

Matthew R. Zefferman. *Should the Consensus be Essentialist and Adaptationist? A Commentary on David Sloan Wilson*

University of California, Davis

Corresponding author's e-mail: mrz1@ucdavis.edu

Wilson describes a growing consensus concerning the role of culture in human evolution. While not everyone is yet a member (he excepts advocates of memetics and evoked culture), I am heartened by much of what Wilson describes. I readily join this consensus when it holds that cultural inheritance is an important tool that has allowed humans to thrive in wide variety of environments; that the properties of cultural inheritance can better explain human cooperation, including altruism, in larger groups than can be explained by genetic inheritance alone; that group-level selection is a useful way to think about human cultural evolution, especially because many important group-level traits are not easily reducible to individual-level fitness calculations; and that many of these group-level traits can be considered adaptations in that they help groups of humans survive in their environment. However, I would like to sound a couple notes of caution.

First, it can be problematic to describe groups as competing ‘cultures.’ This may seem like a semantic quibble, but in this case terminology has the potential to lead us astray. For example, calling groups “cultures” gives the impression that groups are to be defined primarily by their common cultural traits. However, if our goal is to explain the distribution of cultural traits within and between groups, defining groups based on their distribution of cultural traits introduces endogeneity to our analysis. This issue can be avoided if, as in Sober and Wilson (1999, 92-98), groups are defined by *interactions* in relation to traits, instead of by the traits themselves.

For example, suppose two villages are involved in separate collective action problems, such as maintaining an irrigation system. In each village, a significant fraction of individuals are contributors and significant fraction are free-riders. In a multilevel cultural selection model, the “groups” should be defined at the scope of the collective action problem, in this case the villages, because this defines the scope of each individuals’ influence on others’ payoffs. The groups would not be defined as the set of cooperators and the set of free-riders because free-riders do not affect the payoffs of free-riders in another village in relation to their free-riding trait. Similarly, if each village was made up of recent immigrants from two different backgrounds, the relevant groups

would still be defined by the village-level collective action problem and not by the origins of the village members.

Furthermore, characterizing groups as “cultures,” can also encourage essentialist thinking, i.e., discounting the importance of both within-group cultural variation and between-group cultural similarity. Essentialism has left the ethnographic record mostly bereft of the individual-level data necessary to build empirically-grounded theoretical models (Richerson and Boyd 2005, 246-253). This problem is more easily avoided if groups are not thought of as discrete “cultures,” but as sets of individuals who frequently interact with each other and have distributions of cultural traits that influence those interactions.

A second note of caution concerns what seems, to me, like an overly strong adaptationist emphasis. There are many flavors of adaptationism and it is important to identify which is under consideration. When Wilson states that “human cultures are primarily adaptive at the group level,” this seems to be a statement of what Godfrey-Smith (2001) calls “empirical adaptationism.” Empirical adaptationists posit that selection is the most dominant force governing the distribution of traits. While recognizing that the origins of individual traits must be examined on a case-by-case basis, Wilson seems to imply that selection at the group level is the most dominant force governing the distribution of cultural traits as a whole. This begs the question “most dominant compared to what?”

My sense is that this is still an open question and my concern is that if the consensus is to focus primarily on group-level adaptations, we may miss important group-level cultural traits that are not adaptations and many cultural traits that are more easily understood as a mix of group-level and individual-level selection. Consider intergroup warfare, which at first glance looks like a classic group-level cultural adaptation. Individuals put themselves at great risk and successful groups have the potential to gain wealth, territory and other resources. However, a closer look complicates the view that warfare is a group level cultural adaptation.

Warfare’s status as an adaptation is partially undermined by frequency-dependence between groups. Warfare can spread if war-like groups are more successful than peaceful groups. However, as in the classic Hawk-Dove game (Maynard Smith and Price 1973), the more warlike one’s neighbors, the more costly it is to fight and eventually, it may pay to become peaceful. Frequency dependence and balancing selection diminish the utility of adaptationist explanations. For me, it is much more parsimonious to consider how group structure influences the distribution of traits, than it is to consider whether that distribution, or some subset of that distribution, can be considered a group-level adaptation.

Furthermore, participating in warfare can be quite costly for individuals and they may, with some frequency, shirk fighting. Even in the most warlike

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groups when shirkers are actively punished, selection at the individual level drives some individuals to not participate (e.g., Mathew and Boyd 2011). If participation in warfare is an adaptation at the group-level, is non-participation in warfare an adaptation at the individual level? Which of these forces is more dominant? If fifty-one percent of individuals shirk, is it useful to conclude that culture is primarily adaptive at the individual level? Again, I think it is a more promising approach to consider all relevant forces, selective and otherwise, at different levels of analysis when thinking about the distribution of cultural traits. A strong focus on group-level adaptations may critically limit the effectiveness of our investigations.

In conclusion, I agree with the spirit of this growing consensus and my comments are merely an attempt to shift the emphasis. I strongly agree that recognizing the importance of group-level cultural selection is essential to understanding the distribution of cultural traits. However, I worry that the larger goal of understanding how the combination of selective and non-selective forces operate on cultural traits at different levels of analysis could be hindered by overreliance on essentialist and adaptationalist thinking.

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