On a Loophole in Causal Closure: Reply to Berber & Đorđević

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Abstract

In this Reply, I explain why the “loophole view” of causal closure is independent of the reasons why the Principle of the causal closure of the physical was introduced.

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Berber & Đorđević (2022) hit hard on my “loophole view” of causal closure (2017). A major blow is that my redefinition of the principle of the causal closure of the physical goes against the very reason why the principle was introduced. That, though, is not a problem for the “loophole view”. Berber & Đorđević are not explicit about the reasons why the principle was introduced but it is no secret that the scientific revolution was built upon the assumption that the physical should be explained as causally closed. The causal closure of the physical was not introduced as a basic assumption, however, but rather as the principle or hypothesis that we are talking about. Behind the principle, we have the (ancient) basic assumption that everything consists of one kind of things. But why should one claim causal closure if everything consists of just one kind of things? Well – because the basic assumption can be understood in two different ways. First, if everything consists of *the same* kind of things, we do not need causal closure as an add-on. Second, if everything consists of one kind of things, some things may consist of *a:s* and some other things of *b:s*.

To secure the foundation of the scientific revolution, one had to ensure the causal closure of the physical with a hypothesis or principle, but the underlying basic assumption was (and is) that everything consists of just one kind of things. This basic assumption may be right or wrong. To enable scientific research, however, each ontological domain must be seen as causally closed.

If we call an ontological domain of things consisting of one kind of things a *homogeneous* domain, an expansion of ontology would be to consider ontologically *heterogeneous* domains. The corresponding basic assumption would be that there may be things consisting of more than one kind of things. To enable scientific research, we would have to introduce the principle of causal closure, but we would have the option to redefine it so that the potential different homogeneous domains did not causally affect one another (directly) while heterogeneous domains would be open to causally interact

with homogeneous domains. I hinted at one such eventuality in (2017). Spelled out, the singularity behind the Big Bang would be a heterogeneous domain causing the physical universe. Since we know of mathematical singularities, an option is that the platonic mathematical universe causes the singularity behind the Big Bang. The “loophole view” of causal closure, thus, has a function if and when we try out a new basic assumption for science and not before that.

References

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