

**19 May**  
16:00 BST

Department of Archaeology, University of Cambridge  
Garrod Research Seminar Series Easter Term 2022  
**HISTORICAL ECOLOGIES OF SCALES**

## **Modelling ‘The Dawn of Everything’: How Simulating a Complex Yesterday Might (Not) Help Us With a Complicated Tomorrow**

**Doctor JOHN MURPHY**

*Department of Anthropology, Northern Illinois University*

Water management has been a challenge in the arid deserts of the southwestern U.S. for millennia. In this seminar I will present two simulations that have examined water management in the area around what is today



Phoenix, Arizona, USA. One was designed to understand the operation of the prehistoric canal system that for several centuries linked a collection of villages along the Salt River; the other examined modern water management among the collection of municipalities surrounding Phoenix proper. The tool used for both was Agent-Based Modelling (ABM). ABM flexibly allows explorations of possible socio-ecological strategies at multiple scales and of varying composition. However, ABM also has limitations that are not always fully recognized or explicated, leaving its role and trajectory within archaeological theory and practice uncertain. To examine this, I will consider the potential of ABM in light of 2021’s *The Dawn of Everything*, by David Graeber and David Wengrow. This new book asserts that archaeologists have failed to recognize swaths of complex and effective social forms and their associated archaeological signatures. Using the two simulations as examples, I will consider two opposing positions: First, that ABM, as part of a ‘Model-Based Archaeology,’ is well-positioned to address the issues raised by Graeber and Wengrow and is the correct tool to understand the wider variety of social arrangements they posit. But second, that the questions raised by Graeber and Wengrow are questions that ABM is ill-equipped to answer. The resolution to this carries implications for the broader project of applying our knowledge of the past to today’s social and environmental challenges.

The seminar will be held in the **SOUTH LECTURE ROOM**, Department of Archaeology, and online

### **REGISTRATION**

Online participation: [Meeting Registration – Zoom](#)  
In person attendance followed by wine reception

**Historical Ecology of Scales** *Historical ecology strives to study the past to inform the present, learning from and engaging local communities. Inspired by Dorothy Garrod’s passion for interdisciplinary research and commitment to engage local living communities, this series showcases historical ecology contributions to the potentials and challenges of different scales of research and community engagement through a focus on place, epistemologies, resources, and communities on a global scale down to the smallest details. Taking us across different ecologies, cultures and periods, the series will reflect on the legacies of trade, settlement, resource uses, the practices of tending to places or communities, and how these are present in modern narratives and inform models from the past to the future.*

#### **Contacts**

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*Image: Waterways, courtesy John Murphy*



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