

Anomalous Anomalous Monism: the many sides of chemistry

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abstract

Consider pure water. At least the following discourses might be distinguished (other classifications are possible):

1. Human-centred (non-scientific) discourse concerning manifest features of the world, telling us that water is not poisonous, lessens thirst, has no smell, etc.
2. Thermodynamic, hydrodynamic, and other macroscopic (scientific) discourses, which regiment manifest features such as the boiling point of water and which add more macroscopic features, e.g. water vapour dissociating into oxygen and hydrogen gas using solar energy.
3. The discourse surrounding the characteristic “molecule” found in water, H_2O . The latter has an internal structure, the properties of which depend on its environment. For example, pure water has a (slight) electric conductivity due to dissociation or ionization:
$$2\text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{OH}^-.$$
4. Quantum mechanical discourse in which molecules such as H_2O are thought of as systems of nuclei and electrons, allowing the calculation of many of the molecule’s properties (approximately, using auxiliary hypotheses).

What about the (ontological, conceptual, epistemological) relations between these different discourses? I am not content with current proposals (such as various kinds of reduction, supervenience, etc.). I will present a preliminary characterization of the metaphysical hypothesis of anomalous anomalous monism (AAM). AM refers to something like the anomalous monism proposed by Davidson in the philosophy of mind. The additional “anomalous” refers, among other things, to dropping Davidson’s assumption that causal relations are (always) backed by strict laws.