



CFCUL

Centre for Philosophy of Science
of the University of Lisbon

<http://cfcul.fc.ul.pt>

Metaphysics, Logic and Science

Stephen Mumford
Rani Lill Anjum

During the middle of the twentieth century, dispositions were treated as philosophical objects of suspicion. Various attempts were made to reduce or eliminate them away, the first serious attempt of the modern age coming in the form of Carnap's reduction sentences. The spirit of Carnap lives on in the conditional analysis of dispositions, which retains adherents.

Carnap saw the importance of the dispositional idiom to science, which was filled with a dispositional vocabulary, but he also saw that there was something problematic about the modal connection between distinct existences that real dispositional properties would bring. Such a modal connection was unobservable and thus no legitimate part of empirical science. Carnap's influence spread to Quine and then to Quine's student, David Lewis, who similarly sought to reduce dispositions away.

While Carnapian motivations could easily be mistaken as scientific and logical, however, we argue in this paper that the true source of this anti-dispositional philosophy has a deeply metaphysical motivation that the defenders of dispositions can tackle on purely metaphysical grounds. One is resistant to the intensional modality of dispositions only because of a commitment to extensionalism. Carnap studied under Frege at Jena, then later interacted with Quine who had just completed his PhD under Whitehead. The extensional logic was adopted but without acknowledgement of its metaphysical basis: and why should such a basis be considered, in any case, given the rejection of metaphysics?

Extensional logic, we argue, is perfectly suited for a metaphysics of discrete, distinct existences of the kind developed by David Hume, which is where the true roots of this approach to dispositions lie. All is loose and separate: there are no necessary connections in nature. No powers. And the philosophy of science that goes with this view of the world is one based on observation of events where statements have only a truth-value but no modal value. Despite superficial appearances, Lewis's modal realist project is certainly within this tradition. There are no intra-world modalities but a theory of modality is gained through the plurality of worlds.

Anti-Humeanism, in contrast, commits to connectedness through real this-worldly dispositional modality. This should be the principal ontological commitment of any dispositionalism. Dispositions understood in this way could never be captured within an extensional logic, therefore, and any conditional analysis of dispositions has to be doomed either to falsehood or circularity.