

ISSUES

Looking for middle ground in cultural attraction theory

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Abstract

In their article, Thom Scott-Phillips, Stefaan Blancke, and Christophe Heintz do a commendable job summarizing the position and misunderstandings of “cultural attraction theory” (CAT). However, they do not address a longstanding problem for the CAT framework; that while it has an encompassing theory and some well-worked out case studies, it lacks tools for generating models or empirical hypotheses of intermediate generality. I suggest that what the authors diagnose as misunderstandings are instead superficial interpretive errors, resulting from researchers who have attempted to extract generalizable hypotheses from CAT and bring them into contact with the analytical and inferential models of contemporary cultural evolutionary research.

KEYWORDS

cultural attraction theory, cultural evolution, modularity

1 | INTRODUCTION

“Cultural attraction theory” (CAT) or “cultural epidemiology” began and developed alongside powerful criticisms of replication-based theories of social transmission and learning.^{1–4} Since then, CAT has produced a steady trickle of papers that runs alongside a growing cottage industry of cultural evolutionary research. In their article,⁹ Thom Scott-Phillips, Stefaan Blancke, and Christophe Heintz (hereafter, “the authors”), do a commendable job summarizing CAT research, articulating the theoretical framework, clearing up points of confusion, and noting areas of continued disagreement. This is valuable work.

Despite being a mature statement of CAT research, however, the authors' article does not address a serious and longstanding problem for the framework: that it appears to lack tools for generating “explanations of intermediate generality—a level between grand theory and particular cases.”⁵ (p. 848). This problem has dogged CAT from its earliest presentations to the present day.^{5–8} Yet the authors seem not to feel its bite. I think this is unfortunate. My hunch is that while the misunderstandings discussed by the authors are genuine, they are symptoms resulting from this deeper issue.

2 | CAUSAL EXCESS AND CAT

As the authors suggest, CAT's approach to cultural evolution involves three projects. One is descriptive: the characterization of statistical tendencies toward stabilization in form or frequency of

cultural traits, what they call cultural attractors. The other two are empirical and explanatory: identifying and characterizing the causal patterns underpinning cultural attractors (“factors of attraction”) and explaining how these “shape and stabilize cultural items.”⁹ (p. 171) Clear enough. But how are researchers to achieve these aims, given the extravagant number of causes at work in cultural change? The size of social networks, the availability of resources, the difficulty of the task environment, the beliefs of the local polity—all of these and more besides will jointly determine the spread and stability of culture. Given this causal profusion, researchers require more than clearly articulated aspirations; they need principles and methods for determining what causal processes are likely to be salient in any given case, understanding the general applicability and dynamics of these processes, and aggregating these together to produce satisfying explanations.

These problems bedevil all cultural evolutionary researchers. Most, however, adopt a strategy of idealization, focusing on selected features of transmission, accumulation, modification, or the like.^{10–13} CAT adopts a different tack. Especially when characterizing their theoretical framework, they embrace causal excess.^{1,14} The authors' paper is case-in-point. As they write, the causal processes targeted by CAT include “cognitive competencies, preferences, and dispositions and also both currently and previously held beliefs, acquired skills, know-how, memories and other psychological phenomena”⁹ (p. 167), together with a range of ecological factors of attraction that operate at broader or narrower spatiotemporal scales, for example:

"The rotation of the Earth is a global ecological factor, which has a clear causal influence on, among other things, the meaning of the word "day." The prevalence of a particular plant species in the local environment is a local ecological factor (which can influence, for instance, local medicinal techniques)"⁹ (p. 168)

While it is right to think that explanations of cultural diversity require the consideration of a wide variety of causal influences, it is not clear that the CAT framework provides sufficient guidance for researchers to gain purchase on their empirical and explanatory aims. Do researchers always need to consider astral causes? Only some of the time? The authors' suggestion here is that empirical work will be guided by pragmatic concerns. This is probably true. But in successful research, pragmatic concerns are informed and guided by empirical generalizations and theories. Yet by their own admission,^{1,14,15} CAT theories and models are more akin to abstract sketches, and do not provide concrete methodological resources or theoretical predictions for guiding such research. Indeed, some critics have even wondered whether their models and theories *could possibly* provide such guidance.^{5,8}

Let me be clear. In many ways, the picture motivating CAT is correct. There really are myriad causal patterns, operating at multiple scales, that mix and mold cultural traits. But it is unclear that calling these 'factors of attraction' (whether general or local) aids researchers in identifying salient causal processes, describing their distinctive dynamics, or showing how these interact, counteract, and feedback in complex causal loops. Some authors have suggested that this is because the general theoretical framework of CAT might "unnecessarily replace a series of concepts"⁶ (p. 498) with their abstract terminology. That puts the problem too delicately. The worry here is that while the language of "factors of attraction" and "cultural attractors" does provide a grip on the causes of cultural stabilization and change, it is an exceedingly loose one. The general framework of CAT provides an encompassing theory but little by way of "intermediate generalizations." Given that we have a rich body of empirical and theoretical modeling—from cultural phylogenetics and behavioral ecology,^{16,17} dual-inheritance theory,^{10–13,18} to mathematical sociology,^{19,20} to name just a few—this gives few reasons to think that, as they stand, the theoretical resources of CAT are particularly useful for cultural evolutionary research.

3 | THE MODULAR BET

Of course, this is not to say that proponents of CAT fail to make empirical generalizations, or even "empirically vulnerable claims"⁹ (p. 166). But it is important to note that when they do, it has little to do with the framework of CAT, ecological factors of attraction, or even most psychological factors of attraction. Instead, most CAT-inspired researchers focus on general features of human psychology. Olivier Morin articulates this point clearly:

"Cultural epidemiology [CAT] thus studies the psychological factors (cognitive or not) that influence cultural diffusion by endowing some traditions with attraction. Among these factors, it prefers to focus on the most

general—the most robust and least variable aspects of emotions, memory, perception, and so on."²¹ (p. 155)

This is a sensible way of solving problems of salience, generalization, and aggregation. Frameworks and narratives concerning human psychology, particularly its evolutionary history, are useful sources for hypothesis-testing and modeling, as other cultural evolutionary work confirms.^{11–13,22}

The CAT-influenced strategy is distinctive. It zooms in on a particular set of cultural evolutionary phenomena and adopts an idiosyncratic evolutionary framing. The phenomena it focuses on are those with a certain amount of interpretive latitude. This because CAT researchers believe that learning involves reconstructive inferences, that the inferential processes at work in this reconstructive process are potential targets for evolution by natural selection, and because the effect of such inferences are best seen in situations with a wide range of possible variants.^{1,2,8,23} The evolutionary framing appeals to innate "modules"; special-purpose deep cognitive structures such as face recognition modules,²⁴ capacities for folk taxonomic reasoning,²⁵ or just loosely characterized "universal cognitive mechanisms."²⁶ CAT-influenced researchers thus make an empirical bet that innate modules wield considerable influence on the form and frequency of cultural items.

This *modular bet* hinges on a number of assumptions. First, there are really the kind of robustly developing and universal psychological structures that CAT proponents posit. While most evolutionary researchers agree that there are robustly developing psychological structures, they disagree as to what these are and the nature of their development—with the recent work of Cecilia Heyes offering a particular rich alternative to the nativist position of most CAT researchers.^{27,28} Indeed, there is vigorous debate around the modular picture of human psychology invoked by CAT-influenced researchers—^{1,29–33} a debate that is exhumed and repeated for each new innate feature posited.^{34,35} Second, the modular bet hinges on a range of auxiliary assumptions about the situations where deep psychological structures hold sway. Though a simplification, a good heuristic is that the modular bet is useful in studying selectively neutral cultural variation; things like "stories, jokes, recipes, [and] discursive verbalised items in the public domain."²³ (p. 47).

Let me sum up. The modular bet represents a sensible if highly contentious and constrained methodology for guiding empirical research. I take it that the CAT-influenced case studies discussed or referenced by the authors—the direction of eye-gaze in portraiture,³⁶ the diversity in religious concepts,³⁷ or the spread of "composite" animals (like chimera)²⁵—represent scenarios where the bet generates useful hypotheses for investigation and debate. But as mentioned above, it is important to note that the modular bet borrows little from the CAT framework. Though these researchers may nod toward CAT or "cultural epidemiology" in their work, the empirical and explanatory burden is placed squarely on evolutionary hunches that are conceptually and theoretically distinct from the CAT framework.

4 | MISUNDERSTANDINGS IN THE MIDDLE GROUND

I have not said much about the authors' four misunderstandings. This is because, for the most part, I find them unobjectionable. The authors

are right that other cultural evolutionary researchers have made interpretive blunders when attempting to critique or build upon CAT work. Yet I see these as superficial. There appear to be few empirical details that hang on correcting the authors' misunderstandings—aside from the now well-known issues with models that treat social transmission as akin to copying.^{1–4} The deeper issue is how, if at all, CAT is apt for guiding empirical research. As I hope the above two sections make clear, CAT still faces the problem of being caught between a grand, overly general theory and specific, evolutionarily-based case studies (typically involving the stipulation of new modules with distinct and specific evolutionary histories), with little by way of intermediate generalizations to fill the gap.

So here I want to suggest an alternate way of understanding the misunderstandings targeted by the authors. Instead of being exegetical flaws, these misunderstandings represent efforts at extracting hypotheses, assumptions, and mechanisms that can feature in generalizations and models of intermediate scope. Rather than being interpretive issues that need clarification, then, these misunderstandings represent opportunities for collaboration, critique, and clarification—as the authors provide here—yet with more of an eye toward empirical consequence. Indeed, my hunch is that many of the critics mentioned by the authors have ended up ignoring the grand theoretical framework and instead focused on studies taking the modular bet for the simple reason that these studies make hypotheses that can be pursued using the wide range of empirical methods available.^{6,38–40}

Of course, sometimes the attempt to engage with CAT-inflected studies generate what authors and commentators diagnose as misunderstandings—for instance, that inferential reconstruction is conceptually akin to “guided variation”⁴¹ or “direct biases.”^{40,42} This might be so, but the exchanges provoked by these confrontations have been some of the most fruitful to come out of the CAT literature.^{15,21,23,38,43}

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REFERENCES

- [1] Sperber D. 1996. *Explaining culture: A naturalistic approach*, Oxford: Blackwell.
- [2] Sperber D. 2000. An objection to the memetic approach to culture. In: Aunger R, editor. *Darwinizing culture: The status of memetics as a science*, Oxford: Oxford University Press. p 163–173.
- [3] Dawkins R. 1976. *The selfish gene*, Oxford: Oxford University Press.
- [4] Blackmore S. 1999. *The meme machine*, Oxford: Oxford University Press.
- [5] Sterelny K. 2001. Review of explaining culture: A naturalistic approach. *Mind* 110(439):845–854.
- [6] Acerbi A, Mesoudi A. 2015. If we are all cultural Darwinians what's the fuss about? Clarifying recent disagreements in the field of cultural evolution. *Biol Philos* 30(4):481–503. <https://doi.org/10.1007/s10539-015-9490-2>.
- [7] Buskell A. 2016. Cultural longevity: Morin on cultural lineages. *Biol Philos* 31(3):435–446. <https://doi.org/10.1007/s10539-015-9506-y>.
- [8] Buskell A. 2017a. What are cultural attractors? *Biol Philos* 32:1–18. <https://doi.org/10.1007/s10539-017-9570-6>.
- [9] Scott-Phillips T, Blancke S, Heintz C. 2018. Four misunderstandings about cultural attraction. *Evol Anthropol* 27:162–173.
- [10] Cavalli-Sforza LL, Feldman MW. 1981. *Cultural transmission and evolution: A quantitative approach*, Princeton: Princeton University Press.
- [11] Boyd R, Richerson PJ. 1985. *Culture and the evolutionary process*, Chicago: University of Chicago Press.
- [12] Henrich J. 2001. Cultural transmission and the diffusion of innovations: Adoption dynamics indicate that biased cultural transmission is the predominate force in behavioral change. *Am Anthropol* 103: 992–1013.
- [13] Henrich J. 2004. Demography and cultural evolution: How adaptive cultural processes can produce maladaptive losses: The Tasmanian case. *Am Antiq* 69:197–214.
- [14] Claidière N, Scott-Phillips TC, Sperber D. 2014. How Darwinian is cultural evolution? *Phil Trans R Soc B* 369:20130368.
- [15] Claidière N, Sperber D. 2007. The role of attraction in cultural evolution. *J Cogn Cult* 7(1):89–111. <https://doi.org/10.1163/156853707X171829>.
- [16] Mace R, Holden CJ. 2005. A phylogenetic approach to cultural evolution. *Trends Ecol Evol* 20:116–121.
- [17] Gray RD, Greenhil SJ, Ross RM. 2008. The pleasures and perils of Darwinizing culture (with phylogenies). *Biol Theory* 2:360.
- [18] Boyd R, Richerson PJ. 2005. *The origin and evolution of cultures*, Oxford: Oxford University Press.
- [19] Axelrod R. 1997. The dissemination of culture: A model with local convergence and global polarization. *J Confl Resolut* 4(2):203–226.
- [20] Centola D. 2015. The social origins of networks and diffusion. *Am J Sociol* 120(5):1295–1338.
- [21] Morin O. 2016. *How traditions live and die*, Oxford, UK: Oxford University Press.
- [22] Henrich J, Gil-White FJ. 2001. The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evol Hum Behav* 22:165–196.
- [23] Sterelny K. 2017. Cultural evolution in California and Paris. *Stud Hist Philos Biol Biomed Sci* 62:42–50. <https://doi.org/10.1016/j.shpsc.2016.12.005>.
- [24] Sperber D, Hirschfeld L. 2007. Culture and modularity. In: Carruthers P, Laurence S, Stich SP, editors. *The innate mind: Culture and cognition*, Oxford: Oxford University Press. p 149–164.
- [25] Wengrow D. 2013. *The origin of monsters: Image and cognition in the first age of mechanical reproduction*, Princeton: Princeton University Press.
- [26] Mithon H, Claidière N, Mercier H. 2015. Universal cognitive mechanisms explain the cultural success of bloodletting. *Evol Hum Behav* 36(4):303–312. <https://doi.org/10.1016/j.evolhumbehav.2015.01.003>.
- [27] Heyes C. 2012. Grist and mills: On the cultural origins of cultural learning. *Phil Trans R Soc B* 367:2181–2191.
- [28] Heyes C. 2018. *Cognitive gadgets: The cultural evolution of thinking*, Cambridge, MA: Harvard University Press.
- [29] Sperber D. 2002. In defense of massive modularity. In: Dupoux E, editor. *Language, brain, and cognitive development: Essays in honor of Jacques Mehler*, Cambridge, MA: The MIT Press. p 47–57.
- [30] Buller DJ. 2005. *Adapting minds: Evolutionary psychology and the persistent quest for human nature*, Cambridge, MA: Bradford Books.
- [31] Machery E, Barrett HC. 2006. Debunking Adapting Minds. *Philos Sci* 73:232–246.
- [32] Boyer P, Bergstrom B. 2008. Evolutionary perspectives on religion. *Annu Rev Anthropol* 37:111–130.
- [33] Purzycki BG, Willard AK. 2016. MCI theory: A critical discussion. *Religion Brain Behav* 6:207–274.
- [34] Baumard N. 2016. *The origins of fairness: How evolution explains our moral nature*, Oxford: Oxford University Press.
- [35] Birch J, Witteveen J. 2017. Dividing the Pleistocene pie. *Biosci* 67(2): 180–182.

- [36] Morin O. 2013. How portraits turned their eyes upon us: Visual preferences and demographic change in cultural evolution. *Evol Hum Behav* 34(3):222–229. <https://doi.org/10.1016/j.evolhumbehav.2013.01.004>.
- [37] Boyer P. 2001. *Religion explained: The evolutionary origins of religious thought*, New York: Basic Books.
- [38] Henrich J, Boyd R. 2002. On modeling cognition and culture: Why cultural evolution does not require replication of representations. *J Cogn Cult* 2(2):87–112. <https://doi.org/10.1163/156853702320281836>.
- [39] Kalish ML, Griffiths TL, Lewandowsky S. 2007. Iterated learning: Inter-generational knowledge transmission reveals inductive biases. *Psychon Bull Rev* 14(2):288–294. <https://doi.org/10.3758/bf03194066>.
- [40] Buskell A. 2017b. Cultural attractor theory and explanation. *Philos Theor Pract Biol* 9(13):1–20. <https://doi.org/10.3998/ptb.6959004.0009.013>.
- [41] Mesoudi A, Laland KN, Boyd R, et al. 2013. The cultural evolution of technology and science. In: Richerson PJ, Christiansen MH, editors. *Cultural evolution: Society, technology, language, and religion*, Cambridge, MA: The MIT Press. p 193–216.
- [42] Richerson PJ, Boyd R. 2005. *Not by genes alone: How culture transformed human evolution*, Chicago: University of Chicago Press.
- [43] Henrich J. 2016. *The secret of our success: How culture is driving human evolution, domesticating our species, and making us smarter*, Princeton: Princeton University Press.

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