
Niche construction theory and the concept of adaptation without selection

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Abstract

Session: Explaining adaptation: Organism/environment interactions accross time and spatial scales (Dutreuil, Pocheville, Turner) Niche Construction Theory (Odling-Smee et al 2003) aims to complement the Modern Synthesis by pointing to the fact that merely by living, organisms necessarily modify their or other’s environments, which leads to modifying the selection pressures stemming from these environments. From this, Niche Construction Theory concludes that there are two independent routes towards the fit between organisms and their environments: either organisms adapt to the environment (natural selection), or they adapt their environment to their needs (niche construction).

In this talk, I will show that this reconceptualization of evolution crucially depends on the criterium retained for the organism-environment delineation, and on some hidden assumptions about the time-scales of ontogeny and evolution. This will lead us to propose a new formulation for Niche Construction Theory, that will open new lines of empirical research.

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