

## Ontic Structuralism: the worst of both worlds

In a recent book (*Every Thing Must Go*, OUP 2007), James Ladyman and Don Ross argue that most of contemporary metaphysics is fundamentally misguided and that contemporary science, if “taken seriously” and suitably interpreted, shows that the true metaphysics of the natural world is that there is no matter, no objects, no things and that everything there is is “structure”. Against what they call the “philosophy of A-level chemistry” (p. 24), they embark on a “mission of disciplinary rescue” (p. 27) because “quirks in the history and structure of the modern academy have encouraged crazy activity and hidden [the] absurdity” (p. 57) of what they call “strong metaphysics”. The metaphysics they countenance (“weak metaphysics”) is the “articulation of a unified world-view *derived from* the details of scientific research” (p. my emphasis)[(65)<sup>1</sup> and it is the only one that in their view deserves to be called “scientific” – “scientific” in the sense of being able to figure in a “grant proposal to a ‘serious’ foundation or funding agency”, where fundability is “suggested as a proxy indicator (in the economist’s sense) of what is likely to be scientifically interesting” (p. 34)<sup>3</sup>

This is strong stuff. In this talk I first try to clarify the two central claims of Ladyman and Ross, namely that there are no objects and that there is only structure: it turns out that by “structures” they mean mathematical representations of the world and that their view is a very strong form of idealism. I then examine the principal motivations given for ontic structural realism: (i) the pessimistic meta-induction; (ii) entanglement in quantum mechanics and (iii) automorphisms in general relativity. I argue that none of the motivations given even comes close to supporting their strong claims. Focussing on their concept of “structure”, I then conclude that the ontic structuralists’ metaphysics is naïve and does not meet up to the scientific standards of contemporary research in metaphysics.

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<sup>1</sup>Sometimes, they are a bit more careful. They say that their metaphysics is “consistent with and motivated by” (p. 2) science and “vindicated” by its success (p. 7), and that science “provides evidence” for some positive metaphysical theses (p. 27), even though they admit that science – “usually and perhaps always” – underdetermines metaphysics (p. 9). At some points, they even admit that the “idea of a world of distinct ontologically subsistent individuals with intrinsic properties” is consistent with physics, but still maintain that physics “puts severe pressure on such a view” (p. 154).

<sup>2</sup>The immediately following footnote – reading “We invite the reader to imagine a physicist, fresh from reading Nolan (2004), writing a grant proposal to investigate the idea that the universe is made of hypergunk.” – makes it clear that the grant proposal is supposed to come from physicists applying for funding of physical research. After all, Daniel Nolan got a number of grants ...

<sup>3</sup>One is led to wonder how the juries determine who gets the funding – a question which becomes all the more pressing because they want to exclude “non-standard sources” funding creationist research (p. 36)