THE ANALYSIS OF MATTER IN THE ABHIDHAMMA

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1. Definition of Matter: In the Abhidhamma matter is defined as that which has the characteristic of "*ruppana*". *Ruppana* means the mutability of matter, its susceptibility to being "de-formed, disturbed".

2. *Ruppana* is often paraphrased as *vikara. Vikara* is the alteration matter undergoes owing to such adverse physical conditions as cold and heat. *Vikara* is further explained to mean the "arising of dissimilarity". What this means becomes clear in the context of the theory of moments. According to this theory, both mental and material dhammas, disappear as soon as they appear, without having the time to change. Therefore, what is called change is not the change between two stages in the same dhamma. Rather, it is the disappearance of one dhamma, and the immediate emergence in its place of another dhamma. In a given series of material dhammas, the succeeding dhamma is dissimilar to the preceding dhamma. This is called "the arising of dissimilarity". The occurrence of dissimilarity is due to the adverse physical conditions as heat and cold. Obviously, the reference here is not to the empirically observable change in material things. Rather, it refers to the never-stopping, incessant change in matter.

3. In the Sarvastivada Abhidharma, matter is defined as that which has the characteristic of resistance or impenetrability (*pratighata*), due to the extension of matter in the three dimensions of space. Accordingly, where there is an object with the characteristic of resistance/impenetrability, there cannot be, at the same time, another object which is also having the same characteristic. What is highlighted is the characteristic of spatial extension.

4. This definition is recognized in the Theravada too, but in a different manner. This becomes clear when we examine the definitions given to the four great elements of matter: earth, water, fire, and air. The first is solidity (kakkhalatta) and spatial extension (pattharana). The second is fluidity (davata) and cohesion (bandhanatta). The third is temperature of cold and heat. The fourth is distension (thambhitatta) and mobility (samudirana). These four great elements are necessarily co-existent and position-wise inseparable, and therefore, they are present in all instances of matter. If earth element is solidity and spatial extension and, if it is present in every instance of matter, this means that every instance of matter is characterized by solidity (whatever the degree) and by extension (whatever the extent). This is another way of saying that what is called matter has the characteristic of resistance/impenetrability.

5. Material Dhammas: These are the elementary constituents into which material existence is reduced. They are not entities, but properties. Apart from them, there is no material substance. No material dhamma is either a substance or a quality of any other material dhamma. Buddhism denies the dichotomy between substance (adhara) and qualities (adheya). A material dhamma always exists in inseparable association with a set of other material dhammas. Their aggregation and interaction explain the variety and diversity of our world physical existence.

6. No material dhamma can exist independently. It always exists in inseparable association with a group of other material dhammas. Even the so-called atom (paramanu) is, in the final analysis, a cluster of material dhammas (rupa-kalapa). It is called “atom” because it is the smallest. Although it is the smallest, yet it is a cluster of material elements.

7. There are altogether 28 material dhammas:

Four great material elements: (1) earth, (2) water, (3) fire, and (4) air.

Five sense-organs: (5) organ of sight, (6) organ of hearing, (7) organ of smell, (8) organ of taste, and (9) organ of touch.

Four objective sense-fields: (10) the visible, (11) sound, (12) smell, and (13) taste. (The fifth, which is touch, consists of three primary elements: earth, fire, and air).

Three faculties: (14) faculty of femininity, (15) faculty of masculinity, and (16) material faculty of vitality,

(17) Physical seat of mental activity: heart-base.

(18) Nutriment.

(19) Space-element.

Two modes of self-expression: (20) bodily intimation, and (21) vocal intimation.

Three characteristics of matter: (22) lightness of matter, (23) malleability of matter, and (24) wieldiness of matter.

Four phases of matter: (25) production of matter, (26) continuity of matter, (27) decay of matter, and (28) impermanence of matter.

8. Of the 28 material dhammas, 16 are included in “dhammayatana”, the “sphere of mind-objects”. They are cognized only by mind, through a process of inference. These 16 are called “dhammayatana-rupa”.

9. It is with regard to the category of dhammayatana-rupa, that Buddhist Schools of Thought differ. For the Theravada, it consists of 16 items. For the Sarvastivada, on the other hand, there is only one dhammayatana-rupa, called avijnapti-rupa. The Sautrantikas and the Darstantikas do not recognize any item under dharmayatana-rupa .

10. The Theravada Abhidhamma seeks to establish a link between dhammayatana-rupa and early Buddhist teachings. on the basis of the following canonical passage: “Whatever material form is there, past, present or future, internal or external, gross or subtle, inferior or superior, far or near, all that material form …” (Majjhimanikaya, PTS. III, 16; Samyuttanikaya, PTS, III 47).

11. The above passage uses pairs of words to embraces all aspects of materiality. Two of them are “gross or subtle”, and “far or near”. According to the Abhidhamma exegesis, these two pairs are meant to distinguish dhammayatana-rupa from the rest. The five physical sense organs and the five physical sense

objects are gross, because their presence is easily apprehended through sensory impingement. The other material dhammas, included in dhammayatana, are subtle because they are not easily apprehended. They are known only as objects of mind. Likewise, the other pair, “far or near” is used for the same purpose.

12. It is very unlikely that the Sutta passage has used the two pairs of words in such a technical sense. We can understand them in a direct and literal sense. It seeks to stress on the totality of material phenomena: first with reference to time, second with reference to a given individual, third with reference to the nature of material form, fourth with reference to its quality, and finally with reference to its location. With necessary changes, the formula is applied to the other four aggregates as well, to stress the idea of “all”.

13. The Abhidhamma establishes another link between dhammayatana-rupa and the Sangiti Sutta of the Dighanikaya. This Sutta says that all materiality is of three kinds: (1) visible and impinging (sanidassana-sappatigha), (2) non-visible and impinging (anidassana-sappatigha), and (3) non-visible and non-impinging (anidassana-appatigha).The Sutta does not identify what comes under each heading. The Abhidhamma exegesis interprets “non-visible” and “non-impinging” as an allusion to dhammayatana-rupa.

14. The Real and the Nominal Material Dhammas: Although there are 28 material dhammas, some of them represent certain characteristics or modalities of other material dhammas. The difference between the two groups became more apparent in the light of the commentarial definition of rupa (materiality) as that which has the characteristic of mutability (ruppana). This characteristic could not be applied to all the material dhammas. Hence the commentaries divide them into two groups as nipphanna and anipphanna.

15. Nipphanna means “concretely produced”. It denotes material dhammas produced by the four generative conditions of matter, namely, kamma, consciousness (citta), temperature (utu), and nutriment (ahara).

16. The nipphanna or concretely produced group is called “material matter” (rupa-rupa). Since the term ‘matter’ came to denote certain things devoid of the nature of materiality, its meaning has become unduly stretched. Therefore, the need arose to reduplicate the term, in order to restore its original meaning.

17. The 18 Real Material Dhammas: Four Primary Elements, Five Physical Sense-Organs, Four Objective Fields, Two Faculties of Sex, Heart-Basis, Material Life-Faculty, and Nutriment.

18. The 10 Nominal Material Dhammas: Two Means of Intimation, Space-Element, Three Modes of Matter, Four Characteristics of Matter.

19. Great elements of matter (mahabhuta) and dependent matter (upada-rupa): As to the relative position of the two categories, the great elements of matter are conditions by way of co-nascence

(sahajata), support (nissaya), presence (atthi), and non-disappearance (avigata) in relation to dependent matter.

20. The above conditional relations show that upada-rupas are dependent on the mahabhutas. The mahabhutas are also dependent, not on the upada-rupas, but on themselves. Each mahabhuta depends on the other three and, therefore none of them can arise in isolation from the other three.

21. In some contemporary writings "upada-rupa" is rendered as "derived materiality/matter." "Upada-rupa" is not derived or evolved from the mahabhutas. The notion of "derivation" or "evolution" is not consonant with Buddhist Thought, because it presupposes a dichotomy between substance and quality. The moment we understand upada-rupa as a derivative from mahabhutas, the former become qualities and the latter substances. The distinction between substance and quality has no place in Buddhist thought. Moreover, if upada-rupas are derived from mahabhutas, then the former are reducible to the latter. In such a situation, they forfeit their right to be called as dhammas, for the simple reason that they are no more irreducible factors reality. If this were so, then the list of 28 material dhammas, would get reduced to 4, namely, the four mahabhutas.

MAHABHUTA: THE FOUR GREAT ELEMENTS OF MATTER:

22. Many Schools of Indian Religion and Philosophy recognize five mahabhutas, as elemental substances. These are earth, water, fire, air, and space. From its very beginning, Buddhism has recognized only the first four as mahabhutas. For Buddhism, space is not a mahabhuta. It is of course true that in the Buddhist Discourses, space is sometimes mentioned immediately after the four mahabhutas. But this does not mean space is the fifth mahabhuta, just as much as consciousness which is also mentioned after the five items, is not the sixth mahabhuta. It is true that Buddhist Schools of Thought differ when they explain the nature of space. But they all agree in not recognizing space as a mahabhuta.

23. The Buddhist Discourses describe the mahabhutas in simple and general terms. Their description seems to suggest that early Buddhism did not make a radical departure from their popular conception. However, the use of the term 'dhatu' (element) to describe them seems to imply that they are material properties rather than material entities.

24. In the Abhidhamma, the earth-element is sometimes defined as that which is hard and rigid. But this is only a provisional definition. Strictly speaking the earth element is not that which is hard but hardness itself. We also find it defined as that which has the characteristic of hardness (pathavi-dhatu kakkhalatta-lakkhana). Even this definition is provisional because it creates the wrong impression that the earth element is different from the characteristic of hardness. It shows a duality between the characteristic and what is characterized by it. We need to understand the definitions given to other mahabhutas in the same way.

25. If the earth element represents hardness, it represents softness as well. For softness is the relative absence of hardness. The use of such terms as hard (kakkhala), soft (muduka), smooth (sanha), rigid

(pharusa), heavy (garuka), and light (lahuka) is to bring out the varying degrees of intensity the earth element assumes.

26. The earth element is also defined as that which extends (pattharati ti pathavi). Extension is occupation in space. “Tri-dimensional extension gives rise to our idea of a solid body. As no two bodies can occupy the same space at the same time, Buddhism derives its idea of hardness (kakkhalatta-lakkhana) from pathavi, earth” (S. Z. Aung, Compendium of Philosophy). Thus, spatial extension (pattharana) and solidity (kakkhalatta) are mutually convertible terms. What is extended is solid and what is solid is extended. The earth-element’s function is to act as a sort of fulcrum, or foundation for all other material dhammas. As the Sarvastivadins say, if the ocean supports ships, it is not due to the water-element, but due to the earth-element present in water. If things remain aloft on air, it is not due to the air-element, but due to the earth-element present in air.

27. The water-element represents fluidity (davata) and viscidity (sineha). Its function is to agglutinate or intensify material dhammas. It manifests as binding together, or as cohering material phenomena. This function of the water-element, as the Sarvastivadins say, can be seen in a blazing fire. For the non-broken continuity in a blazing fire is due to the presence therein of the water-element

28. The fire element represents the phenomenon of heat. What, then, is the position of cold? The Sarvastivadins’ position is that cold is represented by the water-element. For the Theravada, cold is the relative absence of heat. Cold and heat are two different modes in which the fire element is experienced.

29. The air-element represents distention and fluctuation, mobility and motion. It stands for the dynamic aspects of material existence. However, when the theory of ‘momentary being’ was developed this definition could not be retained. One logical corollary of ‘momentary being’, is the denial of motion. Momentary material dhammas have no time to move from one locus in space to another. They disappear wherever they appear. Hence motion came to be redefined as “the arising of momentary material dhammas in adjacent locations (desantaruppatti). Accordingly, the air element was defined anew as the cause of the arising of material dhammas in adjacent locations.

30. To sum up, the earth-element signifies solidity and extension; the water-element viscidity and cohesion; the fire-element all degrees of temperature; and the air-element as the cause of mobility and motion. They are not qualities of matter. They are co-ordinate and represent four distinct forces or phenomena in the sphere of matter.

31. The characteristic (lakkhana), function (rasa), and manifestation (paccupatthana) of one mahabhuta differ from those of another. However much one mahabhuta is influenced by the other three, it does not give up its basic characteristic. Another characteristic is their co-existence. They arise, exist, and cease together. Position-wise, they are inseparable (padesato avinibhoga). One cannot be separated from the other three. They do not exist inside each other; if they did they would not be able to perform their respective functions. They do not exist outside each other. If they did, they would be resolvable – in which case the principle of inseparability would not be valid. If both alternatives are not acceptable, it is because the mahabhutas are not discrete material entities. Rather, they are material properties, representing solidity and extension, liquidity and viscidity, heat and cold, distention and mobility.

32. In a given instance of matter, all the four mahabhutas are present, but not in four different places. As material properties they can be distinguished from one another. But they are not position-wise separable. The presence of water-, fire-, and air-elements in a solid thing is inferred from its cohesion, temperature, and mobility. The presence of earth-, fire-, and air-elements in water is shown by its function of supporting, its temperature and mobility. The presence of earth-, water-, and air-elements in a blazing fire is shown by its solidity, cohesion or unbroken continuity, and mobility. The presence of earth-, water-, and fire-elements in the wind is shown by its action of bearing or holding up, its coherence, and its temperature.

33. Although the mahabhutas are present in everything that is material, there is no quantitative difference among them. “There is as much water-element in a blazing fire as the fire-element. There is as much fire-element in a cascading waterfall as the water-element”. If there is a difference in them, it is not due to quantity (pamana), but due to intensity (ussada) or capability (samatthiya).

34. If the mahabhutas are present in equal proportion, how are we to understand their variety and diversity? The diversity is not due to a difference in quantity but due to a difference in intensity (ussada). In a hard object the earth element has more intensity. So does the water-element in water, the fire-element in fire an,d the air-element in air.

35. According to Theravada, the water element is not an object of touch. This element, as we noted, represents fluidity and viscidity. But they are not felt by the sense of touch. As S. Z. Aung, in the Compendium of Philosophy, illustrates this situation: “When one puts his hand into cold water, the softness of water felt is not apo (water-element) but pathavi (earth-element); the cold felt is not apo (water element), but tejo (fire-element); the pressure felt is not apo (water-element), but vayo .” The water-element’s fluidity and viscidity, whatever their degree of intensity, are not felt by the sense of touch. It is known only as an object of mind-consciousness.

36. The relative position of the mahabhutas is neither one of inclusion nor one of exclusion. If both alternatives are not valid, it is because they are not discrete material entities but material properties,

37. In Buddhism the mahabhutas are assigned a truly primary position. In the Samkhya philosophy, for instance, mahabhutas are not irreducible constituents of matter. They evolve immediately from the tanmatras (subtle elements) and ultimately from prakrti, the first cause of the world of non-self. According to Vedanta, the mahabhutas are produced from their corresponding subtle counterparts. For Jainism, the ultimate constituents of matter are not the four mahabhutas , but the homogeneous atoms (paramanu). The Nyaya- Vaisesika postulates four kinds of atoms corresponding to the four elemental substances. This is an attempt to reconcile the older theory of mahabhutas with the later atomic theory.

38. In Buddhism the four mahabhutas are assigned a truly primary position. They are not reducible to one primary substance; nor are they derivatives of any kind of primordial matter. It is of course true that a given instance of matter consists not only of the four mahabhutas. It consists of a set of secondary elements as well, such as colour, smell, and savour. But the secondary elements are themselves dependent on the primary elements. Even the theory of material clusters (rupa-kalapa), which is the Theravada version of atomism, did not reduce the four mahabhutas to a secondary position. For, in every

material cluster, which is the minimal unit of matter, all the four mahabhutas are present. However, as components of phenomenal existence, they are subject to all laws of conditioned existence.