Are there a priori causal relations in evolutionary theory?

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Abstract

Popper famously supported the (later recanted) idea that the principle of natural selection is analytical and therefore cannot be regarded as a scientific theory since analytical claims are empirically unfalsifiable. Remarkably, Sober (2010) affirms the first of these claims. Considering examples of simple population models involving fitness, he argues for the claim that there exist causal statements that can be known a priori. This obviously calls into question Hume's widely accepted claim that causal relations can only be known empirically.
Sober's paper addresses an interesting problem pertaining to the interpretation of the concept of fitness and shows that it represents a challenge for contemporary theories of causation. In particular, he shows that the manipulationist account put forward by Woodward and Hitchcock (2003) provides no reasons for rejecting a priori causal knowledge, contrary to what the manipulationists argue.

The aim of my presentation is to refute the conclusions that Sober draws on the basis of these population models. I argue that the fact that some causal assertions can be interpreted as analytical is due to the peculiar dispositional nature of fitness, which leads to an ambiguous use of the term, conflating the causes of fitness with its consequences. Furthermore, I claim that even if a model may be postulated a priori, it doesn't provide knowledge about the world unless it is empirically tested. Finally, I urge Sober to consider that obvious propositions should not count as a priori knowledge unless their truth value does not rely in any way on experience.

Sober, Elliott (2010): A Priori Causal Models of Natural Selection. In: Australasian Journal of Philosophy, p. 1-19.
Woodward, James, Hitchcock, Christopher (2003): *Explanatory Generalizations, Part I: A Counterfactual Account.* In: NOÛS 37:1, p. 1-24.

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