

6 Paradigm Shifts Required for a TOE

My theory shows how the contradictions between relativity and quantum theory should be solved. The theory is simple, yet challenging insofar as the physicist is confronted with six paradigm shifts:

1. The laws of nature are as they must be for perception to be possible. The laws are not derived from nature, but as with Immanuel Kant and C.F. von Weizsäcker from the way nature can be perceived, i.e. from metaphysics in its narrower sense (= science of language and methodology of physics).
2. The first principle of propositional logic $A \equiv A$ no longer applies. It contradicts itself, since the two A s are always distinct, temporarily or spatially, and are therefore not identical. The identity axiom is replaced by a new “axiom of chirality” which is formulated as in category theory with arrows instead of equals signs, and thus serves as a model for the constant change of nature. Roger Penrose believes it is possible that the problems of theoretical physics can be solved with the category theory.
3. Likewise, I do not use the axiom of infinity because infinity is not perceptible as Albert Einstein and David Hilbert have already established. The mathematics should therefore do without any form of infinity in the description of nature, i.e. in physics, because the objective is to describe what is perceived. This means doing without the continuum, derivative, integration and irrational numbers like π , $\sqrt{2}$ and e . Patrick Suppes has shown that dispensing with the axiom of infinity has a similar effect to dispensing with the parallel postulate in Euclidean geometry. So this opens up similar perspectives to the introduction of curved spaces in general theory of relativity.
4. The usual four entities in physics, i.e. space, time, matter (\approx substance, mass, energy, information) and interaction are replaced by one single entity, the event. The event is the atom of Being. It is defined by me mathematically. This also corresponds to Alfred North Whitehead’s philosophy of process and reality.
5. The concept of the black hole is expanded: There are black mini-holes which are stable due to their high symmetry and black mini-holes within black mini-holes with specific action to the outside.
6. Action without information is non-local and instantaneous, but the information about any change of action travels with light speed.

Six such paradigm shifts at the same time is too much for most scientists. You must forget most of what you have learned at school. But if I let away one of the five shifts, the theory does not work anymore. That’s the main reason, why the rather simple problem of the contradictions between relativity and quantum theory has not been solved by thousands of physicists during the last 100 years. It is impossible to explain all this on 40 pages, but the paper is a rudimentary overview of the strategy for looking for a new physical theory which combines general relativity theory with quantum theory.

