classes on the philosophy of Ludwig Wittgenstein and there I got acquainted with him. After joining as a Lecturer in the Department in 1984, I began to teach the philosophy of Wittgenstein. Wittgenstein had been my favorite philosopher since my Post-Graduate days when philosophy of Wittgenstein was my special paper. The early philosophy of Wittgenstein goes under the name of Logical Atomism. I was contemplating that a good research work can be undertaken on Philosophical Atomism, which would include the contributions of Democritus, Leibnitz, Hume, Russell and Wittgenstein. It so happened that Dr. Mohanty came to do M.Phil. in the Department and approached me to be the supervisor of his dissertation. That was in 1987-88. I was happy and instantly offered him the topic. I was confident that he being sincere and studious, could do justice to the topic. And he did. Thereafter, I suggested to him to pursue his Ph.D. work in the same line by taking up the Indian contribution to the self-same field. He completed the project in due time. The whole work was appreciated by the examiners and they recommended for its publication.

Besides teaching, Dr. Mohanty remains busy in social works of different kinds. Perhaps therefore he could not give due attention for its publication. It is gratifying that now he has decided to publish the Indian portion of the thesis in a revised form. This would come in the form of a monograph containing Kaṇāda's Philosophical Atomism. I very much hope that this would be received well by scholars of philosophy and the general public as well.

Kaṇāda, it would appear, anticipated the problems of the Western thinkers, whose names have been mentioned above. It is often said that in India there is no philosophy; only some opinions are expressed by Indian thinkers without justification. But researches of this kind successfully refute such uncharitable and unfounded allegations.

There must be some nationalistic spirit behind Dr. Mohanty's decision to publish the monograph. I am all admiration for his decision and am sanguine that this would inspire the readers to enrich the philosophical-cultural resources of India by doing works of such kind.

396, Paika Nagar
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Date: 01.03.2013

Prof. Ganesh Prasad Das

PREFACE

Long back in 1975, when I was a student of final year Bachelor of Arts (B.A.) class in Ravenshaw College, Cuttack, my article entitled “*Kaṇādaṅka Paramāṇu Tattva*” (Odia) was published in the monthly “Bigyan-Prabha” (3rd year: 1st issue). Little did I know at that time that I would devote myself to the study of Maharṣi Kaṇāda’s atomism in future. I registered my name for Ph.D. work in Utkal University in 1988-89 under the guidance of Prof. Ganesh Prasad Das, and the present monograph is a part of the Ph.D. dissertation entitled “Philosophical Atomism: Indian and Western”. I cannot forget the labour Prof. Das put up in guiding me to prepare the thesis, and it is a pleasure to acknowledge my highest gratitude to him. I also record my indebtedness to Prof. Netrananda Malla for his help and encouragement in preparing the dissertation.

My friends and well-wishers Shri Tapankanti Patnaik (English), Dr. Kamal Lochan Kar (Sanskrit), Dr. Sailendra Narayan Tripathy (English) and Shri Bijaya Kumar Nayak (Philosophy) tried their best to see the monograph printed flawlessly. Also my well-wishers Dr. Sachindra Raul from Bhubaneswar, Shri Swapan Samadder Chaudhury from Kolkata, Dr. Nirmal Kumar Maity from Kolkata, Dr. T.S. Girish Kumar from Kollam and my younger son Shri Nirlipta Ranjan Mohanty from Pune took keen interest in procuring books for me for

reference. Shri Digambar Mahakul, Shri Radhashyam Mishra and Shri Babaji Charan Das did their best in printing of the monograph. I thank them all for their generous gesture to me.

Last but not the least, I am indebted to my elder son Shri Nihar Ranjan Mohanty and daughter-in-law Smt. Mitasri Pattanaik for their support, without which this monograph could not have seen the light of day.

Mallipur
Date: 24.12.2012

Dr. Narayan Mohanty

ATOMISM OF MAHARṢI KAṆĀDA

Generally, we divide the systems of Indian philosophy into two broad classes, namely, *āstika* and *nāstika*. This division is based on the belief in the authority of the Vedas and not in the belief in the existence of God. Nyāya, Vaiśeṣika, Sāṃkhya, Yoga, Mīmāṃsā and Vedānta belong to the *āstika* school and are popularly known as *ṣaḍ-darśanas*. Cārvāka, Buddhism and Jainism belong to the *nāstika* school of thought. However, Madhusudana Sarasvatī's classification of the systems of Indian philosophy (in his *Prasthāna-bheda*) into *āstika* and *nāstika* is a little different from that given above. Though he includes Buddhism, Jainism and Cārvāka in the *nāstika* school, there is no mention of Sāṃkhya in the *āstika* school. Instead, he includes Pañcarātra and Pāśupata as systems belonging to the *āstika* school.

Both the schools, *āstika* and *nāstika*, believe in the atomic theory. Of course, there is no mention of the theory in Cārvāka system. Hence M.Gangopadhyaya says, "...it would perhaps be better to include the Cārvāka into the camp of neither the atomist nor the anti-atomist."¹ Buddhism, as we know, is divided into Hīnayāna and Mahāyāna. Again, Hīnayāna is sub-divided into Sautrāntika and Vaibhāṣika, and Mahāyāna into Mādhyamika and Yogācāra. Hīnayāna believes in the atomic theory while Mahāyāna criticizes it. Jainism advocates the atomic theory and discusses it thoroughly.

Nyāya and Vaiśeṣika are said to be the champions among the atomists. Their theory of causation is known as *Paramāṇu-kāraṇa-vāda*. Generally, we do not include Sāṃkhya and Yoga in the group of the atomists. Mīmāṃsā is divided into Bhaṭṭa

Mīmāṃsā and Prabhākara Mīmāṃsā. Both of them accept the atomic theory in principle. Vedānta is a severe critic of the atomic theory; it criticizes the theory in all its aspects.

As regards the origin of atomism in India, H.Jacobi and H.Ui are of the view that there is no mention of the atomic theory in the Upaniṣads. However, B.Barua holds that the views of Uddālaka Āruni, the first Indian philosopher, contain some hints of atomism. The Upaniṣads may contain some hints of atomism, but there is no mention of it in clear terms.

Again, all the systems of Indian philosophy are divided into idealism, realism and materialism. According to idealism, the existence of the external world is unreal. As idealism denies the reality of the world, the systems included in it naturally oppose the atomic theory. Hence it is natural for Vedānta (Śaṅkara) and Buddhism (Mahāyāna) to oppose the theory. Realism holds that there are things that have their real existence in the objective world. Realism includes Sāṃkhya, Mīmāṃsā (Bhaṭṭa and Prabhākara), Cārvāka, Jainism, Buddhism (Hīnayāna), Nyāya and Vaiśeṣika. But all these systems do not advocate the atomic theory. As noted above, the Sāṃkhya does not subscribe to it. Explaining the circumstances responsible for it, Gangopadhyaya writes,

Of the schools advocating the reality of the world, the Sāṃkhya, perhaps because of its archaic nature, could not fully get over the influence of Upaniṣadic thoughts. But, at the same time, because of strong realistic (and materialistic) tendencies, it was prevented from accepting the one *Brahman*, sentient and immutable, as the root-

cause of the world, non-sentient and diverse. Thus they tried to find a way out of the dilemma by postulating the *pradhāna*, the one but everchanging root-cause of the physical world.²

As noted above, the Mīmāṃsā accepts the atomic theory in principle. Its interest lies elsewhere and, therefore, it does not give serious attention to the theory.

No doubt, Buddhism (Hīnayāna) and Jainism are included in realism. But these are regarded as religious movements. Their primary aim is religious. They accept the reality of the world, but consider “their primary duty to lead one not into but away from the world.” The discussion on atomic theory is secondary to them, their primary aim lies elsewhere.

We said above that Nyāya and Vaiśeṣika are the champions among atomists. Explaining the circumstances responsible for it, Gangopadhyaya writes,

But the Nyāya-Vaiśeṣikas, of all the schools of Indian philosophy, were unique in not having any serious religious affiliation. With their serious methodology, invincible logic and strong common sense, they were best fitted to follow a scientific line of thought without any bias or hindrance. Thus they fought, all along, for the atomic theory and sought to develop it against the relentless tirade of the idealists through the ages for a period extending over about 1500 years.³

According to materialism, the external and the internal worlds are forms of gross matter. Lokāyatikas or Bāhyas are

known as the advocates of this view in India. But they have nothing to do with atomism.

Nyāya and Vaiśeṣika are treated as two allied systems of philosophy. Nyāya takes up the exposition of epistemology and logic, whereas Vaiśeṣika takes up the elaboration of metaphysics and ontology. Generally, Nyāya accepts Vaiśeṣika metaphysics and Vaiśeṣika accepts Nyāya epistemology. Still there are differences between the two. According to Nyāya, there are four sources of knowledge, namely, perception, inference, comparison and testimony. But according to Vaiśeṣika, there are two sources of knowledge, namely, perception and inference. The latter considers comparison and testimony as coming under inference. For Nyāya there are sixteen *padārthas*, whereas for Vaiśeṣika there are seven *padārthas*. In spite of the minor differences, their general outlook remains the same. Hence the two are usually treated together under the joint name Nyāya-Vaiśeṣika.

Maharṣi Kaṇāda is regarded as the founder of the Vaiśeṣika system. He is also called Kaṇabhakṣa or Kaṇabhuj, literally 'the atom eater'. The traditional explanation of the name is that the sage used to live on grains picked up from fields after harvest. But modern scholars like R.Garbe and A.B.Keith "are inclined to see in it a term of mockery bestowed on the philosopher because of his theory of the atoms. The name could thus be only indicative of some original hostility to this system, entertained presumably in the orthodox circle."⁴

It is difficult to ascertain definitely the date of Kaṇāda. "There is every reason to suppose it to be pre-Buddhistic", says Dasgupta.⁵ Radhakrishnan opines that the Vaiśeṣika precedes both Buddhism and Jainism.⁶ Hence Vaiśeṣika is comparatively an

older system of philosophy. "The Vaiśeṣika system seems to be of much greater antiquity than the Nyāya," says Garbe. From this it seems that the atomic theory originated from this system in India.

As stated above, the Nyāya-Vaiśeṣika is said to be the champion among the atomists. They developed atomism and put it on a firm logical foundation. D.P. Chattopadhyaya writes,

There is no doubt that the Jainas, Vaibhāṣikas, Sautrāntikas and even the Mīmāṃsakas gave support to it (atomic hypothesis). But it was not, even in their own eyes, so vital for their systems as it was for the Nyāya-Vaiśeṣikas. Besides, there is nothing to indicate that historically, the admission of atomism in these systems was earlier than the Nyāya and the Vaiśeṣika *sūtras* in which the hypothesis was already seriously posed and defended.⁷

Hence Chattopadhyaya takes the view that atomism of the Nyāya-Vaiśeṣika appears to be new in Indian philosophy.

As mentioned earlier, according to Nyāya, there are sixteen categories or *padārthas* whereas according to Vaiśeṣika, there are seven categories or *padārthas*. All objects of experience are called *padārthas*. Radhakrishnan writes,

The sixteen *padārthas* of the Nyāya are not an analysis of existing things, but are a list of the central topics of the logical science. But the categories of the Vaiśeṣika attempt a complete analysis of the objects of knowledge.⁸

The seven categories of Vaiśeṣika are – substance (*dravya*), quality (*guṇa*), activity (*karma*), generality (*sāmānya*), particularity (*viśeṣa*), inherence (*samavāya*) and non-existence (*abhāva*). Kaṇāda mentioned only three categories; Praśastapāda added three more; still later, the category of *abhāva* was introduced. Of these, substance or *dravya* is the most important one. There are nine substances – earth (*pṛthvī*), water (*ap*), fire (*tejas*), air (*vāyu*), ether (*ākāśa*), time (*kāla*), space (*dik*), self (*ātman*) and mind (*manas*). Out of these, self (*ātman*) is the only non-material entity. All the rest are *jaḍa* and represent the various phases of matter. Hence like other realistic schools, Nyāya-Vaiśeṣika gives more importance on matter. However, Vaiśeṣika is not materialism but realism. The reason is that it admits non-material substance – self (*ātman*).

The first five substances, namely, earth (*pṛthvī*), water (*ap*), fire (*tejas*), air (*vāyu*) and ether (*ākāśa*) are called *bhūtas*. They are substances having some specific quality that can be perceived by one or other of the external senses. Matter, as we meet with it, is a mixture of these five elements, containing one or other in a predominant degree. The first four of these *bhūtas* differ from the fifth in important respects. The only point *ākāśa* has common with the first four is that it provides a sense organ through which alone its own property can be revealed.

Each of the four substances (*bhūtas*), namely, *pṛthvī*, *ap*, *tejas* and *vāyu* has got two forms – eternal (in the form of *paramāṇu*) and non-eternal (as products). By the eternal variety of *pṛthvī*, *ap*, *tejas* and *vāyu*, we mean their atoms; by the non-eternal variety, the products of these atoms.

Paramāṇu (atom) is defined as the ultimate particle of each of the four *mahābhūtas*. The *mahābhūtas* are the result of many contacts of atoms. All material things are made up of the four elements of earth, water, fire and air. But the four elements are themselves changeable and divisible. However, they are not endlessly divisible; the atom marks the limit of division.

Hence according to Vaiśeṣika, the world is produced out of atoms and not from a single ultimate principle. The production of substances out of the atoms occurs in a distinct order. First only two atoms combine to form a dyad (*dvyāṇuka*). Then three dyads combine to form a triad (*tryāṇuka*), also called *trasareṇu* or *reṇu*. The triad (*tryāṇuka*) is the smallest visible substance. Dr. Umesha Mishra puts the same in a reverse order. He writes,

The motes, observed floating in the sun-beam entering a room through a little chink, are called *trasareṇus* and represent the ultimate particles of matter in so far as they are visible. Possessed of magnitude and being amenable to sense perception, these particles must be held to have component parts which, called *dvyāṇukas*, must, in their turn, possess similar constituents of their own for identical reasons. The components of these *dvyāṇukas* are called *paramāṇus* which are indivisible by nature and incapable of further analysis.”⁹

Thus two atoms form a dyad and three dyads form a triad. Neither three atoms nor two dyads together can produce anything. However, Dasgupta writes, “Two, three, four, or five *dvyāṇukas* form themselves into grosser molecules of *tryāṇuka*,

caturaṅka, etc.”¹⁰ with reference to *Nyāya-kandalī*. Moreover, B.N.Seal writes, “...also, atoms have an inherent tendency to unite... either by the atoms falling into groups of threes, fours, etc., direct, or by the successive addition of one atom to each preceding aggregate.”¹¹

The characteristics of the *paramāṇus* are explained by Dr. Umesha Mishra in a very simple manner. He writes, “(1) They are eternal and indivisible. (2) By themselves they cannot produce anything; else their eternal character would involve a continuous process of production. (3) Each of the four kinds of *paramāṇus* possesses its specific attributes, namely, smell, touch, taste and colour. That is, the earthly *paramāṇu* has smell, the airy touch, the watery taste and the fiery colour. (4) They cannot be perceived through any of the organs of sense perception.... This does not deny the possibility of the intuitive perception of the *paramāṇus* by the *yogins*. (5) The attributes inherent in the *paramāṇus* are also eternal except in the case of the earthly *paramāṇus*. (6) The *paramāṇus* are the ultimate material cause (*upādānakāraṇa*) of the universe. (7) They are, both collectively and individually, imperceptible. (8) They possess quiddity (*antyaviśeṣa*) which differentiates one *paramāṇu* from the other.”¹²

There are four classes of *paramāṇus* – earthly *paramāṇu*, airy *paramāṇu*, watery *paramāṇu* and fiery *paramāṇu*. The earthly *paramāṇus* possess attributes of colour, taste, smell and touch; the watery *paramāṇus* of colour, taste and touch; the fiery *paramāṇus* of colour and touch; the airy *paramāṇus* of touch. The attributes of watery, fiery and airy *paramāṇus* are eternal; whereas the attributes of earthly *paramāṇus* are all non-eternal, because they are produced and changed due to the application of

heat. Here the Vaiśeṣika adopts the theory of *pīlupāka*. When a jar is baked, it is resolved into atoms. The application of heat produces red colour in the atoms. Again the atoms are brought together and a new jar is produced.

The *paramāṇus* are said to be globular (*parimaṇḍalya*) though they do not have parts. They are naturally passive; their movement is due to external impact. The atoms are homogeneous in quality. The earthly atoms are qualitatively different from the watery atoms and so on. *Manas* is atomic but it is not made up of parts.

The term '*padārtha*' is not what ordinarily appears to be a substance. According to Vaiśeṣika, there are seven *padārthas* but nine substances (*dravyas*). These nine substances come under one *padārtha*, namely, *dravya*. There is still a different idea, that is, the idea of *bhūta*. The idea of *bhūta* is different from the idea of *padārtha* and the idea of *dravya*. There are only five *bhūtas*. They are earth, water, air, fire and ether (*ākāśa*). Time, space, self and mind are included in *dravyas*, but they are not regarded as *bhūtas*. These five *bhūtas* are the ultimate constituents of the material or physical universe, but the other four are not the constituents of the material or physical universe. The admission of only these five ultimate constituents is not sufficient for the complete conception of the universe.

What we see around us is gross matter and this gross matter comes out of the mixture of the five *bhūtas*. What is perceptible to us is gross matter. What we ordinarily regard as earth, water, air, fire and ether (*ākāśa*) are gross. They are regarded as such because the respective *bhūta* is present to a dominant degree in that gross matter. Some interpreters translate

the term *bhūta* as 'element' of chemistry. There are some others who do not accept such a rendering. The etymological meaning of *bhūta* is 'that which has become'. Accordingly, N.C.Panda thinks that a better rendering of the term *bhūta* is 'phenomenal product'.¹³ Panda puts up a novel interpretation of the Vaiśeṣika view. According to him, the five *bhūtas* are nothing but five states of matter. "Earth, water, air, light and *ākāśa* symbolically represent the solid, liquid, gaseous, luminous or thermal and etheric states of matter, respectively."¹⁴ In this respect, he does not say anything novel; he is only in agreement with what Radhakrishnan already said.¹⁵

However, Panda thinks that the Vaiśeṣika philosophers are ahead of the modern physicists who admit the existence of only three states of matter, namely, solid, liquid and gaseous. That matter could be solid, liquid, gaseous, energetic and ethereal as well is a thinking that is ahead of their age in so far as the evolution of scientific ideas in the West is concerned.

He seeks to defend the Vaiśeṣika from two criticisms made against them. It is alleged that *tejas* which means light or heat is a form of energy. The contention is that the Vaiśeṣikas commit a mistake in regarding energy as a form of matter. Then they also commit another mistake in regarding *ākāśa* as a form of matter because *ākāśa* is nothing; it is a void opposite of matter as the Greek philosophers Leucippus and Democritus put it. According to Panda, both these allegations are unfounded. He appeals to the authority of Einstein who has offered an equation of matter and energy in the form of a small formula, $E = mc^2$. Further, according to Einstein, *ākāśa* is a field which is really full, not empty. Microparticles jump out to appear in the field and

then dip into it to disappear. Accordingly, Vaiśeṣika is more advanced than its critics could think of.

The five *bhūtas* are not, however, the ultimate constituents of the universe. *Ākāśa* is categorially different from the other four *bhūtas*-earth, water, air and light. The latter are atomic whereas the former is not. As we have already said, only for the complete conception of the physical universe, *ākāśa* is clubbed along with earth, water, air and light.

The universe appears to us a complexity of contradictions. Here we find unity and diversity, passivity and activity, perfection and limitation and so on. The philosopher has to face these contradictory principles and has to give his own solution for the problems of the universe. Kaṇāda's atomic theory is an attempt to reconcile the contradictions in the universe. We believe that the Real is uncaused and eternal, but experience shows us that the worldly things are the opposite. If it can be maintained that all perceptible things – which are transient – are the effects of subtle and eternal things that are simple and indivisible, there can be a reconciliation. Kaṇāda tries to bring this about by his atomic theory.

As stated earlier, the Vaiśeṣika believes in two sources of knowledge, namely, perception and inference. Also it has been mentioned earlier that the atoms are not perceptible through our physical senses; they are supersensible. Simply because the atoms are super- sensuous, their existence should not be questioned. The action of certain factors stands in the way of their perception. According to Vaiśeṣika, the presence of magnitude (*mahattva*) in an object is a condition for its perception. As there is no

magnitude in atoms, they are not perceived. Their existence can be proved through inference only.

Kaṇāda and other Vaiśeṣika philosophers give various arguments to prove the existence of atom. The most important argument is based on *reductio*. According to it, some impartite particles with which (i) the process of division comes to an end and (ii) which are the ultimate component parts of things are to be admitted. Otherwise, it would not be possible to speak of such distinctions of things as small, minute, large, huge and the like. These impartite particles are called atoms. To put it otherwise, if there would not be any atoms, then the distinctions of things as small, minute, large, huge and the like would be vacuous. The Vaiśeṣika philosophers argue that if the process of division does not end with the atoms, the mustard-seed (*sarṣapa*) would be as immeasurable (*ameya*) as a mountain (*meru*). Because both *sarṣapa* and *meru* would have to be considered as equally composed of an infinite number of parts. But that there is a difference between *meru* and *sarṣapa* cannot be denied. Hence atoms exist. Gangopadhyaya observes, "...among the atomists, especially the Nyāya-Vaiśeṣikas, *meru-sarṣapa* became almost a byword in the context of the atom."¹⁶

Another argument (inference) runs thus in *Nyāya-kandalī*: "The variation in the degrees of minute magnitude must come to rest somewhere, because it is a kind of variation in the degrees of magnitude; for instance, the variation in the degrees of gross magnitude. And the substance in which it comes to rest – no minuter substance than which is possible – is the atom."¹⁷ The same inference has been cited by the Jaina logician Prabhācandra in *Nyāya-kumuda-candra*.¹⁸ The two philosophers belonging to

two different systems giving the same argument is something rare.

We find that there are also other arguments to prove the existence of atom.

- (1) If there would not be any atom, then there cannot be new creation after *pralaya*. Thus non-existence (*abhāva*) only would prevail.
- (2) We generally believe that the worldly things are non-eternal. The term non-eternal (*anitya*) becomes meaningless without the admission of something eternal. The reason is that if there is nothing eternal in reality, the use of 'non-eternal' to exclude such things becomes unjustified. These eternal things are atoms.
- (3) We mark the changes in the volumes of bodies in the world. The changes are determined by the accession and withdrawal of the atoms composing them. Hence atoms exist.
- (4) If matter is infinitely divisible, then we should have to reduce it to nothing. Moreover, we should have to admit the paradoxical position that magnitudes are built up of what has no magnitude, this is, bodies out of the bodyless.

The Vaiśeṣika philosopher Udayana, in *Lakṣaṇāvalī*, gives another inferential proof for the existence of atoms. Earth-ness (*pr̥thivītvā*) must be resident in something eternal, because it is a universal resident in both a jar and a piece of cloth; as for instance, the universal of existence (*sattā*). By this inference the existence of the eternal atoms is established. Gangopadhyaya remarks, "To understand this rather technical inference given by Udayana to prove the existence of the atom, it is necessary to

have some idea about the Vaiśeṣika view of universal (*sāmānya or jāti*).”¹⁹

As we know, in the Indian tradition, there is a broad division of human enterprises into *Kalā* and *Vidyā* (arts and science). *Vidyā* lays down the theoretical framework for the *Kalā*, which is doing things. The sum-total of all the *Vidyās* is known as the Veda. *Darśana* (philosophy) consists of a general, abstract and critical view about the *Vidyās*. Vedānta, which goes as a particular philosophical system, presents a synoptic and critical view of all *darśanas*. The juxtaposition of the Veda and Vedānta is parallel to the juxtaposition of physics and metaphysics that we find in Aristotle.

In the wide sense, the Vedas contain the perceptions of the wise men who remain anonymous, and nobody in particular claim credit for the precepts and prohibitions. A question which is generally discussed is whether the Vedas are authoritative or not, that is, whether the statements which they contain are valid by themselves or otherwise. The Mīmāṃsaka contends that the Vedas are authoritative and the statements, which they contain, are valid by themselves. This is not acceptable to Kaṇāda. According to him, it is understanding that precedes the composition of sentences in the Vedas (VI,1-1).²⁰ According to the Mīmāṃsaka, words are eternal which implies that meaning of words is not of human origin. It is independent of the ever-changing situation of human beings. They are valid in every situation and circumstance.

In refusing to admit this, Kaṇāda refuses to admit that knowledge is subjective. In this case, knowledge enshrined in the Vedas is not the belief or experience of any human subject, and

hence that does not appear to be subjective on the face of it. But they are intended to be the revelations by a divine subject. Hence that is subjective, although in an extra-ordinary sense. Knowledge is objective when that is available to but not dependent upon particular knowers. Karl R. Popper, a champion of objective knowledge, distinguishes three worlds – (1) the physical world consisting of physical objects and states, (2) the world of our conscious experience and mental states, and (3) the world of the logical contents of books, libraries, computer memories and such like, especially of science and poetic thoughts and works of arts. This third world is autonomous. According to him, knowledge in the objective sense is *knowledge without a knower*: it is *knowledge without a knowing subject*.²¹ Popper admits no more that in order to belong to the third world of objective knowledge, a book should – in principle, or virtually – be capable of being grasped (or deciphered, or understood, or 'known') by somebody.²²

The Vedas constituting a body of knowledge can be regarded as objective and belonging to the third world. It is created by men, yet it is independent of beliefs and ascends of human beings. Even if everything is destroyed and the Vedas alone remain, the whole stock of knowledge can re-emerge. This has happened as Indian mythological stories vouchsafe.

The Vaiśeṣika thinkers regard knowledge as an attribute of the self that is not atomic. The term knowledge is not the exact translation of the term *jñāna* since *jñānas* come and go as attributes of the knowing self. Karl H.Potter suggests that *jñāna* should be better translated as a knowledge. Knowledge is nothing other than a judgment. Hence the near translation of the term *jñāna* would be judgment which might be true or which

might be false. Knowledge in the Western tradition is but true. The Sanskrit term for (true) knowledge is *pramā*.

Although the substratum of the knowledge – self – is not atomic, knowledge – the attribute – is atomic in a sense. It is distinguished into *nirvikalpaka* and *savikalpaka*. There are some scholars who hold that *nirvikalpaka jñāna* is indeterminate knowledge, and *savikalpaka jñāna* is determinate knowledge. *Nirvikalpaka* is a stage in awareness in which one is aware of something, but does not have a word to express the awareness. In *savikalpaka*, one finds the appropriate linguistic expression to describe one's awareness. But other scholars do not accept this interpretation. They rather hold that in *nirvikalpaka*, one has the elements of a judgment that are not yet synthesized. But in *savikalpaka*, they are synthesized and expressed in the form of a proposition.

According to the Nyāya view, that the Vaiśeṣika accepts, all that is knowable is nameable. If we take this view along with the second interpretation of the *savikalpaka – nirvikalpaka* dichotomy, then a view parallel to that of Russell and Wittgenstein may arise. According to Russell, language contains, in the ultimate analysis, atomic propositions. An atomic proposition refers to an atomic situation. An atomic situation consists of an individual with a simple property assigned to it. According to Wittgenstein, all propositions are logical constructs out of elementary propositions. An elementary proposition is a picture of (not a name of, nor refers to) a state-of-affairs. A state-of-affairs is a concatenation of objects. The objects constitute the meaning of names that go to constitute elementary propositions.

But we do not find some such view in the Nyāya-Vaiśeṣika philosophy. According to it, for every proposition it is possible to construct a sentence that carries it. This is the significance of the view that all knowables are nameables rather than that a proposition is the name of a fact or the elements of a proposition, that is, the words, are names of objects. From the above analysis, we may conclude that the Vaiśeṣika philosophers are the externalists without any metaphysical bearing.

Unless the atoms are combined, nothing can be formed out of them. But how the atoms are combined poses a problem for the Vaiśeṣikas as well as all atomists. Gangopadhyaya observes,

The Nyāya-Vaiśeṣika view on the production of a composite thing, called *avayavin* (whole), out of the component parts or *avayava-s* is unique in certain respects. Briefly, in the production of an *avayavin*, the *avayava-s* are the inherent causes (*samavāyi-kāraṇa*) in which the *avayavin* is produced and also subsists through the relation of inherence (*samavāya*), and the peculiar conjunction of the *avayava-s* is the non-inherent cause (*asamavāyi-kāraṇa*). Thus the role of conjunction in this respect is a vital one. Moreover, the *avayavin* is a distinct entity, something over and above the *avayava-s*. It is not a mere collection of the *avayava-s*, but is something extra, having a separate existence of its own.²³

According to Vaiśeṣika, as stated above, conjunction of atoms plays an indispensable role in the production of composite things. So initially a conjunction between two atoms must take place in order to produce a dyad, a dyad being the first product out of the atoms. But conjunction is only possible with the help of movement (*karman*). Hence the question is: Why should there be movement in the atoms at all?

Answering this question, S.Bhaduri, in his *Studies in Nyāya-Vaiśeṣika Metaphysics*, writes,

The cause of creative motion is believed to be *adr̥ṣṭa*, that unseen moral force which guides the destiny of souls according to their *karman* and requires them to be provided with properly equipped bodies and an appropriate objective world for the experience of pleasure and pain. It is due to the operation of this metaempirical force that atoms start moving to get together in order that they may be integrated into countless varieties of things.²⁴

Thus movement in the atoms is due to *adr̥ṣṭa* at the beginning of creation. There is difference of opinion as regards *adr̥ṣṭa* itself. Some equate *adr̥ṣṭa* with the will of God, while others hold that *adr̥ṣṭa* is dependent on God's will, and still others equate *adr̥ṣṭa* with God Himself. But these contentions cannot be accepted, because Kaṇāda himself did not mention God anywhere in his works. And in all presumption he was an atheist. The literal meaning of the word '*adr̥ṣṭa*' is 'unseen'. For Kaṇāda *adr̥ṣṭa* means the unknown cause. This is something the exact nature of which cannot be determined. Nevertheless, its existence has to be

accepted in order to explain certain effects that cannot be explained by any known cause. Hence *adrṣṭa* is unknown cause only. The concept of God is introduced to the system at a later stage.

According to Nyāya-Vaiśeṣika, *Īśvara* desires to bring about dissolution (*pralaya*) in order to secure rest to all living beings. Simultaneously with it, the *adrṣṭa* force residing in all the souls and forming bodies, senses and the gross elements, ceases to operate. As a result of this, no further bodies, senses or other products come into being. Then for bringing about of the dissolution of all produced things, the separation of the atoms takes place. Thus all combinations as bodies or senses are disintegrated and all earth, all *ap*, all *tejas* and all *vāyu* are reduced to the disintegrated atomic state.

Dasgupta observes, "It is not an act of cruelty on the part of *Īśvara* that he brings about dissolution, for he does it to give some rest to the sufferings of the living beings."²⁵

Again, for the sake of experience to be gained by living beings, *Īśvara* desires creation (*sṛṣṭi*). First motion is set up in the atoms of air due to their conjunction under the influence of the 'unseen tendencies' that begin to operate in all souls. The atoms of air unite to form dyads and triads and finally the air. After that appears water, then earth and finally fire. When the four elements are thus conglomerated in the gross form, *Īśvara* creates Brahmā and all the worlds. Then Brahmā is directed by *Īśvara* to do the rest of the work. Dasgupta observes, "*Īśvara* brings about this creation not for any selfish purpose but for the good of all beings."²⁶

According to Kaṇāda, the criterion of existence of something is our assertion to the effect that it exists (I, 2-7).²⁷ Existence is not identical with substance, attribute or action (I,2-8).²⁸ Substances exist, so also attributes and actions. Existence as such is common to all those things that are said to be there. Accordingly, existence is unitary (I,2-16).²⁹

The above quoted aphorism is the last one of the First Book of *Kaṇāda Sūtras*, Sinha's translation. Here ends the second chapter of the First Book in the commentary by Śaṅkara on the Vaiśeṣika aphorisms of Kaṇāda of great powers. This gives the impression as if Acharya Śaṅkara has provided an Advaitic commentary and criticism on the philosophy of pluralism propounded by Kaṇāda.

But it is not so. The accreditations like monism, dualism, pluralism by the European scholars of Indian philosophy and the Indian scholars of Indian philosophy following them, which are deep-seated in our academic up-bringing, are misleading. The above quoted aphorism and some others go to unsettle the doctrine that Vaiśeṣika philosophy is pluralistic.

The Vaiśeṣika philosophers are one with the Advaita Vedāntins that existence is common to everything that is said to exist and, as such, existence (*sat*) is unitary. But existence, according to the Vaiśeṣika, is describable in seven broad categories. These are the categories of thought and expression, not of existents. It is not that the reality is plural, but that the categories which seek to describe reality are plural. It might be better if we refrain from using the epithet 'plural' in order to discuss the philosophy of Vaiśeṣika. In discussing the philosophy

of Kant, we do not say that Kant is a pluralist in the sense in which we say Leibnitz is a pluralist.

There are different substances, but substanceness is one. Attributes are many, but attributeness is one. Actions are plural in number, but actionness is one. But likewise, there is no genusness or speciesness, because both are relative to the understanding (I,2-8).³⁰ According to Kaṇāda, therefore, substanceness is existence, attributeness is existence and actionness is existence. Existenceness is not however plural; it is singular and unitary.

Śaṅkara is a severe critic of the Vaiśeṣika atomic theory. He relentlessly tries to prove that the theory is untenable. He is distinctly antagonistic to the Vaiśeṣika, and tries to show contradictions and inconsistencies in the Vaiśeṣika theory of atom and some of their other conceptions.

According to Śaṅkara, there cannot be any motion in the state of dissolution or *pralaya*. Human effort cannot account for it, because it does not exist as yet. The Vaiśeṣika regards the *adr̥ṣṭa* or unseen principle as the source. Here Śaṅkara raises a question with regard to the locus of *adr̥ṣṭa*. To quote from Radhakrishnan-

If it (*adr̥ṣṭa*) abides in the souls, it cannot affect the atoms (for the two are unrelated); if it abides in the atoms, then as unintelligent it cannot start motion. If the soul is supposed to inhere in the atoms and the unseen principle to be combined with it, then there would be eternal activity, which is opposed to the existence of the state of dissolution.³¹

Moreover, *adrṣṭa* cannot be the cause of movement in the atoms, because it is non-sentient (*acetana*). The non-sentient cannot produce an action out of its own accord, not being acted upon by some sentient being. At this stage, since no consciousness is produced in the soul, the soul remains non-sentient also.

Śaṅkara also raises objections with regard to the combination of atoms. Neither can the atoms combine as wholes nor can they combine in parts. If the atoms combine as wholes, then there is complete interpenetration. So there is no increase of bulk, and the production of things is not possible. On the other hand, if the atoms combine in parts, then the atoms must be regarded as possessing parts. Hence atomic combination as conceived by the Vaiśeṣika is not possible. So at the beginning of creation, no movement in the atoms for conjunction can be produced due to the absence of any cause. Similarly, at the time of dissolution (*pralaya*), no movement in the atoms for disjunction can be produced. *Adrṣṭa* is not accepted as the cause for cosmic dissolution. Thus due to the impossibility of conjunction and disjunction, there cannot be the process of creation and destruction.

As stated earlier, the atom of earth possesses the property of colour, taste, smell and touch. The atom of water possesses colour, taste and touch. The atom of fire possesses the property of colour and touch. The atom of air possesses touch only. Thus the atom of earth possesses more properties than that of air. Here Śaṅkara argues that an increase of properties means an increase in size. But the Vaiśeṣika holds that all atoms are of the same size. This is inconsistent.

Śaṅkara says, the atoms are to be admitted as either productive or non-productive or both or neither. However, none of these four alternatives is tenable. If atoms are productive by nature, productivity being always present, dissolution is impossible. If they are non-productive by nature, non-productivity being always present, creation is impossible. If atoms are both productive and non-productive, it is self-contradictory. If they be of the nature of neither, productivity or non-productivity would require operative causes. The operative causes, like the unseen principle, being always present, there is creation always. Again, if the causes, like *adṛṣṭa*, were admitted to be dispensable, there is absence of creation always. Hence the atomic theory is illogical.

We know from numerous cases of observation that whatever have qualities of colour and other attributes are non-eternal and gross. As the atoms of Vaiśeṣika share the qualities of colour and others, they are gross and non-eternal.

As discussed earlier, the Vaiśeṣika holds that the term 'non-eternal' would be meaningless unless something eternal, such as the atom, is admitted. But the term 'non-eternal' (*anitya*) implies generally that there may be some eternal thing, but it does not imply specifically that an atom is eternal. There is in fact an eternal entity, namely, *Brahman*, the most ultimate cause of the world, Śaṅkara says.

Lastly, Śaṅkara argues that the theory of atoms is to be totally disregarded, as it has not been accepted by the Vedic authority.

Rāmānuja is also a critic of the atomic theory of the Vaiśeṣika. He gives his own arguments to prove the untenability

of the theory. He says, the components like the yarn and others produce the whole like the cloth and others after being conjoined with one another through their own six segments on six sides. Similarly, the atoms too would produce the dyad and others after being conjoined with one another through their own six segments on six sides. Otherwise, if the atoms do not have different segments, then even when thousands of atoms are conjoined with one another, the resulting combination would remain as minute as an atom. On the other hand, if different segments in the atoms are admitted, the atoms too would be composite with reference to their own segments.

Some are of the view that the atomic theory of Vaiśeṣika was influenced by Greek atomism. Rahul Sankrityayan opines that the name Ulūka (the alternative name of Kaṇāda) itself provides evidence of Greek influence on Vaiśeṣika atomism. The owl (*ulūka*) of Athena leaves its impress on the philosophy of the country from which it comes. Thus it comes to be known as *Aulūkyā-darśana*, the philosophy of the owl. Such a peculiar interpretation of the name reflects Sankrityayan's view that Vaiśeṣika atomism came from Greece to India. S.C.Vidyabhusana and A.B. Keith also subscribe to this view.

However, S.Radhakrishnan and D.P. Chattopadhyaya argue against the view, and we fully agree with them. As Radhakrishnan writes,

Apart, however, from the general conception of the atom as the imperceptible unit, there is practically nothing in common between the Greek and the Indian versions of the atomic theory.³²

As the two atomic theories have a number of differences between them, we cannot say that the one influenced the other.

Of course, there is a broad similarity of the situation in which both Vaiśeṣika atomism and Greek atomism developed. D.P.Chattopadhyaya puts it as follows:

In Greek philosophy, Democritus evolved the atomistic hypothesis to offer a rational solution of the problems of his own times, particularly those that were created by his predecessors, viz. Parmenides and Heraclitus. Somewhat like our Upaniṣadic idealists, Parmenides made the one Immutable Being the only reality. Somewhat like our early Buddhists, again, Heraclitus made change or becoming the only reality. The atoms, like the One of Parmenides, were uncreated and eternal, solid and uniform in substance, in themselves incapable of change; but, being in perpetual motion in the void, they wove, by their various combinations and dissolutions, all the pageant of our changing world. Thus was provided an element of eternal rest to satisfy Parmenides and an element of eternal change to satisfy Heraclitus. A world of Being underlay the world of Becoming.... It is not difficult to see the broad similarity of the situation with which our Nyāya-Vaiśeṣikas, too, were confronted. On the one hand, there was the doctrine of the eternal and immutable *Brahman* of the Upaniṣads while, on the other, the doctrine of the perpetual flux of the Buddhists. They could thus have arrived at the

atomistic hypothesis as offering a way out. The atoms, being eternal and immutable, provided for the Being, their conjunctions and dissolutions for the Becoming.³³

Gangopadhyaya quotes B. Faddegon and A. B. Keith as agreeing with D.P.Chattopadhyaya.³⁴

However, the points of difference between them are so large that we cannot hold that the Vaiśeṣika atomism owes its inspiration to Greek thought.

1. According to Democritus, atoms are qualitatively alike, whereas according to Kaṇāda, they are qualitatively different.
2. The Greek view is that the secondary qualities are not inherent in the atoms, while the Indian thinker does not accept this view.
3. According to Democritus, the atoms are in motion by nature, while for Kaṇāda, they are at rest primarily.
4. For Democritus, the atoms constitute souls, but for Kaṇāda, souls are different from atoms.
5. The Greek atomists develop a mechanical view of the universe, God being banished from the world. Though the early Vaiśeṣika does not admit the hypothesis of God, they make *adr̥ṣṭa* central to their whole system.

These are the important points of difference between the Vaiśeṣika and the Greek atomism. So there cannot be Greek influence on the former. As Radhakrishnan says, "...it is easy to find the anticipations of the atomic theory in early Indian thought."³⁵

As stated above, during the ancient period, Kaṇāda of India and Leucippus and Democritus of Greek propounded atomism in philosophy. Their views were topics of discussion in philosophy for about 2000 years. It became a topic of discussion in science in the early part of nineteenth century. John Dalton (1766-1844) of England stated in 1803 the atomic theory in science. He viewed that atoms are the smallest particles of elements, and molecules are the smallest particles of compounds. Dalton's atomic theory may be summarized as follows:

All matters are made of atoms. The atoms are indivisible and indestructible. They are qualitatively alike. Any chemical reaction involves either combination or separation of atoms. Atoms unite in small whole-numbered ratios to form molecules.

The theory of atoms of Dalton was accepted as fully correct for about 100 years. But during the last part of nineteenth century, it needed revision. Particularly, the indivisibility and indestructibility of atoms were discarded in view of the other findings.

The atomic theories propounded by the Vaiśeṣika and other systems of Indian philosophy as well as those developed in Greek during the early period cannot be characterized as scientific theories. Because the atomic theory acquired scientific status only with John Dalton. The British chemist and physicist proved for the first time the existence of atom scientifically.

However, some think the atomic theory of Vaiśeṣika as well as the Greek atomism as scientific in nature. D.P. Chattopadhyaya in his Editorial Note to M. Gangopadhyaya's

Indian Atomism History and Sources writes, "In the investigation of physical phenomena, atomism had undoubtedly been one of the most significant scientific concepts developed in ancient India..."³⁶ Similarly, Gajendragadkar says,

The doctrine of atoms... border on the field of science and could be considered in the light of modern scientific knowledge... Atomism is not a speculative doctrine, in the sense that, it is built up by thought alone, free of the possibility of any kind of a verification by reference to empirical facts.³⁷

Radhakrishnan holds that the Vaiśeṣika standpoint is more scientific than speculative, more analytic than synthetic.

In spite of all these, the Vaiśeṣika atomism cannot be characterized as scientific for the reason given above. Moreover, recent advances in sciences, particularly in physics, are quite unfavourable to atomic theory in general.

Dr. Umesha Mishra is of the opinion that the Nyāya-Vaiśeṣika view is more akin to common sense. He writes,

As the Nyāya and Vaiśeṣika identify their viewpoint with the common sense view and the worldly usage (*laukikapratīti*), they cannot go beyond their limits, and it is perhaps for this that at a certain stage their arguments appear to be not so strong as those of the other schools.³⁸

However, we are of the view that the atomic theory of the Vaiśeṣika is a philosophical doctrine. We agree with Dr. Radhakrishnan who writes,

But in Greece, as well as in India, the hypothesis was put forward as a metaphysical one, and not a scientifically verified principle. In the nature of the case, empirical verification is not possible. It is a conceptual scheme adopted to explain the facts of nature. It is not a matter of observation but a question of principle. Since it bases its claim for acceptance on the ground of the order and harmony which it introduces into our conception of the universe, there is nothing to prevent us from rejecting the hypothesis if we find that it ceases to have explanatory value.³⁹

Earlier he writes,

Kaṇāda formulated the (atomic) theory on purely metaphysical grounds, and tried through it to simplify the world to thought. It was the same with Leucippus and Democritus, for the atomic theory never acquired a serious scientific status until the time of Dalton.⁴⁰

Of course, Gagendragadkar writes, "Kaṇāda's is a genuinely non-metaphysical approach."⁴¹ But we agree with Radhakrishnan that the Vaiśeṣika formulated the atomic theory purely on metaphysical ground.

The author of *Vedānta-paribhāṣā* says – and it is the view of almost all the philosophical systems of India – that *mokṣa* or salvation is the chief among the four *puruṣārthas* or pursuits of life. In order to attain happiness, bliss and salvation, one needs to know the truth about the world and reality. Knowledge of reality is nothing other than knowledge of categories of reality. What

can be said to exist out there, depends upon the concepts and categories and the principles to adjoin them, which are there in our language that we use to talk about the world. It is not that rats and bats, hen and men, kings and cobras are out there existing separately classified by nature. It is we who use language to refer to and give descriptions of different items of experience, make use of such concepts to distinguish some recurrent features from other recurrent features and assign them names. Conversely, concepts also do not lie as receptacles or as intellectual racks in each individual language user in the same way to refer to things and give descriptions in the same way. It depends upon the need and purpose of the linguistic community.

The Vaiśeṣika philosophers deal with the categories of reality like other philosophers, but they are doing it in a more conscious and resolute manner. According to P.T. Raju, however, the distinctiveness of the Vaiśeṣika philosophical categories is that they lay the foundations of an ultimate pluralism.⁴²

According to Kaṇāda, knowledge of Vaiśeṣika philosophy is necessary for happiness and salvation. It is not a mere academic pursuit or satisfaction. "Mere academic and intellectual satisfaction accruing from philosophical studies was considered to be of value only in so far as it was calculated to bring about the happy consummation."⁴³ It is a general charge of Western critics against Indian philosophy that it is otherworldly as it pursues eschatological goals. Thus Baren Faddegon asserts about the Vaiśeṣika that it owes its origin to a purely theoretical attitude of mind and not to craze for liberation, which dominates nearly all forms of Indian thought. According to Daya Krishna, Vaiśeṣika philosophers have literally nothing to do with *mokṣa*. But at the very beginning of the *Vaiśeṣika Sūtras*, Kaṇāda asserts that the

proper object of his philosophy is to expound *dharma* 'virtue' so that men may have *abhyudaya* 'growth or unfoldment in life or character' and attain *niḥśreyasa*. *Mokṣa* and *niḥśreyasa* are regarded as almost the same.

The Vaiśeṣika philosophy is pluralistic but not materialistic. It does not merely recognize that the pursuit of value is confined to the order of material things; it also recognizes that they pursue value in the order of mind as also in the order of soul or spirit. Both mind as well as soul come under the nine *dravyas* (substances). It is significant to note that mind is regarded as atomic whereas soul is not. The status of mind is on a par with the material substances in so far as it is atomic, but soul has a unitary structure. Hence it enjoys an order different from matter and mind. Although soul belongs to a different order from that of matter, matter and spirit remain integral irrespective of moral value.

It has been hinted above that fact and value belong to two different orders. The order of facts is ever-changing and unstable. If the order of value is co-lateral with the order of facts, then value would be ever-changing and unstable too. It does not imply, however, that the stability pertaining to the order of value is an absolute one. The old order of values gives place to the new order because of the change in human situation. There are values that change with the changing situation, and there are values that do not change with the changing situation. The latter concerns the philosopher the most. As Wittgenstein puts it rightly, "If there is any value that does have value, it must lie outside the whole sphere of what happens and is the case. For all that happens and is the case is accidental."⁴⁴ Wittgenstein, who seeks to lay bare the logical structure of descriptive discourse, is of the view that

the objects which are the substances of the world are eternal. According to Vaiśeṣika philosophers, the atoms, which are the ultimate constituents of the world, are eternal. In the words of Karl H.Potter, "It is important for the value theory... that the world should be beginningless and continue through the cosmic process between cycles; atoms must therefore be counted eternal."⁴⁵

It has been argued that if there would not be any atom, then there cannot be creation after dissolution. There would alone be non-existence (*abhāva*). But there could not be a stage of absolute negation (*abhāva*). It cannot be conceived what such a situation of complete dissolution would be. Hence according to the analytic philosophers, it does not make sense to talk of complete dissolution. An Advaita Vedāntic philosopher, Vidyāraṇya, is of the view that the talk of total dissolution involves the fallacy of *jagat-andhatva*.

What exactly is total dissolution? Suppose, all wooden things of the world are destroyed. How could this be? They are either consumed by fire or dissolved in water or eaten away by earth. When an organism goes out of existence, it is either consumed by fire or dissolved in water or eaten away by earth. Whatever the process may be, portions of it go to other elements. It is said that in death the organism gets *pancatva*, that is, the matter of the organism goes back to the five elements. One can conceive of a situation in which water is not there, or fire is not there, or air is not there, or earth is not there, or ether is not there. But what about the situation when none of them is there? There are philosophers who are of the view that water is the primeval reality, or air is the primeval reality, or fire is the primeval reality. The Vaiśeṣika philosophers are of the view that

none of them alone is primeval; all of them are. The talk of the total dissolution is not the postulation of a situation, actual or possible.

According to the Vaiśeṣika, the process of creation and the process of destruction depend on production of movement in atoms. The process of creation (*sṛṣṭi*) starts when movement is produced in the separated atoms and it compels them to get joined to one another. Again, the process of dissolution (*pralaya*) starts when movement is produced in the atoms constituting the body etc. and it compels them to get separated from one another.⁴⁶

The creation and destruction of the universe are generally said to be due to the will of God. The creation and destruction which the human beings effect by the freedom of the will are either due to the will of God really or not of the same order. The Vaiśeṣikas are regarded as secular thinkers; although the allied system Nyāya postulates the existence of God. The joining and disjoining of atoms in creation and destruction respectively can take place with reference to God. Of course, the creation of a movement that is responsible for creation and destruction is said to be due to *adrṣṭa*. But *adrṣṭa*, as we have discussed before, is not a name of a divine being. There are philosophers like Dasgupta who assert that according to Nyāya-Vaiśeṣika view, *Īśvara* wishes to give some rest to all living beings and therefore brings about destruction. He wants to derive the point that the fact of dissolution is not an act of cruelty. But reference to God for this purpose does not appear to be warranted.

There is no agreement among the scholars as to what sort of proof do the Vaiśeṣika philosophers provide in support of

atomism. There are apparently two sorts of ways by which something can be proved - perception and inference. According to some, neither perception nor inference can establish the existence of atoms. Hence no atoms exist. Some like Gajendragadkar say that it is perception, but *a priori* perception.⁴⁷ There is a method or rather there are methods that serve to translate such perception into certain statements. Such methods are formulated by reflective thinking.

Reflective thinking is not analytical thinking.⁴⁸ The scholar is perhaps of the view *a la* Kant that there are both perceptual and conceptual components in the arguments of the atomist. But this does not make the enquiry a factual one. Philosophical enquiry is said to be non-factual. This does not mean that it is the will of the wisp, an airy nothing. It is a critique of other modes of thought as D.F. Pears puts it. There are certain perceptions regarding existence, nature and modification of things in the world. There are certain theories at the level of common sense and science to account for them. There might be more than one such account. It is the philosopher who has the insight that they are inadequate or improper, and he seeks to furnish one that is adequate and proper. There is no harm in saying that the task of explanation and interpretation is *a priori*. If the distinction between *a posteriori* and *a priori* is a valid distinction, it is made precisely this way. What the scientist propounds is labelled as a hypothesis, a theory or a law that is factual and *a posteriori*. What the philosopher propounds is better labelled as a view, a doctrine, a prospective. If the insight that he has is alternatively called as perception and Gajendragadkar means it, then she is right. But what she says at length does not imply it always.

Radhakrishnan's observations in this regard are not all too clear. At one place he says that the hypothesis was put forward as a metaphysical one, and not a scientifically verified principle.⁴⁹ At some other place he says that the Vaiśeṣika standpoint is more scientific than speculative, more analytic than synthetic.⁵⁰ Perhaps he uses the term scientific not in the sense of empirical but in the sense of systematic. Science is a systematic enquiry, but non-scientific enquiries can also be systematic. Scientific theories of atom did not come until the time of John Dalton.⁵¹ Radhakrishnan appears to be speaking in the contemporary idiom when he says further that in case of the atomistic doctrine no verification is possible. It is a conceptual scheme that is adopted to explain the facts of nature. It is not a matter of observation but a question of principle. It has explanatory value in so far as it introduces order and harmony into our conception of the universe.⁵²

Another recent writer M.M. Shanbhag takes science in this sense and says that the Vaiśeṣika system is not a metaphysical enquiry. It is a scientific enquiry which aims at linguistic analysis of the ordinary usages of the conventional language. It seeks to render this language clear, free of loose meaning and define the application of the terms at various levels.⁵³

Some scholars are of the view that the Vaiśeṣika thinking is proto-scientific. It has prompted and motivated scientific thought of the modern time. The proto-scientific thinking is, of course, metaphysical. "But the proto-scientific notions of the Vaiśeṣika remain largely ignored and the significance of its striking world-view is rendered underestimated."⁵⁴

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