

Why diachronically emergent properties must also be salient

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Abstract

In this paper, I criticize Bedau's definition of 'diachronically emergent properties' (DEPs), which says that a property is a DEP if it can only be predicted by a simulation (simulation requirement) and is nominally emergent. I argue at length that this definition is not complete because it fails to eliminate trivial cases. I discuss the features that an additional criterion should meet in order to complete the definition and I develop a notion, salience, which together with the simulation requirement can be used to characterize DEPs. In the second part of the paper, I sketch this notion. Basically, a property is salient when one can find an indicator, namely a descriptive function (DF), that is such that its fitting description shifts from one elementary mathematical object (EMO) to another when the property appears. Finally, I discuss restrictions that must be brought to what can count as DFs and EMOs if the definition of salience is to work and be non trivial. I conclude that salience (or a refined version of it) can complete the definition of DEPs.

Keywords: Emergence. Complexity. Salience. Novelty.

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