



**ALAN C. LOVE & WILLIAM C. WIMSATT (eds.), *Beyond the Meme: Development and Structure in Cultural Evolution*, Minnesota Studies in the Philosophy of Science, vol. 22, Minneapolis/London: University of Minnesota Press, 2019, xxxii + 510 pp.**

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The edited volume *Beyond the Meme* is a collection of thought-provoking essays dealing with the multifaceted complexity and wide diversity of cultural systems. The topics addressed by the essays span from language evolution to religious institutions, from the material constraints acting on cultural transmission to the evolution of distributed cognitive systems, tackling along the way social identity, writing systems, and the sociology of data sharing, among many other topics. The volume celebrates methodological pluralism: it offers ethnographic studies, formal modelling, theoretical contributions, and detailed historical case studies. A reader interested in any of the topics covered by the chapters will find a lot to chew on (and a lot more to explore), and the diversity of the contributors' perspectives is refreshing. *Beyond the Meme* is, to my mind, one of the most intellectually stimulating edited volumes on cultural evolution published in a long time.

The obvious danger of editing a volume with such a wide-ranging set of topics, disciplinary focuses, and contributing expertise is to trade off systematicity for breadth. One confessed goal of the editors is to illustrate the wide spanning range of cultural phenomena in need of explanations and the plurality of perspectives that an interdisciplinary research agenda of cultural evolution could (and should) include, with each chapter serving as exemplars of a multifaceted, methodologically rich science of cultural evolution. In this respect, *Beyond the Meme* is a blatant success.

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The theoretical side of the editorial project, however, is not as accessible. The contributors of the volume were brought together because their research agendas would serve as exemplars of Wimsatt's alternative framework to the mainstream, informational approach to cultural evolution, one set more along the lines of 'Evo-Devo' than population genetics. Wimsatt's substantive contributions to cultural evolution have not had a wide impact on mainstream cultural evolution and thus may be unfamiliar to many. This is unfortunate as Wimsatt's contributions on the topic—together with those made by his close collaborators over the years—are an extremely rich source of critical and constructive insights which deserve to be taken seriously within the field. Wimsatt is a systematic thinker, a rare and valuable quality, but this systematicity often comes with the use of a difficult and specialist prose which can easily alienate readers not already versed in his contributions to philosophy of science. Wimsatt's chapter is a welcomed contribution, presenting a much more accessible version of some of his previously published work and should help in crossing over this barrier.

Nevertheless, the volume's editorial project risks alienating most cultural evolutionists by generally ignoring the contributions of the field and dismissing them through broad-sweeping claims. According to the editors, cultural evolution lacks a unifying framework, which may come as a surprise to many if not most researchers involved in the field. While there are certainly controversies *within* the field, cultural evolutionists nevertheless agree on key meta-theoretical principles. Cultural evolutionists agree that culture evolves, that studying culture demands adopting a naturalistic framework, and that population thinking is a powerful principle allowing the study of cultural change as statistical, populational patterns produced by the interactions between individuals and the impact on those interactions of exogenous causal factors. Furthermore, it often seems the editors confuse dual-inheritance theory with memetics, rejecting the former for what appears to be sins of the latter.

These worries can be assuaged to some degree by clarifying the key motivations for an Evo-Devo approach to cultural evolution. I draw a brief overview of this narrative, using as much as possible a view from within the field of cultural evolution in an attempt to offer better accessibility to Wimsatt's framework and, consequently, to the volume's editorial project.

Mainstream cultural evolution theories, such as dual-inheritance theory and memetics, focus on the informational (ideational) dimension of culture. Variant cultural items—such as beliefs, values, and skills—exhibit different patterns of distribution through time and space, some stable, others evolving. Mechanisms of social learning, such as imitation and teaching, would form a cultural inheritance system passing along these items from one generation to the next. Social learning would be analogous enough to genetic inheritance to justify the borrowing of formal techniques from population genetics but dissimilar enough to justify their adaptation to the specificities of cultural transmission. Dual-inheritance theorists have thus focused most of their research efforts in modelling and studying the evolutionary impacts of the different modes of transmission and their statistical signatures at the level of the population, the fidelity of different channels of transmission, the different strategies individuals use in selecting what to learn and from whom, and the general adaptiveness of cultural inheritance.

Defining culture in ideational terms implies that public displays of culture, such as behaviors, artefacts, social organizations, institutions, etc., are not culturally inherited. Instead, they are produced, and reproduced, by the information transmitted from one person to the next. How this re-production proceeds, however, is typically black-boxed. Analogously to an informational view of the gene that idealizes away the development of the organism—in its most simplistic form, by adopting a straightforward genotype–phenotype mapping—the ideational approach to culture typically conflates variation in the publicly produced items with variation in the transmitted information, thus idealizing away the processes involved in the production of these displays.

A key problem with such a view is that these productions are not just expressions of the socially transmitted ideational units. Instead, they are an integral part of the transmission process itself. Not only is the content of the ideational units physically embodied by their public production, but its transmission is also scaffolded by a complex amalgam of external structures and enabling resources which are themselves culturally reproduced. As Wimsatt noted in 1999, in culture, heredity and development are inextricably intertwined. In the words of Dan Sperber and Nicolas Claidière, cultural causality is promiscuous. The causal contributions of internal (i.e., informational) and external (i.e., cognitive, material, social, institutional, etc.) resources are not sharply distinguishable. Abstracting away from the complex and rich features that ensure the reproduction of cultural systems is abstracting away from what makes culture an evolutionary phenomenon in the first place. Instead, the complex causal nexus they form should be addressed upfront.

Cultural evolutionists should thus move ‘beyond the meme’ (an allusion to Jan Sapp’s *Beyond the Gene*), i.e., beyond the informational view of culture, and instead articulate a framework that takes into account *both* the internal and external resources and structures at play in cultural phenomena and focus on their mutually supporting interactions. For instance, while we acquire our genome as a package at a single moment in time, our cultural repertoire is acquired piecemeal throughout our lives. One key consequence of this enculturation process is that what we culturally acquire, how we do so, and from whom and when will be influenced by our developing cognition, the sequential acquisition of this knowledge, and by our ongoing socialization as individuals. It also implies that the material, organizational, and institutional systems that support, structure, and direct this enculturation process—acting as scaffolds for cultural heredity and the development of cultural systems—must themselves be stabilized and reconstructed, and their scaffolding roles repeated through time and space. This is what an Evo-Devo of culture is set to study.

Considering the aims of the editorial project—i.e., opening the door to research agendas addressing issues mainstream cultural evolutionists would otherwise be blind to—perhaps the shortcut of glossing over the actual theoretical, formal, empirical, and experimental contributions of the field of cultural evolution is warranted. *Beyond the Meme* sets to address neglected aspects of cultural evolution such as cultural modularity, multiple inheritance, population structure, multi-level evolution, the cultural evolution of cognitive systems, facilitating and inhibitive relations between cultural items, developmental and material constraints, complexity and, more broadly, linking the insights of Evo-Devo to those of cultural evolution.

A key problem, however, is that each one of these aspects of cultural evolution have already been addressed to some extent by cultural evolutionists, and these contributions are not engaged with, yet alone acknowledged (the journal's policies preclude me to offer a detailed reference list to support this point). By brushing an image of poverty that is not representative of the field, the editors miss the opportunity of building bridges between the practices and theoretical contributions of the field of cultural evolution and the original and important ideas that animate the volume's editorial project.

Nevertheless, the contributions of *Beyond the Meme* should be taken seriously as valuable additions to the field of cultural evolution. By linking the volume's contributions to the existing and ongoing work of cultural evolutionists, I believe we can move over an opposition between the two frameworks and instead build a complementary, more productive framework of cultural evolution avoiding the oversimplifying assumptions of a strict ideational view of culture and instead approach cultural phenomena in all of their complexity.

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