

Culture Is Not What You Think It Is: Diversifying the Foundations of Cultural Robotics

Mark L. Ornelas^{1,2}, Gary B. Smith³, and Masoumeh Mansouri¹

¹University of Birmingham, ²University of Cincinnati, ³Edinburgh Centre for Robotics

Abstract

Culture is a fundamental constituent of the human social environment, and as human-robot interactions are becoming more common, roboticists are increasingly examining how culture intersects with robotics. However, the current treatment of culture in the robotics literature is largely limited to the definition of culture as national culture. This is problematic for a number of reasons: it ignores subcultures and cultural dynamicity, it excludes refugees and stateless persons, and is often simplified to nationality, which fails to isolate culture from politics and economics. We propose to widen the understanding of culture within robotics to encompass the emergent nature of culture and the wide range of definitions of culture within the social sciences.

Culture in Robotics

Received View in Robotics: Culture synonymous with Nationality

The critique:

- Ignores subcultures
- National culture excludes stateless and refugee populations
- Defines culture hierarchically

Our Approach:

- Culture defined via individuals as subcultures
- Culture viewed as emergent



The Emergence of Culture

Culture as emerging from interactions.

- **Emergence:** a phenomenon that is composed of several members or parts that is more than the collective whole.
- **Culture as emergent:** something emerges from the component parts that cannot be reduced to or identified by the component parts alone.
- Emphasizes **cultural learning:** on adaptive, dynamic cultural learning processes

Emergence

- 4E Cognitive Science
 - Embedded, Embodied, Extended, Ecological
- Emergence
 - Part-whole relations
- Agent-Environment Coupling
 - Interactions constituted by the agent-environment relationship



Future Work

- Diversifying interpretations of 'culture' in robotics
- Utilize social interactions to understand culture as emergent
- Identifying what capabilities a robot should have to support the emergence of cultural behaviour.
- Explore the technical (AI) approaches to implementing the capacities necessary for this emergence.
- Determine what about 'culture' is relevant for cultural robotics
- Redefine the connection between social and cultural robotics

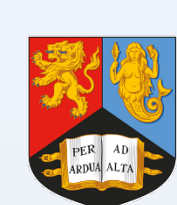
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Acknowledgements and Contact

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M. L. Ornelas is with the Department of Philosophy, University of Cincinnati, OH, USA and affiliated with the School of Computer Science, University of Birmingham, UK (e-mail: ornelamk@mail.uc.edu)
G. B. Smith is with the Edinburgh Centre for Robotics, Heriot-Watt University and the University of Edinburgh, Scotland (e-mail: s0946969@sms.ed.ac.uk).
M. Mansouri is with the School of Computer Science, University of Birmingham, UK (e-mail: m.mansouri@bham.ac.uk).



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