

Philosophy of Biology: Essay One

Requirements

You are to submit one 8–10 page research paper on Friday 7 November, addressing one and only one of the questions listed below. An electronic copy of the paper must be submitted by email to brad.weslake@nyu.edu.

Guidelines

Essay guidelines are available here: <http://goo.gl/jrx25>

Questions

- Describe the *propensity theory of fitness* (Mills and Beatty 1979) and explain and evaluate the central argument against the theory given by Sober (2000).
- The most important argument in Fodor (2008) is the following:
 - i) Explaining the distribution of a phenotypic trait in a natural population requires a notion of ‘selection for’ a trait.
 - ii) If T_1 and T_2 are coextensive traits, the distinction between selection for T_1 and selection for T_2 depends on counterfactuals about which of them would be selected in a possible world where the actual coextension doesn’t hold.
 - iii) The truth makers for such counterfactuals must be laws about the relative fitness of having the traits.
 - iv) There are no laws of relative fitness.
 - v) Therefore, the theory of natural selection can’t explain the distribution of phenotypic traits in natural populations.

Explain and evaluate this argument (Sober 2010).

- Explain and evaluate the argument made by Forber (2005) that natural selection can explain the origin of a novel trait in a population only when the trait is affected by multiple factors.

- Matthen and Ariew (2002) argue that natural selection and drift should not be conceptualised as forces acting on populations (Sober 1984; Stephens 2004). Explain and evaluate their arguments for at least two of the following claims:
 - There is no zero-force law of evolution.
 - Drift is not a cause of evolutionary change.
 - There is no general principle for determining the way in which different causes of evolutionary change combine with each other.

References

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