Leibnizian relationalism: A minimalist ontology of the natural world

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Leibnizian relationalism is the view that distance relations among point objects are fundamental: they constitute the order of what coexists. Moreover, they are able to individuate the point objects, thus vindicating the principle of the identity of indiscernibles. These relations change, and time comes in as the order of the change. On this basis, I propose a minimalist ontology of the natural world that is defined by the following two axioms:

(i) There are distance relations that individuate objects, namely matter points.

(ii) The matter points are permanent, with the distances between them changing.

The reason to single out the distance relations is this one: If there is a plurality of objects, there has to be a certain type of relations in virtue of which these objects make up a configuration that then is the world. When it comes to the natural world, the issue are relations that qualify as providing for extension. That is the reason to single out distance relations. In a future theory of quantum gravity, these relations may be conceived in a different manner than in our current and past physical theories. Nonetheless, I claim that relations providing for extension – namely distances – are, given the state of the art in both physics and philosophy, the first choice for an ontology of the natural world that is to be empirically adequate. Change in these relations then is sufficient to obtain empirical adequacy. I briefly sketch out how empirical adequacy in terms of matching the well-established physical theories can be achieved by considering the geometry as well as the dynamical variables that appear in a physical theory as providing for a representation of the change in the distances among the matter points that strikes a good balance between being most simple and being maximally informative about that change.