

COPING WITH CHANGING CLIMATES IN EARLY ANTIQUITY (3CEA)

Comparative Approaches between Empiricism and Theory

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Academic year 2017–18 saw the launch of a new collaborative research project, Coping with Changing Climates in Early Antiquity: Comparative Approaches between Empiricism and Theory (3CEA), involving faculty and graduate students from the University of Chicago, the University of Michigan, and Purdue University. The project proposal was submitted in October 2017 to the competitive research initiative “The Work of the Humanities in a Changing Climate” offered by The Humanities Without Walls consortium (<http://www.humanitieswithoutwalls.illinois.edu/>), which is funded by a grant from the Andrew W. Mellon Foundation and is based at the Illinois Program for Research in the Humanities (<http://www.iprh.illinois.edu/>). In January 2018, 3CEA was awarded approximately \$136,000 over the course of three years (2018–2020) through the Franke Institute for the Humanities (<http://franke.uchicago.edu/>), the consortium’s partner institution at the University of Chicago.

3CEA investigates, in a comparative perspective, the social and cultural perceptions of, and experiences with, climate change in the Bronze and Early Iron Ages (third to first millennium BCE), through a multidisciplinary approach that convenes archaeologists, bioarchaeologists, and text specialists focusing on three key geographic areas: Egypt and Nubia; the Eastern Mediterranean and Anatolia; and Mesopotamia. Fostering interdisciplinary collaboration between the three partner institutions and between faculty and graduate students, the project uses ancient texts, archaeological and paleoenvironmental data (including ancient skeletal remains), and geospatial analysis to address a set of interrelated research questions:

- What kind of societal change can be identified at a fine-grained level of analysis (local/regional scale and decadal/centennial time frame) for the periods usually associated with episodes of abrupt climate change and civilizational collapse (such as the “4.2 ka event” that allegedly brought an end to the Akkadian empire in Mesopotamia and the Old Kingdom in Egypt around 2200 BCE, or the “Late Bronze Age crisis” around 1200 BCE that saw the demise of the Egyptian New Kingdom, Mycenaean Greece, the Hittite empire, and several city-states in the Eastern Mediterranean)?
- Can similar or divergent patterns of change, response, and adaptation be identified, for these periods, between and within the three regions?
- Given that “abrupt” climatic episodes often span decades, if not centuries, was there any perception by the members of ancient societies that the climate around them (environmental, but by extension, the social and political) was changing? What were the modes of representation or cultural forms with which they expressed these perceptions?
- Do the material, environmental, skeletal, and textual records attest to changes in practice or lifestyle (political system, habitat, dietary practices, mobility, etc.) that could be understood as responses to or experiences directly relating to these perceived environmental shifts? In

what ways were these changes driven (or imposed) by the socio-political elites, as opposed to the agency or resilience of small communities, households or even individuals?

The project members held their kickstarting workshop on May 17–19, 2018, at the University of Michigan (Ann Arbor, Michigan), where they presented their respective work on the topic and discussed the modalities of their collaboration at two levels: area-study groups that focus on key episodes of (assumed) climate change for the three chosen geographic areas; and comparative studies that place these analyses into the broader frame of the Early Ancient World, allowing for inter-regional and multi-data comparisons for some of the key periods identified in the different datasets.

Hervé Reculeau (assistant professor of Assyriology), who acts as the project's principal investigator, joined forces with Jay Crisostomo (assistant professor of Assyriology, University of Michigan) to study ancient cuneiform evidence of social response to climate change in Assyria over the *longue durée* of the Late Bronze and Early Iron Ages (fifteenth–tenth century BCE). They seek to address issues such as agricultural production and agrarian strategies as a proxy for coping mechanisms to climate-induced changes in the environment, but also investigate changes in social networks, literary references to catastrophes and famines, representations of the weather in ancient written sources as possible indicators of climate change, and — more importantly — the way ancient



ABOVE: 3CEA project members on the occasion of the workshop in Ann Arbor, May 18, 2018. FROM LEFT TO RIGHT, UPPER ROW: Catherine Kearns, Timothy Leonard, Émilie Sarrazin, Katie Whitmore, Hervé Reculeau; FRONT ROW: Jay Crisostomo, Thalia Lysen, Gary Beckman, Michele Buzon, Nadine Moeller. © G. Marouard.

Assyrians perceived (or not) these changes. In a similar way, the group of Hittitologists composed of Gary Beckman (George C. Cameron professor of ancient Near Eastern languages and cultures, University of Michigan) and graduate students Thalia Lysen (NELC, Chicago) and Timothy Leonard (Michigan) addresses the perception of environment and climate in Hittite culture and religion and study the assumed role of climatic degradation in the demise of the Hittite empire and its Syrian vassal city-states at the end of the Late Bronze Age (fifteenth–twelfth century BCE). This topic is also being investigated for the Eastern Mediterranean by Catherine Kearns (assistant professor in classics, University of Chicago), who will analyze patterns of climatic change, shifts in agropastoral economies, and new political formations in the context of semiarid insular environments on Cyprus, combining spatial analyses with archaeological fieldwork on rural settlements of the early first millennium BCE. Finally, Egypt and Nubia are the main focus of the group composed of Michele Buzon (professor of anthropology, Purdue University), the OI’s own Nadine Moeller (associate professor of Egyptian archaeology) and graduate students Katie Whitmore (Purdue) and Émilie Sarrazin (NELC, Chicago). Using human skeletal remains from Egypt and Nubia (modern Sudan) and archaeological data from the ongoing excavations at the ancient cities of Tell Edfu and Dendara in southern Egypt (see the respective Projects Reports), they investigate the patterns of climatic, political, and cultural changes as people cope with and adapt to the changing climate and political/cultural landscape. Three possible key-periods have been identified for this research, starting with the early third millennium BCE, followed by the so-called 4.2 ka climate event and the Late Bronze Age period. The aim is to bring together different sources of archaeological and proxy data, and to further investigate the dynamics and mechanics that might shed new light on the particular characteristics of these climatic changes and their effects on the ancient Egyptian population and settlement system in the Nile Valley and Delta, as well as in Nubia.

The workshop was also the occasion to discuss one of the key components of 3CEA: the syllabus of a joint two-quarter (or one-semester) seminar, which will be offered in the winter and spring quarters of 2019 to graduate students at the three partner institutions, using video conferencing and shared online pedagogical resources. Additional points of discussion have been the long-term prospects in academic achievements (with a conference and its subsequent proceedings scheduled for 2020) and public outreach (with the forthcoming launch of a dedicated website aimed at disseminating the project’s work and offering accessible information on studies of climate change in Antiquity). 3CEA was introduced to the University community with an interview of Hervé for the Division of Humanities Newsletter (<http://humanities.uchicago.edu/articles/2018/02/interdisciplinary-approach-climate-change>) and to our Alumni on the occasion of the Oriental Institute Research fair on June 1, 2018 (see our flyer on https://ochre.uchicago.edu/sites/ochre.uchicago.edu/files/uploads/Reculeau_OI_Fair_2018_Brochure_v2.pdf). An interview of Hervé by Anthropologists Dominic Boyer and Cymene Howe can also be found on Cultures of Energy, the podcast of the Center for Energy and Environmental Research in the Human Sciences (CENHS) at Rice University (<http://culturesofenergy.com/127-ancient-civilizations-climate-change-feat-herve-reculeau/>).