

The Afterlife of Natural History

1. Excellence

1.1 State of the art, knowledge needs and project objectives

Natural history, as described by Diderot, “is as vast as nature”. Nature, he adds, encompasses “all beings that live on the earth, that fly in the air, or that dwell in the depths of the waters: all the beings that cover the face of the earth; and all those hidden in its deepest recesses.” The vastness of natural history was not only due to its all-comprehensive object of study; more importantly, it was the result of the numerous methods and practices that Early Modern scholars used in order to explore this object, which included surveying, assembling, collecting, describing, classifying, historicizing, exhibiting, reading, writing, drawing, publishing, calculating, and engineering. Following the “end of natural history” in the late 18th century (Lepénies 1976), knowledge about the vast, infinitely complex object of nature was distributed across a wide range of disciplines, including biology, geology, chemistry, and physics, but also history and anthropology. That which was studied as well as the ways of knowing were fragmented as natural history seemingly disappeared or became reduced, reshaped and pushed into cultural spaces with missions of preserving, educating and entertaining, such as museums.

The history of natural history has been scrutinized extensively the last decades, providing a sprawling literature on nature-writing (for the general public) and, for academic audiences, biographies of naturalists, histories of various disciplines concerned with nature, and numerous studies of natural history in Early Modern Europe and beyond. (For overviews, see Jardine et al. 1996; Curry et al. 2018, Pomata & Siraisi 2005). No one has yet proposed to study natural history after its “demise,” in other words, its afterlives (Cave 2011). What we will study then, is the survival of a set of knowledge forms and practices that remained interlinked even after their objects were transformed and put in the hands of the emerging new disciplines. We propose this study in order to address not just certain blind-spots in the history of knowledge, but also – and even more importantly – some of the most imminent knowledge challenges of the present moment. How has natural history shaped and reshaped academic communities and fields of knowledge, and been shaped and reshaped by them? How does the present order of knowledge impact how we raise and respond to questions about the survival of various life-forms on our planet, and how can a reframing of these questions in the context of natural history help us in understanding them better?

We have identified three prominent uses of “natural history” in current scholarship: First, historians of science use it to name a specific tradition or discourse, originating in Antiquity in works such as Aristotle’s *Physics* and Pliny’s *Naturalis Historia*. In this historiographical narrative, natural history reached its most distinctive form in the 17th and 18th centuries, with Comte de Buffon and Carl Linnaeus among others, before giving rise to modern sciences like geology and biology (Jardine et al. 1996). A second use, seen in some histories of the environment, invokes “natural history” to historicize the current climate crisis, using the term to indicate an historical time-frame and event-structure in which events like global warming, species extinction, and climate change is taking place, often in conjunction with “human history” (Chakrabarty 2009, 2018). A third use of “natural history” seeks to link the two other usages, revealing, for example, that the role of humans in the irrevocable destruction of the planet was anticipated by some, such as Buffon, who were immersed in the tradition and discourse of natural history in their own time (Sörlin 2017, Zalasiewicz et al. 2018).

Each of these conceptions has virtues but also limitations. The first-mentioned use is often linked to a teleology, according to which new ways of knowing (the modern academic disciplines) transplanted a mode of knowing and knowledge that was outdated and defunct. The third use recognizes that something valuable was lost but only to extent that it anticipated later scientific insights and thus risks ignoring the specificities of historical knowledge. The second usage suggests a distinction between the “natural” and the “human”; such a distinction can be useful for pointing to the role of humans as agents doing harm to the environment; but it fails to capture the interconnections that former practitioners of natural history recognized.

These conceptual limitations and inconsistencies can be averted by understanding the study of the history of “natural history” as an inquiry into the history not only of knowledge claims and the evidence to support them but also of methods, genres, practices, and “ways of knowing” (Pickstone 2000). By inquiring into natural history, its methods, genres, conceptualizations and practices, and identifying which of these aspects still lurk

within and between the disciplines, we aim both to develop a framework for addressing some of the most pressing questions of our time and to support the emergent attempts to re-entangle histories of nature with human histories.

In this project, we will reconstruct the trajectories of these methods and practices into various contexts, both theoretical and more practical. One such trajectory takes us into the hugely prolific genre of the topographical description, later repurposed in 19th-century travel literature, another into the German and Norwegian mining academies as breeding grounds for the rise of *Naturphilosophie*, only to mention two examples. Both of them also serve to illustrate the other main claim of the project: Even after “natural history” collapsed as a coherent scholarly discourse, a paradigm in its own right, the practices and methods lived on in less obvious areas and fields: in topography and mining academies, but also in museums of natural history established in the second half of the 19th century as well as in the most dominant 20th century institutionalization of Marxist philosophy, the German Frankfurt school.

The history of how natural history gave rise to the modern natural sciences has been told already (Jardine et al. 1996, Zammito 2018). How natural history practices migrated into other fields of knowledge and contributed to their emergence and development remains unexplored. Our contention is that natural history has also played an overlooked role in the development of disciplines that today we group under the heading of humanities, such as history, philology, and aesthetics. Amidst numerous crises – the COVID-19 pandemic, the Sixth Extinction, the melting of the polar ice caps and the pending hunger disaster on the African continent, scholars are primed to reach across multiple disciplines, even across “the two cultures,” in C.P. Snow’s phrasing (1959), to address pressing issues. It is thus more important than ever to rediscover and carry forward those traditions and practices that once aspired to do something similar.

This project has the following objectives:

Primary objective: To reestablish natural history as a viable tradition for tackling pressing research questions concerning the relationship between man and nature, by identifying and exploring the “afterlives” of practices and methods currently hidden within and between individual disciplines and genres.

Secondary objectives, by means of which we will achieve the primary objective:

- I. To document the “afterlives of natural history” by identifying and exploring moments and traditions that have given rise to some of the most original and innovative contributions to the history of knowledge: topography, *Naturphilosophie*, natural history museums, and critical theory.
- II. To analyze these knowledge configurations and institutions by means of state-of-art theories (assembled in the format of Humanities Labs) in order to reveal the practices (methods, procedures, concepts, tools, and networks) that brought them about and sustained them, in some case even into the current moment.
- III. To implement these practices and methods, which make up the “afterlives of natural history”, innovatively and creatively in new teaching methods, and in the production of exhibitions and databases—in order to engage with the challenges often framed by the concept of the Anthropocene.
- IV. To use findings from our investigations as vantage points for experimenting with interdisciplinarity as both working practice and procedure for communicating and building knowledge across genres and disciplines, by means of innovative formats such as database-construction, humanities lab work, and participatory exhibition design.

1.2 Research questions and hypotheses, theoretical approach and methodology

1.2.1 Research questions, working hypothesis and overall project structure

The working hypothesis of this project is that the natural history tradition, understood as a complex and shifting knowledge-generating system of concepts, methods, practices, genres and socio-material relations, offers a rich breeding ground for experimentation and innovation in how we work across and in-between disciplines. In order to take natural history and its afterlife as a starting point for developing and exploring new ways of doing collaborative research, it is first necessary to develop an exhaustive knowledge platform, created through empirical investigations of crucial moments and traditions in natural history’s history of knowledge. We will

explore these moments, or sites, and identify instances of extended reworking of and negotiations over conceptions of nature and natural history and of formulation of new fields of knowledge. The investigations of these sites will be put into practice through four empirically oriented subprojects, each focusing on one historical site and a set of research questions:

1) The first subproject has as its starting point the topographical or chorographical literature in 18th century Denmark-Norway. Characterized by comprehensive descriptions of specific regions or localities and their customs, combining these local particularities with natural history, natural philosophy, antiquarianism and philology, this genre had a large impact in the Scandinavian countries. This subproject will investigate how natural history was both an overall method and a bounded object in this literature, which reflected a range of topics, objects, methodological approaches and literary techniques. The Scandinavian actualization of the topographical/chorographical genre was modelled on German, French and British publications, all of which built on, among other things, a long tradition of natural historical and antiquarian knowledge practices, two tightly connected fields (Rudwick 1972, Heringman 2013). How was natural history understood and practiced in topographical literature? Around 1800, this literature is said to have been transformed. In what way did it change and how did “natural history” fare in this transformation? What role did natural history play in the development of the early 19th-century versions of the modern disciplines, such as history, art history and cultural history, which all supplanted the topographical tradition?

2) The second subproject further develops this approach to the afterlives of natural history, focusing on a site of great importance for the development of modern geology, history and aesthetics: the Mining Academy of Freiberg, founded in 1765. In the late 18th and early 19th century, young men from all over the world gathered there, under the auspices of one of the most famous figures of early geology, Abraham Werner (Rudwick 2006). Among them were the Norwegian student Henrich Steffens, sent to study *Bergbau* (mining engineering), and the German literary superstar and polyhistorian Johann Wolfgang von Goethe; these men and their bestselling works are the main objects of research in this subproject (Haberhorn 2004, Matussek 1998). Each in his own way, and together with a range of other brilliant writers, contributed to the emergence of a spectacular moment and tradition of knowledge, German *Naturphilosophie*, which, in a speculative and often artistically ambitious way, transformed natural history into a way of thinking about the creative and dynamic forces of the Earth, across the divisions between human and non-human, life and non-life. What specific and unique articulations of knowledge were displayed at the intersection between geology, cosmology, aesthetics and human history at this particular site and in this literature? How did mining engineering become a vehicle for turning the descriptive and classificatory practices of natural history into a mode for speculating about the beginning and ending of the world and everything in it?

3) The third subproject will investigate salient methodological features of natural history practice: collecting, ordering and classifying. Methods with a deep connection to natural history seem to have played an important role in informing the methods and genres of what became the study of folklore in Germany and elsewhere, notably, Norway. The Norwegian Folklore Archives contains the works of the pioneers of what can be called both a folkloristic discipline and a folkloristic movement. This pioneering work was closely connected to the collection work of naturalists at natural history museums, and this subproject will probe the genres, questions, concepts, experiments, technologies, and tools – both linguistic and material – involved in these collection practices. Of special interest are the works of Peter Christen Asbjørnsen, famous for publishing the first Norwegian folktale collections, but also known for introducing the works of Charles Darwin to the Norwegian public. Asbjørnsen’s extensive publication list shows a concurrent parallel interest in both folklore and natural historical topics, especially marine zoology. This subproject will also investigate the early history of the natural history museums in Oslo, focusing on the methods, objects, concepts and genres employed by them and seen and studied in relation to folklorist practices. How were folkloristic and naturalist practices intertwined? What were the “methodological commons” in these knowledge fields that are normally seen as separated and divergent? How were disciplinary demarcations formulated in these contexts?

4) The fourth subproject takes as its starting point the debates that flourished in the early decades of the 1900s about the nature of scientific knowledge, demarcating the humanities from the natural sciences, or alternatively history and natural history. The distinction between nomothetic and ideographic sciences that was launched by the neo-kantian Wilhelm Windelband was but one of the divisions developed. Walter Benjamin’s concept of natural history in his *Ursprung des deutschen Trauerspiels* and Theodore Adorno’s essay on natural history were key events in efforts of the early Frankfurter school to establish a new conception of history – in opposition to neo-kantianism and hermeneutics (Hanssen 1998). The role of and conception of “natural

history” in formulating a new history can shed light on the later expulsion of nature from critical theory (but see Sebald 1999). In the Nordic countries, the discussion and demarcation between natural and cultural history, and a revivification of *historia literaria* – the systematic history of erudition and of scholars – was hotly debated at the same time. Drawing from its Baconian origins in the 17th century, and the idea of integrating the study of the history of erudition, *historia literaria* played a vital and completely unexplored role in the shaping of early 20th century scholarly trajectories in the intersection between natural and cultural history. These two cases seen together will be used to ask: How were the concept and practices of natural history developed and framed as a critical intervention into debates on aesthetics and human history in the early decades of the 20th century? How did the debates reconfigure the co-ordinates of critique and topics of humanist research?

Taken together, these four subprojects form a comprehensive and fundamental Work Package (WP III). To broaden the empirical base, and to be able to see and seek natural history connections in a wider corpus of texts, the project’s team of researchers will collaborate extensively with the National Library of Norway. By the means of digital humanities tools developed at the Library, the project will develop an empirical base for tracing conceptual, semantic and contextual shifts of natural history at different moments (WP II). The investigations and thus the deepened understanding of the natural history tradition and its transformations that is provided by WP II and WP III, will create the knowledge base for launching innovative and experimental practices (WP IV and WP V). This, we believe, is required to address today’s debates over how to understand and do academic work given that the borders between nature and culture, human history and natural history, human-centered and nature-centered disciplines are understood to be impediments to the generation of new knowledge. Tasks related to project hiring and organization of events are grouped into a separate administrative work package (WP I). A visual representation of the overall project structure can be seen below, in Figure 1. The individual work packages and their interrelationships are discussed in more detail below, together with the project’s theoretical and methodological framework.

Building on the experiences and findings from the sites and practices in WP I–WP IV, we will ask broader questions: How, where and when can contact-points, negotiations, objects, genres and new methods for interdisciplinary work be established? What is natural history today and what can it become?

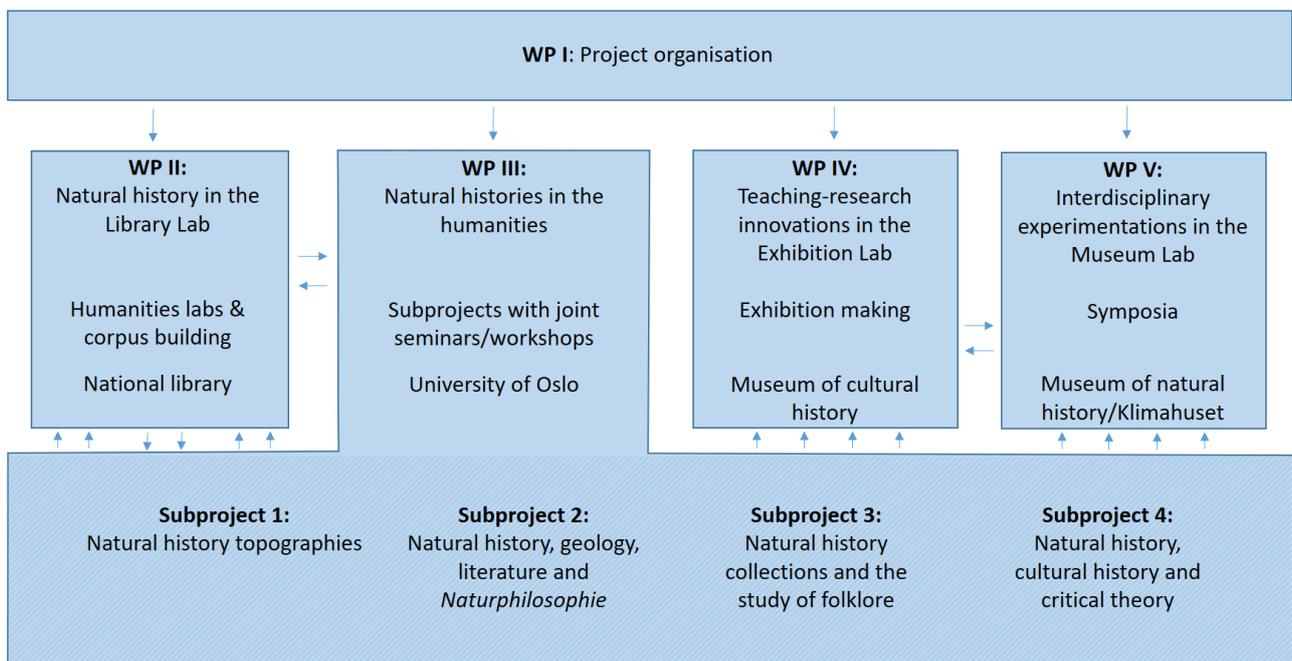


Figure 1: Overall project structure

1.2.2 Work packages

Methodological renewal and the development of interdisciplinarity as practice are key goals of this project. These goals shape the project's organization and its work packages, which are mainly designed according to the different research practices and collaborative activities that will be carried out within them. The lab – or laboratory – is a key concept for organizing the work, building on a recent turn to “the lab” in libraries and museums, transposing the idea of the lab as a site for collective knowledge-making based on common empirical material, from the closed laboratories of the natural sciences to public arena (see for example Bjerregaard 2019). The five work packages (WPs) enable us to have a tight coordination as well as to develop joint analytic perspectives and methodological concerns that will be present in all WPs. Each WP (except WP I) is also directly connected to two or more of the research objectives described in 1.1. The work packages are as follows:

WP I: *Project organization.* This WP will coordinate and ensure cooperation among the WPs and the participants. It will be responsible for arranging the seminars and the bi-monthly meetings (virtual or in-person) of the WP leaders, and the hiring of the PhD and postdoc. (WP leader: Professor Brita Brenna)

WP II: *Natural history in the Library Lab.* This WP will be based at the National Library of Norway and will use the library's collections. It will engage in two types of activities. 1) The National Library will build a corpus of documents related to natural history from its extensive collection, scrutinizing metadata and content words, but with manual curation. This corpus will be compared with the collection as a whole, in order to find the characteristics of these texts. The texts will be subject to established DH methods, such as word frequency and collocation analysis and topic modeling. Texts from the 19th century will be OCRed using optimized models for antiqua and Gothic script developed at the National Library of Norway, which will greatly improve the quality of the corpus. 2) It will curate a “Humanities Lab” that engage an interdisciplinary group in discussions about a set of humanist's and naturalist's objects. Books and archived material from the Library's collection will be paired with historically and thematically related specimens from the Natural History Museum to initiate and stimulate discipline-crossing conversations. (WP leader: Research Librarian Dr. Siv Frøydis Berg)

WP III: *Natural histories in the Humanities.* This WP comprises the four already-mentioned subprojects. Taken together, these four subprojects will make it possible to identify and trace natural history configurations, exchanges and transformations in new contexts. The empirical investigations into a variety of materials hitherto virtually unexplored, using a combination of methods (see below), will expand our understandings of natural history and its afterlife. Overall perspectives and conceptual, empirical and methodological connections will be developed in joint reading seminars and academic workshops. Together with WP II's collaborative work, WP III will provide a solid knowledge base, consisting of original empirical and conceptual findings, from which new questions, perspectives and explorations can evolve. (WP leader: Professor Helge Jordheim)

WP IV: *Teaching-research innovations in the Exhibition Lab.* This WP will integrate core discussions and findings from project activities into our ongoing and successful, yearly exhibition-making MA course at the Museum of Cultural History of the University of Oslo. Discussions with the employees at the museum will provide the starting point for the students' exhibition-making which will explore how natural history is present and presented in museums of cultural history. The methodological framework will be developed by students and their instructors on the basis of critical museology and exhibition-experiment methodologies. (WP leader: Brita Brenna, in collaboration with Dr. Olav Hamran, Section Manager for Department of Ethnography, Numismatics, Classical Archaeology and University History at the the Museum of Cultural History, Oslo).

WP V: *Interdisciplinary experimentations in the Museum Lab.* This WP constitutes the third experimental basis for our project. Symposia will be housed at the Climate House at the Natural History Museum Oslo. Engaging with biologists, zoologists, anthropologists and archaeologists, this WP has as its main goal the creation of a cross-disciplinary space where our understandings of natural history and of interdisciplinary knowledge practices can be defined and refined. The methodological approach is currently undefined as the goal is to develop new, joint methodological approaches and knowledge practices, through explorations of possible “methodological commons”. These explorations will include enquiries into how we can fruitfully form common research questions, objects and objectives, as well as explorations of possible joint knowledge practices. Historical and contemporary objects will be used to start off the discussions. Our aim is both to recover a richer understanding of how natural history works in today's disciplines and to open up new vistas

for future knowledge production. (WP leader: Associate Professor Line Esborg in collaboration with Professor Anders Ekström)

These work packages and subprojects are structured to make it possible for the knowledge established in WP II and WP III to continuously feed into the innovative and experimental parts of the project (WP IV and WP V). In this way the WPs connect and provide project coherence. At the same time, collaborative activities in WP IV and WP V will offer new perspectives on the historical material investigated in WP II and WP III. To ensure that meaningful connections are made between the historiographical and investigative research on natural history and the more experimental/innovative part of the project, the core group of the project – participants in WP III – will take part in activities in all of the WPs.

1.2.3. Theoretical assumptions and methodological considerations

The project's main theoretical assumption is that knowledge is always linked to practices; in other words; knowledge is not discovered or found, but always made. In the tradition from Latour and other STS scholars, this is not a constructivist argument as much as an empiricist one. Rather than placing us at a theoretically imposed distance from our objects of study, this practical turn in the history of knowledge invites us to move up close to our objects, which are never ready-made pieces of knowledge, but on-going practices of knowledge production, and describe them in all their empirical detail, leaving out neither the textual nor the material aspects of these practices. Our investigations of natural history texts and genres are thus based on a rhetorical-pragmatic understanding of textual historical agency (Asdal et al. 2010, Asdal & Jordheim 2018) We also understand objects – for example, museum specimens – as having a co-constitutive function in the construction of natural history knowledge. This understanding is in line with theoretical approaches developed in museum studies, the history of science and the STS fields (Brenna 2011, Brenna et al. 2019, Hodacs et al. 2018, te Heessen 2012).

We use the concept of '*practice*' in a very general sense about all sorts of activities – practical, material, discursive – connected to natural history knowledge production and dissemination (Schatzki et al. 2001). In a more narrow, but related sense, '*practice*' can also be used more specifically, to refer to certain types of "standardised" cultural behaviour, such as, for example, scientific methods (methodological practices), the use of genres (textual practices), and specific ways of ordering museum specimen (museum practices). Focusing on knowledge practices, rather than on sciences or disciplines, makes it possible and productive to investigate natural history as a multiple object of study and as a basis for cultivating new collaborative knowledge practices.

Subproject 1, on topographical literature, conducted by a post.doc. will be an inductive and source-led investigation of a large corpus of 18th and 19th century texts. In cooperation with collaborators at the Library, this subproject will contribute to the database-building. Language processing methods developed by the Library—such as text mining—will also be employed in the investigation of the historical material. To contextualize and broaden the perspective on the topographical literature, additional source-based research will be done in different archives in Oslo, Stockholm and/or Copenhagen. The second subproject, on mining engineering and *Naturphilosophie* will experiment with different versions of "reception history" (*Wirkungsgeschichte*) in order to understand the interdependence between the survival of physical objects such as rock collections and mining tools, on the one hand, and works from the literary and philosophical canon, such as Goethe's *Faust II* or Steffens *Beyträge zur inneren Naturgeschichte der Erde*, on the other hand. Professor Helge Jordheim and Research Librarian Siv Frøydis Berg will conduct the research. In subproject 3, on natural history knowledge practices in museums and collections, cultural historical close-reading methods will be employed, together with contextualizing source-based study of the rich folklore material in the folklore archive, including academic works, letters, field notes, sketchbooks, photographs, media clips, objects. In the study of the establishment and transformation of 19th century natural history museums in Norway, STS and source-based historical research will be used to examine the nexus of textual and museological practices, the scientific methods, network building and the practical collection work at the natural history and the cultural history museums. Head of the Norwegian Folklore Archives, Associate Professor Line Esborg will undertake the research together with a PhD. The last subproject, on the meaning and movements of natural history in debates on cultural history and theory in the early 1900s, will explore corpora of decisive texts through cultural historical close-readings and contextualizations, with a focus on the contexts of enunciation and the discursive formation they contributed to. Ideally this will also contribute to the history of interdisciplinary research styles. Professors Anders Ekström and Brita Brenna will undertake the interrogations.

As can be seen from the outline above, methods and methodology are both an object of study and, of course, an important part of the project's own research design. On one level, we investigate methods as part of broader natural history knowledge practices. We understand methods as specific ways of making discoveries, performing studies, and describing them. At the same time, in line with our main theoretical assumption, we work from the realization that methods not only describe an existing reality but contribute in creating and forming this reality. This productive and generative understanding of "method," draws on theorists such as John Law and Annemarie Mol (Law 2004, Mol 2002) and a long tradition within Science and Technology Studies (STS). Even though we distinguish clearly between methods as an object of study and our own analytical methods both these methodological aspects of our project are connected by the ambition to experiment and innovate. This ties together both the afterlives of natural history and the ways in which we study them, and feed them back into our own scholarly practices. In this way the project aims not only to change the current state of knowledge about natural history but also the ways in which we practice knowledge work at the intersection between the human and natural sciences.

1.3 Novelty and ambition

For scholarship to contribute to addressing the challenges of the present and the future, it must break free of brackets, forged in the creation of the disciplinary order in the 19th- and 20th-centuries and become reacquainted with scholarly practices that move across and between these disciplinary borders (Jordheim & Shaw 2020). The "afterlife of natural history" offers such a set of practices and methods, traceable from their origins in the 18th century, through different moments, traditions, and discourses, into the present state of knowledge. This project aims to uncover scholarly practices – such as description, speculation, exhibition, and critical theorization – that are not part of the method-object nexus of our current disciplines but that operate at the intersections between different forms of knowledge. These practices, we argue, first emerged and were developed and refined within the discourse of "natural history." In order to understand and reinvent them, we also need to investigate it and its afterlife.

The novelty of the project consists in the four-fold ambition, the four objectives set out in Section 1.1. They are developed to ensure that the project moves beyond the state of the art in the fields of cultural and intellectual history, history of knowledge, history of sciences and the humanities, museology, archive studies, and digital humanities. In addition, and most importantly, the projects aim to create a platform for theoretical and historical reflection that can bring the natural and the human sciences into convergence. Of the project's four objectives, two (I and II) are mainly *past-oriented*, aiming to identify and explore key moments and traditions in the "afterlife" of natural history and to map the practices and tools involved in them. The other two (III and IV) are mainly *present- and future-oriented*, aiming to put these traditions, practices, and tools to work in interdisciplinary teaching and research. The main day-to-day working ambition of the project is to integrate these four objectives by means of five WPs, each organized to promote not just different kinds of knowledge production but also different kinds of *work*: management (WPI), exploration and database-construction (WP II), text- and archive-based investigation (WP III), object- and exhibition-led teaching (WP IV), and interdisciplinary experimentation (WP V). Our emphasis on work instead of knowledge outputs grows out of the natural history tradition, which the project understands in light of its practices rather than its theories and declarations.

The project's ambition is to produce a different platform for doing academic work – research, teaching, and communication – that neither replicates the existing order of knowledge nor claims to collapse it with ubiquitous references to interdisciplinarity. But we are not proposing to reinvent the wheel. Quite the contrary. We suggest that the practices and tools we need are already part of our current state of knowledge, but they lurk in the margins and fringes and hide in the cracks and gaps among and within existing disciplines. To recognize these practices and methods and consciously apply them, however, we need to refamiliarize ourselves with them, reconstruct their genesis and development, and repatriate them into the contexts from which they emerged. These contexts are what we call "natural history".

2. Impact

2.1 Potential for academic impact of the research project

Climate emergency, species extinction, and plastic filling up the ocean are some of the challenges facing academic scholarship in the present moment. To meet these challenges we need to think across different

disciplines. Key words for such an endeavor are inter-, cross-, or trans-disciplinarity, or even disciplinary “convergence”, used by UiO: Life Sciences. Another key word, however, is *natural history*. If successful, one possible impact of this project, is to create a new platform and a new infrastructure for thinking about nature-culture entanglement in a historical perspective. By focusing on practices that are shared across the natural sciences and the humanities, such as assembling, collecting, describing, classifying, historicizing, exhibiting, reading, writing, drawing, and publishing, we aim to stake out a new path for cooperation across disciplines. The engine room for this innovation will be the *Humanities Lab*, which will serve as a site for experimenting with different practices and form a collaborative working space for researchers from multiple disciplines involved in the project. In a long-term perspective, we want to inspire and help institutionalize interdisciplinary work based on historical materials – with the potential of reforming and updating how the natural sciences approach the relevance of history for understanding nature, and *vice versa*, how the humanities assess the relevance of nature for understanding history. Already historical records and archives play an increasingly important role in natural sciences understandings of nature (for example in Ancient DNA) but we will claim that there are further potential in sharing, investigating and reflecting on these sources. Museums and libraries are important venues for research and knowledge-based engagement with publics, and we see a great potential for inspiring researchers to engage with historical concepts and materials from museum and library collections, also for the benefit of engaging various publics. On a short-term level we will investigate the methodological potential in working closely with material in an interdisciplinary setting open to the public. Our hope is to inspire alternative future imaginaries of nature and history based on experimental work with objects and texts (see for inspiration Harrison et al.2020).

2.2 Measures for communication and exploitation

For the international academic community we will present eleven articles that together form a coherent investigation of the afterlives of natural history. Two articles discussing interdisciplinary experimental work on natural history collections in the form of visual material, texts and objects will be published in international peer-reviewed journals. The post.doc will produce three articles in relevant international peer-reviewed Open Access journals, and a special issue in an international Open Access journal will present six articles from the subprojects in WP III. The PhD will hand in a dissertation. In addition, we will organize two international conferences. To communicate interactively with academic peers as well as with the general public, we will offer 6 workshops/symposia – 3 at the National Library and 3 at the Climate House, both in Oslo. The method employed in this “Humanities Lab” will be presented and discussed in one of the articles mentioned above. Two student-exhibitions will be produced, and again one article will present this explorative work. We will end the project by presenting a coffee table book, which will be important in reaching those unable, for whatever reasons, to gather at workshops and will at the same time serve to reinvent one of most long-lasting communication media of natural history. In the book we will present natural history material in a broader framework than usual, with authors from the humanities and the natural sciences reflecting upon and presenting items that we have discussed and worked on in collaboration in the project labs.

3. Implementation

3.1 Project manager and project group

The project will be based at the University of Oslo (UiO), at the Department of Culture Studies and Oriental Languages (IKOS). IKOS is a leading environment for research on the cultural history of natural history, most notably as host to the newly established School of Environmental Studies (OSEH). IKOS is also partner in the Heritage Experience Initiative (HEI), which aims at furthering research and teaching in close collaboration with the heritage sector. Located here is also the Centre for Museum Studies and the Norwegian Folklore Archive. It is thus the ideal setting for this project, which combines historical, cultural and museology research with practical experience in and outreach to museums and exhibitionary institutions. Situated within the Faculty of Humanities, IKOS has the resources for developing and maintaining projects and an outstanding record with respect to publications and PhD supervision. Since 2018, IKOS has also been the home of the RCN-Toppforsk-project *Lifetimes: A Natural History of the Present*, directed by Helge Jordheim and with Brita Brenna as leader for one of the WPs. *Lifetimes* has served as a platform for explorative studies into

questions on the temporality of natural history and has produced some preliminary results that this project builds upon in a much more ambitious and expansive venture.

PI Brita Brenna is Professor of Museology, IKOS (UiO), and heads IKOS's Centre for Museum Studies. She has a long-standing interest in natural history collecting, collections and exhibitions and in interdisciplinary and cooperative research and teaching. She is skilled at fostering collaboration between the academic and museum sectors and has been responsible for establishing co-operation with the Museum of Cultural History (MCH) for teaching through exhibition-making. As partner in the Curating Climate Collaboratory, she worked with colleagues at the Climate House, and with partners at the Natural History Museum (NHM) she works to realize a larger collaborative project between the humanities and natural sciences on ecosystem restoration and the role of museums. Having worked with natural history in Norway in the 18th century, she can apply this knowledge of methods, objects and tools of natural history to the study of its afterlife in different settings. She will be responsible for overall organizing (WP I) and for the collaboration with MCH and NHM together with Dr. Olav Hamran (MCH) in WP IV. Hamran is not financed by this project, but will be central for the setting up of the exhibition experiments. Having served as curator and Head of the Norwegian Medical Museum for more than a decade before entering his present position at MCH he have a strong experience in experimental curating of science and medicine.

Helge Jordheim is Professor of Cultural History, IKOS (UiO), and leads the RCN-Toppforsk-project *Lifetimes*. He has published path-breaking work on the history and theory of times in plural and is an expert on the 18th-century history of knowledge as well as the history of concepts. Jordheim has a long track-record of working across the disciplines, highlighted by his directorship of the UiO interdisciplinary research program KULTRANS (2010-2015) and his engagement in UiO:Life Sciences. He will lead WP III, bringing the managerial experience of running large-scale projects as well as a profound expertise on the history of the humanities to the project. He will serve as editor for a Special issue, as well as heading the running reading seminars.

Anders Ekström is Professor of History of Science and Ideas. He has published on cultural and media history and theory for three decades, specializing in topics as diverse as 19th century exhibitionary media and contemporary research policy. Currently finishing two collaborative projects, one on the relation between historical and natural times, and another on the history of humanities, he has a career-long commitment to integrative research. He has extensive experience from working with and in museums as well as from developing and initiating interdisciplinary work and research environments. Currently holding a position as Professor II at IKOS, he contributes into discussions and workshops on the history and practice of interdisciplinary research, and is also currently collaborating with Brenna and John Ødemark on a Handbook on Cultural History in the Anthropocene. Ekström will head WP V with Esborg.

Line Esborg is Associate Professor at IKOS (UiO) and since 2014 managing the Norwegian Folklore Archives, located at IKOS. She has a range of publications in folklore, cultural history and digital heritage and is elected editor in chief of *Tidsskrift for kulturforskning*, the Norwegian journal for folklore, ethnology and cultural history. She is currently Principle Investigator in REA:Life, an interdisciplinary natural and cultural sciences project that traces the prevalence of disease, and the history of societies' increasing awareness of epidemiological disease during the Age of Exploration (15th-18th centuries) and beyond. This ongoing collaboration is important for her work in WP V. Furthermore, with a profound knowledge of the archive, she can localize and bring to the table objects and sources of invaluable importance for the project.

Siv Frøydis Berg holds a Ph.D. in History of ideas, and is employed as Research Librarian, Department of Scholarship and Research at the National Library of Norway (NL). Her main research interests focus on the history of knowledge and technology, future thinking, popular culture and communication technology. Her position at the Library has provided opportunities to publish and present her research in the academic field, as well as an extended engagement with a broader public. For a decade she has explored her research through a variety of materials (photographs, letters, pamphlets and broadside ballads). She will head WP II, communicating between the DH database-building project and the Humanities-lab at NL, and the rest of the project, as well as working closely together with the post.doc, and organising material-based workshops.

Our international Advisory Board will ensure both quality and international impact of the project. The group will be invited to our kick-off conference and will be included in workshops virtually or physically according to the nature of the material in question. In the board we have sought persons with a strong commitment to interdisciplinary research as well as a deep knowledge of the afterlives of natural history in a variety of contexts. Dr Sam Alberti is Keeper of Science and Technology at National Museums Scotland, specialized in the history of 19th century natural history museums as well as exploring how natural history specimens can be made relevant for research and outreach and give guidance in setting up the experimental workshops as well as providing expert knowledge on the history of natural history collections and museums in the 19th and 20th centuries. Karen Rader is a professor of Science and Technology Studies at Virginia Commonwealth University, specializing in the history of modern life sciences, the history of natural history museum in the US and with an outstanding record in engaging publics through Science Labs. Professor Geoffrey Bowker University of California, Irvine is one of the world's leading experts on nature-culture entanglements in various knowledge environments, such as archives and databases, and will thus be an important resource for both theoretical and methodological innovation in the project. Professor Marie-Theres Federhofer at the Humboldt University specializes in Norwegian-German exchanges in the realm of natural history, with a focus on the Arctic, and will contribute to several of the subprojects. Professor Stefan Willer at Humboldt University is a world-leading scholar on German history of knowledge, at the intersection of literature and science, and will be of crucial importance for pointing out the inroads of natural history in the Western canon.

3.2 Project organisation and management

TIMELINE	WP1 Brita Brenna Project organisation	WP2 Siv Frøydis Berg Natural history in the Library Lab	WP3 Helge Jordheim Natural histories in the humanities	WP4 Olav Hamran and Brita Brenna: Teaching-research innovations, the Exhibition Lab	WP5 Line Esborg and Anders Ekström : Interdisciplinary experim., the Museum Lab
2021	Q3				
	Q4	Hiring Postdoc			
2022	Q1	Hiring PhD	Reading seminars start up		
	Q2	Kick-off conference Afterlives of natural history	DH – analysis + post.doc database work		
	Q3		Humanities Lab, NL		
	Q4				Interdisciplinary symposium, CH/NHM
2023	Q1		Post.doc article 1		
	Q2				
	Q3		Humanities Lab, NL		
	Q4	PI+Postdoc Article 2			Interdisciplinary symposium, CH/NHM
2024	Q1				
	Q2			Exhibition production MCH	
	Q3		Humanities Lab, NL		
	Q4			Special issue: The Afterlives of Natural history. 6 articles	Interdisciplinary symposium, CH/NHM
2025	Q1		Postdoc Article 3		
	Q2			Exhibition production KHM	Ekström + Esborg + NHMpartners: Article i
	Q3	Concluding conference Afterlives of natural history	PhD dissertation		
	Q4	Coffeetable book		Hamran + PI: Article on natural history in the KHM	

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