
The Logic of Research Questions: Adaptationism, the Null Hypothesis, and the Lack of a Stopping Rule

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Abstract

Session: Exploring the evolution of culture and social behavior (Steve Downes, Patrick Forber, Matt Haber, Fiona Jordan, Elisabeth Lloyd, Rory Smead)

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I introduce my framework, the "logic of research questions," and contrast a standard "methodological adaptationist" approach, to the "evolutionary factors" approach. In the former, the key research question is: "What is the function of this trait?" while in the latter, the primary research question is: "what evolutionary factors account for the form and distribution of this trait?" I use my case study on the evolution of the female orgasm to illustrate how the "methodological adaptationist" approach can lead scientists astray. Biases induced by methodological adaptationism – specifically, the belief that the non-adaptive bonus/byproduct explanation is a "null" hypothesis - have led biologists to apply no stopping rule to the search for selective accounts of female orgasm, and to fail to see the bonus/byproduct explanation as a distinct and alternative *positive causal hypothesis*, and as one that can have evidence in its favor. The biologists also fail to compare the byproduct hypothesis *directly against* an adaptive one with regard to the evidence. Perhaps, then, it is past time to reevaluate whether the "methodological adaptationism" is truly as benign as both philosophers and biologists assume it to be. [184]

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