

Sartre and Quantum Physics

(Translation from German with the help of DeepL)

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Sartre often speaks positively about quantum physics. In particular, he prefers the Copenhagen interpretation, which states that man must be included in the analysis as an observer. In this case, the human being, the observer, is the physicist as experimenter. The Copenhagen School claims that quantum physics can only be adequately interpreted if it is not seen as an expression of an independent nature, but as an algorithm that describes the observer's relationship to this nature. Sartre even elevates this insight of quantum physicists to the basis of the only epistemology that can claim validity today.

It is clear why Sartre was delighted with this new physics. For in his philosophy a distinction is made between the independent 'en-soi' and the human 'pour-soi'. The human 'pour-soi' is to be understood as the witnessed 'en-soi'. The independent 'en-soi' is the basis of the testified 'en-soi', but both variants of being must be distinguished. The independent 'en-soi' corresponds to the ontic, insofar as this *is*, the testified 'en-soi' corresponds to the ontic, insofar as this is *revealed by man* through the ontic-ontological difference.

This means that every physical theory is affected by the ontic-ontological difference, i.e. by the difference between the existing and the speech about the existing. Any theory, if it is to be adequate for human existence, must reflect this difference.

An adequate physical theory thus has a dual function: it is a theory about the existing and at the same time it reflects the ontological function of man.

This means: from the point of view of existentialism, a theory that does not include the observer must be insufficient, because such a theory cannot grasp the ontic-ontological difference. One such inadequate theory is, for example, classical mechanics.

The physicist Wolfgang Pauli also confirms this view. He sees quantum physics as the dawn of a new and expanded way of thinking, whose outstanding characteristic is the axiomatic involvement of the observer and the means of observation in theory. In contrast to Max Planck, Sartre and Pauli are of the opinion that science is not about directly depicting the independent real, but rather to elicit real aspects from the independent with the help of the observer and his means of observation. From the point of view of Pauli and Sartre, quantum physics teaches the indivisibility of the situation, that is, the unity of observer, means of observation and physical system.

This concept of indivisibility of the situation is completely foreign to classical physics, for example classical mechanics. It aims directly at the independent real. In this respect, classical mechanics runs the risk of being misused as explicative metaphysics. For Engels and Lenin, for example, classical mechanics was the physical basis of their materialistic worldview. For them, the real consists of some components, space, time, matter and the forces between these matter particles. Everything happening in the world would therefore have to be reduced to these terms. Man, for example, would be nothing more than an ensemble of physical particles and the life plan of this man would be the result of the forces between

these particles. The absurdity of such explicative metaphysics is the reason for Sartre's enthusiasm for quantum physics.

So the philosophical significance of quantum physics goes far beyond physics. It corresponds, as Pauli puts it, to an expanded and new kind of philosophical thinking.

The point is now that Sartre's existentialism is able to provide an ontological justification for the necessity of this expanded way of thinking. This ontological foundation is connected with the original entanglement of man and world. Sartre proceeds from the independence of the ultimate reality, called by him 'en-soi', but this ultimate reality is not yet a world, but only the basis of a world. Only an ontological act, which Sartre calls 'internal neantisation of being', allows an aspect to emerge from independent reality. For Sartre this aspect means the unity of man and world. No person without a world, no world without people, one could formulate briefly.

In this context, Sartre's statement that consciousness is a decompression of being must be understood. The expression 'decompression of being' can be well explained by the example of temporality: temporality corresponds to the ecstatic unity of the three dimensions of time and the world presents itself as this ecstatic unity of past, present and future. In this sense, temporality decompresses being. Sartre also says that temporality is a human visual organ. There are other decompression organs, for example the physicality, the possibility, the technical instruments, theoretical structures such as numbers, mathematics, language and so on. All these instruments for illuminating being contribute to looking at the independent real from a certain perspective and in this way to elicit certain aspects of the ultimate reality. This is also Sartre's concept of truth. The ultimate reality is darkness; truth is illuminating the intransparent.