

Phenomenal time: a field philosophy for more liveable worlds

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NOTE: The Mid-Career Fellowship application form may have been updated since this proposal was submitted.

Abstract

Around the globe, stories of environmental mismatches in timing are demonstrating the complicated effects of climate change. Arctic caribou are arriving at their feeding grounds too late for peaks in vegetation growth with devastating effects on new mothers and calves. Atlantic puffins and European woodland birds are also hatching chicks outside of the best times for catching prey. Importantly, this 'time out of joint' applies not only to ecological contexts, but social ones as well. Political cycles are thought to encourage short-term thinking, when the climate crisis demands sustained action, and our seemingly ephemeral everyday practices are causing changes that will last into deep geological time. Conventionally, the time of our lives has been studied separately from the time of nature, but the climate crisis has shown that both need to be thought together. In particular, we need ways of understanding and responding to temporal mismatches in order to address the fundamental question of how to better coordinate ourselves in a time of climate breakdown. While the potentials of geological time has drawn much attention (Bjornerud), this project will explore a subfield of ecology – phenology – which studies cyclical and seasonal phenomena in plants and animals. Studying the ways that living beings produce complex temporal arrangements with each other in order to make life possible – and the mismatches that occur when things shift – phenology shows us the possibilities and limits of recalibrating time when everything around us is changing. Initiating a new conversation between the humanities, social sciences and ecology, this project will draw on innovative methods in 'field philosophy' to support collaborative enquiries with professional and amateur phenologists. The aim is to explore how new understandings of time can play a role in fostering an awareness of interdependence in the hope of more livable worlds.

The Research Idea *The innovative thesis of the project*

Within social studies of the environment, and new interdisciplines such as environmental humanities, geologic time has been a key touchstone for engaging with the problem of temporality with its capacity to help think through deep pasts and deep futures. The huge response to the proposal of the Anthropocene as a new geological

age has shown the impact that concepts of time originating in the sciences can have on efforts to address current challenges. A common complaint, however, has been that Anthropocene debates are too often fixated on attempts to define and redefine the age of 'man', limiting time to chronology (Davis and Todd). Other proposals for addressing the crisis of time, such as slower rhythms over fast, and longer term thinking over short, have been criticised for reducing time to a series of incompatible opposites that fail to engage with the way that contexts are always characterised by multiple temporalities that impact and affect each other in varying ways (Adam). Repeatedly missing is a foregrounding of social aspects of time, particularly time's role in coordinating relations amongst peoples and their environment. The key thesis of this project, then, is that opening up fresh ways of understanding relational time is crucial to responding to dangerous mismatches of time. It proposes that in its study of how plants and animals coordinate with the environments around them, phenology can focus attention on modes of telling time that are not abstract, standardised or distant from everyday life, but are responsive to environmental change.

Background *Current research reference points and their limitations*

This project situates itself within the environmental humanities, a key site for brokering interdisciplinary dialogues with the sciences in order to address socio-environmental challenges. It has done so by offering an enriched conceptual vocabulary to studies of the environment, while also seeking to rework key social concepts within a more-than-human framework (Rose et al). Work has shown how historical time has been irrevocably transformed by atmospheric carbon (Chakrabarty), reproductive time has been queered by microplastics (Davis), and how species loss is breaking bonds of multi-species time (Rose). Influential scholars such as anthropologist Anna Tsing have suggested that developing understandings of entangled forms of multi-species coordination across diverse rhythms of time are central to noticing and developing possibilities for more flourishing and ethical ways of life. To date, however, efforts to understand these inter-relational more-than-human temporalities has not yet led to either a close engagement with work on social time arising primarily from sociology and anthropology, or with phenology. This has had limiting effects since both of these neglected areas study temporal relationships in their embedded contexts and offer complex understandings of how time is made with others, shaped by needs, values and priorities. This project thus seeks to produce a transformational exchange by working to make more explicit the notions of time emerging from phenology, and by translating

these notions into social time frameworks to develop understandings of relational time that break with the nature/culture divide.

The Focus *How the research provides a fresh approach to real-life problems*

Phenological research often makes headlines with stories of ecological mismatches, but less well known is that the underlying research has become central to scientific efforts to understand the future of climate change. After falling out of favour in the 50s and 60s, phenology has been recognised by the IPCC as one of the clearest mechanisms for tracking, and hopefully predicting, changes in plant and animal behaviour. This work is seen as vital for identifying threats to populations in advance and adjusting conservation priorities accordingly. Greater conceptual clarity and closer work with other disciplines is needed however (Wolkovich). Further, with the revival of long term data collections, phenology is often conducted with the general public and citizen scientists. Through the monitoring of events like bud burst and flowering, participants are invited to read their local landscapes for evidence of change in ways that are immediate and familiar. It has been proposed that the sensitivity to changing temporal rhythms this encourages can challenge climate denialism and feelings of climate change as remote, by situating its effects within everyday life (Swartz). More broadly, dominant systems of time that prioritise efficiency, value-extraction and narrowed understandings of the impacts of our actions, are challenged by concepts central to phenology that propose time as a vector for responsiveness and adaptation. Interdisciplinary research into phenology thus offers new approaches to the challenges of the climate crisis, promising an inspiring site for predicting, understanding and responding to the changing environments we are all dependent upon. uation and medical care that have emerged across borders in Lebanon and Turkey.

Theory & Methodology *What conceptual innovation the research is aiming at, and how different disciplinary inputs will interact in empirical inquiry – specific methodological examples are often helpful for non-specialist readers*

At its heart, this project is a philosophical one that aims to take the question of 'what is time' to a novel site of enquiry. It will challenge the disciplinary hierarchies that have reserved questions of time largely for philosophy, physics and psychology, and explore the conceptual innovations offered by an engagement with ecology. As the self-professed study of relationality, ecology offers a very different viewpoint onto time as a process that is made with others. As such, this research will provide new contexts from which to unpack and rethink theoretical concepts in the field of social time, such as

Barbara Adam's 'timescapes'. As a durational practice that often engages its practitioners in decades long observations of their local environments, phenology will also speak to key environmental humanities concepts such as the 'arts of noticing' (Tsing), 'matters of care' (Puig de la Bellacasa) and 'making kin' (Haraway).

The project innovates further by challenging not just the disciplines we most often collaborate with to talk about time, but the sites from which we do philosophy. It adopts an emerging mode of enquiry from environmental humanities, namely 'field philosophy' (Buchanan et al.). This transdisciplinary approach moves away from mainstream philosophy's commitment to universal knowledge and abstract principles, and instead develops a 'topical thinking' (Frodeman) that starts from specific locations and circumstances. It takes the methods of philosophy – which can be as simple as those described by John Passmore as "free discussion and critical examination to solve a particular group of problems" – beyond conversations with other professional philosophers, into wider contexts. The aim is not to describe at a distance, or to collect 'data', but to enquire collaboratively into shared problems. Examples include Adam Briggles work with anti-fracking activists in Texas, and Thom van Dooren's work on human-crow relationships around the world.

In this project, collaborative enquiries with professional and amateur phenologists will seek to clarify what time is within this field of study; what might be provoked by exposure to other accounts of time, particularly from the field of social time; and what these enquiries might offer to society more widely. Concretely this will mean working with local citizen science groups including the phenology group at the Royal Botanic Garden Edinburgh, and Scottish volunteers of the Woodland Trust's 'Nature's Calendar' project. Activities will include participating in their data collecting sessions and holding dialogues with interested volunteers. There will also be work with professional phenologists at the University of Edinburgh (eg the Tundra Ecology Lab) and the University of British Columbia (Temporal Ecology Lab), holding similar dialogues with them and their teams (in person and online), as well as participating in Scotland-based field trips. These enquiries will be complemented by desk-based research into phenology more generally, current environmental humanities approaches to time, and interviews with identified experts in the field. Two online workshops will be held, the first engaging with field philosophers around current best practice and method, the second to reflect on and disseminate the project's research insights.

Work Plan *How the work will be organised over the award period and what outputs are intended.*

Autumn 2021: Literature review of scientific, policy and historical research related to phenology, and current work on time and environment from the humanities and social sciences. Develop and run first online workshop on field philosophy methods. Negotiate ethical use of data with Woodland Trust for field work phase, and develop of materials for the shared enquiries and consent forms etc.

Winter 2021-2022: Continue review and analysis of materials, recruit participants, draft concept paper on phenology for submission to Environmental Humanities, begin interviews with professional and citizen phenologists, and build wider networks with citizen science groups and phenology professionals.

Spring 2022: Participate in field trips with professional phenologists, participate in observations at the RBGE, analyse interviews.

Summer 2022: Analyse and write up field research for publication aimed at Environment and Planning E: Nature and Space, run second online workshop on time in phenology and begin developing paper outputs from this meeting for a special issue, present at relevant conferences, begin development of major bid application.

Expected outputs are conference presentations, two peer reviewed journal articles, a journal special issue and the partial completion of a further funding proposal. The research will enable me to build relationships with a new field of study; better understand the needs, interests, and key questions raised by the project for professional and citizen science partners; bring these networks to the wider humanities and social sciences community; and will act as a proof of concept for the significance of phenology to wider social and environmental challenges.

Outcome *What further steps and what longer-term outcome are envisaged.*

This fellowship would be held at the beginning of my mid-career period and will initiate a significant new research project on the role that time plays in fostering an awareness of interdependence in a context of climate crisis. After completing the articles and editing the special issue arising from the project itself, I envisage developing a collaborative funding application with interested project partners such as a Leverhulme Research Project. With the focus on big data in contemporary phenology, opportunities

also exist to connect with informatics colleagues via the new Edinburgh Futures Institute. In applications for further funding, I would want to build on the partnerships developed here, but also extend them to related areas such as research on ethnophenology, practices of seasonal rounds, and traditional agricultural calendars to act as further sites that would form the basis of a monograph on ecological time. Finally, I am particularly interested in working with relevant partners to raise wider awareness of phenology and to encourage public engagement. Using smaller funding streams, I would look to build on the work from this project to develop a range of outreach activities and outputs such as phenology walks (potentially working in collaboration with the Edinburgh-based Deep Time Walk team), design interventions such as phenology 'clocks' that might help attune users to multiple temporalities (as part of work in Edinburgh on 'temporal design'), and sessions at the Edinburgh Science Festival.

Ethics Statement *Any measures required for ethical conduct of the research.*

As this project involves research with others, core ethical research practices around confidentiality, anonymity, informed consent, and feedback of results to collaborators will be adhered to. A Level 1 ethics clearance has already been obtained via self-audit from the applicant's institution, indicating that there are no reasonably foreseeable ethical risks. A data management plan has also been completed covering data protection, consent for data collection, securing of data, and clear project information for participants. Participants are not in vulnerable categories, and no potential for harm or stress to participants or the researcher is foreseen. There are also no conflicts of interest. The Woodland Trust has its own requirements around data use and attribution of research results. Should the project be funded then more detailed discussions will be held in order to ensure that all activities with their volunteers adhere to these requirements. The proposed project has been reviewed by the organisation, however, and no issues have been identified.