

## What is Matter?

### Does the physicist account of the nature of matter has any role in the dispute between materialist and the immaterialist?

Matter is defined as what has mass, and occupies space. Every particle that can offer inertia, and can be subject to a gravitational attraction is a particle of matter. The totality of particles with mass is the totality of matter in the universe.

Physics is defined as the study of the transformations of matter and energy. So matter is part of the subject matter of physics.

Newtonian Mechanics is the theoretical model developed in base of Newton's theory of gravitation to explain the movements of big particles, or macroscopic particles. This model works extremely well to predict the movement of massive objects like planets, rocks, bullets etc.. This is physics, it is correct. To say that the entities, the particles of matter of this model is all there is, is called mechanists materialism; this is not physics, it is metaphysics. This is what the dispute between materialism and immaterialism is about. Now physics has moved beyond the Newtonian Mechanics. To claim then, that the entities postulated by the current physical model exist, and that it is all there is, is called physicalism. So we can take physicalism, and materialism as somewhat interchangeable terms. The immaterialist claims that such physical entities don't exist.

Physical science has had a spectacular success in the last times. We have internet, cell phones etc, thanks to the advances of science. For an immaterialist matter does not exist. For a materialist matter is the only thing that exist. There is long dispute since the beginnings of philosophy between materialists and immaterialists. The question is, can philosophy receive the help of physics in solving the dispute? After all, If the immaterialist is right about matter, what are the physicists studying? Even if the task of physics is not solving disputes, against any odds the physicist does have a role in the dispute between materialist, and immaterialist.

Physics can't say a word about the immaterialist's claims, nor probe or disprove; but at least can show that the thesis of the materialists, especially the mechanist materialist are insufficient to describe and explain the phenomena that are its subject matter. The physicist can't solve the dispute in philosophy's field, but at least can show the inadequacy of the claims when they are transported to its own field.

Using Kant's distinction between phenomena, and noumena; that is, between how reality appears for us, and how it is in itself, we can say that the claims of materialism and immaterialism are about the noumenal. We can understand the noumenal as the realm of noumenons. A noumenon is an object about which we can think, but can't be an object of our senses. A noumenon can't be perceived, or detected through our senses. Kant says it can't be intuited with our sensible intuition. A noumenon can't be perceived, but we can conceptually admit its possibility, at least problematically. If we perceive a chair for example, that is how a thing appears, how it is, or appears for us, as subjects. We can admit there is a way the chair, or the thing is in itself, that is without relation to any subject. We can think about things in themselves, but we can't know them through or senses. Not all noumenons are thing in themselves. For example we can consider possible worlds as noumenons. We can't perceive a possible world, but we can admit its existence at least as a possibility. A soul is a noumenon, we can conceptually understand what a soul is, but who claims that can perceive a soul? Kant says that the noumenal is unknowable, but he admits its existence. If it is so, at least we know something that it exists. So either it exists, or is unknowable. We can interpret this as saying that it is unknowable as a phenomenon. A Phenomenon is how a thing or event appears from a point of view, from certain conceptual perspective, but we can admit a way the phenomenon is without relation to any point of view, or from the most general point of view. That is, how it is as a noumenon.

The dispute between a materialist, and an immaterialist is about the how things are in themselves. It is about the noumenal. That is, the immaterialist does not deny that there are material phenomena. For the immaterialist there are chairs, trees, cars etc, with all the macroscopic properties that we are familiar with. Only that he claims they exist only in our mind. The material phenomena is how things appear for us, but the immaterialist claims, that is not the way they are in themselves. How things are without any relation to a subject. For example for an immaterialist like Bishop Berkeley things in themselves are minds, or spirits and God. So the claims of the immaterialist are really about the noumenal. If it is so, physics can't really say a word about the dispute between materialism and immaterialism. Physics deals with physical phenomena. That is, how things appear to our senses, and how things are from the point of view of physical science. What it can say at most, is that a gross materialism, or a mechanists materialism is even insufficient to explain and describe all physical phenomena. A mechanists materialism is the kind of

materialism that results in taking the mechanical properties of macroscopic objects and composing out of it a material substance. From the properties of the material substance we can deduct the properties of any macroscopic object. What are the properties of the material macroscopic substance? They are basically in essence Newton's Laws. Here we are using the concept of substance. A very general concept and for Kant it is really a category, it is not something that exist out there. It is for Kant a concept that is applied to experience and that enables us to produce knowledge out of it. Here instead when we talk of material substance, substance is understood loosely as what exists permanently, independently of any subject, is self defined, and does not require of anything else to exist. A substance exists by itself. If in order to define an entity, another entity is required then the first entity is not a substance. In a conceptual model it is the basic entity out of which every other entity is understood. For example for the atomists atoms are substances, and the properties of all bodies are understood from the properties of atoms. A substance exists whether we think about it or not. For example the character Sherlock Holmes of the novels of Conan Doyle is something but not nothing, it is not something substantial, if the texts that refer to the character are burned and we forget about it, Sherlock Holmes as a fiction character simply disappears. A real substance exists permanently, can't perish, can't become nothing or come out of nothing. Substance is defined as what can exist only as a subject. This reflects one of the structures of our language, namely the subject predicate structure. The substance is that about which we predicate something. In a theoretical model of particular phenomena the substances, or substance; are the subjects; whose predicates describe the phenomena. For example, in chemical phenomena the substances are atoms, or molecules. In physics we can talk of fields, subatomic particles etc.

The ultimate substance, or substances, of the model theory of particular phenomena, is that which can only be a subject in that theory. From the predicates of such subject we explain, or deduce the properties of every other entity in that phenomena.

Physics does not have an ultimate substance, or material substance. The reason for this is that there is not a theory of everything, of every physical phenomenon at every scale. There is not one particularly that unites gravitation with quantum mechanics. Even if one is found, we would have just a model limited by our conceptual capabilities, the method of science, and our experimental instruments.

So, if a materialist come and claims that material substance exists, the physicist would ask: About what material substance are you talking about?

The materialist wouldn't be able to give specifics about its material substance. It is just a vague concept.

We should not take concepts from the phenomenal realm and transport them to the noumenal.

At most the materialist can claim: there are objects, which have, using the Heidegger's terminology, "present at hand", and "ready to hand" properties. We can ask, am I one of those objects? What objects are, is enough to express what I am?

When we see, or interpret reality from the point of view of a particular phenomenon, what we have is just a partial view. For example we can't interpret or understand my personal history, or human history from the point of view or quantum mechanics, biology, chemistry etc. That's why the noumenal has in Kant a limiting function.

The same criticism that the physicist applies to materialist can be directed to the immaterialist. The immaterialist can't give specifics about the entities he is talking about when they are applied to physical phenomena. If he is an immaterialist which talks about God, how can we know what kind of God is, and what is he thinking about?

A physicist cannot say that the immaterialist is right, because simply the claims of the immaterialist are out of the scope of the subject matter of physics, and the methods of physical science are not made to test such claims. At the same time we can see that the conclusions of modern science go against any mechanists materialism when applied to the phenomenal. So, physics rejects materialism, and immaterialism claims as vague and insufficient, when they are transported to explain and describe physical phenomena.

## Sources

Kant, Emmanuel. "Critique of Pure Reason." *A Companion to Kant* (n.d.): 109. *Critique of Pure Reason up to the End of the Analytic*. . Jonathan Bennett. Web.

Berkeley, George. "Three Dialogues between Hylas and Philonous in Opposition to Sceptics and Atheists." *The Works of George Berkeley, D.D., Late Bishop of Cloyne in Ireland: To Which Is Added an Account of His Life and Several of His Letters to Thomas Prior, Esq., Dean Gervais, Mr. Pope &c., Vol 1*. (n.d.): 109-224. *Three Dialogues between Hylas and Philonous in Opposition to Sceptics and Atheists*. Web.

Tietz, John. *An Outline and Study Guide to Martin Heidegger's Being and Time*. Frankfurt Am Main: Humanities Online, 2001. Web.