Spacetime and quantum fields

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Einstein's theory of Relativity describes variances of the volume of our universe in a model that is known as "space-time". Quantum field theory describes the volume of our universe as a composition of a limited number of basic quantum fields. Both models exclude each other.

In geometry we can describe every (dynamical) shape with the help of 3 rulers if these rulers have the same metric. If we use just 2 rulers, we can only describe flat surfaces and with 1 ruler we are limited to points and lines. These rulers are termed "dimensions".

Unfortunately, there is a problem. In practise there don't exist 2 dimensional and 1 dimensional phenomena. Even a sheet of 1 atom thickness has a volume, so it is a 3D object. Moreover, if we deform 2 rectangle topological objects under invariant volume – see the cross section in figure 1 – it shows that deformation is only possible if there is an exchange of "stuff" between volume and surface area – and visa versa – of each body.

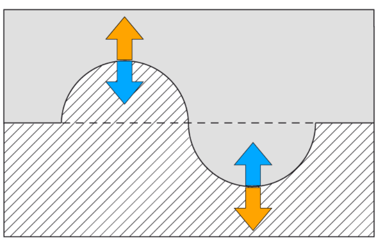

figure 1

Now the question arises if there exists only volume. In other words, what we have termed "surface" is nothing else than the boundary of the volume. The consequence is that 1 and 2 dimensions don't exist, there is only volume.

Discrete space – or quantised space – is supposed to be a dynamical spatial structure that is build up by units with identical basic properties. The consequence is that all these units tessellate the volume of our universe. Figure 2 shows a schematic representation of the concept of discrete space. The concept seems really awkward if we assume that the concept represents phenomenological reality. That means that discrete space represent the observable and detectable *relations* between the phenomena. The concept exists about 2500 years. It originates from the ancient Greek philosopher and mathematician Parmenides of Elea (≈ 500 B.C.). However, Parmenides concept is not about observable reality, his concept is about an underlying reality (the *being* that creates relational reality). That is why we consider Parmenides as the "father" of the ontology (philosophy).

There is no indication that Parmenides' underlying creating reality represents other dimensions than the 3 dimensions we are familiar with. Nevertheless, relational reality – actually phenomenological physics – represents all the changes/dynamics in the universe.[1] Therefore it is reasonable to conclude that Parmenides' underlying creating reality represents the rest frame of the universe. In other words, figure 2 shows in a schematic way the hypothetical rest frame.

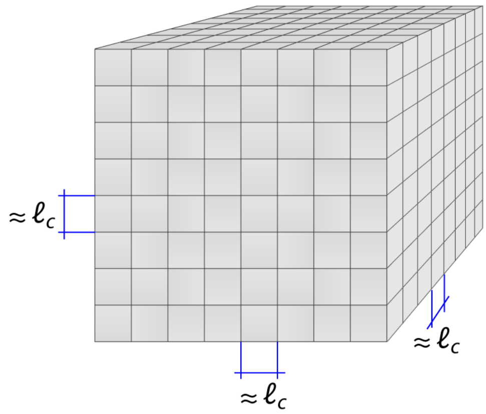

figure 2

Now there arises a problem because Albert Einstein founded his theory of Special relativity on the assumption that our universe has no rest frame. But if the volume of the universe isn't a rest frame with a metric – quantised space – space and time don't exist.

Because if space has no metric – the volume isn't quantised – space is homogeneous. That means that at every position in the universe there exist no variance of local properties. The consequence is that there exists no time either. But that is not what we experience because daily reality is a construct of evolving mutual relations between distinguishable phenomena.

If I relate Newton's concept of absolute space and time to Einstein's concept of spacetime, the latter misses an ontological "component". Einstein's spacetime isn't equal to the quantised volume of our universe and its sequence of internal changes. Spacetime shows to be a model of physical reality that represents phenomenological/relational physics. The consequence is that we cannot "translate" curved spacetime into a theory of quantum gravity because the properties of Einstein's spacetime are already approximately described in terms of quantum fields. Because the general concept of quantum field theory is that phenomenological reality (e.g. particles) are created by the properties of the basic quantum fields that tessellate the volume of the universe.[2]

All the dynamics in the universe originate from the universal electric field and its corresponding magnetic field (together termed *electromagnetic field*).[1] The universal electric field is a 3D topological field (schematic in figure 1) and its corresponding magnetic field is a vector field (schematic arrows A, B in figure 1). Note that vectors are point-like influences that need a rigid medium to be transferred in vacuum space. The universal electric field and the magnetic field are corresponding fields. Local variances of energy generate corresponding vectors and visa versa.

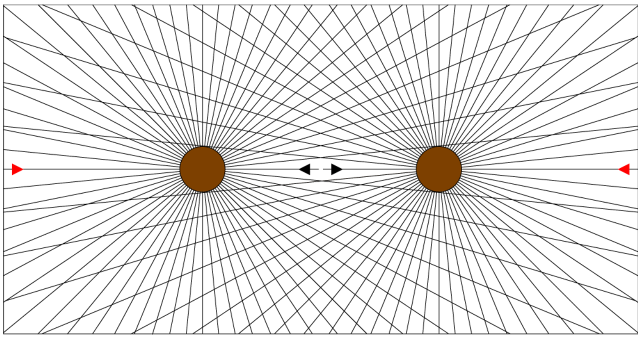

figure 3

Einstein's concept of the force of gravitation is the curvature of "space itself". But that cannot be correct because spacetime represents phenomenological/relational physics (see above). Therefore the force of gravity is part of the dynamics of our universe. The choice is simple: "curved spacetime" is equal to the deformation of the universal electric field in vacuum space around matter.[3]

But what about Newtonian gravity?

Newton's force of gravity is a vector field, generated by the concentrated energy of matter (the vectorisation of the scalars of the flat Higgs field in vacuum space).[4] That means that Newtonian gravity must be a vector field that originate from vacuum space around matter (figure 3).

Vectors don't transfer energy and the consequence is that the influence of Newtonian gravity as a push force from vacuum space around must be instantaneous. In line with Newton's theory of gravity and what the experiments tell us.[5][6][7]

Conclusion: figure 2 as a schematic mathematical model of the structure of the universe doesn't violate phenomenological/relational reality.

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