UNSTRUCTURED MATTER

According to 'MATTER (Re-examined)'

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Abstract: Due to the structure of three-dimensional matter-particles and apparent interaction between them, free macrobodies have a natural tendency to gradually reshape themselves to perfect spheres in 3D space. Sub-structured macrobodies tend to increase their existence into the largest number of spatial dimensions. Contrary to this tendency of the macrobodies, pure (unstructured) matter-particles tend to reduce their existence to the minimum number of spatial dimensions. This contradictory behaviour of matter (in its pure state and in sub-structured state) can be shown as the basis of all physical phenomena in nature, including creation, sustenance, (apparent) interactions, and eventual destruction of macrobodies.

Keywords: Matter, unstructured matter, structured matter.

Introduction:

We have three spatial dimensions. We are 3D living rational beings. Generally, we deal with 3D macrobodies. All macrobodies are composite and structured by smaller component 3D matter-particles. At different stages of history, different 3D material bodies were considered as ultimate fundamental particles. There was a time when different elements were considered as fundamental constituents of macrobodies. Later, different molecules and diverse atoms were regarded as most fundamental. Still later, constituents of atoms were discovered to be the fundamental particles. Currently, even these fundamental particles appear to be constituted by primary matter particles of different properties. As our knowledge expands, we are likely to discover the (ultimate) basic 3D matter-particle, in the near future.

Basic matter-particles cannot have different properties. They have to be made of the ultimate and the only substance in nature. They should have the least number of properties and behave identically under similar conditions. Since matter alone can provide a physical body with objective reality and positive existence in space, basic particles in nature have to be made of pure matter. Since it has no sub-structure, basic particles are bits of pure matter with no particular properties or abilities, other than the ability to stay as a single physical body. In order to avoid self-dispersal of its matter-content and sustain its integrity as an independent physical body, its matter-content has to have a certain affinity within itself.

Macrobodies:

All macrobodies are constituted by smaller and inferior 3D matter-particles. Each of these 3D matter-particles itself is an independent macrobody, in its own right. Integrity of a macrobody is preserved by (apparent) attractions between its constituent 3D matter-particles. Simultaneously, fusion by constituent 3D matter-particles, in a macrobody, is prevented by (apparent) repulsion between them. Relative magnitudes of (apparent) attractions and (apparent) repulsions between constituent 3D matter-particles determine many properties of a macrobody. Each constituent of a macrobody (say, atoms or molecules) has a natural location and alignment within it, with respect to its neighbours. In this position, the 3D matter-particle is in a neutral state and in equilibrium with all of its neighbours. There are no resultant external efforts on or by it. Displacement of a constituent 3D matter-particle from its neutral position (by deformation of the macrobody or displacements of its constituents) can cause the exhibition of various physical properties like tension, torsion, compression, (apparent) attraction, (apparent) repulsion, etc., by the 3D matter-particle or by the macrobody. These properties are caused by the structure and alignment of constituent 3D matter-particles of the

macrobody. Therefore, only a structured material body can exhibit these properties, which are results of relative placements and alignments of its constituents.

Because of sub-structures, the range of (apparent) repulsion between its constituent 3D matter-particles in a macrobody is relatively short and the range of (apparent) attraction is very large. Every sub-structure of a macrobody has (apparent) attraction and (apparent) repulsion with every other sub-structure in it. Magnitudes of these efforts, between two points, are the sum of efforts by all sub-structures in between these points. Both (apparent) attraction and (apparent) repulsion are additive efforts and has inverse relation to the distance.

Additive inter-particle efforts in a free macrobody tend to gradually reshape the macrobody towards a perfect geometrical shape in spatial dimension(s) of its existence. Depending on the distribution of sub-matter-particles, macrobody may attain critical stability of its shape as a straight line in (hypothetical) 1D spatial system or as a perfect circular plane in (hypothetical) 2D spatial system. Minute instability in these shapes compels the macrobody to reshape itself as a perfect sphere in a 3D spatial system. This process may also induce spin motion of the macrobody in space. Therefore, we may consider that it is a natural tendency of a free macrobody in space to strive towards a spherical shape (with or without spin motion).

Unstructured matter:

The more fundamental a matter-particle is, the less complicated its structure should become. Ultimately, when the degree of complication is least, a matter-particle should be of pure matter and without sub-structures whatsoever. Obviously, compared to other (currently known) primary/fundamental matter-particles, unstructured matter-particles are of very minute size. We may call such a particle of pure matter a 'quantum of matter'. To analyse its properties, we shall consider a hypothetical quantum of matter, much larger than its real size in all spatial dimensions.

Since matter occupies space and we live and operate in 3D space, all matter-particles have (objective) real existence in all spatial dimensions. However, when its measurement in any spatial dimension becomes too small to be tangible by our standard, it may be assumed as non-existent in that spatial dimension. Thus, a matter-particle with intangible measurement in the third spatial dimension may be considered as a 2D object. Similarly, a matter-particle with intangible measurements in the third and second spatial dimensions may be considered as a 1D object. If an entity is intangible in all three spatial dimensions, it has no objective existence, and it is not real. It is a functional entity.

To maintain its integrity as a single entity, every point within the matter-content of a quantum of matter has to have a certain affinity with all adjoining points. A point, considered here, is a part of the matter-content that has negligible measurements in all spatial dimensions, within the unstructured matter-body of a quantum of matter, in consideration. Affinity (similar to adhesion/cohesion) between the nearest points within pure matter acts somewhat identically to attraction between sub-particles of a macrobody. Since this affinity is not a result of sub-structures in the matter-content, its magnitude will neither be additive nor will it have any relation to the distance.

Every point, within the matter-content of a quantum of matter, has the same magnitude of affinity with every other point within the same quantum of matter. Hence, there are no resultant efforts on these points in any direction. As points on the outer perimeter of quantum of matter have no neighbouring points on their outer sides, they have identical resultant inward affinity. Due to the inward affinity from all points (on the outer perimeter of the matter-content), the outer perimeter of the quantum of matter acts as a container of the included pure matter, without being of any special structure. Resultant of affinity in various directions, at a point on the periphery of quantum of matter is inward and along the normal to the tangent (line or plane) at the perimeter.

If the quantum of matter is in a spherical shape, the resultant affinity at every point on its surface is directed towards its geometrical centre. All efforts being identical in magnitude, they maintain the critical stability of its spherical shape. A change in the shape of a 3D spherical quantum of matter alters the uniformity of its surface curvature. A normal to an altered surface tangent (line or plane) does not pass through its geometrical centre any more. Resolving the resultant efforts of affinity at peripheral points into three perpendicular components each, we notice that the component towards the major axis of the deformed 3D quantum of matter particle is greater than the components towards its minor axes. The matter-content of quantum of matter gradually displaces itself towards the major axis. An unstructured (pure) matter-body, in all

three spatial dimensions, gradually squeezes all its matter-content into a plane (containing its major axis) and thus develops into a 2D object.

If the quantum of matter is in a circular shape, the resultant affinity at every point on its perimeter is directed towards its geometrical centre. All efforts being identical in magnitude, they maintain the critical stability of its circular shape. A change in the shape of a circular 2D quantum of matter alters the uniformity of curvature of its perimeter. The normal to the tangent at the altered perimeter does not pass through its geometrical centre any more. Resolving the resultant efforts of affinity at peripheral points into two perpendicular components each, the component towards the major axis of the deformed quantum of matter is greater than the component towards its minor axis. The matter-content of a 2D quantum of matter gradually displaces itself towards its major axis. An unstructured (pure) matter-body, in two spatial dimensions, gradually squeezes all its matter-content into a straight line (along its major axis) and thus develops into a 1D object.

In the case of a quantum of matter in a 3D spatial state, the above-mentioned reversions into 2D and 1D spatial states may take place simultaneously. Reversion to lower spatial dimensional state(s) is a natural process for unstructured (pure) matter particles. This tendency, in a 3D quantum of matter, may be prevented or reversed by external efforts applied all around, in a 2D plane of its development. Similarly, reversion of a 2D quantum of matter can be prevented (or reversed) by external efforts applied at both ends of its major axis in the straight line of its 1D development.

Should the quantity of pure matter-content in a quantum of matter exceed a certain limit, the reversion mechanism is likely to fragment the quantum of matter into two or more smaller quanta of matter. As there is no mechanism to regulate the quantity of matter-content in quanta of matter, matter-contents in different quanta of matter may differ from each other. All quanta of matter are too small to be tangible by our standards and too small to be observed by our instruments. Their presence can only be inferred logically from their actions on 3D material macrobodies.

We are 3D rational beings, and we consider matter as the real substance only in its 3D spatial state. Hence, a pure matter particle becomes real, in our sense, only in its 3D spatial state. To convert pure matter into the 3D spatial state, certain structuring is essential. Thus, the whole matter in 3D spatial state is structured and only the structured matter constitutes the observable universe. In both 1D and 2D spatial states, matter remains intangible, unobservable and unstructured. In these spatial states, matter may be considered as (some sort of) assumed or functional entity. This does not mean that unstructured matter-particles are unreal or imaginary. These particles of unstructured (pure) matter constitute part of our universe, which 3D rational beings are unable to observe. We are able to observe only structured matter, and the unstructured matter remains forever out of our direct observation. The whole universe is made up of matter, and the entire space is filled with matter (there is no empty or vacant space). Out of this, only (relatively) a small part that is in the 3D spatial state is considered by us as real matter. The rest of the matter that remains unobservable may be considered as functional matter (or even as the ‘dark matter’).

The unique capability of unstructured matter to revert into lower spatial dimensions bestows the quanta of matter with many peculiar abilities. It can be shown that (1). Different quanta of matter in lower spatial dimensions can co-exist at points of their crossings in space and fill entire space outside the basic 3D matter-particles without voids. (2). Quanta of matter of equal matter-contents form latticework structures in planes, which extend to infinity. Separate 2D latticework structures by quanta of matter, in all possible planes, together, form an all-encompassing universal medium that is permanently in a compressed state. Universal medium, made of unstructured matter, is an aether-like entity but with definite constituents, structure and self-sustaining mechanism. It has the ability to act and be acted upon. (3). Universal medium causes and accomplishes all physical actions in nature by direct contact (push) actions, which lead towards diverse physical phenomena. (4). As actions originate from the universal medium and the mechanism of action is similar in all cases, there is only one type of ‘natural force’, which may be categorised into a variety of ‘natural forces’ according to the phenomenon of its association. Etc.

Conclusion:

All physical bodies in the observable universe are constituted by structured matter. Structured matter particles tend to coagulate and strive to form a perfect geometrical shape in the highest possible spatial dimensional state (spherical shape). A matter-particle, in its unstructured state, tends to reduce its existence to minimum spatial dimensions and hence remain hidden from observation of 3D rational beings. The tendency

of matter to occupy spatial dimensions in its structured state and unstructured state is contrary. These contradictory behaviours can be shown to be the basis of all physical phenomena in nature, including creation, sustenance, (apparent) interactions and eventual destruction of every object in our universe.

Reference:

[1] Nainan K. Varghese.: 'MATTER (Re-examined)'. https://www.matterdoc.in/

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