## Counterfactuals and the Generality Requirement

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## Abstract

Etiological theories of function appear to imply an indeterminacy of function along specificity-generality dimension.

A standard example is Sober's: a population of *Drosophilia* subject to heat stress evolves thicker skin; later temperatures drop steeply and the thickened skin remains adaptive, now as protection against the cold. Is its function to protect against high temperatures, or to insulate generally?

Millikan urges the latter on the basis of the requirement that "biofunctions should always be described according to the most general principles available". She employs this principle – the generality requirement – widely in order to reduce various perceived threats of indeterminacy.

Now the fact that the flies in the example were actually subject to both heat and cold seems incidental to the availability of the broader ascription. The thickened skin *would have* protected against low temperatures even if they had never suffered such temperatures. Interestingly, at times Millikan herself states the rationale for the broader ascription in terms of a counterfactual.

Allowing counterfactuals in applying the principle, however, may threaten to generate unforeseen, perhaps implausibly general, function ascriptions. On the other hand, restricting the principle's application to actual, historical environments – as Millikan appears to insist in several places – may result in indesirably parochial and specific ascriptions.

My aim in this talk is to weigh the options, and to argue that Millikan's theory is ultimately committed to counterfactuals than she admits. A corollary is that Buller's so-called "weak" etiological theory is legitimate if any etiological theory is.

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