



HISTORY OF SCIENCE SOCIETY

SUSTAINABILITY, REGENERATION, AND RESILIENCY

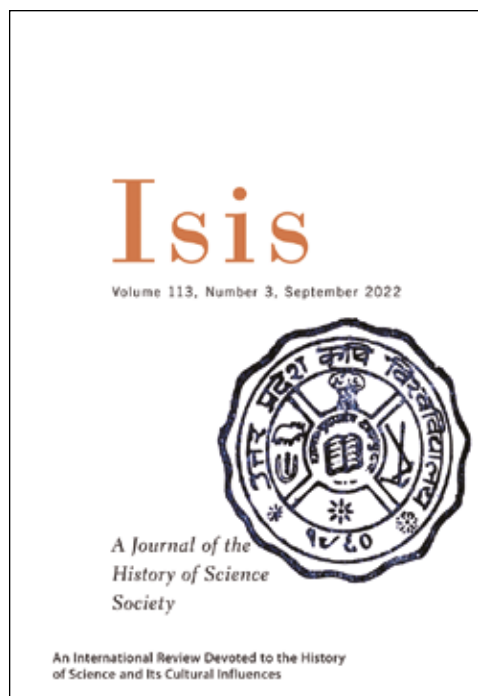
HSS Annual Meeting

November 17–20, 2022

Chicago, IL, USA

Drake Hotel

The University of Chicago Press is honored to publish *Isis* and *Osiris* on behalf of the History of Science Society

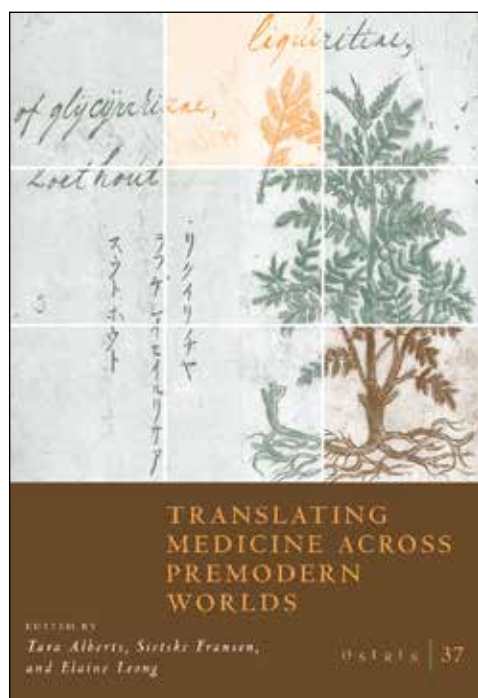


Isis

Four issues/year plus *Current Bibliography*
ISSN: 0021-1753 | E-ISSN: 1545-6994

journals.uchicago.edu/isis

Since its inception in 1912, *Isis* has featured scholarly articles, research notes, and commentary on the history of science, medicine, and technology and their cultural influences. Review essays and book reviews on new contributions to the discipline are also included.



Osiris

Annual | ISSN: 0369-7827 | E-ISSN: 1933-8287

journals.uchicago.edu/osiris

Founded in 1936 by George Sarton, and relaunched by the History of Science Society in 1985, *Osiris* is an annual thematic journal that highlights research on significant themes in the history of science. The 2022 volume is *Translating Medicine across Premodern Worlds*.



THE UNIVERSITY OF CHICAGO PRESS JOURNALS

OFFICERS & COMMITTEES

EXECUTIVE COMMITTEE

- Fa-ti Fan, President
- Evelynn Hammonds, Vice President
- Gwen Kay, Treasurer
- Luis Campos, Secretary
- Alexandra Hui, Editor
- Matthew Lavine, Editor
- John Paul Gutierrez, Executive Director (ex officio)

COUNCIL

2020-2021	2021-2023	2022-2024
Helen Anne Curry	Florence Hsia	Monica Azzolini
Pablo Gómez	Projit Bihari Mukharji	Rebekah Higgitt
Elaine Leong	Christine von Oertzen	Terence Keel
Maria Portuondo	Irina Podgorny	Harun Küçük
Simon Werrett	Dora Vargha	Alisha Rankin
Jan Golinski, Past President	Kris Palmieri, Early Career Representative	

COMMITTEE CHAIRS

Advocacy	Honors and Prizes	Nominating Committee
Joanna Radin	Elly Truitt	Victor Seow (co-chair)
		Jaipreet Virdi (co-chair)
Diversity and Inclusion	Meetings and Programs	Publications
Abigail Nieves	Irina Podgorny & Prakash Kumar	Sigrid Schmalzer
Education and Engagement	Membership	Technology and Communication
Sarah Naramore	Gabriela Soto-Laveaga	Kate Sheppard
Finances	Respectful Behavior	
Gwen Kay, HSS Treasurer	Evelynn Hammonds	

AT A GLANCE

REGISTRATION DESK

Thursday, Noon-8:00pm
Friday, 8:00am-6:00pm
Saturday, 8:00am-6:00pm
Sunday, 8:00am-11:30am

EXHIBIT HALL

Thursday, 7:30pm-9:00pm
Friday, 9:00am-5:30pm
Saturday, 9:00am-5:30pm
Sunday, 9:00am-Noon

BREAKS

Friday, 10:30am-11:00am,
3:30pm-4:00pm
Saturday, 10:30am-11:00am,
3:30pm-4:00pm
Sunday, 10:30am-11:00am

Wednesday 16 November

Elizabeth Paris Event, Chicago's Night Sky, 5:00pm, Adler Planetarium

Thursday 17 November

HSS Listening Session, 5pm-5:45pm, Michigan room

Opening Plenary, Science, The State, and Second Nature, 6:00pm - 7:30pm, Grand Ballroom

Opening Reception, 7:30pm-9:00pm, Gold Coast

Friday 18 November

Distinguished Lecture, Michelle Murphy, Chemistry Within and Against Colonialism, 6:00pm-7:30pm, Grand Ballroom

Saturday 19 November

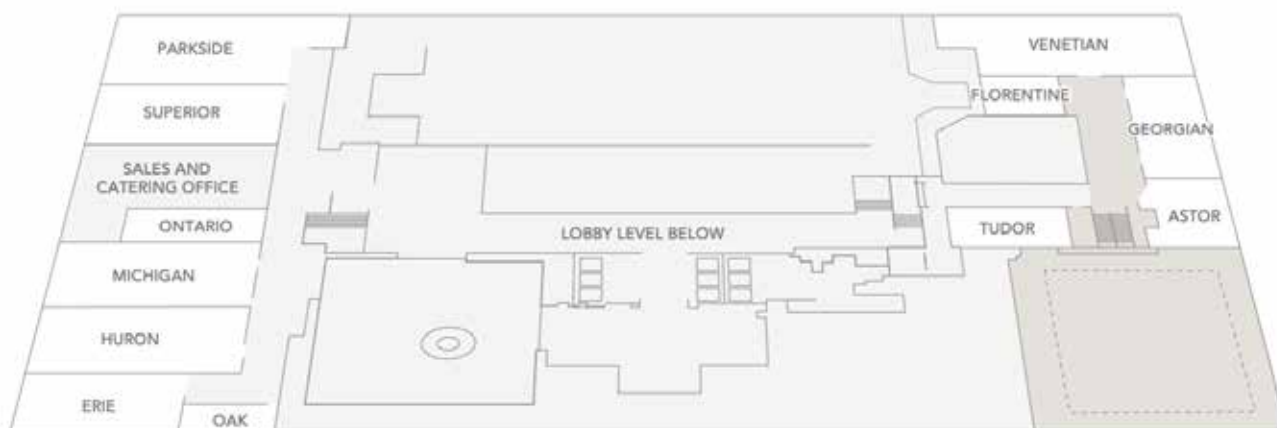
Interview with Sarton Medalist: Margaret W. Rossiter, 12:45pm-1:45pm, Grand Ballroom

Prize Ceremony, 6:00pm-7:30pm, Grand Ballroom

Sunday 20 November

Member Business Meeting, 7:30am-8:45am, Grand Ballroom

HOTEL MAP



MEZZANINE LEVEL



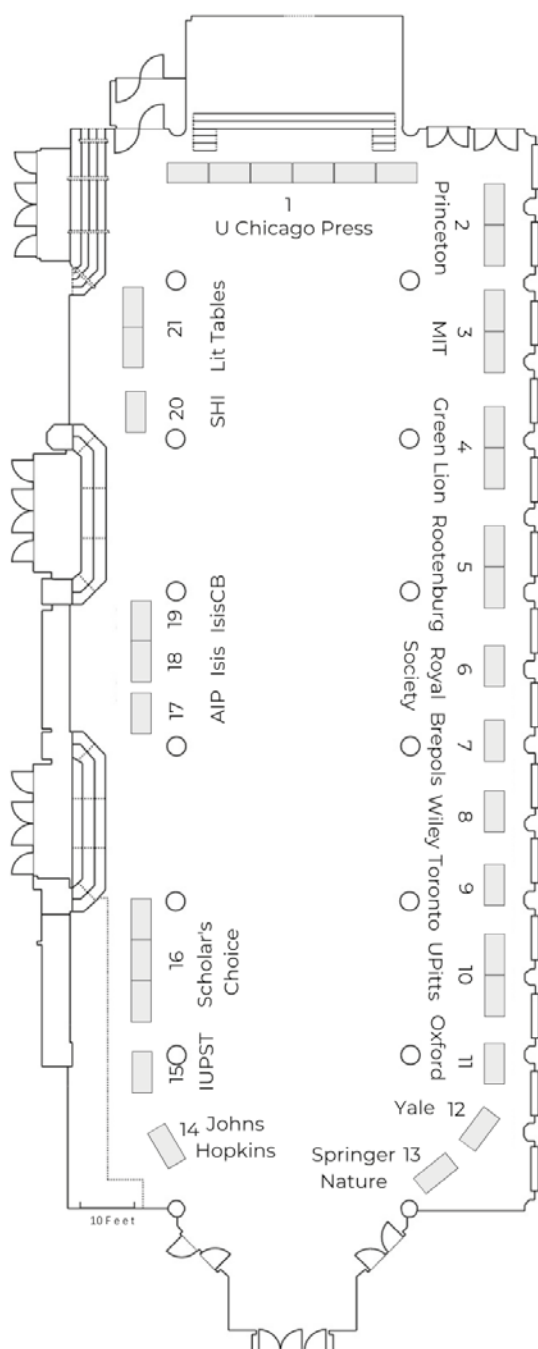
LOBBY LEVEL

Ben Marshall boardroom located on the first floor



EXHIBIT HALL

GOLD COAST



EXHIBITORS

1. University of Chicago Press
2. Princeton University Press
3. MIT Press
4. Green Lion Press
5. Rootenburg Rare Books & Manuscripts
6. The Royal Society
7. Brepols
8. Wiley
9. University of Toronto Press
10. University of Pittsburgh Press
11. Oxford University Press
12. Yale University Press
13. Springer Nature
14. Johns Hopkins University Press
15. IUPST
16. Scholar's Choice
17. American Institute of Physics
18. Isis
19. Isis CB
20. Science History Institute
21. Joint Literature table



NOTES AND RECORDS

Why not consider *Notes and Records* for your next history of science article?

We offer our authors:

- Fast, high quality, double-blind peer review
- Excellent author service and fast publication times
- International visibility and readership

Impact factor: 0.88

24th out of 62 in 'History and Philosophy of Science'

Notes and Records also publishes themed issues. Recent issues include:

Cabinet, Elaboratory, Gallery 1500–1800. The Preservation of Art and Material Culture in Europe organized and guest edited by Morwenna Blewett

Undescrib'd: Taylor White's 'Paper Museum' organized and guest edited by Victoria Dickenson

For further information and to submit, visit royalsocietypublishing.org/journal/rsnr

THE
ROYAL
SOCIETY
PUBLISHING

THURSDAY, NOVEMBER, 17

001. HSS Executive Committee Meeting

9:00 to 12:00 pm

Drake Hotel: Floor Mezzanine - Erie

Chair:

Fa-ti Fan, Binghamton University

Participants:

Luis Campos, Rice University

Evelynn Hammonds, Harvard University

Rebekah Higgitt, National Museums Scotland

Alexandra Hui, Mississippi State University

Matthew Lavine, Mississippi State University

Gwen Kay, SUNY Oswego

Matthew Shindell, Smithsonian National Air and Space Museum

002. HSS Council Orientation

12:00 to 1:00 pm

Drake Hotel: Floor Mezzanine - Parkside

003. The Care and Keeping of Animals and Humans in the History of Science

Organized Session

12:30 to 2:00 pm

Drake Hotel: Floor Lobby - Drake

The 'animal turn' is well-established in the history of science. It ranges from scholarship that considers science's long-standing dependence on animals as experimental subjects to scholarship that tracks the way animals have come under the scientific management of veterinarians, agricultural workers, and ecologists alike. Throughout this literature, care emerges as a crucial, yet undertheorized analytic for understanding animal-human encounters and the production of scientific knowledge. This panel foregrounds how science has depended on raced, gendered, and classed dynamics of care and juxtaposes case studies of multispecies care across scientific disciplines. Shira Shmueli reassesses the meaning of domestication and species kinship as coercive care through the story of American zoologist Henry Raven's temporary 'adoption' of an African chimpanzee, Meshie, into his household in the 1930s. Kat Poje examines the way eugenics has shaped the concept and practice of animal euthanasia in the United States since the turn of the 20th century, tracking how, from the point of view of city governments, humane advocates, and veterinarians, caring for companion animals came to mean killing them. Jongsik Yi explores how the Maoist ideology of animal care was an integral part of the authoritarian state's imperative to establish collectivism yet facilitated the development of the

peasant knowledge about animal nutrition, health, and behavior. And Kim Sanchez addresses the way animal husbandry has been redefined by experimental agricultural scientists on ranches in contemporary Wyoming. This panel would include a hybrid of virtual and in-person presentations.

Participants:

Chimpanzee Child: Meshie Mungkut and the Failure of Domesticity, 1930s America *Shira Shmueli*

"We Only Keep the Best We Receive": Eugenics, Mercy Killing, and the American Humane Movement *Kat Poje, Harvard University*

Becoming "Livestock Maniacs": The Maoist Ideology and Knowledge of Animal Care in More-than-People's Communes *Jongsik Christian Yi, Pohang University of Science and Technology*

Working Knowledge: Scientific Expertise, Labor, and Livestock Care in Wyoming *Kimberly Susan Sanchez, University of Michigan*

Session Organizer:

Kat Poje, Harvard University

Chair:

Etienne Benson, Max Planck Institute for the History of Science

004. Troubling Temporalities: Approaches to Narrating and Historicizing Deep Time

Roundtable

12:30 to 2:00 pm

Drake Hotel: Floor Mezzanine - Georgian

How have pollen, ice, tusks, and scallops been constructed as natural chronometers, and how might their study unlock new insights for telling planetary histories? What scales—temporal, geographic, cosmological—might allow us to tell these kinds of stories? What kinds of historical evidence have been used to construct chronologies or demarcate boundaries on the planetary scale? How have forces of historical and geological contingency shaped the Earth sciences as they are practiced today, and what happens when historical and geological periods begin to overlap? Considering earth or planetary history as a case of both history through science, history with science, and classically a history of science, this roundtable seeks to trouble some of our methodological assumptions about the nature of history and deep time.

Session Organizer:

Laura Martin, Williams College

Participants:

Perrin Selcer, University of Michigan
Alexis Rider, Institute of Historical Research at
the University of London
Melissa Charenko, Michigan State University
Emily Kern, University of Chicago

005. Vernacular Sciences in Asia

Organized Session

12:30 to 2:00 pm

Drake Hotel: Floor Mezzanine - Huron

This panel is sponsored by the Science Across Regions in Asia Working Group, at the Consortium for History of Science, Technology and Medicine. The histories of science, technology and medicine in Asia have been dominated by the analysis of hegemonic languages such as Classical Arabic, Chinese, and Sanskrit. This focus has meant that our stories have disproportionately emphasized civilizational sciences and scholarly elites. Occasionally, these civilizational sciences have been shown to travel and translate across cultural borders. But our big-picture stories of global science have missed a lot. This panel brings together scholars who are working to re-think these narratives by turning to vernacular sciences in pre-modern Asia. A focus on vernacular sciences presents a novel set of questions that are rarely asked of materials from Asia. It allows scholars to think about linguistic, epistemic and political questions together. It provides the possibility of working across unexpected scales that are excluded from national or civilizations frames. And it allows scholars to think about local actors who practiced different forms of “sustainability, regeneration, and resiliency” in the face of dominant intellectual and political structures. Our panel includes historians of Asia specializing in science, technology and medicine, who explore the vernacular sciences that existed always alongside and sometimes in opposition to hegemonic languages. Individual papers will discuss projects carried out in Braj Bhasha, Kannada, Korean and Manchu.

Participants:

Epistemic Vernaculars of Early Modern Korea:
Skill and Script in the Military Workshops
*Hyeok Hweon Kang, Washington University
in St. Louis*

Was the Qing court’s Manchu scholarship vernacular science? *Mårten Söderblom Saarela, Academia Sinica; He Bian, Princeton University*

Small is a Big Thing of the Past: Making Local Knowledge and Predicting the Weather in

Southern India *Eric Moses Gurevitch, Vanderbilt University*

Treating Venereal Diseases in the Vernacular:
A Case Study from Early Modern South Asia
Sonia Wigh, Independent Scholar

Session Organizer:

Hyeok Hweon Kang, Washington University in
St. Louis

Eric Moses Gurevitch, Vanderbilt University

Chairs:

Michael D. Gordin, Princeton University

006. GECC Welcome Room Day 1

12:30 to 6:00 pm

Drake Hotel: Floor Lobby - Marquette

The Graduate and Early Career Caucus is pleased to announce the return of our Welcome Room, pioneered back at our summer 2019 meeting in Utrecht. The Welcome Room is a space for graduate students and early career scholars, especially those new to HSS, to congregate, step away from the conference momentarily in order to collect their thoughts, or even make some final changes to a presentation. We will offer a small assortment of snacks and beverages. Come stop by and say hello!

007. Historiography of Science: From Theory to Practice

Contributed Paper Session

12:30 to 2:00 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Before Sarton: Aksel Josephson’s “A List of Books on the History of Science” *Zachary Barr, The University of Chicago*

Introducing a Multi-layered Edition for Science Classics *Eunsoo Lee, KAIST*

The Historiography of Science in Latin America in the 1980s and 1990s: The Challenges of “Reception” *Marcos Cueto, Fiocruz, Brazil*

Positivists and Pragmatists on Science, Knowledge, and Non-Cognitive Grasping *Parysa Clare Mostajir, University of Chicago*

Chair:

Kathleen Sheppard, Missouri S&T

008. Geo-Resources in the Early Modern World

Roundtable

12:30 to 2:00 pm

Drake Hotel: Floor Mezzanine - Superior

Geo-resources and the impact of their exploitation on social and natural systems are key concerns for communities around the globe in our

present moment of anthropogenic climate change and accelerating environmental degradation. This roundtable seeks to add historical depth to the transdisciplinary conversation about resources, labor, and the environment by rooting it in the early modern, preindustrial world. Showcasing varied sites of resource-management and -extraction from across Europe, East Asia, and Latin America, the presenters will briefly discuss their research on mercury mines in the Andes, silver mines in the Holy Roman Empire, forest management in the archipelagic Ryuku Kingdom, the pastures that supplied Rome's booming meat industry, the coastline of Baja California, and the wetlands of Italy's Po River Valley. Consideration of these varied landscapes and worksapes will open up a series of questions for roundtable participants and attendees to collectively consider: Should the early modern period be considered the origin point of today's socially and ecologically unsustainable economic policies? Should it alternatively (or additionally) be considered a period of sustainable practices of resource management and forgotten modes of natural knowledge that may be worth recovering? Whose interests did "sustainable" practices of resource management serve? This forum will offer a productive space for conference attendees to engage substantive questions about early modern science, economy, empire, and the environment as well as methodological questions raised by the emerging connections between the history of science, environmental history, labor history, and historical ecology.

Session Organizer:

Lydia Barnett, Northwestern University

Participants:

BuYun Chen, Swarthmore College

Sebastian Felten, Universität Wien, Institut für Geschichte

Lydia Barnett, Northwestern University

Renee Raphael, UC Irvine

Nydia Pineda de Avila, UCSD

Bradford Bouley, UCSB

009. Oceans in Depth: Knowledge, Resources, Representations

Roundtable

12:30 to 2:00 pm

Drake Hotel: Floor Mezzanine - Venetian

Historians of science know how energetically oceanographers themselves constructed the identity of their field as an interdisciplinary endeavor. In 1931, for instance, the Harvard zoolo-

gist Henry Bigelow called it "a mother science, the branches of which are too intertwined to be torn apart." It seems appropriate then to use the subject of oceans to discuss the variety of historical writing on oceans today, and the place of the traditional concerns of history of science in them. These concerns include how disciplines have formed and shifted, and whose knowledge counts; how technological mediation in an inhospitable environment for human life shapes our understanding; how scientific, economic and geopolitical ambitions are interwoven; and the importance of myth, art and imagination for all these ambitions. Contributors to this roundtable are Natalia Gándara on nineteenth-century naturalists' encounters with South American kelp forests; Alison Glassie on selkies, feminism and extinction narratives in the Gulf of Maine; Katharine Sinclair on the subantarctic Kerguelen islands and French sovereignty in the Cold War; Jonas Rüegg on ecological and interregional concepts of the maritime in Japan; Kimia Shah on the visual epistemologies of nineteenth-century American painters; and Katharine Anderson on 1920s scientific internationalism at sea. As environmental crises increasingly focuses attention on oceans, it is critical to explore the complex knot of our shared historical questions.

Session Organizer:

Katharine Anderson, York

Chair:

Helen Rozwadowski, University of Connecticut Avery Point

Participants:

Katherine Sinclair, Rutgers University

Alison Glassie, Mahindra Humanities Center, Harvard University

Jonas M. Rüegg, University of Zurich

Kimia Shahi, Harvard University Center for the Environment

Natalia Gandara, Pontifical Catholic University of Valparaíso (Chile); John Carter Brown Library (USA).

Katharine Anderson, York

010. HSS Council Meeting

Business Meeting

1:00 to 5:00 pm

Drake Hotel: Floor Mezzanine - Parkside

Chair:

Fa-ti Fan, Binghamton University

Participants:

Evelynn Hammonds, Harvard University

Luis Campos, Rice University

Gwen Kay, SUNY Oswego
Matthew Shindell, Smithsonian National Air and Space Museum
Rebekah Higgitt, National Museums Scotland
Pablo F. Gómez, University of Wisconsin–Madison
Elaine Leong, University College London
Simon Werrett, University College London
Projit Bihari Mukharji, University of Pennsylvania
Dora Vargha, University of Exeter / Humboldt University
Monica Azzolini, University of Bologna
Alisha Rankin, Tufts University
Helen Anne Curry, Georgia Tech
Maria Portuondo, Johns Hopkins University
Florence Hsia, University of Wisconsin
Christine von Oertzen, Max Planck Institute for the History of Science
Irina Podgorny, CONICET La Plata
Terence Keel, University of California, Los Angeles
Harun Küçük, University of Pennsylvania
Jan Golinski, University of New Hampshire
Kristine Palmieri, University of Chicago

011. Scientific Animals and Nations

Roundtable

2:30 to 4:00 pm

Drake Hotel: Floor Lobby - Drake

Animals are a favored form of national representation. In the last century, national governments loomed increasingly large in funding life sciences. At the intersection of animal symbolism and pursuits of scientific knowledge, a few animal species, such as the American cow, the Chinese panda, various Japanese ornamental fish, and Australian indigenous animals, as both scientifically important for fundamental issues in biology, and economically or culturally important for national regeneration and sustainability. Such presentations of animals as both for science and for the nation had wide-ranging consequences, often creating centers of knowledge production that concentrated resources, altered the trajectories of biological subfields, and in turn changed the fate of these animals and their nations. This roundtable, by bringing scholars researching about animals in diverse contexts that highlight knowledge production and the nation, explores the significance and the varied historical expressions of animals between modern science and the nation. E. Elena Songster discussed how classification and ecological debates became interwoven into

the rise of giant panda as a national symbol for contemporary China. Nicole Welk-Joerger explores the complicated place of agricultural bovines as symbols of sustainability in the US. Lijing Jiang explores how the Japanese rice fish was constructed as a model for genetics and organismal development in twentieth-century Japan. Rachel Ankeny comments on how the local significance of native animal research in Australia is used to promote global recognition. Together, we ask what new insights we can gain from taking the nation seriously while thinking with scientific animals.

Session Organizer:

Lijing Jiang, Johns Hopkins University

Participants:

Rachel Ankeny, University of Adelaide

E. Elena Songster, Saint Mary's College of California

Nicole Welk-Joerger, University of Wisconsin, Milwaukee

Daniel Burton-Rose, Wake Forest University

012. Engravers and Engraving: Visions of Natural Philosophy in Early Modern Europe

Organized Session

2:30 to 4:00 pm

Drake Hotel: Floor Mezzanine - Georgian

The role of engraved imagery in early modern science has gained attention in recent historiography. Engravings appeared in printed books in many forms, ranging from allegorical frontispieces and liftable flaps to drawings and diagrams. They served a multitude of functions in the transmission, consolidation, and contestation of scientific knowledge. Engravings were used as pedagogical aide-mémoire, provided expositions of mathematical formulas or physical phenomena, and served up diagrams attesting to the marvels of nature, including the anatomies of humans, animals, and plants. While some engravings complemented their textual counterpoints, others served as stand alone components intended to be interpreted without the aid of text. This panel showcases and problematizes the many forms and functions of engravings in early modern science. We pay special attention to the dynamic interplay between engravers, engravings, and the authors and consumers of printed books, including the diverse institutional, cultural, and religious landscapes in which images were produced and circulated, while attending to the materiality of engravings and the embodied work of the engraver-as-artisan.

Participants:

Engraved Visions: The Sacred Anatomized Body in Johann Remmelin's Catoptrum Microcosmicum *Hannah Wiepke, University of Minnesota*

Intaglio Inquiries: Scientific Academies & The Engraved Image *Katherine Reinhart, SUNY - Binghamton*

Women at the Margins of the Printed Page: Engraving Science in Enlightenment France *Margaret Carlyle, University of British Columbia Okanagan*

Session Organizer:

Margaret Carlyle, University of British Columbia Okanagan

Katherine Reinhart, SUNY - Binghamton

Chairs:

JB Shank, University of Minnesota

Commentator:

Suzanne Karr Schmidt, Newberry Library

013. Environmental (In)Justice: Imperial Hege- monies and their Neoliberal Legacies

Contributed Paper Session

2:30 to 4:00 pm

Drake Hotel: Floor Mezzanine - Huron

Participants:

Settler rats and imperial sewers: urban environmental justice from below *Josh Levy, Library of Congress*

Imported Garbage, Colonial Legacy and Global Capitalism: Environmental Injustice in Indonesia *Pratama Yudha Pradheksa, Rensselaer Polytechnic Institute; Didid Haryadi, Department of Sociology, Universitas Brawijaya*

"Job-Killing Regulation": Policy Science, Deindustrialization, and Neoliberal Anti-Environmentalism *Erik Baker, Harvard University*

Chair:

Nuala Caomhanach, New York University/
American Museum of Natural History

014. Productive Disputes in the History of Science and Mathematics

Organized Session

2:30 to 4:00 pm

Drake Hotel: Floor Mezzanine - Michigan

The proposed session is sponsored by the International Association for Science and Cultural Diversity (IASCU) and brings together case studies wherein scientific knowledge grew, not in spite of disagreements between scientists and mathematicians, but precisely because the partic-

ipants involved disagreed. Recently, Massimi (2021) has suggested that productive scientific disputes often center on big picture questions such as justificatory principles or methodological points of view, rather than on scientific knowledge claims themselves. By bringing together case studies of scientific disagreement from different scientific disciplines, including algebra, biochemistry, computer science, and physics, the session seeks to interrogate this distinction between general methodology, on one level, and specific knowledge itself, on another level. Further, Pronskikh and Sorina (2021) argue that in teaching methodological strategies to future scientists, one should not only focus on consensus but also show students how conflict can be useful. By discussing productive scientific disputes, we not only develop insight into how scientific knowledge is cultivated over time, but also generate case studies to share when training future scientists.

Participants:

Solving the Cubic Equation *Peeter Mürsepp, Tallinn University of Technology*

The Oxidative Phosphorylation Disputes in Biochemistry, 1960s–1970s *Gina Surita, Princeton University*

Genetic Algorithm between Biology and Computational Mathematics: Dispute at the University of Michigan, 1967–1970 *Andrew Fiss, Michigan Technological University*

From intuitive judgements to productive disputes: Philosophical education of future scientists *Vitaly Pronskikh, Fermilab; Galina Sorina, Lomonosov Moscow State University*

Session Organizer:

Madeline Muntersbjorn, University of Toledo

Chair:

Madeline Muntersbjorn, University of Toledo

015. Between Natural and Human Histories

Organized Session

2:30 to 4:00 pm

Drake Hotel: Floor Mezzanine - Superior

It is well-established that modern Western practices of natural and human historiography emerged fairly simultaneously—and in explicit conversation—during the late 18th and 19th centuries. As Martin Rudwick, Paolo Rossi, Peter Bowler, and other historians have shown, conventions of historical periodization, standards of empirical evidence, conceptual understandings of temporal causality, and other central features of historical reasoning and interpretation were co-

constructed across disciplinary contexts ranging from antiquarianism, emerging European (German and British) schools of historicism, geology and paleontology, ethnography and archaeology, evolutionary biology, and other areas. What is less well-studied, though, is how cross-disciplinary historical “imaginings” have continued to inform social, cultural, and intellectual understandings of history and historicity up through the present. This panel gathers four papers that explore specific cases of negotiation and co-construction of human and natural historical imaginings across disciplinary spheres in 19th and 20th century biology and earth sciences. Emma Kitchen presents the story of a particular fossil find--the remains of an extinct bovine ancestor of the modern cow discovered in colonial India--as a “liminal object” that crossed boundaries between human and natural historical periodizations, scientific and political discursive spheres. Isabel Gabel looks at how molecular biology in France was perceived by liberal and Marxist intellectuals as an unwelcome resurgence of Hegelian idealism, and argues that this political and scientific context is central to understanding the significance of radical historicism in the 1960s and 70s. David Sepkoski explores the constructions of distinct “imaginaries” that informed both biological and political discourses about extinction at key moments of 20th-century crisis, arguing that extinction has always served as a cultural/scientific trope connecting visions of the past with anxieties about the future. Finally, Sophia Roosth takes an anthropological perspective on the recent study of microbial “holobionts” (colonial microbial assemblages) in the context of postcolonial theory, suggesting ways in which analytical categories of human historiography offer insights into ongoing narratives of futurity in environmental science. Overall, this session encourages historians to consider the ways in which co-construction of natural and human historiography has shaped in the past, and continues to shape, cultural imaginings of temporality and historicity.

Participants:

Smoothing through Time: Liminal Fossils and their Narratives of the Past *Emma Kitchen, University of Chicago*

Biology and Critique: Jacques Monod and the Fate of Hegel in France *Isabel Gabel, University of Chicago*

Geo-Eschatology and the Anthropocene *David Sepkoski, University of Illinois*

The Fluent Sculpture of Time *Sophia Roosth, NYU/Max Planck Institute for History of Science*

Session Organizer:

David Sepkoski, University of Illinois

Chair:

Mark Borrello, University of Minnesota

016. Arctic Materialities: Objects, Collections, and Knowledge in and of the Far North

Organized Session

2:30 to 4:00 pm

Drake Hotel: Floor Mezzanine - Venetian

In his 2017 distinguished lecture at the annual HSS meeting Sverker Sörlin diagnosed a “northern turn” in the history of science. Responding to a recent flurry of humanities scholarship on the Arctic, Sörlin noted that “the north,” broadly conceived, brought issues of fundamental importance in the history of science and our world at large to the fore, among these often overlooked actants. In this spirit, this panel takes material culture as a lens through which to examine histories grounded in the nineteenth- and twentieth-century Arctic that each have broader implications for how we narrate history. We begin with object-based case studies - from natural history collections and scientists’ personal archives, to paper correspondence and expedition relics - and ask: How do objects help us transcend traditional histories of science, imbued with tropes of discovery and heroic masculinity? How can they help us navigate questions of scale, environment, and agency? And what obligations do settler scholars have to contemporary Indigenous communities whose lives their work touches? In a world throttled by anthropogenic climate change and with global attention focused on the Arctic, how do we write useful or usable Arctic histories? This panel aims to show that, far from being marginal to the history of science, attention to the far north and material culture can help us create, in Sörlin’s words, “meaningful narratives to assist our troubled navigation.”

Participants:

The Natural Science of Human Culture: Naturalized Data in Ancient Migration Research on the Strait, 1865-1907 *Brooke Penaloza-Patzak, University of Pennsylvania / University of Vienna*

“Exploration Was Already a Joke When I Came to Canada”: Archiving and Objects in the Making of a Scientific Legacy *Sarah Pickman, Yale University*

"Disappointed at finding nothing": Failures of Inscription in the Polar Expeditions of Franklin and Cook *Allegra Rosenberg, NYU*

"The Saddest of Membra Disjecta": 19th Century Arctic Exploration and the Body as Object *Eva Molina, Princeton University*

Session Organizer:

Sarah Pickman, Yale University

Chair:

Adriana Craciun, Boston University

017. HSS Listening Session

HSS Annual Meeting

Sponsored Session

5:00 to 5:45 pm

Drake Hotel: Floor Mezzanine - Michigan

Chairs:

Fa-ti Fan, Binghamton University

Gwen Kay, SUNY Oswego

Luis Campos, Rice University

Rebekah Higgitt, National Museums Scotland

Matthew Shindell, Smithsonian National Air and Space Museum

Evelynn Hammonds, Harvard University

018. Science, the State, and Second Nature

Opening Plenary

6:00 to 7:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

How have states functioned as agents of environmental change? What governing logics inform the postures their experts have taken toward ecological systems and natural resources? In what ways have science and technology been mobilized by states to mediate their relationship to nature? Our panel takes up these questions through case studies drawn from twentieth-century China, Brazil, Lebanon, and India. Victor Seow begins from the premise that the modern state is best thought of as a state of second nature: environmental change has been intrinsic to its form and function. Looking at China in both the Mao era and closer to the present, he contends that this characterization spans the political spectrum and is not merely a feature of the so-called capitalist state. Matthew Johnson explores how, in the face of a domestic environmental movement, the military dictatorship in Brazil came to appropriate claims of scientifically informed environmental stewardship even as it backed dam-building projects that yielded seriously negative socio-environmental impacts, undermining the elusive search for sustainability. Through the contestation between Lebanese and French engineers over

Lebanon's largest river, the Litani, Owain Lawson explores how notions of waste and efficiency became central to colonial and postcolonial claims of territorial sovereignty, in ways that increasingly privileged financial waste over material waste. Finally, Elizabeth Chatterjee uses the history of the electrified irrigation pumpset in India to show how farmers were able to outmaneuver state technocrats as they secured subsidized electricity from the state. Unsettling top-down narratives of state expansion, she foregrounds bottom-up drivers of envirotechnical change in the interstices of state policy. Together, these papers aim to bring the state back in as the central actor and locus of contestation in the modern history of science, technology, and environmental change.

Participants:

States of Second Nature *Victor Seow, Harvard University*

Pharaonic Environmentalism: Dam Building and Environment in Authoritarian Brazil, 1960s-1990s *Matthew P. Johnson, Harvard University Center for the Environment*

Wasted into the Sea: Efficiency, Sovereignty, and Lebanon's Litani River *Owain Lawson, Oberlin College*

Democracy's Second Nature: India's Green Revolution from the Underground Up *Elizabeth Chatterjee, University of Chicago*

Session Organizer:

Victor Seow, Harvard University

Chair:

Fredrik Albritton Jonsson, The University of Chicago

Commentators:

Fredrik Albritton Jonsson, The University of Chicago

Bathsheba Demuth, Brown University

019. HSS Opening Reception

HSS Annual Meeting

Reception

7:30 to 9:00 pm

Drake Hotel: Floor Lobby - Gold Coast

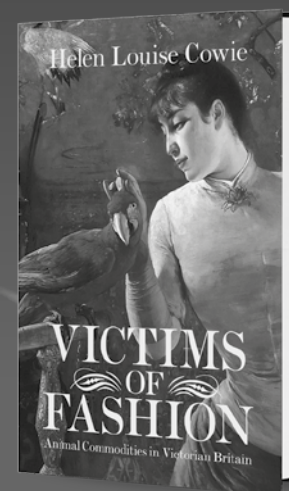
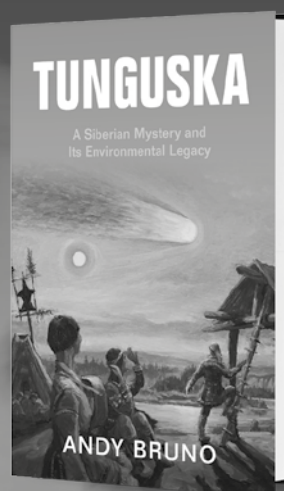
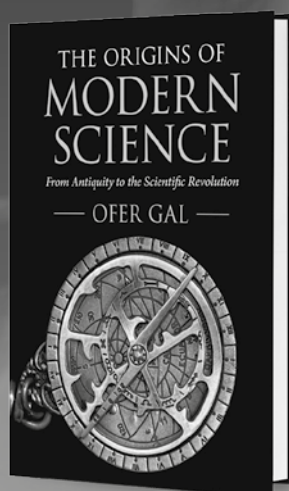
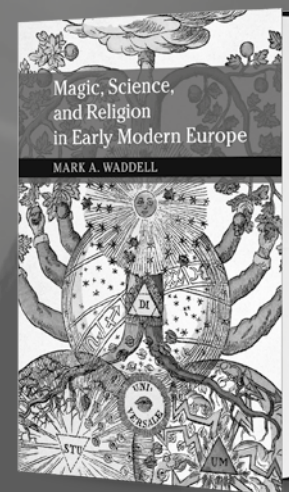
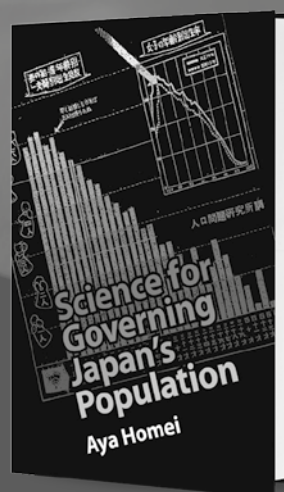
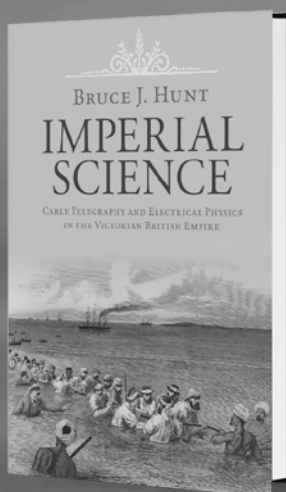
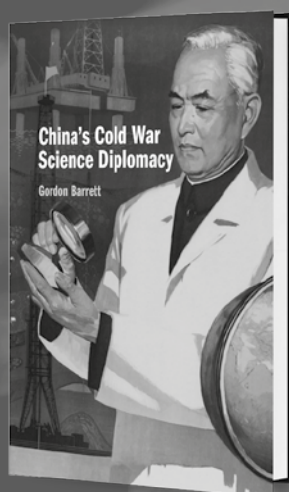
CAMBRIDGE

SAVE 30%

on selected titles from Cambridge University Press

Browse the full range of books included in this offer at www.cambridge.org/HSS2022
or enter the following code at the checkout: HSS22

Offer ends 31st December 2022



Follow us on Twitter @[cambUP_History](https://twitter.com/cambUP_History)



CAMBRIDGE
UNIVERSITY PRESS

FRIDAY, NOVEMBER, 18

020. HSS Committee/Caucus/Forum Chair's Breakfast

Business Meeting

7:30 to 8:45 am

Drake Hotel: Floor Lobby - Camellia

021. Forum on the History of Chemical Sciences (FHCS)

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Astor

022. Forum on the History of Health, Medicine, and Life Sciences

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Lobby - Drake

023. Early Science Forum

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Erie

024. Forum for the History of Science and Knowledge in Latin America and the Caribbean

Business Meeting

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Florentine

Chair:

Karin Roseblatt, University of Maryland

025. Forum on the History of Mathematical Sciences

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Georgian

Chair:

Brittany Shields, University of Pennsylvania

026. Forum for the History of Human Science Distinguished Lecture

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Lobby - Grand Ballroom

FHHS welcomes historians of the human sciences, broadly defined, to attend a distinguished lecture, *Body Arithmetic: Facts, Quantification, and the Human in the Seventeenth Century Atlantic* by Pablo F. Gómez, and celebrate emerging work in this field. Two awards will be presented: the FHHS/JHBS John C. Burnham Early Career Award and the the FHHS Dissertation Prize. Elections will be held for FHHS officers.

Chairs:

Debbie Weinstein, Brown University

Dana Simmons, University of California, Riverside

Commentator:

Pablo F. Gómez, University of Wisconsin–Madison

027. Earth & Environment Forum

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Huron

028. GECC Welcome Room Day 2

9:00 to 5:30 pm

Drake Hotel: Floor Lobby - Marquette

The Graduate and Early Career Caucus is pleased to announce the return of our Welcome Room, pioneered back at our summer 2019 meeting in Utrecht. The Welcome Room is a space for graduate students and early career scholars, especially those new to HSS, to congregate, step away from the conference momentarily in order to collect their thoughts, or even make some final changes to a presentation. We will offer a small assortment of snacks and beverages. Come stop by and say hello!

029. Visualizing Nature

Contributed Paper Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Four Seasons of Fuchs **Eunsoo Lee**, KAIST;
Kyung Taek Oh, KAIST

The colonization of media **Brandon Sward**,
University of Chicago

Ethology on the Small Screen: The Granada TV – Zoological Society Film Unit **Miles Kempton**, *University of Cambridge*

Chair:

Ahmed Ragab, John Hopkins University

030. HSS Member Orientation

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Ontario

Learn about HSS governance, and how the Society works.

Commentators:

Fa-ti Fan, Binghamton University

Gwen Kay, SUNY Oswego

Luis Campos, Rice University

Alexandra Hui, Mississippi State University

Evelynn Hammonds, Harvard University

Matthew Lavine, Mississippi State University
Rebekah Higgitt, National Museums Scotland

031. Forum on the History of Science in Asia (FHSA)

HSS Annual Meeting

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Parkside

032. CALM Caucus Business Meeting

Business Meeting

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Superior

Chairs:

Catarina Madruga, Museum für Naturkunde Berlin

Benjamin Gross, Linda Hall Library

Pedro Raposo, The Academy of Natural Sciences

033. Physical Science Forum

HSS Annual Meeting

Sponsored Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Venetian

034. Childish Subjects: Twentieth Century Clinical Studies of Children

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Astor

Participants:

Hope for Jack Yet. Or, Healy-ian case studies and early 20th century attempts to engineer delinquent kids. *Daniel Gibboney Jr, University of North Carolina at Chapel Hill*

Interwar child guidance in philanthropic and transatlantic perspective *Hannah Blythe, University of Cambridge*

Mobilizing Taiwanese Children as Experimental Subjects in the Postwar International Health Campaigns against Trachoma, 1954-1967 *Shinyi Hsieh, University of California, San Francisco*

Chair:

Felix Rietmann

035. Human Descent and Evolution Across Scientific and Popular Literatures in the Nineteenth-Century Anglo-American World

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Lobby - Drake

With the 150th anniversary of its publication in 2021, Charles Darwin's *Descent of Man*, and *Selection in Relation to Sex* has attracted renewed

attention from historians of science. Scholars such as Evelleen Richards, James Moore, and Adrian Desmond have shown how Darwin drew on ideas from a wide breadth of personal experiences, genres, and disciplines, in some cases, reaching back into the eighteenth century. The vision of human evolution that emerged argued for human's physical, moral, and intellectual continuity with "lower animals" and offered explanations for gendered and racial hierarchies that suffused British life at the height of the British Empire's global reach. Likewise, evolutionary science itself ramified through Victorian popular culture, as scholars such as Kimberly Hamlin, Bernard Lightman, and James Secord have explored. Evolutionary ideas were hotly debated across periodicals; discussed in homes, clubs, and public lectures; and re-interpreted through cartoons, children's books, and novels. This panel brings together these threads, tracing the manifold movements of ideas of human descent through scientific and popular (or popularizing) forms of eighteenth- and nineteenth-century literature. (Keeping in mind that the boundaries between the two were porous and always under construction.) We explore how writers such as Arabella Buckley, Alfred Russel Wallace, Darwin's son George Howard Darwin, and Darwin himself shaped how readers understood the qualifications of scientific observers; interactions between humans on a global scale; and relationships between humans, their environments, and the cosmos in the age of British imperialism. Readers, in turn, actively appropriated what they read, crafting visions as varied as they themselves were.

Participants:

Illustrating Human Evolution: Wonder, Extinction, and Love in Victorian Children's Literature *Elizabeth Yale, University of Iowa*

Roots of Consciousness: Darwin's plant studies and human descent *Tina Gianquitto, Colorado School of Mines*

Dynasties and the Adaption of Science: George Howard Darwin and the 'Public' Perception of the Solar System *Edwin Rose, Darwin College, University of Cambridge*

Wallace and Darwin on Human Evolution: Competing Visions of Race and Gender and Their Influence on Science and Society *James T. Costa, Highlands Biological Station, Western Carolina University*

Session Organizer:

Elizabeth Yale, University of Iowa

Chair:

Elizabeth Yale, University of Iowa

036. The Soul of the Machine: Computers and Intelligence

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Erie

Participants:

Face Recognition Software and Machine

Translation: Why Computers aren't People

Sharrona Pearl, Drexel University

Hacking the Real World: Robots and Manufactured Spaces in Early AI

Salem Elzway, University of Michigan

Turtles, Tablets, and Boxes: Computer Technology and Education in the 1970s

Elizabeth Petrick, Rice University

Chair:

Tom Stapleford, University of Notre Dame

037. GECC CV Review

HSS Annual Meeting

Workshop

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Florentine

Part of the GECC mentorship event series, the CV review provides a venue for graduate students and early career researchers to discuss their CVs with more advanced scholars (CV reviewers). Over the course of the workshop, reviewers will be available for individual 15-minute meetings, during which they will look over a CV and offer guidance tailored to specific research, career, and application plans.

Session Organizer:

Gina Surita, Princeton University

Participants:

Elaine Leong, University College London

Gabriela Soto Laveaga, Harvard University

Josh Levy, Library of Congress

Michael D. Gordin, Princeton University

038. Settlement and Survival

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Georgian

This panel contributes to a discussion of "settlement and survival." We consider how the two concepts are deeply interconnected across geographies and temporalities. From studies of empire and colonization that consider "survival" as part of the rhetoric of imperialism, to reimaginings of "settlement" in the context of spaceflight, this panel engages ideas about futures, and futures

past. How can ideas "survivability" address the ways that "sustainability" has becoming increasingly normative, passive, and toothless in discussions of a future that demands immediate action. The historical and critical perspectives we offer on this topic speak to the danger and precariousness of our present. How can studies of scientific and technological imaginaries of sustainable survival, and the problematics of settlement—colonization, displacement, migration, mobility, and placemaking—illuminate paths forward into an uncertain future? How do scientific conceptions of survival and its imperatives animate acts of displacement and dislocation, and whose survival is prioritized in moments of turmoil? We approach these questions as matters of scientific and technical authority, knowledge creation, and sociotechnical imaginaries.

Participants:

Advertising the Impossible Earth: The Visual Culture of Post-Apollo Space Colony Concept Art *Rebecca Marcolina, University of Oklahoma*

Canaries, Camouflages, and Carbon Monoxide: "Proto Man" and Oxygen Breathing Apparatus in Britain's Tunneling War 1915-1918

James Esposito, The Ohio State University

Toward a More Perfect Union: Cement Chemistry & Engineering in the Modern United States *Kirke Elsass, Montana State University*

Session Organizer:

Nathan Kapoor, Illinois State University

Chair:

Anna N Reser, University of Oklahoma

039. FUTURES: Digitizing and Decolonizing Collections. Challenges and Experiences

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Many collections-based institutions have embraced large-scale digitization projects as a means of reckoning with the legacies of colonialism and extractivism that permeate their holdings. Such projects promise to expand public access and transparency, but they have also prompted curators, librarians, archivists, and other scholars to reflect on the colonial classificatory epistemologies embedded in their catalogs and finding aids. Their efforts have prompted critical discussions about the ownership and display of contested objects, as well as debates over repara-

tions. This roundtable will examine what it means to decolonize a collection and how ongoing digitization projects at libraries, museums, and archives have approached these questions.

Session Organizer:

Catarina Madruga, Museum für Naturkunde Berlin

Chairs:

Catarina Madruga, Museum für Naturkunde Berlin

Adrianna Link, American Philosophical Society

Participants:

Anita Guerrini, Oregon State University, and University of California Santa Barbara

Nuala Caomhanach, New York University/ American Museum of Natural History

Elena Canadelli, University of Padova

Adrianna Link, American Philosophical Society

Catarina Madruga, Museum für Naturkunde Berlin

040. Natural Philosophy in Early-Modern Europe

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Huron

Participants:

The rise and fall of a natural philosopher in Russia's Age of Reason *Reut Ullman, Columbia University*

A Space for Vitruvian Science in the Mid-Sixteenth Century *Steven A Walton, Michigan Technological Society*

Boyle's Engines: Elements, Fluids, Analogies, and the Organic Fabric of the Mechanical World *Victor Boantz, University of Minnesota*

Mining Fossils. Natural History, Labor, and the "European Indigenous" in Eighteenth-century Italy *Ivano Dal Prete, Yale University*

Chair:

Michael Lynn

041. Evolution, Cosmology, and Empire

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Radical artisans, divine design, and evolution in Britain, 1819-36 *Jonathan Topham, University of Leeds*

"Potential in the Fires of the Sun": The Universal Scope of Nineteenth-Century Evolutionism *Jennifer Daly, Stanford University*

The Dawn of Science as Cultural Authority in China Tianyanlun (On Heavenly Evolution) in the Post-1895 Debate over the Engagement with Western Civilization *Sean Hsiang-lin Lei, Academia Sinica Taiwan*

Chair:

Andy Bruno

042. Movement and action: between life and discursive knowledge

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Ontario

In the last decades of the nineteenth century and the first decades of the twentieth, philosophers, psychologists, and social scientists in the United States and Europe paid substantial attention to experiences of movement and action, placing them at the core of new ways of thinking about the human being, society, and reality and using them as instruments for reconfiguring fields of knowledge. This session follows discursive conceptions and techniques of movement and action as they crossed boundaries between academic and popular discourses, different fields of inquiry, and public and private spaces in the hands of rhetoricians, scientists, artists, poets, and men and women busy negotiating their everyday lives. Susan Lanzoni's paper examines Jewish neurologist Erwin Straus's phenomenological psychology, the challenges it posed to behaviorism, and the ways it informed experiments at the Black Mountain College in Asheville, North Carolina, and the work of musicians and artists associated with the institution. Daniel Huebner's essay, "Language as Social Action: Gertrude Buck, the 'Michigan School' of Rhetoric, and Pragmatic Philosophy," unearths the approach to communication and rhetoric developed by Gertrude Buck, a professor of English and Rhetoric trained in John Dewey's pragmatist functional psychology. It recovers Buck's understanding of language as a dynamic action human organisms carry out to engage in necessary cooperative relations and explores some of the implications of Buck's "social-pragmatic theory of literary action."

Francesca Bordogna unpacks a regime of action crafted in the first decade and a half of the twentieth century by Italian philosophy student journalist Giovanni Amendola, placing it in the context of his relationships with his wife, Eva Kuhn. It shows

how Amendola repurposed William James's psychology of movement and the will to confine action to the inner core of the psyche and make himself and his wife into ethical subjects, and how Eva, in response, transformed herself into a futurist woman, committed to the equation of life with art and the bodily expression of the will.

Participants:

Between the Inner and the Outer: Giovanni Amendola and Eva Kühn *Francesca Bordogna, University of Notre Dame*

Language as Social Action: Gertrude Buck, the 'Michigan School' of Rhetoric, and Pragmatic Philosophy *Daniel Huebner, University of North Carolina Greensboro*

A Psychology of Movement at Black Mountain College: The Phenomenology of Erwin Straus *Susan Lanzoni*

Session Organizer:

Francesca Bordogna, University of Notre Dame

Chair:

Francesca Bordogna, University of Notre Dame

Commentator:

Robin Veder, Smithsonian American Art Museum

043. Biological Lynndividuality

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Parkside

As a historian of the life sciences, Lynn Nyhart has helped the history of biology take form, both through her publications and her collaborations and mentorship. Central to Nyhart's scholarship is biological organization, from the connections between civic and economic zoology to the conundrum of what makes an individual. When scientists look at dynamic structures – whether in the organization of cells, the politics of organisms, the circulation of ideas, or the rise and fall of institutions – how do they distinguish the parts from the whole? After decades of program-building at Wisconsin and fostering community in the profession (including serving a term as President of the History of Science Society), this roundtable offers six short talks on her work and pedagogy by scholars who have been shaped by her guidance. Mixing personal reflections with historiographic perspective, this roundtable offers an ontology and phylogeny of Nyhart's work, seeking as historians to find the whole among the parts. Collectively, we

show how significant her contributions have been to the core themes of this conference, including biodiversity, environmental sciences, teaching, and work/life balance. Erika Milam: "The Publics and Practices of Modern Nature." Patrick Walsh: "Teaching with (ny)Hart" Emily Hutcheson: "Nyhart's Oceanic Turn: Genre, Ecology and 'Life in the Ocean'" Judy Kaplan: "Individuality across the Disciplines" Daniel Liu: "Battling over 'Wissenschaft and Kunde'" Michael Robinson: "What's New in Nyhart's 'New Biology'"

Session Organizer:

Emily S Hutcheson, UW-Madison

Chair:

Judith Kaplan, University of Pennsylvania

Participants:

Erika Lorraine Milam, Princeton University

Patrick Walsh, UW-Madison

Daniel Liu, LMU-München Historisches Seminar

Michael Robinson, Professor of History

044. Medical Trash: Ecologies of Health and Waste

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Superior

These papers address the intersection of medicine, technology, and waste, asking not only how waste becomes the subject of sciences of public health and medicine but also how medical technologies become waste themselves.

Participants:

Syringe Tide: Disposable Technologies and the Making of Medical Waste *Jeremy Greene, Johns Hopkins University*

The Ecology of Medical Waste in Scandinavian Medicine *Anne Kveim Lie, University of Oslo*

How PM2.5 Became a Cause of Death, and a Matter of Concern *David S Jones, Harvard University*

Rodents, Rubbish and Responsibility in a "Renaissance" City *Graham P Mooney, Johns Hopkins University*

Session Organizer:

Jeremy Greene, Johns Hopkins University

Chair:

Richard C Keller, University of Wisconsin, Madison

045. Meteorology in Context: Weather, Health, and Climate Change

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Venetian

Participants:

Toward an Astrometeorological Theory of Global Climate: John Goad's Weather Notebooks, 1652-1682 *Justin Niermeier-Dohoney, Max Planck Institute for the History of Science*

Weathering disease: The meteorology of medicine in treaty-port China *Francis Aidan Newman, Harvard University (Now in Virtual Festival)*

Lessons from the History of Meteorology for Utilizing Earth System Science (ESS) in Climate Communication *Sky Michael Johnston, Wheaton College*

Climate Scientists Framing and Protecting Early International Assessments on Climate Change (1986-1992) *Carolina Granado-Torres, Universitat Autònoma de Barcelona*

Chair:

Melissa Charenko, Michigan State University

046. Osiris: Translating Medicine Across Pre-modern Worlds

Roundtable

12:45 to 1:45 pm

Drake Hotel: Floor Mezzanine - Parkside

Research located at the nexus of medicine and translation deals with some of the fundamentals of human experience: the basic drive to survive and flourish and the urge to gather and to share information that might assist in this. Using a series of case studies ranging from ninth-century Baghdad, to fourteenth-century Aragon, to seventeenth-century Cartagena, to nineteenth-century Bengal, *Osiris* volume 37 (2022) weaves together an interconnected, long-view history of the translation of medicine. The geographically and temporally diverse contexts of our case studies explore common themes and divergent experiences, connected by our historical actors' varied endeavors to "translate" knowledge about health and the body across languages, practices, and media. Collectively, we offer a new approach to histories of knowledge, relocalizing and deconstructing traditional narratives, and de-emphasizing well-worn dichotomies.

Session Organizer:

Elaine Leong, University College London

Chair:

Myrna Perez Sheldon, Ohio University

Participants:

Pablo F. Gómez, University of Wisconsin-Madison

Hansun Hsiung, Durham University

Elaine Leong, University College London

Projit Bihari Mukharji, University of Pennsylvania

Ahmed Ragab, John Hopkins University

Alisha Rankin, Tufts University

047. Communicating Science: From Periodical to Popular Science Book

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Astor

Participants:

What Nineteenth-Century Arctic Expeditions Tell Us About Scientific Journals and Their Editorship *Anna Gielas, University of Cambridge*

Drawing Down the Moon: The nineteenth century history of the moonscape *Martin Bush, University of Melbourne*

Popularisation of Geology in Colonia India: Insights from Vernacular Literature *Urmila Unnikrishnan, Independent Scholar*

Makers of an Improbable Future: How Technocracy Connected the Politics and Science of J. S. B. Haldane, J. D. Bernal, and Julian Huxley *Luis Felipe Eguiarte Souza, University of Minnesota*

Chair:

Meira Gold, Gallatin, NYU

048. Women Writing Science: Translations and Popularizations in the Long Nineteenth Century

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Lobby - Drake

Participants:

Madame Lavoisier's Translation of Richard Kirwan's "Essay on Phlogiston" *Liz Kambas, Indiana University-Bloomington*

Science, Women, and the Mother Tongue: Translating Knowledge in the 19th Century *Alan Rauch, UNC Charlotte*

Water and Coal: Sustainability in 19thC Information Books for Children *Elizabeth Fabry Massa Hoiem, University of Illinois at Urbana-Champaign*

Chair:

Jenna Tonn

049. Natural Philosophy, Evolution, and Science Education

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Erie

Participants:

Replacing STEM with Natural Philosophy: the Confluence of the Sciences and the Humanistic Modes of Thought in Chemistry and in Mathematics *Deepanwita Dasgupta, The University of Texas at El Paso*; *David Carrejo, University of Texas, El Paso*

Inquiry teaching of a case described in the different editions of the "Origin of Species" *Maria Elice de Brzezinski Prestes, University of Sao Paulo*; *Gerda Maisa Jensen, University of Sao Paulo*

Evolution and secularism in Mexico *Erica Torrens, Universidad Nacional Autonoma de Mexico*; *Ana Barahona, Universidad Nacional Autonoma de Mexico*

Chair:

Stephen Case, Olivet Nazarene University

050. Deconstructing the "Psychedelic" and its Sciences from Latin America

Organized Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Georgian

"Deconstructing the 'Psychedelic' and its Sciences from Latin America" contributes to and complicates the existing and emerging scholarship on so-called "global psychedelics," by calling into question whether "psychedelic" is itself a global phenomenon. Alongside the resurgence scientific studies of psychedelics in the North America and Europe, there has been growing historical attention paid to the history of psychedelic sciences (Dyck 2008; Langlitz 2013; Oram 2018; Richert 2019); with a few exceptions (Breen 2022; Jay 2019), much of this historical scholarship has remained focused on North America and Europe and has yet to fully consider whether and how the "psychedelic" exists in the Global South. Collectively, these three papers center Latin America as a crucial site in which knowledge of and relations to the "psychedelic" have been forged, contested, and rendered multiple (Mol 2002). The panel begins in the mid-nineteenth century, where Marco A. Ramos begins his reconstruction of how botanists, anthropologists, and psychiatrists encountered ayahuasca in the Amazon. Drawing from recent work in Indigenous studies and biomedical sciences, Ramos ex-

plores how twentieth-century scientists' claims to a shared Indigenous past were built on ongoing harm towards Amazonian communities, ecologies, and knowledges. Taylor E. Dysart picks up in the Brazilian Amazon where Ramos ends, in the late twentieth century where researchers undertook studies of hoasca, commonly referred to as a Portuguese translation of ayahuasca. Inspired by post-colonial science studies, Dysart takes the case study of the "Hoasca Project" to demonstrate how hoasca was variously co-constituted by an asymmetric network of human and non-human actors, practices, and knowledges. The panel ends in the field with Estrella V. Castillo, whose work demonstrates that the lingering history of the "psychedelic" is one that never gained traction amongst Indigenous and xicanx imbibers of peyote. Her research compellingly invites scholars to consider what is lost in the process of "psychedelization"? Gabriela Soto Laveaga, a Professor of the History of Science and Antonio Madero Professor for the Study of Mexico at Harvard University, will provide commentary.

Participants:

Ayahuasca, Whiteness and the History of Psychedelic Science *Marco A. Ramos, Yale University*

How Hoasca Makes: The União do Vegetal and the Hoasca Project in the Brazilian Amazon *Taylor Elizabeth Dysart, University of Pennsylvania*

The Psychedelicization of Peyote: Contextualizing and Complicating Calls to Decolonize Research on Psychedelics *Estrella V. Castillo, Yale University*

Session Organizer:

Taylor Elizabeth Dysart, University of Pennsylvania

Chair:

Taylor Elizabeth Dysart, University of Pennsylvania

Commentator:

Gabriela Soto Laveaga, Harvard University

051. FUTURES: Life in the Retirement Lane

Roundtable

2:00 to 3:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

This panel will raise issues about decisions to retire and comment on life after official retirement. It is intended to engage fellow history of science retirees and those planning for that major life de-

cision. A recent survey indicates that 17% of HSS members are retirees. With no mandatory retirement age, historians of science have considerable flexibility in timing and planning for retirement from official appointments. Faculty, librarians, curators and others may see this as both exciting and challenging. Hearing from those who have retired, recently or even some years ago, will open conversations about how they worked through the new and sometimes unexpected dimensions of their life in transition. The panel members will address a number of questions: When and how did you make the decision to retire? What was your anticipated pattern of engagement or disengagement with your former affiliated institution? How has that worked out? Do you have or anticipate scholarly resources? What new patterns of personal life and scholarly activity have emerged? We will also ask each panel member to provide two brief reflections: What would you have liked to have known before you retired? Do you now have a changing agenda for your next few years? We also anticipate that the panel will conclude by reflecting on how the HSS might engage retirees and how retirees might continue to be of service to HSS.

Session Organizer:

Sally Gregory Kohlstedt, University of Minnesota

Chair:

Sally Gregory Kohlstedt, University of Minnesota

Participants:

Marilyn Ogilvie, University of Oklahoma

Greg Good, American Institute for Physics

Tom Broman, University of Wisconsin

Maura C Flannery, St. John's University, NY

John Krige, Georgia Institute of Technology

052. Expanding the Scope of Late Renaissance Medicine and Anatomy

Organized Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Huron

Later Renaissance physicians and anatomists increasingly moved into new cultural debates and practices in post-Reformation Europe, and adopted knowledge, materials, and techniques from a variety of sources, from New World indigenous peoples to chymical authors, empirics, and their own contrived experiences and experiments. Scholars have increasingly realized that this was not a stale period of rigid Galenism or bookish pedantry, but what was the scope of learned

medicine from the several decades around 1600? This session moves from pedagogy at a new and increasingly popular medical school at Leiden University, to Venetian physicians' philosophical-theological interventions in the care of patients' souls and minds at times of their deaths, to a Jesuit priest's anatomical-optical reconstruction of experience to include novelties and set-piece experiments within an Aristotelian axiomatic science. These papers present new research that demonstrates the productive tension between tradition and innovation in the medicine of this time, and points to future directions.

Participants:

Death in Venice: the Role of Physicians in the late Renaissance *Cynthia Klestinec*, *Miami University*

Sources of Knowledge and Practice in Early Modern Medical Education: Leiden University, 1575-1640 *Evan R Ragland*, *University of Notre Dame*

Christoph Scheiner's The Eye, That is, The Foundation of Optics (1619) and Aristotelian Experimental Methods *Tawrin Baker*, *University of Notre Dame*

Session Organizer:

Evan R Ragland, University of Notre Dame

Chair:

Evan R Ragland, University of Notre Dame

Commentator:

Meagan S. Allen, Science History Institute

053. Knowledges under Stress: Early Modern Science, Technology, and Medicine

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Artisans Under Stress: Epistemological divides in the demarcation of Tordesillas (1494) *José María Moreno Madrid*, *Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT) / University of Lisbon*; *Henrique Leitão*, *University of Lisbon*

Cure to Quell: Medicine, Body, and Military Technology in Early Modern China *Chang Xu*, *Washington University in St. Louis*

Harsh winters and epidemics: Crisis and resiliency in the early modern pharmacy *Valentina Pugliano*, *Massachusetts Institute of Technology*

Chair:

Kat Lecky, Loyola University Chicago

054. Global Histories of Science, Medicine, Race and Colonialism

Business Meeting

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Ontario

Chair:

Ahmed Ragab, John Hopkins University

055. Animal Knowledge Farther Afield: Menageries, Breeding Colonies, and Cities in the History of Animal Science

Organized Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Parkside

Animals in the history of science have typically been examined in the settings of the laboratory or the field. This panel situates the human-animal encounter somewhat differently and asks how spaces in between, outside, and beyond the lab and field create new knowledge about animal life and involve diverse actors. By expanding the sites of knowledge production surrounding animal life, non-traditional actors in the history of science emerge as experts alongside scientists and naturalists. Additionally, our papers suggest that human actors are not sole experts in animal matters; animals themselves shape how they are known. This panel speaks to classic themes in the history of expertise and knowledge production alongside work that expands the history of animals in science outside of its traditional focus. We ask what can be learned about animal science, and knowledge of animals more broadly, by examining human-animal encounters in novel settings. This panel spans the late eighteenth to early 20th centuries and is geographically global as extractive relationships connected the West to the Global South. From Enlightenment-era menageries to 19th century New York City and early 20th century breeding colonies, scientific efforts to understand animals has involved engaging lively creatures with interests of their own and the knowledge of people usually excluded from the category of "expert." Clayton's work highlights the experiences of everyday visitors in European menageries whose encounters with novel species posed challenging questions. Pri-al's paper explores what it meant to work with chimpanzees for American psychologists hoping to transform chimps into useful research animals. Lazarus examines how the animal-powered urban economy of late 19th century New York City reshaped conceptions of life and capital.

Participants:

The (Living) Specimen: Knowledge and its Limits in the Atlantic Menagerie, 1760-1890

Alexander Clayton, University of Michigan

The Construction of the Industrial City and the Reconstruction of Nonhuman Life, New York City c. 1850-1900 *Oliver Lazarus, Harvard University*

Breeding Uncertainty: Caretaking and Reproduction in Robert Yerkes' Chimpanzee Station, 1929 - 1955 *Brigid Pri-al, University of Pennsylvania*

Session Organizer:

Brigid Pri-al, University of Pennsylvania

Chair:

Brad Bolman, University of Chicago

056. Capturing the Stars: Colonialism, Gender, and Diversity in the Space Sciences

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

The Emergence of Observational Astronomy in Colonial America: Late 17th century to the late 18th century *Tofigh Heidarzadeh, University of California, Riverside*

Capturing the Stars: The Untold History of Women at Yerkes Observatory, 1900-1930 *Kristine Palmieri, University of Chicago*

Astro-Activism: A History of the Movement for Diversity and Inclusion in Modern Astronomy *Jörg Matthias Determann, Virginia Commonwealth University*

Creating the Mercury 13 *Veronica Tuthill, Georgia Institute of Technology*

Chair:

Elizabeth Yale, University of Iowa

057. A Cultural History of Chemistry: Putting the Series to Work for Historians of Science

Roundtable

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Venetian

This roundtable brings together several authors and editors of the six-volume *A Cultural History of Chemistry* (Bloomsbury, 2022) to discuss the scope and content of this new series, its place in the historiography of chemistry, and its intellectual and pedagogical uses for the broader fields of the history of science, technology, and medicine. Encompassing new work written and edited by nearly fifty historians, the series examines chemistry and its contexts from antiquity to the present, with essays addressing theoretical, experimental, lab-

oratory, cultural, social and environmental, industrial, institutional, and artistic matters in each period. During brief presentations, speakers will discuss the span and potential impact of the series, addressing questions such as: What defining features of chemistry emerge from the perspectives taken in these volumes? What connections emerge from cultural historical investigations across two thousand years of history? What new scholarly avenues and research opportunities emerge from individual volumes and from the series as a whole? With a mind toward its use in the classroom, museums, podcasts, and other venues of historical practice, speakers will also be asked to consider ways historians might make use of the series, and to suggest additional resources would usefully complement it. Taking the new Bloomsbury history as a starting point, this panel asks, "How do we put it to work?" Substantial time will be set aside for audience participation. This session is organized and sponsored by the HSS Forum on the History of the Chemical Sciences (FoHCS).

Session Organizer:

Charlotte Abney Salomon, Science History Institute

Chair:

Simon Werrett, University College London

Participants:

Margaret Garber, California State University Fullerton

Alan Rocke, Case Western Reserve University

Peter Ramberg, Truman State University

058. Unsustainable Resiliency: Regenerating Failure in the History of early modern European Projects

Organized Session

4:00 to 5:30 pm

Drake Hotel: Astor

This year's call for papers relating sustainability, regeneration and resiliency suggests that these three themes historically have worked in concert. This session questions that premise through the history of projects, a topic located at the intersection of the histories of science, technology, capitalism, colonialism, and the environment. Three historians of projects and a commentator explore the immense costs of frequent rebounding from crisis. Projectors continually picked themselves up from failure, cobbling together pieces of previously unrealized plans or projects that had been attempted but had failed disastrously. The continual re-amalgamation and deployment of parts of

projects (their own or others) meant that projects retried the same plans, often in new locales, with new funders, new partners, or in new combinations with a wide range of other enterprises. Such resilience supported the continuation of projects often over a very long term. It also allowed proposals to be retried in varied settings by many different hands. This attention to the regeneration of projects allows for a new understanding of the temporality of the project. Far from castles in the air that fade quickly from view, even very unlikely and failed projects remained on the horizon as continually redeployable intellectual resources. This perspective also offers an account of processes of ideation, bricolage, and experimentation that center failure and adaptive redeployment. Additionally, however, this history draws attention to the costs of this experimentation. Only some individuals and populations involved in projecting possessed the intellectual, financial and social capital to move on from failure, leaving in their wake immense costs to the natural and built environment, labor, investors, and subject populations. Giving up, rather than resiliency, might well have been the more sustainable option.

Participants:

Transplantation in early Stuart Projects and the Costs of Removal *Vera Keller, UO*

Perpetual Motion and Labour in the British Atlantic World: Cressy Dymock's "Marriage of Strength and Time" (1648-60) *Ted McCormick, Concordia University*

Labor, energy and the power of the young in early modern projects *Kelly Whitmer, Sewanee*

Session Organizer:

Vera Keller, UO

Chair:

Matthew David Mitchell, Sewanee: The University of the South

Commentator:

Matthew David Mitchell, Sewanee: The University of the South

059. Resourcing and Restoring Nature

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Lobby - Drake

Participants:

Geology, Political Economy, and Settler Colonialism in the Upper Mississippi Valley, 1780-1840 *Gustave Lester, PhD Candidate*

A Colossal Laboratory of Soil: The Chemicalization of Fertilization in Republican China Yu Shan Chen, *Harvard University*

Theory and Practice in the Prairie: Plant Community Structure and the Foundations of Restoration Ecology Andrew Mitchell Hoyt, *Trent University*

Chair:

Judy Johns Schloegel, Independent Scholar

060. Mathematics, Measurements, and the Making of Standards

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Erie

Participants:

The Trinity House Mathematical Examiners: insights into London mathematical careers in the long eighteenth century Rebekah Higgitt, *National Museums Scotland*

Neither A Gentleman Nor A Scholar: Paul du Chaillu and the New Empirical Standards for Geography Oliver Lucier, *Yale University*

The Krypton project and the implementation of the Brazilian National Metrology Institute Aline De Oliveira Coelho, *INMETRO / University of Coimbra*

Chair:

Dr. Habil. Henk Kubbinga, University of Groningen

061. HSS Poster Session

Poster Session

4:00 to 5:30 pm

Drake Hotel: Floor Lobby - French

Participants:

A Closer Look at Agnes Block's Bird Illustration: A Case Study in Recovering the Histories of Women in Early Modern European Science Deniz Martinez, *Lindenwood University*

Capturing the Stars: Early 20th Century Astronomical Photography and the Material Legacy of Yerkes Observatory Lauren Boegen, *The University of Chicago*; Richard Kron, *The University of Chicago*; Isaiah Ramon Escapa, *The University of Chicago*; Rowen Glusman, *The University of Chicago*; Daniel Babnigg, *The University of Chicago*

Joseph E. Murray's Struggles to Transplant Kidneys: Failure, Individuality, and Plastic Surgery, 1950-1955 Hyung Wook Park, *Nanyang Technological University*

Social Class and Plants Under Glass: Green-

houses in Early Nineteenth-Century France and England Tamara Caulkins, William O. Douglas Honors College, *CWU*

Tracing the resilience concept through the history of science and the lens of Indigenous knowledge Thi Mai Anh Tran, *Michigan Technological University*; Valoree S. Gagnon, *Michigan Technological University*

Why Historians Need Herbaria Maura C Flannery, *St. John's University, NY*

062. Climate knowledge and race in the nineteenth century

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

The accelerating threat of climate change has brought new significance and urgency to the history of climate knowledge. Often forgotten in the present crisis is the deep entanglement of climate knowledge with racial classification. This panel reexamines three critical moments in nineteenth century empire when climate expertise was employed to adjudicate questions of race. Andersson Burnett looks at the critical role of natural historians and physicians in interpreting racial boundaries in the European exploration of Australia. Eddy explores how a black physician from Sierra Leone deployed climate knowledge to undermine racial classification in West Africa. Albritton Jonsson shows how the fossil economy of Great Britain gave rise to a new science of heat stress in labor that combined features of racial and climatological comparison.

Participants:

A Natural History of Man: Race, Climate and European Exploration Linda Andersson Burnett, *University of Uppsala*; Bruce Buchan, *Griffith University*

Race, Health and Climate Data in 19th Century British West Africa Matthew Eddy, *Durham University*

Heat Stress, Race, and Fossil Capitalism Fredrik Albritton Jonsson, *The University of Chicago*

Session Organizer:

Fredrik Albritton Jonsson, The University of Chicago

Chair:

Anita Guerrini, Oregon State University, and University of California Santa Barbara

063. Biomedicine in Socialist Contexts

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Huron

This session brings together scholars interested in exploring socialist contexts where biomedicine became a tool in health policies and global diplomacy. As the Cold War evolved, health and research networks in the so-called Second and Third Worlds participated in the development of vaccines, drugs, medical technologies, and treatments. Many of the countries, experts and practices were connected through socialist networks, whether as led by political aims of states, ideological convictions of actors, or as a matter of convenience. While research on this subject has seen a significant increase in recent years, master narratives of the history biomedicine are mainly Western, even as a focus on empires and colonial/post-colonial contexts have shifted the historiography significantly. An inclusion of seemingly peripheral actors and sites of knowledge production and scientific practice, namely the 'socialist world', and its integration into the overall historiography is still to be achieved. Therefore, these papers engage with intersections of geopolitics, (post)-colonial contexts and political ideology, and biomedicine's place in the global Cold War.

Participants:

Reframing biomedical education – the struggle against global diplomacy by the Latin American social medicine *Sebastian Fonseca, University of Exeter*

From 'those who exploit and murder' to 'those who save lives': Transformation and resiliency of indigenous practitioners of Islamic medicine in late Soviet Central Asia *Alisher Latypov, Humboldt University*

Bridging the Baltic: Insights into transfers of knowledge in gynecology and obstetrics in the Baltic Sea Region during the Cold War *Nils Hansson, University of Dusseldorf*

The 1960s revolution: electrophoresis and blood diseases in the Third World *Edna Suárez-Díaz, UNAM, Mexico City*

Session Organizer:

Dora Vargha, University of Exeter / Humboldt University

Chair:

Dora Vargha, University of Exeter / Humboldt University

064. Medicalizing Colonial Subjects: Peoples, Poisons, and Pupils

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Melancholic Turks: Medical Theory, Race, and Climate in Early Orientalist Thought *Zeynep Kuleli Karasahan, Johns Hopkins University*

Noxious Empiricism: Poison, Pharmacy, and Localized Science Between Early Modern France and the Colonial Caribbean *Thomas C Anderson, Yale University*

"Colonial" Science: John Brian Christopherson and Sudanese Knowledge in Anglo-Egyptian Sudan (1904-1919) *Miguel Angel Chavez, Vanderbilt University*

"Protecting" the Sight or "Passing" as Sighted?: Sunglasses and Eye Preservers in British India, 1850-1950 *Aparna Nair, University of Oklahoma-Norman*

Chair:

Charu Singh, Stanford University

065. Physics in Perspective

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

Effective or/and possible? Historical considerations on the notion of virtuality in modern physics. *Jean-Philippe Martinez, RWTH Aachen University*

Conceiving Noise: Transformation from Disturbing Sounds to Informational Errors, 1900-1955 *Chen-Pang Yeang, University of Toronto*

Discoverer and Methodologist: Alfred O. C. Nier and the Mid-20th Century Instrumental Revolution in Geochemistry *George Borg*

Political Origins of High Energy Physics in Japan *Kenji Ito, Kyoto University (Now in Virtual Festival)*

Chair:

Dana A. Freiburger, Independent Scholar

066. Looking to what isn't there: The cybernetic, ecological human and theories of absence and excess in psychological experience

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Venetian

This panel examines how ecological theories of

the human coming out of Cold War rationality and cybernetic thinking was involved in considerations of the effects of absence and deprivation on the human mind, brain, and soul. This set of papers looks to how mind and brain scientists in particular gave attention to experiences of absence, such as spiritual isolation, sensory deprivation or emotional neglect in childhood. This panel explores how looking at what was not there called attention to the ways lack can create excess, as seen in the vibrancy of psychedelics, psychotic hallucinations and over the top emotional reactions or hyperarousal. Each of the panelists investigate a different manifestation of absence and its connections to the ecological mind/brain from Cold War cybernetic thinking. We will move through a diverse set of spaces, including a retreat center for New Age thinkers, child psychiatric clinics, family homes, laboratories, and the vastness of outer space. Alison Renna's paper kicks us off by tracing the emergence of the idea of the ecological mind or consciousness at the Esalen Institute in California during the 60s and 70s, including how it articulated an investment in resisting spiritual isolation through a renewed intimacy with nature and redirecting the excess of human behavior or feeling. Jeffrey Mathias analyzes theories of isolation in the early American space program, showing how the figure of the astronaut alone in space brought together work on sensory deprivation, models of psychosis and theories of human-environment interaction. Finally, Angélica Clayton considers the neuroscience of childhood neglect during the 1990s and how the omissive quality of neglect grew as a more serious threat to children and to the future of humanity, especially when juxtaposed with the ideal resilient child that mirrored perfect adaptable cybernetic systems.

Participants:

Ecological Consciousness and the Networked American Soul *Alison Renna, Yale University*

The Astronaut Alone: Space Psychiatry and Experimental Isolation in the Early Cold War
Jeffrey Mathias, Cornell University

The neuroscience of childhood neglect and cybernetic theories of the human in the decade of the brain *Angelica Barbara Clayton, Yale University*

Session Organizer:

Angelica Barbara Clayton, Yale University

Chair:

Hannah Zeavin, Indiana University

067. HSS Distinguished Lecture

6:00 to 7:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Participant:

Chemistry Within and Against Colonialism
Michelle Murphy, University of Toronto

068. HSS Graduate Student & Early Career Scholar Reception

Reception

8:00 to 10:00 pm

Headquarters Beercade: Headquarters Bearcade

Session Organizers:

Michael McGovern, Princeton University

Taylor Elizabeth Dysart, University of Pennsylvania



Paleontology: *An Illustrated History*
David Bainbridge

“You Are Not Expected to Understand This”: *How 26 Lines of Code Changed the World*
Edited by Torie Bosch
With illustrations by Kelly Chudler

Rules: *A Short History of What We Live By*
Lorraine Daston
The Lawrence Stone Lectures

The Land Beneath the Ice: *The Pioneering Years of Radar Exploration in Antarctica*
David J. Drewry

The Travel Diaries of Albert Einstein: *South America, 1925*
Albert Einstein
Edited by Ze'ev Rosenkranz

The Mirror and the Mind: *A History of Self-Recognition in the Human Sciences*
Katja Guenther
Princeton Modern Knowledge

Plagues Upon the Earth: *Disease and the Course of Human History*
Kyle Harper
The Princeton Economic History of the Western World

Desert Edens: *Colonial Climate Engineering in the Age of Anxiety*
Philipp Lehmann
Histories of Economic Life

Pentagons and Pentagrams: *An Illustrated History*
Text by Eli Maor
Illustrations by Eugen Jost

Greek Fire, Poison Arrows, and Scorpion Bombs: *Unconventional Warfare in the Ancient World*
Adrienne Mayor
Revised and updated edition
With a new preface by the author

Flying Snakes and Griffin Claws: *And Other Classical Myths, Historical Oddities, and Scientific Curiosities*
Adrienne Mayor

The New Era in American Mathematics, 1920–1950
Karen Hunger Parshall

The Whole Truth: *A Cosmologist's Reflections on the Search for Objective Reality*
P. J. E. Peebles

When Animals Dream: *The Hidden World of Animal Consciousness*
David M. Peña-Guzmán

The Art of Discovery: *Digging into the Past in Renaissance Europe*
Maren Elisabeth Schwab and Anthony Grafton

Back to the Moon: *The Next Giant Leap for Humankind*
Joseph Silk

The Internet Is Not What You Think It Is: *A History, a Philosophy, a Warning*
Justin E. H. Smith

Graph Theory in America: *The First Hundred Years*
Robin Wilson, John J. Watkins, and David J. Parks

NEW IN PAPER

Know Your Remedies: *Pharmacy and Culture in Early Modern China*
He Bian

The Riddle of the Rosetta: *How an English Polymath and a French Polyglot Discovered the Meaning of Egyptian Hieroglyphs*
Jed Z. Buchwald and Diane Greco Josefowicz

Bedeviled: *A Shadow History of Demons in Science*
Jimena Canales

Making It Count: *Statistics and Statecraft in the Early People's Republic of China*
Arunabh Ghosh
Histories of Economic Life

Einstein in Bohemia
Michael D. Gordin

The Evolution of Knowledge: *Rethinking Science for the Anthropocene*
Jürgen Renn

SATURDAY, NOVEMBER, 19

070. Women's Caucus Breakfast

Breakfast

7:30 to 8:45 am

Drake Hotel: Floor Lobby - Camellia

071. Sown Tensions: Agricultural and Environmental Sciences in Context

Contributed Paper Session

9:00 to 10:30 am

Drake Hotel: Astor

Participants:

"Encouraging Useful Knowledge": Environmental Crises and the Development of American Agricultural Science, 1862-1939 *Joshua Tonkel, University of Notre Dame*

Indian Responses to the Application of Modern Science and Technology to Production under Colonialism : The Case of Agriculture *Sandipan Baksi, Foundation for Agrarian Studies*

Soils, Stars, and Statecraft: Cosmological Conceptions of Agriculture in China and Europe, ca. 1600-1789 *Gianamar Giovannetti-Singh, University of Cambridge*

Chair:

Nuala Caomhanach, New York University/
American Museum of Natural History

072. GECC Women's Mentorship Chat

Sponsored Session

GECC & Women's Caucus

9:00 to 10:30 am

Drake Hotel: Club International

Join our informal conversation on the theme of "Navigating the Institution" where grad students/early career scholars and more established scholars can discuss the challenges faced by women in academic careers. A space to share experiences and suggestions for thriving within the university. All women-identifying attendees are welcome.

Chairs:

Michael McGovern, Princeton University
Taylor Elizabeth Dysart, University of Pennsylvania
Ellie Louson, Michigan State University

073. History for the Future: Regeneration in a Complex World

Roundtable

9:00 to 10:30 am

Drake Hotel: Floor Lobby - Drake

Since 2019, the McDonnell Initiative at the Marine Biological Laboratory (MBL) in Woods Hole, MA has been exploring how regeneration works in a diversity of complex living systems. The initiative unites historians and philosophers of biology and biologists studying regeneration in organisms, stem and germ cells, microbial communities, nervous systems, and ecosystems. We examine historical episodes in order to interpret past and present understandings of regeneration. In turn, by analyzing how we have come to where we are, our combined efforts suggest ways in which we might shape the futures of these fields and of our global world, through public health, biomedicine, and science policies. For instance, we have seen how diverse approaches to studying regeneration reflect different assumptions underlying what "regeneration" is and has been taken to mean. This finding, in turn, helps uncover historical bottlenecks to present-day research and suggests solutions: refined definitions of regeneration, focused on complex systems of interacting parts responding to disturbances but not necessarily returning exactly to pre-disturbance states. In other words, changing understandings of regeneration over time provide foundations for informing what we mean by "sustainability, regeneration, and resilience" for the future. In this Futures Round Table, we bring together five members of the McDonnell Initiative to discuss their findings after four years of interdisciplinary studies: James Collins and Frederick Davis on ecosystems; Kathryn Maxson Jones on nervous systems; Kate MacCord on germ cells; and Jane Maienschein on organisms and regenerative medicine. Each speaker will briefly address two questions: (1) What have we learned, historically, by studying regeneration in this way? (2) How are these findings relevant to envisioning and shaping the future? Susan Fitzpatrick, President and CEO of the James S. McDonnell Foundation, will moderate. We look forward to lively discussion.

Session Organizer:

Kathryn Grace Maxson Jones, Baylor College of Medicine/Purdue University

Chair:

Susan M. Fitzpatrick, James S. McDonnell Foundation

Participants:

James P. Collins, School of Life Sciences, Arizona State University

Frederick R. Davis, Department of History,

Purdue University

Jane Maienschein, Marine Biological Laboratory, Woods Hole; Center for Biology and Society, Arizona State University

Kate MacCord, Marine Biological Laboratory, Woods Hole; School of Life Sciences, Arizona State University

074. Reassessing Ancient Sciences

Contributed Paper Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Erie

Participants:

Variety and Uniformity in an Ancient Knowledge System **Robert Middeke-Conlin**, *University of Copenhagen*

The Quest for the Original Astronomy and its 17th-Century Commentators **Filip Geaman**, *Johns Hopkins University*

Correcting Modern Misunderstandings of Ancient Planetary Orders: Plato, Aristotle, Cicero, Ptolemy on Mercury & Venus **James Brannon**

Chair:

Nahyan Fancy, *DePauw University*

075. Cancer's Contested Causes: The Science and Politics of Research into Exposures, Genes, and Populations

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Georgian

In the second half of the twentieth century, cancer became a major burden of health and a feared disease in the industrialized countries. However, scientists struggled to find clear causes of the disease. This panel explores the history of research into exposures, genes, and population that scientists pursued to solve the riddle of cancer causation. Scientists employed different methods in the laboratory and population studies to prove causal associations. Disputes about findings were common, often resulting in the development of new methods to reach a fragile consensus. The stakes of these divergent scientific methods and etiological explanations were high. Health policies that attempted to limit exposures to carcinogens were costly for industries that produced these substances and for countries that exported these products. The prospect of regulation prompted trade organizations to contest unwelcome findings. The panel's four papers reveal scientists' different strategies to advance the contested science of cancer causation, arguing that

resolving scientific disputes often meant resolving political conflicts at the same times.

Participants:

From Dose-Response to Cause-and-Effect: Statistical Reasoning and Cancer Etiology
Christopher J Phillips, *Carnegie Mellon University*

Folding Space and Time: Scientific and Political Possibilities of Carcinogenesis, c. 1975-1990
Lucas Mueller, *University of Geneva*

The Making (and Unmaking) of Environmental Carcinogens **Angela Creager**, *Princeton University*

Reconfiguring Cancer Genetics with p53 **Ella Feiner**, *Princeton University*

Angela Creager, *Princeton University*

Chair:

Angela Creager, *Princeton University*

076. In Search of Habitable Worlds

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Lobby - Grand Ballroom

The concept of habitability is used in past, present, and future tense to describe the worlds humans explore, inhabit, and wish to transform. It represents stability, describing habitable zones around suitable stars. It represents change in terms of planetary evolution, dying magnetic fields, water and oxygen loss. And it represents anthropogenic transformations that limit habitability at home while seeking to create interplanetary humanity. Habitability connects narratives of home to worlds within and beyond our grasp. It likewise connects the susceptibility of humans to their environment to the ability of humans to change and build environments. The search for habitable other worlds arguably emerged out of a Cold War atomic context of a destroyed Earth with the implicit question of second chances on second earths we might inhabit. But how large is the circle of "we"? From the Nazi legacy of Hubertus Strughold's *The Green and the Red Planet* to exoplanetary speculations in *Habitable Planets for Man*, the question of the human and the habitable have long been interwoven. This panel seeks to connect the deeper colonial, political, and scientific explorations of "habitability" in the twentieth and twenty-first centuries, and to bring the history of science to bear on perennial questions: What does it mean to live in a habitable world? To be at home in a world, or to think of a planet as a place where we can thrive? To think

about human agency and responsibility? When we talk about habitability, whose habitability is envisioned?

Participants:

The Habitable Worlds We Build and Destroy:
Constructing “Ourselves” on Planetary Scale
*Matthew Shindell, Smithsonian National Air
and Space Museum*

Military Models of Mars: The Cold War Politics
of Habitability in Early Astrobiology *Jordan
Bimm, University of Chicago*

Cyborg Evolution and Microbial Geoengineers:
A Gaian Take on Habitable Pasts and Fu-
tures *Caitlin Kossmann, Yale University*

Homo universalis: Queering “Habitability” *Luis
Campos, Rice University*

Session Organizer:

Jordan Bimm, University of Chicago

Chair:

Jordan Bimm, University of Chicago

077. GECC Welcome Room Day 3

9:00 to 5:30 pm

Drake Hotel: Floor Lobby - Marquette

The Graduate and Early Career Caucus is pleased to announce the return of our Welcome Room, pioneered back at our summer 2019 meeting in Utrecht. The Welcome Room is a space for graduate students and early career scholars, especially those new to HSS, to congregate, step away from the conference momentarily in order to collect their thoughts, or even make some final changes to a presentation. We will offer a small assortment of snacks and beverages. Come stop by and say hello!

078. Colonial Natural Histories

Contributed Paper Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Michigan

Participants:

From Canton to the World: The Introduction
and Knowledge of Lychee from the 18th Cen-
tury to the 20th Century *Shiyi Teddy Xiang,
Journal of Academic Research (Xueshu yan-
jiu), Guangdong Social Sciences Association*

Empire and Rebellion: EJH Corner, Mycology,
and Singapore *Nathan Smith*

The Gwillim Project: Managing a global net-
work *Lauren Williams, McGill University Li-
brary; Victoria Dickenson, McGill University
Library*

Hidden Hands in Colonial Natural Histories

*Gloria Bell, McGill; Anna Winterbottom,
McGill*

Chair:

Anna Graber, University of Minnesota

079. Midwest Junta Meeting

Business Meeting

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Ontario

Chair:

Sarah Elizabeth Naramore, Northwest Mis-
souri State University

080. Inclusion and Exclusion in Scientific Inter- nationalism

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Parkside

In recent years, historians of science have ex-
plored more the internationalization of science,
especially through the examination of in-
ternational collaborations and multi-lateral initia-
tives. This is partly because of their significance
in shaping the global scientific enterprise, but es-
pecially due to their impacts on international rela-
tions and diplomacy. This historical exploration,
however, has so far been asymmetrical, prioritiz-
ing inclusivity aspects attached to individual
episodes, and overlooking instead the parallel
exclusion of individuals and groups. So is it scien-
tific internationalism geared more towards includ-
ing or excluding? And what factors are decisive in
shaping both? This session looks for answers to
these questions by focussing at key scientific ini-
tiatives during the second half of the 20th century.
Session sponsored by the IUHPST/DHST Com-
mission on Science, Technology and Diplomacy
(STAND)

Participants:

Scientific Internationalism and Ideology in the
Presentation and Reception of Data for the
International Scientific Commission on Bacte-
riological Warfare in China and Korea, 1952
Gordon Barrett, University of Oxford

Sixty-six in, but who was left out? The IGY in
historical perspective *Simone Turchetti, Uni-
versity of Manchester*

“Science for all”: workforce training as a driving
force behind CERN’s rise to excellence in the
1960s *Barbara Hof, University of Zurich*

Science Diplomacy ‘from below’ in the 1970s
and beyond *Gerardo Ienna, University of
Verona & University of Maryland*

Session Organizer:

Simone Turchetti, University of Manchester
Chair:

Melinda Baldwin, University of Maryland

081. Biology in Modern China: Naturalists, Nationalism, and Periodicals

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Superior

Biology in modern China has always been a history broader than just “biologic” or “biological.” As James Reardon-Anderson showed in his celebrated book *The Study of Change: Chemistry in China 1840-1949*, there was practically no biology in the modern sense at all in China until 1925 and the popularization of Darwinian theory was eclipsed by the Chinese version of social Darwinism since the late nineteenth century. In the first four decades of twentieth-century China, internal issues of disciplinary formation trailed behind larger socio-political forces such as industrialization and modernization. Intersecting with nature study, collection of organisms (both living and dead), ideas of progress and evolution, and populated by mostly Western and some domestic naturalists, biology in Republican-era China has been a more-than-specialty enterprise, sharing major characteristics with natural history, crossing boundary of cultural nationalism, and disseminated with the advent of science periodicals. This panel brings together three young scholars working in the history of biology and modern China studies. Each attempts to show how social and political forces shaped the identity, classification, and popularization of biology in the first four decades of twentieth-century China. Christine Luk examines the shifting identities of a British sportsman-turned-naturalist named Arthur de Carle Sowerby between 1907 and 1922. She argues for an awareness of the range of identities and strategies that Sowerby adopted during his zoological odyssey. Aijie Shi examines “stasis” as a lens to rethink the relationship between science, evolutionism, and nationalism in early twentieth-century China. She discusses the linguistics and symbolism of living fossils during a period when modern vernacular Chinese was in the process of formulating, in alignment with the incipient idea of modern nation-state and the evolutionary narrative of extinction. Noa Nahmias’ paper examines the relationship between biology, gender, and nationalism in the context of popular science writings. The paper explores how knowledge of animal and human biology was framed as

necessary knowledge for modern Chinese women, by linking it to China’s social and political problems in the mid-1930s.

Participants:

The Biological Odyssey of a Naturalist in Manchuria: the Shifting Identities of Arthur de Carle Sowerby, 1907-1922 *Christine Yi Lai Luk, Tsinghua University*

Making Living Fossils Symbol of the Nation: Nation and Evolutionism in Early Twentieth-Century China *Aijie Shi, University of Wisconsin-Madison*

Nature as Common Knowledge: Biology in Chinese Popular Science Writings for Women, 1930s *Noa Nahmias, York University*

Session Organizer:

Christine Yi Lai Luk, Tsinghua University

Chair:

Christine Yi Lai Luk, Tsinghua University

Commentator:

Bernard Lightman, York University

082. Writing Transnational History of Science and Technology

Roundtable

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Venetian

This roundtable will critically discuss Krige's edited volume, *Knowledge Flows in a Global Age: A Transnational Approach*, published in April this year. Its specificity lies in taking knowledge itself as it flows across national borders as the object of analysis, and in its exploration of the negotiated processes that either impede or facilitate its transnational movement in global spaces. The diverse intellectual profiles of the participants will facilitate a discussion of the theoretical approach, and the wide coverage of the case studies from the late 19thC to the present, in various fields of science, technology and agriculture, and in both advanced industrialized countries and in North-South relationships

Session Organizer:

John Krige, Georgia Institute of Technology

Chair:

Fa-ti Fan, Binghamton University

Participants:

Prakash Kumar, Pennsylvania State University

Mary Mitchell, University of Toronto

Austin Cooper, MIT

Gisela Mateos, UNAM, Mexico

083. Water and Power: Fluid Technoscience for Empire and the Postcolonial State in East Asia

Organized Session

11:00 to 12:30 pm

Drake Hotel: Astor

Scholars have long understood that 1) the Japanese empire deployed technoscience to build infrastructure and propel expansion, and 2) after WWII, formerly colonized nations reclaimed those tools for independent development. But how did technoscientific expertise shape political and social spaces? How did it travel from metropole to colony and from colony to a postcolonial state? Focusing on aqueous environments—fluid and flowing spaces that enabled transportation, supplied resources, generated energy, and sometimes posed dangerous threats—this panel examines the localized creation and recreation of technoscience in East Asia during and after Japanese imperial rule. Rachel Wallner (Northwestern) looks at how Japanese-led expeditions and fishing technology in the South China Sea helped shape a maritime geography for China's Nationalist government. John Hayashi (Harvard) highlights the fraught position occupied by Japanese corporate engineers in building a dam in southwestern Taiwan in the 1960s and 70s. Seohyun Park (Virginia Tech) studies how South Korean state engineers collaborated with Japanese experts to design the nation's flood forecasting system. Yuting Dong (Harvard) discusses how a water purification plant in northern China became a site of technological and social repair between China and Japan. Several of these papers draw particular attention to the well of colonial experience from which engineers drew to support postcolonial hydraulic projects across the region. All of them reveal that indigenized technoscience in East Asian watery realms empowered both colonial empire and postcolonial nation alike. In doing so, they also center East Asia in the story of twentieth century technoscience.

Participants:

Fishing for Power: The Geopolitical Legacy of Japanese Technoscience in the South China Sea, 1920-1955 *Rachel Wallner, Northwestern University*

Politics, Place, and Japanese-Taiwanese Cooperation in Engineering the Zengwen Dam, 1965-1973 *John Hayashi, Harvard University*

Saving Seoul from Floods: Reconstructing Japanese Colonial Infrastructure for the Flood Forecasting System in South Korea *Seohyun*

Park, National University of Singapore

Water Plant of Friendship? The Afterlife of Japan's Imperial Infrastructure in Northeast China, 1972–1991 *Yuting Dong, Harvard University*

Session Organizer:

Rachel Wallner, Northwestern University

Chair:

Hiromi Mizuno, University of Minnesota

Commentator:

Hiromi Mizuno, University of Minnesota

084. Resilience and Vulnerability in Psychedelic Science

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Lobby - Drake

Scientific and medical experimentation with psychedelic drugs has a rich and controversial history that stretches back to studies with mescaline and cannabis in the 19th century. As scholars increasingly chart this history, there is a need to investigate how diverse patient narratives, psychedelics' changing historical connotations, and the politics of self-experimentation shaped drug therapy and drug research. Our panel aims to contribute to this work by examining novel cases in the history of psychedelic science that highlight tensions between resilience and vulnerability. These tensions are found throughout patient and researcher accounts of their drug experiences. For some patients, the psychedelic experience was a way to increase resilience. For example, the presentation by Andrea Ens explores how postwar conversion therapists convinced patients that psychedelic therapy could increase their resilience to same-gender attraction. Other patients encountered the psychedelic experience as something to be resilient towards. The presentation by Andrew Jones investigates psychedelic therapy for "emotionally disturbed" children in a crowded state psychiatric ward in the 1960s. Despite these unfavourable circumstances, some children were still able to have positive LSD reactions. Researchers too displayed resilience and were confronted with vulnerability when conducting self-experimentation. Many pioneers in drug research blurred the boundaries between research and recreation by taking the drugs themselves, which raised questions and concerns about researcher competency, bias, and health risks. The presentation by Jacob Green looks at the American psychologist James McKeen Cattell's self-experimentation with cannabis, ether,

and caffeine in the 1880s to highlight the role of pleasure and the concern about addiction involved in this work. Session sponsored by the Forum for History of Human Science (FHHS).

Participants:

"I Have to Face It": Psychedelic Conversion Therapy and Patient Resilience in Postwar North America *Andrea Ens, Purdue University*

Positive Experiences, Difficult Conditions: Psychedelic Therapy in the Children's Ward at Fairview State Hospital, 1962-1963 *Andrew Jones, University of Toronto*

James McKeen Cattell's Self-Experimentation with Drugs *Jacob Green, UCLA*

Session Organizer:

Jacob Green, UCLA

Chair:

Lucas Richert, University of Wisconsin-Madison

Commentator:

Lucas Richert, University of Wisconsin-Madison

085. Internationalism in the Advancement of Science and Environmental Justice in the Twentieth Century

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Erie

Participants:

"The Scientific World" of the Pacific during the Interwar *Jonathan Victor Baldoza, Princeton University*

The 1972 Stockholm Conference and China's Diplomatic Response *Xiaoxuan Wang, University of Chinese Academy of Sciences*

Physicist of the People: Isolation, Internationalization and Autarky in Abdus Salam's Policy Propositions for Third World Science Education *Mariam Sabri, UC Berkeley*

Corporate Responsibilities in the Genealogy of International Law: Competing Myths and a History of Present *Zhonghua Du, University of Amsterdam*

Chair:

David Spanagel

086. The Public and its Sciences

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Georgian

"The Public and its Sciences" examines in a

global context the relationship between sciences and the ideologies, identity categories, and forms of ignorance that animate the publics within which scientific knowledge is produced. The research this panel assembles provides broad multi-disciplinary coverage of scientific fields, including agriculture and invasive insect control, thermodynamics and print media, and technosciences in postcolonial settings. The papers range in period from the late eighteenth century to the twenty-first, and across European, Pacific Island, Middle Eastern, and North American cultural contexts.

Participants:

Parasites and Their Publics: Science, Lay Communities, and Invasive Species Control in Early Twentieth-Century Hawai'i *Jessica Wang, University of British Columbia*

Islamic technoscience and the revolutionary image of colonial science in postrevolutionary Iran (1980-1983) *Ata Heshmati, University of Toronto, IHPST*

Current Events: Electrical Experimentation, Print Media, and Popular Energy in Eighteenth-Century Britain, France, and Germany *David AP Womble, University of Houston*

Session Organizer:

David AP Womble, University of Houston

Chair:

Alexei Kojevnikov, University of British Columbia

Commentator:

Andrew Jewett, Johns Hopkins University

087. FUTURES: Sexual Harassment, Power, and the Futures of Equity and Inclusivity

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Historians of science have long examined the impact of sexual harassment, especially gender based harassment, on the lives and careers of scientists. However, we have had few public conversations about these same impacts on our own scholarly community. In light of the highly-publicized Comaroff affair at Harvard University in fall 2021, we believe that it is important to acknowledge systemic forms of harassment in the academy and create a space to discuss these problems and potential solutions—essential work for increasing equity and inclusion. The History of Science Society is a professional organization that brings together a wide group of scholars. The aim of this panel is to discuss not only the history

of sexual harassment in the discipline, and in the wider academy, but also the future of respectful, just, and equitable behavior at HSS. As an academic society, what is our role in protecting our members from this kind of behavior during Society-sanctioned events and in the wider discipline? What should our role be in the future? How can we appropriately support victims both personally and professionally? And what is our role in discouraging this behavior or adjudicating its consequences if a member has committed misconduct? We aim to discuss and develop concrete practices and strategies that we can implement at HSS meetings and in our other academic spaces - including online - to prevent harassment and abusive behavior. We recognize that this panel is organized by and made up of mostly (but not all) cisgender women and we feel that this is indicative of the state of the field of both study as well as the experience of harassment, respectful behavior, and gender climate. We request that this panel follow a hybrid format due to the sensitive nature of the content and the importance of centering access in terms of in person and online participation. We would invite all audience members to register to view this *unrecorded* panel online.

Participants:

- Power, Accountability, and Possible Pasts and Futures *Joy Marie Lisi Rankin, AI Now*
- Examining Title IX at the University Level- How local committees can inform national organizations *Samantha Muka, Stevens Institute of Technology*
- The Future of Positive Change in Structures of Adjudication *Mar Hicks, Illinois Institute of Technology*
- Sexual Harassment of Women: Climate, Culture, and Consequences *Frazier Benya, National Academies of Sciences, Engineering, and Medicine*
- Lessons from the HSS Ombuds *Tina Gianquitto, Colorado School of Mines; Jenna Tonn*
- What's Next?: Ongoing Challenges in Respectful Behavior *Donald L. Opitz, DePaul University*

Chairs:

- Sarah Elizabeth Naramore**, Northwest Missouri State University
- Sarah Pickman**, Yale University
- Sarah Qidwai**, University of Regensburg
- Dalena Ngo**, Yale University

Commentator:

Kathleen Sheppard, Missouri S&T

088. Chromosome Woman, Nomad Scientist, E.K. Janaki Ammal, A life, 1897-1984

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Michigan

This first biography of an Asian woman scientist, (Routledge, January 2023) raises new and timely questions in the history of biology, women and gender, biography, ethnohistory, colonial and post-colonial studies, and scientific institutions in South Asia, USA, and UK. E.K. Janaki Ammal had a global career, including a Ph.D. in USA, extensive research in UK, and directorial and other positions in many scientific institutions in India. The speakers illuminate diverse facets of Janaki Ammal's pioneering and remarkable global life in science:

Session Organizer:

Pnina Geraldine Abir-Am, Brandeis University

Chair:

Pnina G Abir-Am, Brandeis University

Participants:

- Savithri Preetha Nair**, Independent Scholar
- Donald L. Opitz**, DePaul University
- Geoffrey Bil**, University of Delaware

089. HSS@Work Business Meeting

Business Meeting

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Ontario

Chairs:

- Matthew Shindell**, Smithsonian National Air and Space Museum
- James Brannon**

090. Naming Stakes: Critical Histories of Classification and Categorization

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Parkside

Questions of taxonomy and ontology—what makes a thing a thing, which things cluster together, how to define a thing's boundaries—have long interested scholars in the history of science and STS. This panel brings together new methods for approaching these questions, and foregrounds postcolonial, feminist, disability, and queer and trans approaches that highlight both the hegemonic "points of view" enshrined in classification systems and the fragility of those systems. Each of the papers looks at the messy, on the ground work of how categories get made, and

the mechanics of their enforcement and enactment. They examine practices of classification in realms of administrative technology; mental health and obstetrics; embryology and eugenics; and statistical studies of sex. Together, these talks offer concrete examples for understanding how classificatory regimes make bodies and individuals governable, legible, and practicable. They emphasize that classification systems are always a means to an end: each talk considers not only what entities are created, but also how they are used in broader social and political contexts and which interests are served by different kinds of sorting. Collectively, these talks place histories of classification in dialogue with critical studies of race, gender, colonialism, and health, and open up possibilities to extend conversations beyond the existing literature.

Participants:

Individuating the Classified Self *Zehra Hashmi, Brown University*

Classifying Maternal Mental Illness: Race and Diagnostic Categories in the Early Twentieth Century *Udodiri Okwandu, Harvard University*

Monstrous Taxonomies: Teratology and Classification in the Nineteenth Century *Miriam Rich, Dartmouth College*

'A 2-Way Breakdown': Statistical Methods and Sex Categories in the Kinsey Studies *Beans Velocci, University of Pennsylvania*

Session Organizer:

Beans Velocci, University of Pennsylvania

Chair:

Miriam Rich, Dartmouth College

091. Measures of Happiness: Perspectives on Gender, Sexuality, and Disability

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

"L'hystérie de l'artisan" and Male Identity in Late Nineteenth-Century France *Daniela S Barberis, North Central College*

The 'Disappointed Man': Masculinity and Disability in Science *Leore Joanne Green, University of Cambridge*

Democratizing, Popularizing and Vernacularizing Science through Sex: Exploring the Uniqueness of Sexology in Twentieth Century India *Arnav of Bhattacharya, university of pennsylvania*

"Happier and More Useful Citizens." The Making of the 'Transsexual' Patient at the Gender Identity Clinic at the Johns Hopkins Hospital, 1966-1979 *Sandra Eder, University of California, Berkeley*

Chair:

Dana Simmons, University of California, Riverside

092. Nature, Environment, and the Challenge of Animal Studies

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Venetian

A new generation of scholars has complicated human-focused narratives in the history of science. Through the promotion of animal histories, they have troubled the boundary between humanity and nature, expanded the categories of agency and knowledge in a more-than-human world, and reimagined at what scales history could be written. How does thinking with animals provide access to other kinds of knowledge? What knowledge do animals generate? Have such knowledges been mobilized for their own ends or merely to explore humanity's exceptionalism? How might centering animals challenge Western racist constructs or help understand the discontents of scientific categorization? This roundtable weighs the potential and pitfalls of tracing developments in natural history and biology through the animal rather than the naturalist and the place of sentient ecosystems in the history of thought.

Participants:

Silent Birds, Loud Plants: Agency and Agony in the History of Animals, Plants, and Empire in the Dutch East Indies *Genie Yoo, Princeton University*

Knowing Raccoons From Early America to the Anthropocene *Whitney Barlow Robles, Dartmouth College*

Breeding Animal Knowledge in Eighteenth-Century French Natural History *Jens Amborg, University of Uppsala*

Animal Mixing and the Columbian Exchange *Mackenzie Anne Cooley, Hamilton College*

Parasitical Histories *Daniel Margocsy, University of Cambridge*

Chair:

Mackenzie Anne Cooley, Hamilton College

093. Sarton Medalist Interview: A Conversation with Margaret Rossiter

Plenary Session

12:45 to 1:45 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Margaret Rossiter, Professor Emerita in the History of Science at Cornell University, is the recipient of the History of Science Society's 2022 Sarton Medal. The Sarton Medal is the most prestigious award of the History of Science Society and honors George Sarton, the founder of *Isis* and one of the founders of the modern phase in the history of science. For more than 50 years, Professor Rossiter has been an influential scholar in the field. In her magisterial three volumes on women scientists in America, she gave us a powerful vocabulary for understanding the experiences of women scientists. Territorial segregation, hierarchical segregation, the "harem effect", credentialism, honorary men, the "bright young man" theory, compensatory awards, the professional meanings of the "smoker," anti-nepotism rules, the Matilda effect—all these terms mark a familiarity with her work and with a range of theoretical perspectives broadly relevant to historical studies of science, knowledge and social order. Her sustained archival research excavated the systems that kept some people difficult to see and she noticed things that did not happen: promotions, appointments, tenure, and credit. Her work is about women in science, but it is also about science in general, and feminist scholarship of the last 30 years, much of it building on her work, has made it clear how important the questions she raised are for our understanding of the systems that make new knowledge. She has fundamentally transformed the landscape of history and her editorial work, service to the profession and tireless mentorship have reshaped the discipline. In research, teaching, and service Margaret Rossiter has contributed significantly to the making of a more inclusive and representative history of science.

Presenters:

Margaret Rossiter, Cornell University

Fa-ti Fan, Binghamton University

Jaipreet Virdi, University of Delaware

Jessica Martucci, University of Pennsylvania

Donald L. Opitz, DePaul University

Chair:

Susan Lindee, University of Pennsylvania

094. Taxonomies, Taxidermies, and Technologies in Systematizing Nature

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Astor

Participants:

Mythical Creatures and Hybrid Realities: The Development of Zoology in Europe *Florenzia Pierri*, MIT Museum

Producing and Preserving Nature: The International Standardization of Taxidermy in the Early Nineteenth-Century *Yotam Tsal*, Hebrew University of Jerusalem

'The Realm of the Artificial' and Ethnology in Washington DC, 1876-1904 *Henry Schmidt*

Chair:

Andrea Twiss-Brooks, University of Chicago

095. The Formation of New Epistemologies of Early Modern Science

Organized Session

2:00 to 3:30 pm

Drake Hotel: Floor Lobby - Drake

Throughout the Renaissance and the early modern time a new attention to the sciences developed, something interpreters and historians have traditionally called the scientific revolution. While this definition may be subject of debates, the aim of this panel is to focus on the formation of new epistemologies as a benchmark to evaluate the transformations in the sciences in the pre-modern times. In this sense, our aim is to stress the importance of constructing new attempts of dealing with disciplines in diverse fields of knowledge, from medicine and anatomy to natural history and botany. The first paper concerns the changing perceptions of medicine in Arabic tradition from the thirteenth to the mid-Cinquecento. The second paper deals with the Italian physician Berengario da Carpi and anatomical knowledge. The third paper focuses on Ulisse Aldrovandi's working method shaping new heuristic categories to describe and study nature. The fourth paper discusses the role of plants in crafting a new understanding of living nature in William Harvey. As a result, we aim to highlight the ways constructing new epistemologies shape the sciences.

Participants:

What kind of 'ilm (science) is medicine? Epistemological Debates within Arabic Medical Commentaries, 1240–1520 *Nahyan Fancy*, DePauw University

Berengario da Carpi and the Problem of Knowledge from Books (as well as bodies) in the Early 16th Century *Robert Allen Shotwell*,

Ivy Tech Community College - Terre Haute Campus

New Epistemologies of Nature: The Case of Ulisse Aldrovandi *Florilegium admirandorum naturae et artis historia* and his *Acanthologia* *Monica Azzolini, University of Bologna*

The Fabric of Life: A new Heuristic Role for Plants from Bacon to Harvey (and Beyond) *Fabrizio Baldassarri, Ca Foscari University of Venice/Indiana University Bloomington*

Session Organizer:

Fabrizio Baldassarri, Ca Foscari University of Venice/Indiana University Bloomington

Chair:

Fabrizio Baldassarri, Ca Foscari University of Venice/Indiana University Bloomington

096. Materials Science: Industrial Imperatives for Innovation

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Erie

Participants:

Glass and glass and ... glass, celebrating the Int. Year of Glass *Dr.Habil. Henk Kubbinga, University of Groningen*

Crafting an Aromatics of Modernity: DuPont, Arthur D. Little and a new American smellscape *Galina Shyndriayeva, University of Tokyo*

"Unsurpassed concentration": competing visions of science in efforts to promote Cambridge, UK as a biotechnology cluster *Alistair Sponcel, Tufts University*

Chair:

John Krige, Georgia Institute of Technology

097. Tacit Knowledge: Writing Practices

Roundtable

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Georgian

Sponsored by the Graduate and Early Career Caucus (GECC). GECC's Tacit Knowledge Series brings together established scholars with a wide array of experiences to discuss an array of topics that are important to junior scholars and that are difficult to learn about independently or without prior experience. Our first program, "Academic Internationalisms," took advantage of our Dutch location to reflect upon cultural norms and standards in academia, while our second, virtual panel offered a teach-in about the law and politics of visas. At the 2021 Virtual Meeting, we hosted a

roundtable geared toward equipping grad and early career scholars with the tools they need to comprehend the post-pandemic landscape of working with a PhD beyond the purview of tenure-track academia. This year, we will zoom in on the writing process itself, with the ultimate aim of understanding how writing different practices and venues for publication fit into a career.

Session Organizer:

Iris Clever, University of Chicago

Chair:

Iris Clever, University of Chicago

Participants:

Taylor Elizabeth Dysart, University of Pennsylvania

Gina Surita, Princeton University

Iris Clever, University of Chicago

Michael McGovern, Princeton University

098. FUTURES: Digital History of Science

Roundtable

2:00 to 3:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Sponsored by the Technology and Communication Committee, this annual roundtable showcases the most interesting and most ambitious developments in digital history of science from the previous year. Panelists will describe their experiences creating cutting-edge digital tools and methods that are helping transform the way historians of science approach their craft. Each participant will briefly describe their major intervention, leaving plenty of time for discussion with one another and with the audience.

Session Organizer:

Abraham Hill Gibson, University of Texas at San Antonio

Chair:

Stephen P Weldon, University of Oklahoma

Participants:

Alain Touwaide

Kathryn B. Carpenter, Princeton University

Paul Vieth, University of Oklahoma

099. Food and Vermin: Encounters between Settler and Indigenous Knowledge Systems

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

A community of recipes past and present: Reading kitchen knowledge in Sotuta, Yucatan *Olin Moctezuma Burns, University of Cambridge*

Building a Better Bee: 19th-Century American Beekeepers' Quest for Reproductive Control
Leah Malamut, University of Minnesota

From Food to Allies – Herpetology and the Contesting Knowledge of Human-snake Relations in Colonial Hong Kong (1947-1980)

Xin Xie, Chinese University of Hong Kong

Immortal Flora: Mummy Plants and Plant Time, 1760-1870
Adriana Craciun, Boston University

Chair:

Projit Bhari Mukharji, University of Pennsylvania

100. Boundless Precedents, Early Science

Roundtable

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Parkside

Historians of science are taught to abhor the teleological. Fating an explanation of how things worked according to the knowledge held by an observer centuries down the line tends to sacrifice contingency and personal agency. Despite this canonical warning, the field of early science is growing with a wide array of recent scholarship seeking to identify the many precedents – and sometimes alternatives – for modern scientific knowledge across the ancient, medieval, and early modern world. Sometimes the specter of the modern sciences continues to teleologically linger in the background underwriting the stakes, as biochemistry and innovative cures loom large behind endeavors such as the collection of *materia medica*. In other cases, however, scholars pushed to expand the category of science to include not only elite theories of nature and experimentation but any engagement in, or manipulation of, the natural world—however successful or not according to modern standards. By this definition, African witches can contribute to scientific knowledge, forests can think, and breeders can be natural philosophers. Furthermore, awareness of the geographic range of human inventiveness has likewise pushed for a more capacious understanding of science as scholars seek to understand the systems of knowledge behind Andean agriculture, Chinese river management, and wheel use in Roman antiquity. This roundtable, hosted by the Early Science Forum, aims to facilitate a conversation about what is to be gained by expanding the definition of science and understanding how it may specifically apply to the early modern period or non-Western contexts.

Participants:

Bamboo Swords and Stone Needles: Early Modern Herbal Technologies
Lan Li, Rice University

How is 'ilm science and why should we care?!

Ahmed Ragab, John Hopkins University

The Song of Nature. Medicine as teleological mysticism in Galen of Pergamon
Enrico Piergiacomini, Bruno Kessler Foundation

Island Laboratories: The Long Histories of Colonialism and Scientific Knowledge
Thomas C Anderson, Yale University

The History of Science as Archives of Slavery
Hannah Murphy, King's College London

Technologies of Health: Histories of use and reuse
Elaine Leong, University College London

Chair:

Patrícia Martins Marcos, UCSD

101. In Pursuit of Equity in Science: Lessons from History

Contributed Paper Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

Resiliency in Credit Misallocation: Gender, Race, and Epistemic Justice in the Discovery of RNA splicing
Pnina G Abir-Am, Brandeis University

Exclusion: A History of the Schism between Science and Ideology in Postwar United States
Nayanika Ghosh, Harvard University

Scientific Elitism and Barriers to Minority Recruitment, Retention, and Inclusion
Andrew Hogan, Creighton University

Chair:

Jonny Bunning

102. Mycology and its Discontents: Fungi and Category Confusion in the 19th and 20th Centuries

Organized Session

2:00 to 3:30 pm

Drake Hotel: Floor Mezzanine - Venetian

Judging by their (lack of) attention within the history of science, fungi aren't particularly great to think with. Although covered occasionally within larger histories of medicine and of biology, fungi and the field of scientific inquiry directed at understanding them—mycology—have seen minimal critical historical attention despite their significance within anthropology and queer studies. And yet we live in the shadow of the fungal es-

cape from the plant kingdom, a time when fungi dominate media headlines and raise critical questions about agriculture, sustainability, climate change, laboratory practice, design, cuisine, and much more. This panel turns attention to the forms, structures, and places of mycological knowledge, particularly during the nineteenth and early-twentieth centuries, a period when mycologists began to organize large-scale taxonomic projects and to reimagine themselves as independent researchers from the field of botany. We ask how classification schemes and category dilemmas propelled new modes of knowledge production and contributed to the emergence of transnational (or “global”) mycology.

Participants:

Species Definition and Category Confusion:

Plants, Fungi, and Taxonomic Debates in
Nineteenth Century Colonial Natural History
Elaine Ayers, New York University

The Global Language of Mycology: Pier Andrea
Saccardo, the Sylloge Fungorum, and Fungal
Material Culture *Brad Bolman, University of
Chicago*

Gathering Knowledge: Sustenance, Science,
and the Woman Mushroom Hunter in Ameri-
can Culture, 1880 - 1930 *Madeline DeDe-
Panken, Graduate Center CUNY (Now in Vir-
tual Festival)*

The Stinkhorns: A cultural and evolutionary his-
tory of a fungal outlier and those who studied
them *Nuala Caomhanach, New York Univer-
sity/American Museum of Natural History*

Session Organizer:

Brad Bolman, University of Chicago

Chairs:

Elaine Ayers, New York University

Brad Bolman, University of Chicago

103. Historians and Political Advocacy Post-Dobbs

Sponsored Session

4:00 to 5:30 pm

Drake Hotel: Astor

Chairs:

Samantha Muka, Stevens Institute of Technol-
ogy

Anita Guerrini, Oregon State University, and
University of California Santa Barbara

Commentators:

Jessica Martucci, University of Pennsylvania

Jaipreet Virdi, University of Delaware

Mark Largent, Michigan State University

Jacqueline Antonovich, Muhlenberg College
Beans Velocci, University of Pennsylvania

104. Isis Advisory Board Meeting

Business Meeting

4:00 to 6:00 pm

Drake Hotel: Club International

Chairs:

Alexandra Hui, Mississippi State University

Matthew Lavine, Mississippi State University

105. From Skulls to Complete Humans: Recon- figurations of Biological Anthropology in the Post-War Decades

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Lobby - Drake

Historians have long studied how biological or physical anthropology had intimate links with racial biology and eugenics in the first half of the 20th century. They have also explored to what extent anthropology and the race concept transformed in postwar population genetics. This panel extends this well-established historiography by shifting the spotlight from population genetics to human biology. The papers, which bring together three case studies from Germany and the UK, suggest that post-war anthropologists and biologists severed ties with racial biology and eugenics by seeking wider and more varied fields of application, in academia and society at large. After the foundation of UNESCO in 1945, one of its first major initiatives was drafting statements “on the race question”. German scientist Hans Nacht-sheim negotiated the space between “race biology” and socially constructed ethnicities in drafting the second UNESCO statement of race. In Britain, a group of emerging physical anthropologists catalyzed an effort to carve a new academic niche for physical anthropology by refashioning it into human biology. A declining interest in physical anthropology forced British biometrician Geoffrey Morant to put his body-measuring skills to work in aviation medicine, designing cockpits and pilot clothing. Together, the papers address how older generations of biological anthropologists redefined their field of study in light of shifting national and international science policies and how a new generation of anthropologically-trained researchers revised anthropology’s epistemological and methodological foundations. The papers will explore how these methodological and epistemological shifts related to the post-war economic and socio-political order, nationally and internationally. At a theoretical level, they will provide

historical instances of the circularity inherent in exploring the biological root of culture, while articulating the cultural value of biology.

Participants:

Hans Nachtsheim, the UNESCO Declarations on Race and the Reintegration of West German science after 1945 *Matthis Krischel, Heinrich Heine University Duesseldorf, Germany*

Geoffrey Morant and the Unexpected Connections Between Racial Science and Human Growth Studies in the 1940s and 1950s *Iris Clever, University of Chicago*

Adaptation: Biological, Social, Academic. Defining the science of Human Biology in post-WWII Great Britain (ca. 1950s-1960s) *fabio De Sio, Heinrich Heine University Dusseldorf*

Session Organizer:

Matthis Krischel, Heinrich Heine University Duesseldorf, Germany

Chair:

Soraya de Chadarevian, University of California, Los Angeles

Commentator:

Soraya de Chadarevian, University of California, Los Angeles

106. Bridging the global and the local in agricultural science

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Erie

In many parts of the world, the systematic study of agriculture long predated the rise of modern science. From the late nineteenth century, new types of state-run institutions like agricultural experimental zones, many conducting trial planting of new crop varieties and use of technologies from other parts of the world, appeared in Asia. These agricultural experimental zones, which were modeled upon institutions for agricultural research and extension from other countries, gave rise to new approaches to the study of farming, often on nation-wide scales. At the same time, they brought renewed attention to the problem of agricultural knowledge on smaller scales. This panel examines efforts to manage and modernize agriculture, with immense implications for the environment in Asia, in imperial and twentieth century China and colonial era Korea, through the development of agricultural experimental stations. Peter Lavelle explores the relationship between agricultural science and the environment in nine-

teenth century China, a period that saw a series of devastating natural disasters and famines. Shellen Wu examines agricultural stations in frontier areas in twentieth century China and their role in accommodating the territorial extent of the Qing empire in a modern Chinese nation-state. Albert L. Park looks at the Suwŏn Agricultural Experiment Station, the largest agricultural science station in colonial Korea, and the dialectics of science and imperialism, human authority and nature. The innovations discussed in these three papers in turn ushered in the widespread adoption of modern science across Asia, a phenomenon at once part of global trends and deeply entangled in local histories.

Participants:

Plants for Troubled Times: Climate and the Science of Agriculture in Late Qing China
Peter Lavelle, Temple University

Seeding the Frontiers of the Chinese Nation
Shellen Wu, University of Tennessee, Knoxville

The Ecology of Authority: Agricultural Science and Destruction in Modern Korea
Albert L. Park, Claremont McKenna College

Session Organizer:

Shellen Wu, University of Tennessee, Knoxville

Chair:

Shellen Wu, University of Tennessee, Knoxville

Commentator:

Arnab Dey, State University of New York at Binghamton

107. Transmissions and Traditions of Mathematics

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Georgian

Historians of science have long recognized the significance of studying how science moves between cultures. Major episodes such as the reception of Greek thought in Rome, the Greco-Arabic translation movement, and the recovery of classical and medieval scientific works in the later Renaissance has been considered to be a *sine qua non* of the succeeding scientific activity. While studies on the transmission of mathematics have produced rich analyses concerning translation, this panel aims to investigate particular episodes of transmission in order to understand how the mathematical material can be appropriated, assimilated, and converted to fit a new tradition. A focus on the transformation of mathemat-

ics offers a novel set of questions concerning the relationship between language and mathematics, the malleable nature of mathematics, and the effect of culture on its practitioners. Most notably, the 'sustainability, regeneration, and resiliency' apparent in how older mathematical work can seamlessly be incorporated into contemporary work will be addressed. Individual papers are diverse in locality and temporality covering the Mediterranean in Late Antiquity, the post-classical Islamicate world, and the Dutch Renaissance.

Participants:

The Making and Unmaking of "The Arabic Euclid" in Columbia University's Rare Book and Manuscript Library *Julia Tomasson, Columbia University*

Reading Arabic Math in the Age of Descartes: The Case of Jacob Golius *Alex Garnick, Harvard University*

A "Seirous" Request: Mathematics and Divine Revelation in Proclus' Hymns *Elizabeth A. Hunter, University of Chicago*

Session Organizer:

Elizabeth A. Hunter, University of Chicago

Chair:

Brittany Shields, University of Pennsylvania

Commentator:

Michael J. Barany, University of Edinburgh

108. HSS Flashtalk Session

Flashtalks

4:00 to 5:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

Participants:

Reading Arabic Science: The Early History of Observation and Experimentation *Aneka Kazlyna, Columbia University*

Fossils and culture: inclusion, instruction, and identities in paleontology *Megan Marjorie Rich, Georgia State University; Leonardo Andres Maduro-Salvarrey, Georgia State University; Christy C. Visaggi, Georgia State University*

Modelling Food Policies: how to describe Science-based policies through nineteenth-century Portuguese Chemistry on Food Regulations *José Ferraz-Caetano, REQUIMTE-LAQV Faculty of Sciences, University of Porto (Portugal)*

Publicity Hounds: The Manufacture of Scientific Authority in the Atomic West *Keely Mruk, University of Wisconsin - Madison*

Chair:

Fa-ti Fan, Binghamton University

109. Explorations, Expeditions, and Extractions

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Coral Fisheries, Neglected: Peter Lund Simmonds, H.M.S. Challenger, and the Economics of Depth-Dependent Research, 1873 *Anne Ricculi, Morris Museum*

Extreme Science in the Age of Extremes: the Finsterwalders, Mountaineering, and the Emergence of Glacial Science, 1889 - 1934 *Tatyana Bakhmetyeva, Tatyana Bakhmetyeva; Stewart A Weaver, University of Rochester*

The Royal Society Expedition to Brazil (1969-1971) *carlos alberto haag, York University*

Notes on History of Archaeology in Brazil: "Only Foreigners Research Brazilian Prehistory" *Tainã Moura Alcântara*

Chair:

Penelope Hardy, University of Wisconsin La Crosse

110. (Im)materiality and the (Un)representable at the Intersections of Early Modern Artistry and 'The New Sciences'

Organized Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Parkside

This panel builds on recent work in the deeply interdisciplinary relationship between the pre-modern arts and sciences in the development of imperial knowledge production. We will examine the uneasy disjunctions between material culture and abstract ideas/concepts – how authors of all stripes struggled to understand, calculate, and taxonomize the incalculable, the unclassifiable, the foreign, and the unknowable in an era of profound epistemological transformation. Papers (by an English literary scholar and two historians of Golden Age Spain) explore how in early modern culture the physical and material collided with the abstract and the ideal to reconstruct early modern ideas of difference and belonging. The panel is organized around the topic of the uncomfortable tensions between materiality and immateriality to question how methodologies of early modern science were adopted as tools for inquiry of non-material concepts, the results of which challenged notions of collective identities in England and

Spain. The comparative scope of this panel, which includes a response by an art historian of seventeenth-century France, allows for a broader consideration of how this irreconcilable epistemological issue developed in parallel yet distinct ways in three burgeoning European empires and their respective colonies.

Participants:

The (Im)materiality of Blood Purity and the (Im)materiality and Belonging in early modern Spain *Elizabeth Neary, University of Wisconsin - Madison*

The (plant) matter of the national spirit in early modern England *Kat Lecky, Loyola University Chicago*

Imagined Materialities: Theaters of the Unseen in Early Modern Spain *Julia Dominguez, University of Delaware*

Session Organizer:

Kat Lecky, Loyola University Chicago

Chair:

Kat Lecky, Loyola University Chicago

Commentator:

Katherine Reinhart, SUNY - Binghamton

111. Case Notes: Comparative Histories of Health and Medicine

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

"A General Expression of Opinion from Practicing Physicians": Collective Investigation in the United States, 1880-1890 *Alexander Thomas Moffett, The University of Chicago*

Monkeys, Public Health, and Breathing Tuberculosis: A Zoo Story, 1901-1914 *Daniel Vandersommers, University of Dayton*

Development of Comprehensive Hemophilia Care in Canada, 1954-1984 *Fedir Razumenko, University of Calgary*

Taxonomy as a privatization technology: a case of oral typhoid vaccine conflict in South Korea. *Kyoryen Hwang, Seoul National University*

Chair:

Doogab Yi, Seoul National University

112. Gender and Eugenics in Applied Social Sciences

Contributed Paper Session

4:00 to 5:30 pm

Drake Hotel: Floor Mezzanine - Venetian

Participants:

Medicalizing Suffrage: The Use of Health and Disease Rhetoric in the Late-Nineteenth Century United States Woman Suffrage Movement *Alex Worrall, University of Pennsylvania*

"A bad inheritance can be overcome by a good environment": The Legacy of Euthenics in the History of American Eugenics. *David Munns*
How to De-Gender a Field in One Easy Step? The transformation of Consumer and Family Science *Gwen Kay, SUNY Oswego*

"Should Men Always Marry For Money": A History of Psychology and IQ, Eugenics, and Manhood *Abigail Grace Cramer, Kent State University*

Chair:

Daniela S Barberis, North Central College

113. HSS Prize Ceremony

Plenary Session

6:00 to 7:30 pm

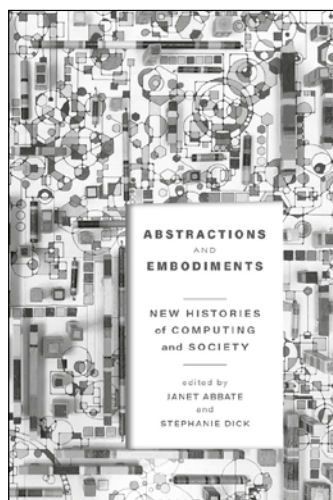
Drake Hotel: Floor Lobby - Grand Ballroom

Chair:

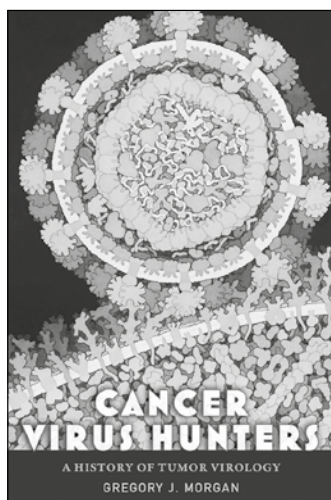
Fa-ti Fan, Binghamton University

NEW FROM HOPKINS PRESS

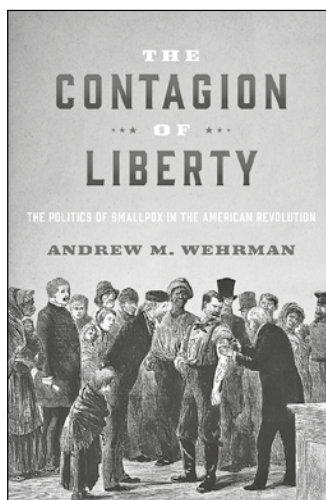
BOOTH
14



Abstractions and Embodiments
hc/ebook \$39.95



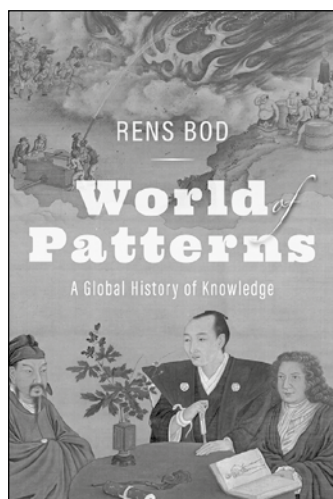
Cancer Virus Hunters
hc/ebook \$50.00



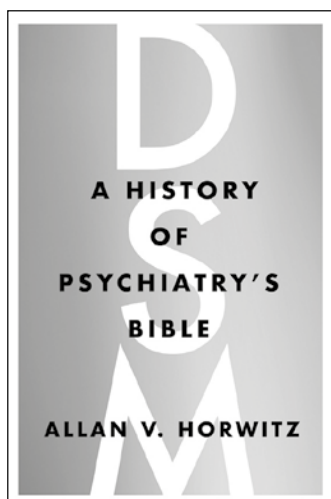
The Contagion of Liberty
hc/ebook \$32.00



Disability Dialogues
hc/ebook \$55.00



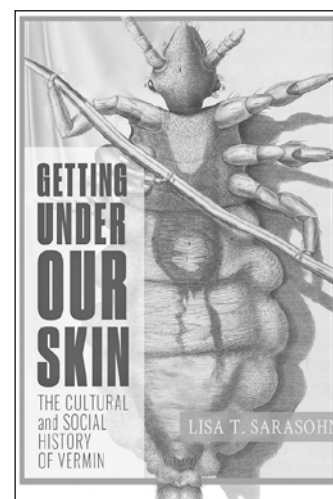
World of Patterns
hc/ebook \$65.00



DSM
hc/ebook \$37.00

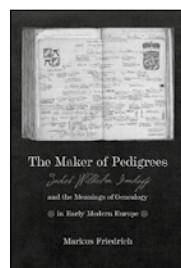


Elephant Trails
hc/ebook \$42.00



Getting Under Our Skin
hc/ebook \$32.00

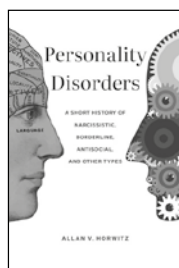
COMING SOON:



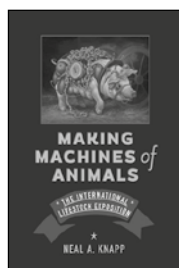
The Maker of Pedigrees
hc/ebook \$60.00



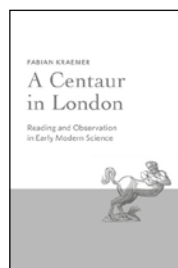
The Interlopers
hc/ebook \$60.00



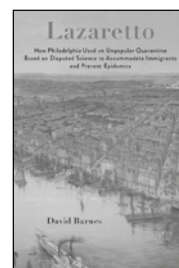
Personality Disorders
hc/ebook \$35.00



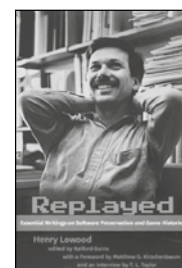
Making Machines of Animals
hc/ebook \$60.00



A Centaur in London
hc/ebook \$60.00



Lazaretto
hc/ebook \$34.95



Replayed
hc/ebook \$50.00

SUNDAY, NOVEMBER, 20

114. HSS Member Business Meeting

Business Meeting

7:30 to 8:45 am

Drake Hotel: Floor Lobby - Grand Ballroom

Chair:

Fa-ti Fan, Binghamton University

Participants:

Gwen Kay, SUNY Oswego

Luis Campos, Rice University

Matthew Shindell, Smithsonian National Air and Space Museum

Rebekah Higgitt, National Museums Scotland

Evelynn Hammonds, Harvard University

Alexandra Hui, Mississippi State University

Matthew Lavine, Mississippi State University

115. Roger Bacon's Scientia Experimentalis

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Lobby - Grand Ballroom

The sixth part of the Franciscan polymath Roger Bacon's (d. 1292) *Opus maius* is concerned with a field Bacon termed *scientia experimentalis*. Consisting of three prerogatives, including the creation of new scientific instruments, *scientia experimentalis* was meant to serve the other sciences by overseeing their trajectories and validating their conclusions. This panel explores three aspects of Bacon's *scientia experimentalis*: the tension between the desire for empirical verification and those ideas that are purely conceptual; the role of *scientia experimentalis* in harnessing natural forces to create new optical technologies; and finally, the way in which Bacon's conception of *scientia experimentalis* changed over time, especially in relation to his other 'special sciences' such as perspective and alchemy.

Participants:

Actuality of First Matter and Experimental Science: Two Conceptions Involved in the Thought of Roger Bacon **Celina Lertora-Mendoza**

The Sciences of Illusion **Elly Truitt**, University of Pennsylvania

The Evolution of Roger Bacon's *Scientia Experimentalis* **Meagan S. Allen**, Science History Institute

Session Organizer:

Meagan S. Allen, Science History Institute

Chair:

James Voelkel, Science History Institute

116. GECC Welcome Room Day 4

9:00 to 12:00 pm

Drake Hotel: Floor Lobby - Marquette

The Graduate and Early Career Caucus is pleased to announce the return of our Welcome Room, pioneered back at our summer 2019 meeting in Utrecht. The Welcome Room is a space for graduate students and early career scholars, especially those new to HSS, to congregate, step away from the conference momentarily in order to collect their thoughts, or even make some final changes to a presentation. We will offer a small assortment of snacks and beverages. Come stop by and say hello!

117. Engineering China: Worldviews and Statecraft in Technological Innovation

Contributed Paper

Contributed Paper Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Michigan

Participants:

Self-Strengthening in Late Qing China: Why did the Chinese "want" science? **Gabriel Sze Man Chan**, University of Hong Kong

Sensing Wind in Architecture: The encounter between feng shui and ventilation in Fin-de-siècle China **Yang Wang**, Department of History, Fudan University

Beyond Input: A History of MingKwai Typewriter **Miaofeng Yao**

"The Launch of a Political Satellite": the Construction of China's Ming Tombs Reservoir in 1958 **Yejing Ge**, University of Science and Technology of China

Chair:

Xiaoxing Jin, Illinois Institute of Technology

118. Early Modern Histories of Science

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Parkside

This panel combines several studies showing how early modern historical narratives and methodologies affected the development of natural philosophy. It is especially interested in history's polemical uses in scientific disagreements, and how historical evidence was used to support controversial scientific and philosophical claims in early modern Europe. During the 16th and 17th centuries, developments in humanism pushed scholars to reflect on how philological evidence could support or undermine claims of intellectual

legitimacy, continuity, or priority. The rhetoric of *prisca sapientia* allowed some natural philosophers to canonize certain historical figures – some much earlier than Aristotle – as authoritative progenitors of scientific knowledge. The following studies recognize that the Scientific Revolution involved – in some form or another – a reevaluation of the epistemic relationship between history and the study of nature. Some during this period argued that the dominant Scholastic paradigm had to be reformed through intellectual renewal of a since-degraded ancient knowledge. Others challenged the notion that past sources had anything at all to tell today's students of nature. The papers listed here all discuss various scientific modalities of the “Quarrel of Ancients and Moderns” from the 16th to the 18th centuries. They assemble a wide range of thematic interests that are woven throughout the content of everyone's talks. The different presenters of the panel explain how tensions between ancient authority and observational evidence played a role in natural philosophy. They show how scientific historiography was incorporated into a nascent nationalist discourse. Projecting these themes into later periods, these panelists also teach us how the lasting impact of the early modern culture around textual authority featured in Enlightenment-era scientific disputes.

Participants:

Fossils and Nations: The Politics of History in the early Enlightenment *Jeremy R. Schneider*

Ancient Authors, Early Modern Physicians, and their Chemical Reluctance *Alyssa Peterson, University of Texas at Austin*

Heirs to Whose History? Early Spanish Natural Historians in Mexico *Marlis Hinckley, Johns Hopkins University*

Interactions between Visual Modes of Evidence in Early Modern Botany *Maura C Flannery, St. John's University, NY*

Session Organizer:

Filip Geaman, Johns Hopkins University

Chair:

Filip Geaman, Johns Hopkins University

119. Trans-Asian Sciences, Interventions, and the Diplomatic Roles in Postwar Japan and South Korea

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Superior

At the end of the war in 1945, the collapse of the

Japanese empire and the rise of the United States as the most powerful nation in the world shifted how science, technology, and medicine were practiced in Asia. South Korea and Japan came under the US Occupation, followed by post-Occupation strategies in which cultural diplomacy played a crucial role. Scientists and administrators in the region were, with or without clear realization, absorbed in the carefully planned scheme of US science diplomacy. What came out was not necessarily what the US had planned, however, because Asian scientists had their own diverse interests. Scientific practice in the postwar years was inseparably colonial, national, and international and was also rooted in each local context. Our panel explores the history by paying attention to trans-Asia relations shaped by the superpower dynamics, old networks of the Japanese empire, and new networks established for postcolonial nation-building and development in Asia. Our papers examine the ways science practice in those multilayered contexts impacted health and environment in the region through topics such as immigration and public health, migratory animal pathology and conservation, rural development and agricultural technology, and an alternative (non-US) agricultural vision and environment.

Participants:

Public Health, Quarantine, and Shaping Hygienic Borders (1945-early 1960s) *John P. DiMoia, Seoul National University*

Trans-Asian Origins of the Migratory Animal Pathological Survey, 1958-1966 *Jaehwan Hyun, Pusan National University*

American Geographer Transplants Japanese Walking Tractor into Korean Soil: Cold War Rural Research in East Asia as a Carrier of Agricultural Technology *Hidekazu Sensui, Kanagawa University*

Kyoto University Mountaineering Group's Alternative Vision in Cold War Asia: From Nakao Sakuke's Theory to Japan's Agricultural Aid in Bhutan *Kaori Iida, The Graduate University for Advanced Studies, SOKENDAI*

Session Organizer:

Kaori Iida, The Graduate University for Advanced Studies, SOKENDAI

Chair:

Jaehwan Hyun, Pusan National University

Commentator:

David Fedman, University of California, Irvine

120. Historical Epistemology of Particle Physics and Quantum Gravity

Organized Session

9:00 to 10:30 am

Drake Hotel: Floor Mezzanine - Venetian

This session discusses practices of modern high-energy physics from the viewpoint of historical epistemology. The establishment of the Standard Model of particle physics in the mid-1970s changed the relation between theorists and experimenters, from experimenters leading the way by providing new empirical findings in need of phenomenological analysis, to theorists suggesting possible tests to experimenters by exploring the framework of gauge theory. In addition, physicists became increasingly occupied with the search for a quantum theory of gravity. For this a wide variety of approaches was developed, by both gravitational physicists and particle physicists. As a result of these developments, from the 1980s onwards the position of theory in high-energy physics had shifted: heuristics of theoretical judgment increasingly replaced comparison to new experimental data. This shift also implied new norms and standards of evaluating theory, leading to philosophical debates on how to assess progress in theory construction in the absence of empirical data. We aim to offer historical insights in these changing ways of constructing and assessing novel theory in modern high-energy physics. How were the leading frameworks for quantum gravity research shaped, and what were their epistemological implications? How has the concept of supersymmetry acted in large-scale endeavors to find physics beyond the standard model? How did epistemic strategies in particle physics change in reaction to experimental null results? Answers to these questions can also enrich our understanding of current developments in high-energy particle physics and quantum gravity research.

Participants:

The Schism Revisited: Origins of Diversification in Quantum Gravity *Alexander Simon Blum, Max Planck Institutes for History of Science and Gravitational Physics*

From S-matrix phenomenology to strings: ontological commitments and theoretical practice *Robert van Leeuwen, University of Amsterdam*

Something from Nothing: 'Non-discovery' and Transformations at the Large Hadron Collider *Sophie Ritson, University of Melbourne*

The Many Faces of Supersymmetry: A Quantitative Approach to the Historical Study of SUSY across Cultures of High-Energy Physics *Lucas Gautheron, University of Wuppertal*

Session Organizer:

Robert van Leeuwen, University of Amsterdam

Chair:

Robert van Leeuwen, University of Amsterdam

121. Ventilation, Breathing and Airborne Disease

Roundtable

11:00 to 12:30 pm

Drake Hotel: Floor Lobby - Grand Ballroom

This round-table will bring together a panel of scholars who study ventilation, air and disease in a variety of thematic and chronological contexts. By bringing together scholars of early modern and modern science, medicine, and technology, this discussion will productively bridge temporal and disciplinary boundaries to examine the role of the aerial environment in medicine and society. This round-table will include short presentations by Dr. Elaine LaFay, who works on wind and environment in the ante-bellum south, Dr. Rebecca Mueller, who will discuss on disability, masking, contagion, and airs in the age of COVID, Dr. Oriana Walker, who will discuss the history of assisted breathing machines, Dr. Marie-Aline Thebaud-Sorger, who writes about the emergence of public understandings of the aerial environment, and Dr. Paul Sampson who will speak about ventilation machines and institutional reform in long eighteenth century. By discussing historical understandings of the aerial environment and its role in human health, we hope that this round-table discussion will help to illuminate the *longue durée* history of attempts to control airborne disease that has been at the heart of the ongoing COVID-19 pandemic.

Chair:

Paul E. Sampson, University of Scranton

Participants:

Elaine LaFay, Rutgers University

Rebecca Mueller, University of Pennsylvania

Marie-Aline Thebaud-Sorger, French National Center for Scientific Research - CNRS Délégation Paris B

122. Harmony and Discord: Conceptualizing and Categorizing Mental Health

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Michigan

Participants:

The Harpsichord Brain *Edward Halley Barnet, Hamilton College*

Two Views On Criminal Behavior *Ambika Natarajan, UM-DAE Centre For Excellence in Basic Sciences*

Clinical Temporalities: Psychiatry at Two (or more) Speeds in the French Mental Hygiene Movement *Maia Woolner, McGill*

Chair:

Nicholas Bonneau, College of Physicians of Philadelphia

123. Paradigms of Scientific Knowledge in Colonial Contexts

Organized Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Parkside

This panel addresses the historic role of knowledges of nature in constructing and sustaining colonial and imperial ideologies. The natural sciences provided powerful techniques for establishing hierarchies between governing colonialists and colonised subjects. Crucially, our papers don't just focus on promoters of Western science and imperialists, but analyze the experiences of non-western actors who left varying degrees of written documentation. While the three papers deal with distinct geographies and temporal boundaries, we demonstrate how science's mobilisation within imperialism was not simple, but involved a complex interaction between a broad range of communities, including race-making, instruments, and institutions. By unpacking the agency of these often ignored audiences and agents, we complicate science's role in the history of empire, identifying shared patterns running through each of our areas of focus.

Participants:

Absented Presences: Rethinking Chronologies of Scientific (Early) Modernity *Patricia Martins Marcos, UCSD*

The magnetism of empire: dipping needles and the experimental encounters of nineteenth-century expeditionary science *Edward J Gillin, UCL*

Situated Scientific Knowledge *Sarah Qidwai, University of Regensburg*

Session Organizer:

Edward J Gillin, UCL

Chair:

Elise K Burton, University of Toronto

124. Social Engineering: Technical Knowledges for Governance and Surveillance

Contributed Paper Session

11:00 to 12:30 pm

Drake Hotel: Floor Mezzanine - Superior

Participants:

Does governance require skill?: Goh Keng Swee's institutionalization of managerial expertise in Singapore *Sharad Pandian, Nanyang Technological University*

Canteens, Seeing Like an Engineer: Thermodynamics and the Politics of the Factory Diet in 20th Century China *Seung-joon Lee, National University of Singapore*

Chair:

Clare Kim, University of Illinois at Chicago

Yale UNIVERSITY PRESS



Strange Natures
Conservation in the Era of Synthetic Biology
Kent H. Redford and William M. Adams

Confronting Climate Gridlock
How Diplomacy, Technology, and Policy Can Unlock a Clean Energy Future
Daniel S. Cohan
Foreword by Michael E. Webber

Distilled
A Natural History of Spirits
Rob DeSalle and Ian Tattersall
Illustrated by Patricia J. Wynne

Life
A Journey through Science and Politics
Paul R. Ehrlich

Asteroids
How Love, Fear, and Greed Will Determine Our Future in Space
Martin Elvis

Life Time
Your Body Clock and Its Essential Roles in Good Health and Sleep
Russell Foster

Minerva's French Sisters
Women of Science in Enlightenment France
Nina Rattner Gelbart

The End of Genetics
Designing Humanity's DNA
David B. Goldstein

Dangerous Medicine
The Story behind Human Experiments with Hepatitis
Sydney A. Halpern

A World Without Soil
The Past, Present, and Precarious Future of the Earth Beneath Our Feet
Jo Handelsman
With Research and Creative Contributions by Kayla Cohen

The Week
A History of the Unnatural Rhythms That Made Us Who We Are
David M. Henkin

The Doctor's Garden
Medicine, Science, and Horticulture in Britain
Clare Hickman

Nuclear Bodies
The Global Hibakusha
Robert A. Jacobs

Ancient DNA
The Making of a Celebrity Science
Elizabeth D. Jones

Scent
A Natural History of Fragrance
Elise Vernon Pearlstine
Illustrations by Lara Call Gastinger

Force
What It Means to Push and Pull, Slip and Grip, Start and Stop
Henry Petroski

The Nature of Tomorrow
A History of the Environmental Future
Michael Rawson

Generations of Reason
A Family's Search for Meaning in Post-Newtonian England
Joan L. Richards

The American Phage Group
Founders of Molecular Biology
William C. Summers

Disorder
A History of Reform, Reaction, and Money in American Medicine
Peter A. Swenson

Diabetes
A History of Race and Disease
Arleen Marcia Tuchman

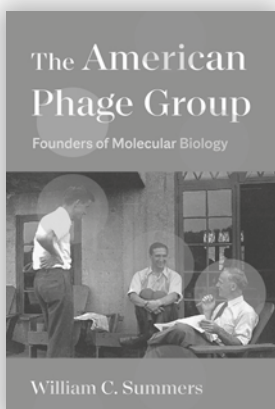
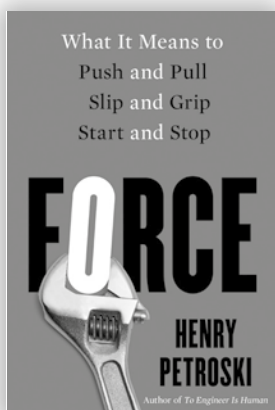
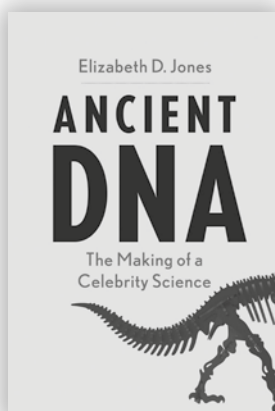
The Great Inoculator
The Untold Story of Daniel Sutton and his Medical Revolution
Gavin Weightman

AVAILABLE IN PAPERBACK

Atlas of AI
Power, Politics, and the Planetary Costs of Artificial Intelligence
Kate Crawford

Slowdown
The End of the Great Acceleration - and Why It's a Good Thing
Danny Dorling
Illustrations by Kirsten McClure

Mescaline
A Global History of the First Psychedelic
Mike Jay



Thursday November 17, 2022

9:00am 10:00am 11:00am 12:00pm 2:00pm 3:00pm 4:00pm 5:00pm 6:00pm 7:00pm

Drake Hotel Lobby Grand Ballroom								6:00p - 7:30p Science, the State, and Second Nature	
Drake Hotel Lobby Drake			12:30p - 2:00p The Care and Keeping of Animals and Humans in the History of Science		2:30p - 4:00p Scientific Animals and Nations				
Drake Hotel Mezzanine Erte	9:00a - 12:00p HSS Executive Committee Meeting								
Drake Hotel Mezzanine Georgian			12:30p - 2:00p Troubling Temporalities: Approaches to Narrating and Historicizing Deep Time		2:30p - 4:00p Engravers and Engraving: Visions of Natural Philosophy in Early Modern Europe				
Drake Hotel Lobby Gold Coast									7:30p - 9:00p HSS Opening Reception
Drake Hotel Mezzanine Huron			12:30p - 2:00p Vernacular Sciences in Asia		2:30p - 4:00p Environmental (In)Justice: Imperial Hegemonies and their Neoliberal Legacies				
Drake Hotel Lobby Marquette			12:30p - 2:00p GECC Welcome Room Day 1		12:30p - 6:00p				
Drake Hotel Mezzanine Michigan			12:30p - 2:00p Historiography of Science: From Theory to Practice		2:30p - 4:00p Productive Disputes in the History of Science and Mathematics		5:00p - 5:45p HSS Listening Session		
Drake Hotel Mezzanine Parkside		12:00p - 1:00p HSS Council Orientation							
Drake Hotel Mezzanine Parkside			12:00p - 1:00p HSS Council Meeting		1:00p - 5:00p				
Drake Hotel Mezzanine Superior			12:30p - 2:00p Geo-Resources in the Early Modern World		2:30p - 4:00p Between Natural and Human Histories				
Drake Hotel Mezzanine Venetian			12:30p - 2:00p Oceans in Depth: Knowledge, Resources, Representations		2:30p - 4:00p Arctic Materialities: Objects, Collections, and Knowledge in and of the Far North				

Friday November 18, 2022

	7:00am	9:00am	11:00am	12:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Drake Hotel Lobby Grand Ballroom		9:00a - 10:30a Forum for the History of Human Science Distinguished Lecture	11:00a - 12:30p FUTURES: Digitizing Collections, Challenges and Experiences		2:00p - 3:30p FUTURES: Life in the Retirement Lane		4:00p - 5:30p Climate Knowledge and Race in the nineteenth century	6:00p - 7:30p HSS Distinguished Lecture	
Drake Hotel Astor		9:00a - 10:30a Forum on the History of Chemical Sciences (FHCS)	11:00a - 12:30p Childish Subjects: Twentieth Century Clinical Studies of Children		2:00p - 3:30p Communicating Science: From Periodical to Popular Science Book		4:00p - 5:30p Unsustainable Resiliency: Regenerating Failure in the History of early modern European Projects		
Drake Hotel Lobby Carnellia	7:30a - 8:45a HSS Committee/Caucus/Forum Chair's Breakfast								
Drake Hotel Club International									
Drake Hotel Lobby Drake		9:00a - 10:30a Forum on the History of Health, Medicine, and Life Sciences	11:00a - 12:30p Human Descent and Evolution Across Scientific and Popular Literatures in the Nineteenth-Century Anglo-American World		2:00p - 3:30p Women Writing Science: Translations and Popularizations in the Long Nineteenth Century		4:00p - 5:30p Resourcing and Restoring Nature		
Drake Hotel Mezzanine Erie		9:00a - 10:30a Early Science Forum	11:00a - 12:30p The Soul of the Machine: Computers and Intelligence		2:00p - 3:30p Natural Philosophy, Evolution, and Science Education		4:00p - 5:30p Mathematics, Measurements, and the Making of Standards		
Drake Hotel Mezzanine Florentine		9:00a - 10:30a Forum for the History of Science and Knowledge in Latin America and the Caribbean	11:00a - 12:30p GECC CV Review						
Drake Hotel Lobby French							4:00p - 5:30p HSS Poster Session		
Drake Hotel Mezzanine Georgian		9:00a - 10:30a Forum on the History of Mathematical Sciences	11:00a - 12:30p Settlement and Survival		2:00p - 3:30p Deconstructing the "Psychodelic" and its Sciences from Latin America				
Drake Hotel Mezzanine Huron		9:00a - 10:30a Earth & Environment Forum	11:00a - 12:30p Natural Philosophy in Early-Modern Europe		2:00p - 3:30p Expanding the Scope of Late Renaissance Medicine and Anatomy		4:00p - 5:30p Biomedicine in Socialist Contexts		

Friday November 18, 2022

7:00am 9:00am 11:00am 12:00pm 2:00pm 3:00pm 4:00pm 5:00pm 6:00pm

Drake Hotel Lobby Marquette	GECC Welcome Room Day 2			9:00a - 5:30p			
Drake Hotel Mezzanine Michigan	9:00a - 10:30a Visualizing Nature	11:00a - 12:30p Evolution, Cosmology, and Empire		2:00p - 3:30p Knowledge under Stress: Early Modern Science, Technology, and Medicine	4:00p - 5:30p Medicalizing Colonial Subjects: Peoples, Poisons, and Pupils		
Drake Hotel Mezzanine Ontario	9:00a - 10:30a HSS Member Orientation	11:00a - 12:30p Movement and action: between life and discursive knowledge		2:00p - 3:30p Global Histories of Science, Medicine, Race and Colonialism			
Drake Hotel Mezzanine Parkside	9:00a - 10:30a Forum on the History of Science in Asia (FHSA)	11:00a - 12:30p Biological Lynd-viduality	12:45p - 1:45p Osiris: Translating Medicine Across Premodern Worlds	2:00p - 3:30p Animal Knowledge Farther Afield: Menageries, Breeding Colonies, and Clites in the History of Animal Science			
Drake Hotel Mezzanine Superior	9:00a - 10:30a CALM Caucus Business Meeting	11:00a - 12:30p Medical Trash: Ecologies of Health and Waste		2:00p - 3:30p Capturing the Stars: Colonialism, Gender and Diversity in the Space Sciences	4:00p - 5:30p Physics in Perspective		
Drake Hotel Mezzanine Venetian	9:00a - 10:30a Physical Science Forum	11:00a - 12:30p Meteorology in Context: Weather, Health, and Climate Change		2:00p - 3:30p A Cultural History of Chemistry: Putting the Series to Work for Historians of Science	4:00p - 5:30p Looking to what isn't there: The cybernetic, ecological human and theories of absence and excess in psychological experience		
Headquarters Beer-Cade Headquarters Beacade						8:00p - 10:00p HSS Graduate Student & Early Career Scholar Reception	

Saturday November 19, 2022

7:00am 9:00am 10:00am 11:00am 12:00pm 1:00pm 2:00pm 3:00pm 4:00pm 5:00pm 6:00pm 7:00pm

Drake Hotel Lobby Grand Ballroom		9:00a - 10:30a In Search of Habitable Worlds	11:00a - 12:30p FUTURES: Sexual Harassment, Power, and the Futures of Equity and Inclusivity	12:45p - 1:45p Sarton Medalist Interview: A Conversation with Margaret Rossiter	2:00p - 3:30p FUTURES: Digital History of Science	4:00p - 5:30p HSS FlashTalk Session	6:00p - 7:30p HSS Prize Ceremony	
Drake Hotel Astor		9:00a - 10:30a Sown Tensions: Agricultural and Environmental Sciences in Context	11:00a - 12:30p Water and Power: Fluid Technologies for Empire and the Postcolonial State in East Asia		2:00p - 3:30p Taxonomies, Taxidermies, and Technologies in Systematizing Nature	4:00p - 5:30p Historians and Political Advocacy Post-Dobbs		
Drake Hotel Lobby Carnellia	7:30a - 8:45a Women's Caucus Breakfast							
Drake Hotel Club International		9:00a - 10:30a GECC Women's Mentorship Chat				4:00p - 5:00p IIS Advisory Board Meeting		
Drake Hotel Lobby Drake		9:00a - 10:30a History for the Future: Regeneration in a Complex World	11:00a - 12:30p Resilience and Vulnerability in Psychedelic Science		2:00p - 3:30p The formation of new epistemologies of early modern science	4:00p - 5:30p From Skulls to Complete Humans: Reconstructions of Biological Anthropology in the Post-War Decades		
Drake Hotel Mezzanine Erie		9:00a - 10:30a Reassessing Ancient Sciences	11:00a - 12:30p Internationalism in the Advancement of Science and Environmental Justice in the Twentieth Century		2:00p - 3:30p Materials Science: Industrial Imperatives for Innovation	4:00p - 5:30p Bridging the global and the local in agricultural science		
Drake Hotel Mezzanine Georgian		9:00a - 10:30a Cancer's Contested Causes: The Science and Politics of Research into Exposures, Genes, and Populations	11:00a - 12:30p The Public and its Sciences		2:00p - 3:30p Tacit Knowledge: Writing Practices	4:00p - 5:30p Transmissions and Traditions of Matrimatics		
Drake Hotel Lobby Marquette		9:00a - 5:30p GECC Welcome Room Day 3						
Drake Hotel Mezzanine Michigan		9:00a - 10:30a Colonial Natural Histories	11:00a - 12:30p Chromosome Woman: Nomad Scientist, E.K. Janaki Ammal, A life, 1897-1984		2:00p - 3:30p Food and Vermint: Encounters between Settler and Indigenous Knowledge Systems	4:00p - 5:30p Explorations, Expeditions, and Extractions		
Drake Hotel Mezzanine Ontario		9:00a - 10:30a Midwest Junta Meeting	11:00a - 12:30p HSS@Work Business Meeting					
Drake Hotel Mezzanine Parkside		9:00a - 10:30a Inclusion and Exclusion in Scientific Internationalism	11:00a - 12:30p Naming Stakes: Critical Histories of Classification and Categorization		2:00p - 3:30p Boundless Precedents, Early Science	4:00p - 5:30p (In)materiality and the (Un)representable at the Intersections of Early Modern Artistry and 'The New Sciences'		

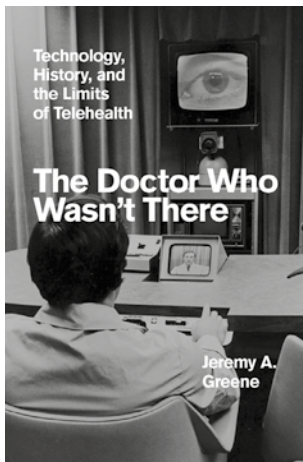
7:00am 9:00am 10:00am 11:00am 12:00pm 1:00pm 2:00pm 3:00pm 4:00pm 5:00pm 6:00pm 7:00pm

7:00pm

Sunday November 20, 2022

	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm
Drake Hotel Lobby Grand Ballroom	HSS Member Business Meeting 7:30a - 8:45a		Roger Bacon's Scientia Experimentalis 9:00a - 10:30a		Ventilation, Breathing and Airborne Disease 11:00a - 12:30p	
Drake Hotel Lobby Marquette		GECC Welcome Room Day 4	9:00a - 12:00p			
Drake Hotel Mezzanine Michigan		Engineering China: Worldviews and Statecraft in Techno-logical Innovation 9:00a - 10:30a		Harmony and Discord: Conceptualizing and Categorizing Mental Health 11:00a - 12:30p		
Drake Hotel Mezzanine Parkside		Early Modern Histories of Science 9:00a - 10:30a		Paradigms of Scientific Knowledge in Colonial Contexts 11:00a - 12:30p		
Drake Hotel Mezzanine Superior		Trans-Asian Sciences, Interventions, and the Diplomatic Roles in Postwar Japan and South Korea 9:00a - 10:30a		Social Engineering: Technical Knowledges for Governance and Surveillance 11:00a - 12:30p		
Drake Hotel Mezzanine Venetian		Historical Epistemology of Particle Physics and Quantum Gravity 9:00a - 10:30a				

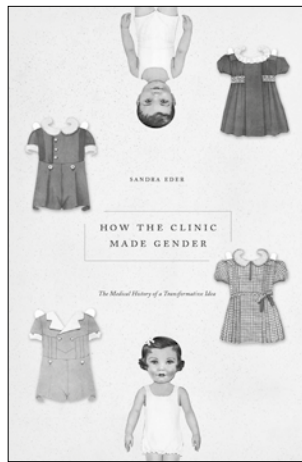
New from CHICAGO



The Doctor Who Wasn't There

Technology, History, and the Limits of Telehealth

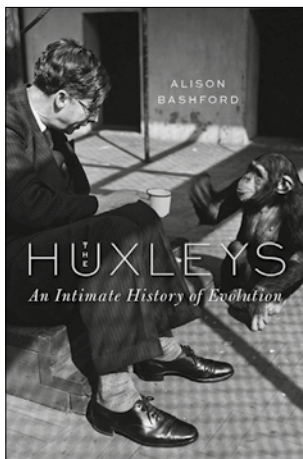
Jeremy A. Greene
Cloth \$29.00



How the Clinic Made Gender

The Medical History of a Transformative Idea

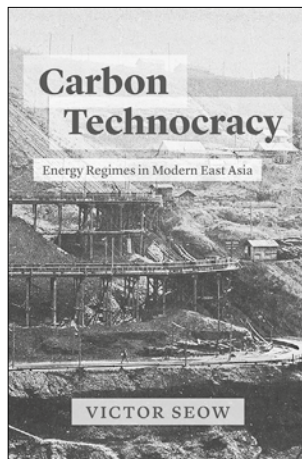
Sandra Eder
Paper \$30.00



The Huxleys

An Intimate History of Evolution

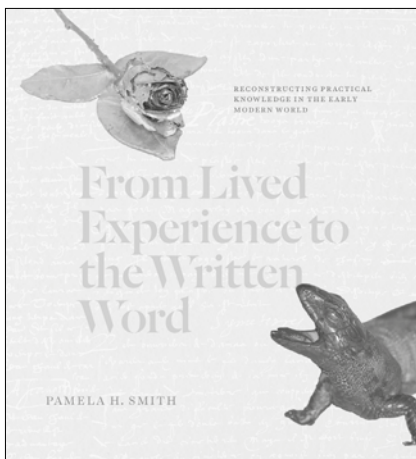
Alison Bashford
Cloth \$30.00



Carbon Technocracy

Energy Regimes in Modern East Asia

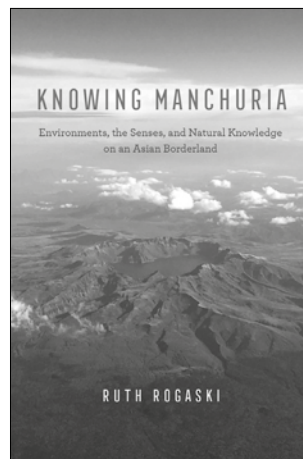
Victor Seow
Studies of the Weatherhead East Asian Institute
Paper \$30.00



From Lived Experience to the Written Word

Reconstructing Practical Knowledge in the Early Modern World

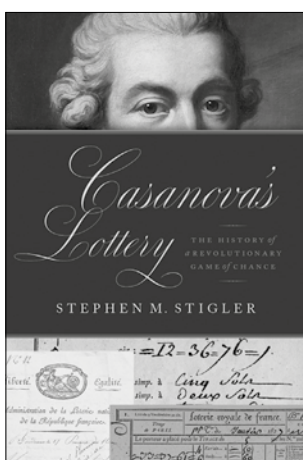
Pamela H. Smith
Paper \$35.00



Knowing Manchuria

Environments, the Senses, and Natural Knowledge on an Asian Borderland

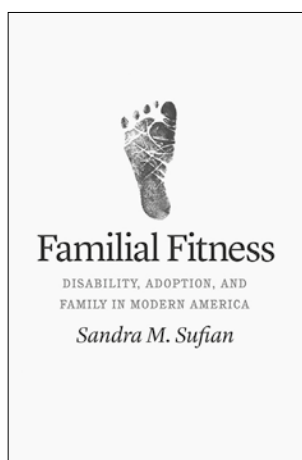
Ruth Rogaski
Cloth \$45.00



Casanova's Lottery

The History of a Revolutionary Game of Chance

Stephen M. Stigler
Paper \$22.50



Familial Fitness

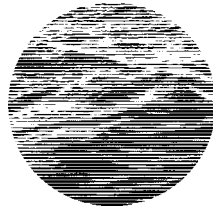
Disability, Adoption, and Family in Modern America

Sandy M. Sufian
Paper \$35.00

THE UNIVERSITY OF CHICAGO PRESS
www.press.uchicago.edu

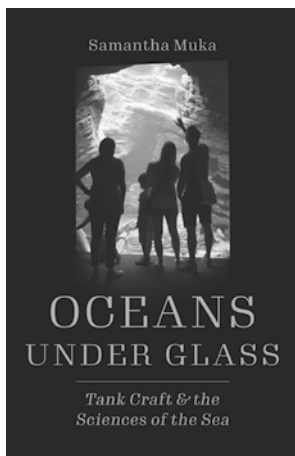
The University of Chicago Press is proud to
announce a new book series:
Oceans in Depth

Katharine Anderson and Helen M. Rozwadowski, *series editors*



The ocean has profoundly shaped human existence as a space of sustenance, industry, and exchange as well as a source of knowledge, myth, and imagination. The complex interactions between humans and the ocean, though ancient, have tightened over time and multiplied with globalization. The importance of these interactions today—in terms of climate, health, economy, food supply, recreation, coastal habitation, and many other areas—prompts new and urgent attention to understanding our past relationships with the ocean.

Our series will publish works that put the ocean at the center of our narratives about the past. When we consider the ocean in its depths and move beyond the narrow slices of its coasts, we gain new dimensions to our histories, both in the modern era and through deep time. To build fuller accounts of the ocean, our series adopts a broad definition of historical writing. Contributions to this series may emerge from a variety of disciplines and perspectives, such as history of science or technology, historical geography, anthropology, environmental history, art history, literary history, and nature writing. We especially encourage books or collections that, while grounded in rigorous scholarship, can speak to broader academic, student, and general audiences.



**Oceans
under Glass**

*Tank Craft and the
Sciences of the Sea*

Samantha Muka

Cloth \$35.00

Forthcoming

Ocean Bestiary

*Meeting Marine Life
from Abalone to Orca
to Zooplankton*

Richard J. King

CHICAGO

The University of Chicago Press
www.press.uchicago.edu

PARTICIPANT INDEX

Abir-Am, Pnina G, 088, 101
 Abney Salomon, Charlotte, 057
 Albritton Jonsson, Fredrik, 018, 062
 Allen, Meagan S., 052, 115
 Amborg, Jens, 092
 Anderson, Katharine, 009
 Anderson, Thomas C, 064, 100
 Andersson Burnett, Linda, 062
 Ankeny, Rachel, 011
 Antonovich, Jacqueline, 103
 Ayers, Elaine, 102
 Azzolini, Monica, 010, 095

Babnigg, Daniel, 061
 Baker, Erik, 013
 Baker, Tawrin, 052
 Bakhmetyeva, Tatyana, 109
 Baksi, Sandipan, 071
 Baldassarri, Fabrizio, 095
 Baldoza, Jonathan Victor, 085
 Baldwin, Melinda, 080
 Barahona, Ana, 049
 Barany, Michael J., 107
 Barberis, Daniela S, 091, 112
 Barlow Robles, Whitney, 092
 Barnett, Edward Halley, 122
 Barnett, Lydia, 008
 Barr, Zachary, 007
 Barrett, Gordon, 080
 Bell, Gloria, 078
 Benson, Etienne, 003
 Benya, Frazier, 087
 Bhattacharya, Arnav of, 091
 Bian, He, 005
 Bil, Geoffrey, 088
 Bimm, Jordan, 076
 Blum, Alexander Simon, 120
 Blythe, Hannah, 034
 Boantza, Victor, 040
 Boegen, Lauren, 061
 Bolman, Brad, 055, 102
 Bonneau, Nicholas, 122
 Bordogna, Francesca, 042
 Borg, George, 065
 Borrello, Mark, 015
 Bouley, Bradford, 008
 Brannon, James, 074, 089
 Broman, Tom, 051
 Bruno, Andy, 041
 Buchan, Bruce, 062

Bunning, Jonny, 101
 Burton, Elise K, 123
 Burton-Rose, Daniel, 011
 Bush, Martin, 047

Campos, Luis, 001, 010, 017, 030, 076, 114
 Canadelli, Elena, 039
 Caomhanach, Nuala, 013, 039, 071, 102
 Carlyle, Margaret, 012
 Carpenter, Kathryn B., 098
 Carrejo, David, 049
 Case, Stephen, 049
 Castillo, Estrella V., 050
 Caulkins, Tamara, 061
 Chan, Gabriel Sze Man, 117
 Charenko, Melissa, 004, 045
 Chatterjee, Elizabeth, 018
 Chavez, Miguel Angel, 064
 Chen, BuYun, 008
 Chen, Yu Shan, 059
 Clayton, Alexander, 055
 Clayton, Angelica Barbara, 066
 Clever, Iris, 097, 105
 Coelho, Aline De Oliveira, 060
 Collins, James P., 073
 Cooley, Mackenzie Anne, 092
 Cooper, Austin, 082
 Costa, James T., 035
 Craciun, Adriana, 016, 099
 Cramer, Abigail Grace, 112
 Creager, Angela, 075
 Cueto, Marcos, 007
 Curry, Helen Anne, 010

Dal Prete, Ivano, 040
 Daly, Jennifer, 041
 Dasgupta, Deepanwita, 049
 Davis, Frederick R., 073
 de Chadarevian, Soraya, 105
 DeDe-Panken, Madeline, 102
 Demuth, Bathsheba, 018
 De Sio, fabio, 105
 Determann, Jörg Matthias, 056
 Dey, Arnab, 106
 Dickenson, Victoria, 078
 DiMoia, John P., 119
 Dominguez, Julia, 110
 Dong, Yuting, 083
 Du, Zhonghua, 085
 Dysart, Taylor Elizabeth, 050, 068, 072, 097

Eddy, Matthew, 062
 Eder, Sandra, 091
 Eguiarte Souza, Luis Felipe, 047
 Elsass, Kirke, 038
 Elzway, Salem, 036
 Ens, Andrea, 084
 Escapa, Isaiah Ramon, 061
 Esposito, James, 038

 Fan, Fa-ti, 001, 010, 017, 030, 082, 093, 108, 113, 114
 Fancy, Nahyan, 074, 095
 Fedman, David, 119
 Feiner, Ella, 075
 Felten, Sebastian, 008
 Ferraz-Caetano, José, 108
 Fiss, Andrew, 014
 Fitzpatrick, Susan M., 073
 Flannery, Maura C, 051, 061, 118
 Fonseca, Sebastian, 063
 Freiburger, Dana A., 065

 Gabel, Isabel, 015
 Gagnon, Valoree S., 061
 Gandara, Natalia, 009
 Garber, Margaret, 057
 Garnick, Alex, 107
 Gautheron, Lucas, 120
 Ge, Yejing, 117
 Geaman, Filip, 074, 118
 Ghosh, Nayanika, 101
 Gianquitto, Tina, 035, 087
 Gibboney Jr, Daniel, 034
 Gibson, Abraham Hill, 098
 Gielas, Anna, 047
 Gillin, Edward J, 123
 Giovannetti-Singh, Gianamar, 071
 Glassie, Alison, 009
 Glusman, Rowen, 061
 Gold, Meira, 047
 Golinski, Jan, 010
 Gómez, Pablo F., 010, 026, 046
 Good, Greg, 051
 Gordin, Michael D., 005, 037
 Graber, Anna, 078
 Granado-Torres, Carolina, 045
 Green, Jacob, 084
 Green, Leore Joanne, 091
 Greene, Jeremy, 044
 Gross, Benjamin, 032
 Guerrini, Anita, 039, 062, 103
 Gurevitch, Eric Moses, 005

 Haag, Carlos Alberto, 109
 Hammonds, Evelyn, 001, 010, 017, 030, 114
 Hansson, Nils, 063
 Hardy, Penelope, 109
 Haryadi, Didid, 013
 Hashmi, Zehra, 090
 Hayashi, John, 083
 Heidarzadeh, Tofigh, 056
 Heshmati, Ata, 086
 Hicks, Mar, 087
 Higgitt, Rebekah, 001, 010, 017, 030, 060, 114
 Hinckley, Marlis, 118
 Hof, Barbara, 080
 Hogan, Andrew, 101
 Hoiem, Elizabeth Fabry Massa, 048
 Hoyt, Andrew Mitchell, 059
 Hsia, Florence, 010
 Hsieh, Shinyi, 034
 Hsiung, Hansun, 046
 Huebner, Daniel, 042
 Hui, Alexandra, 001, 030, 104, 114
 Hunter, Elizabeth A., 107
 Hutcheson, Emily S, 043
 Hwang, Kyoryen, 111
 Hyun, Jaehwan, 119

 Ienna, Gerardo, 080
 Iida, Kaori, 119
 Ito, Kenji, 065

 Jensen, Gerda Maisa, 049
 Jewett, Andrew, 086
 Jiang, Lijing, 011
 Jin, Xiaoxing, 117
 Johnson, Matthew P., 018
 Johnston, Sky Michael, 045
 Jones, Andrew, 084
 Jones, David S, 044

 Kambas, Liz, 048
 Kang, Hyeok Hweon, 005
 Kaplan, Judith, 043
 Kapoor, Nathan, 038
 Karr Schmidt, Suzanne, 012
 Kay, Gwen, 001, 010, 017, 030, 112, 114
 Kazlyna, Aneka, 108
 Keel, Terence, 010
 Keller, Richard C, 044
 Keller, Vera, 058
 Kempton, Miles, 029
 Kern, Emily, 004

Kim, Clare, 124
 Kitchen, Emma, 015
 Klestinec, Cynthia, 052
 Kohlstedt, Sally Gregory, 051
 Kojevnikov, Alexei, 086
 Kossmann, Caitlin, 076
 Krige, John, 051, 082, 096
 Krischel, Matthis, 105
 Kron, Richard, 061
 Kubbinga, Dr.habil. Henk, 060, 096
 Küçük, Harun, 010
 Kuleli Karasahan, Zeynep, 064
 Kumar, Prakash, 082

LaFay, Elaine, 121
 Lanzoni, Susan, 042
 Largent, Mark, 103
 Latypov, Alisher, 063
 Lavelle, Peter, 106
 Lavine, Matthew, 001, 030, 104, 114
 Lawson, Owain, 018
 Lazarus, Oliver, 055
 Lecky, Kat, 053, 110
 Lee, Eunsoo, 007, 029
 Lee, Seung-joon, 124
 Lei, Sean Hsiang-lin, 041
 Leitão, Henrique, 053
 Leong, Elaine, 010, 037, 046, 100
 Lertora-Mendoza, Celina, 115
 Lester, Gustave, 059
 Levy, Josh, 013, 037
 Li, Lan, 100
 Lie, Anne Kveim, 044
 Lightman, Bernard, 081
 Lindee, Susan, 093
 Link, Adrianna, 039
 Liu, Daniel, 043
 Louson, Ellie, 072
 Lucier, Oliver, 060
 Luk, Christine Yi Lai, 081
 Lynn, Michael, 040

MacCord, Kate, 073
 Madruga, Catarina, 032, 039
 Maduro-Salvarrey, Leonardo Andres, 108
 Maienschein, Jane, 073
 Malamut, Leah, 099
 Marcolina, Rebecca, 038
 margocsy, daniel, 092
 Martin, Laura, 004
 Martinez, Deniz, 061
 Martinez, Jean-Philippe, 065
 Martins Marcos, Patrícia, 100, 123

Martucci, Jessica, 093, 103
 Mateos, Gisela, 082
 Mathias, Jeffrey, 066
 Maxson Jones, Kathryn Grace, 073
 McCormick, Ted, 058
 McGovern, Michael, 068, 072, 097
 Middeke-Conlin, Robert, 074
 Milam, Erika Lorraine, 043
 Mitchell, Mary, 082
 Mitchell, Matthew David, 058
 Mizuno, Hiromi, 083
 Moctezuma Burns, Olin, 099
 Moffett, Alexander Thomas, 111
 Molina, Eva, 016
 Mooney, Graham P, 044
 Moreno Madrid, José María, 053
 Mostajir, Parysa Clare, 007
 Moura Alcântara, Tainã, 109
 Mruk, Keely, 108
 Mueller, Lucas, 075
 Mueller, Rebecca, 121
 Muka, Samantha, 087, 103
 Mukharji, Projit Bihari, 010, 046, 099
 Munns, David, 112
 Muntersbjorn, Madeline, 014
 Murphy, Hannah, 100
 Murphy, Michelle, 067
 Mürsepp, Peeter, 014

Nahmias, Noa, 081
 Nair, Aparna, 064
 Nair, Savithri Preetha, 088
 Naramore, Sarah Elizabeth, 079, 087
 Natarajan, Ambika, 122
 Neary, Elizabeth, 110
 Newman, Francis Aidan, 045
 Ngo, Dalena, 087
 Niermeier-Dohoney, Justin, 045

Ogilvie, Marilyn, 051
 Oh, Kyung Taek, 029
 Okwandu, Udodiri, 090
 Opitz, Donald L., 069, 087, 088, 093

Palmieri, Kristine, 010, 056
 Pandian, Sharad, 124
 Park, Albert L., 106
 Park, Hyung Wook, 061
 Park, Seohyun, 083
 Pearl, Sharrona, 036
 Penaloza-Patzak, Brooke, 016
 Peterson, Alyssa, 118
 Petrick, Elizabeth, 036

Phillips, Christopher J, 075
 Pickman, Sarah, 016, 087
 Piergiacomini, Enrico, 100
 Pierri, Florencia, 094
 Pineda de Avila, Nydia, 008
 Podgorny, Irina, 010
 Poje, Kat, 003
 Portuondo, Maria, 010
 Pradheksa, Pratama Yudha, 013
 Prestes, Maria Elice de Brzezinski, 049
 Prial, Brigid, 055
 Pronskikh, Vitaly, 014
 Pugliano, Valentina, 053

Qidwai, Sarah, 087, 123

Ragab, Ahmed, 029, 046, 054, 100
 Ragland, Evan R, 052
 Ramberg, Peter, 057
 Ramos, Marco A., 050
 Rankin, Alisha, 010, 046
 Rankin, Joy Marie Lisi, 087
 Raphael, Renee, 008
 Raposo, Pedro, 032
 Rauch, Alan, 048
 Razumenko, Fedir, 111
 Reinhart, Katherine, 012, 110
 Renna, Alison, 066
 Reser, Anna N, 038
 Ricculi, Anne, 109
 Rich, Megan Marjorie, 108
 Rich, Miriam, 090
 Richert, Lucas, 084
 Rider, Alexis, 004
 Rietmann, Felix, 034
 Ritson, Sophie, 120
 Robinson, Michael, 043
 Rocke, Alan, 057
 Roosth, Sophia, 015
 Rose, Edwin, 035
 Roseblatt, Karin, 024
 Rosenberg, Allegra, 016
 Rossiter, Margaret, 093
 Rozwadowski, Helen, 009
 Rüegg, Jonas M., 009

Saarela, Mårten Söderblom, 005
 Sabri, Mariam, 085
 Sampson, Paul E., 121
 Sanchez, Kimberly Susan, 003
 Schloegel, Judy Johns, 059
 Schmidt, Henry, 094
 Schneider, Jeremy R., 118

Selcer, Perrin, 004
 Sensui, Hidekazu, 119
 Seow, Victor, 018
 Sepkoski, David, 015
 Shahi, Kimia, 009
 Shank, JB, 012
 Sheldon, Myrna Perez, 046
 Sheppard, Kathleen, 007, 087
 Shi, Aijie, 081
 Shields, Brittany, 025, 107
 Shindell, Matthew, 001, 010, 017, 076, 089, 114
 Shmueli, Shira, 003
 Shotwell, Robert Allen, 095
 Shyndriayeva, Galina, 096
 Simmons, Dana, 026, 091
 Sinclair, Katherine, 009
 Singh, Charu, 064
 Smith, Nathan, 078
 Songster, E. Elena, 011
 Sorina, Galina, 014
 Soto Laveaga, Gabriela, 037, 050
 Spanagel, David, 085
 Sponsel, Alistair, 096
 Stapleford, Tom, 036
 Suárez-Díaz, Edna, 063
 Surita, Gina, 014, 037, 097
 Sward, Brandon, 029

Thebaud-Sorger, Marie-Aline, 121
 Tomasson, Julia, 107
 Tonkel, Joshua, 071
 Tonn, Jenna, 048, 087
 Topham, Jonathan, 041
 Torrens, Erica, 049
 Touwaide, Alain, 098
 Tran, Thi Mai Anh, 061
 Truitt, Elly, 115
 Tsal, Yotam, 094
 Turchetti, Simone, 080
 Tuthill, Veronica, 056
 Twiss-Brooks, Andrea, 094

Ullman, Reut, 040
 Unnikrishnan, Urmila, 047

Vandersommers, Daniel, 111
 van Leeuwen, Robert, 120
 Vargha, Dora, 010, 063
 Veder, Robin, 042
 Velocci, Beans, 090, 103
 Vieth, Paul, 098
 Viridi, Jaipreet, 093, 103
 Visaggi, Christy C., 108

Voelkel, James, 115
von Oertzen, Christine, 010

Wallner, Rachel, 083
Walsh, Patrick, 043
Walton, Steven A, 040
Wang, Jessica, 086
Wang, Xiaoxuan, 085
Wang, Yang, 117
Weaver, Stewart A, 109
Weinstein, Debbie, 026
Weldon, Stephen P, 098
Welk-Joerger, Nicole, 011
Werrett, Simon, 010, 057
Whitmer, Kelly, 058
Wiepke, Hannah, 012
Wigh, Sonia, 005
Williams, Lauren, 078
Winterbottom, Anna, 078
Womble, David AP, 086
Woolner, Maia, 122
Worrall, Alex, 112
Wu, Shellen, 106

Xiang, Shiyi Teddy, 078
Xie, Xin, 099
Xu, Chang, 053

Yale, Elizabeth, 035, 056
Yao, Miaofeng, 117
Yeang, Chen-Pang, 065
Yi, Doogab, 111
Yi, Jongsik Christian, 003
Yoo, Genie, 092

Zeavin, Hannah, 066



HISTORY OF SCIENCE SOCIETY

Interdisciplinary Summer School

July 10–14, 2023

Science History Institute,
Philadelphia, PA

2023 HSS Annual Meeting

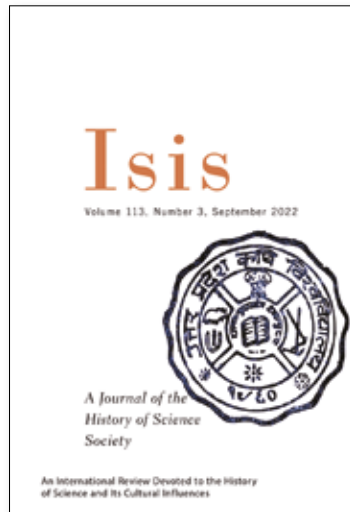
Shifting Standards, Creating Change

9-12 November | Hilton Portland Downtown

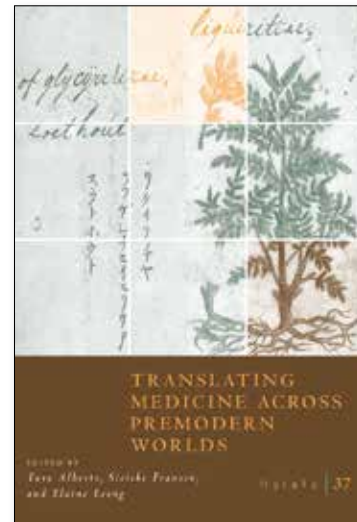
CO-CHAIRS

Jaipreet Virdi & Courtney Thompson

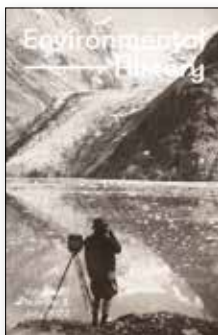
JOURNALS from CHICAGO



Isis:
A Journal of the
History of Science Society



Osiris 37:
Translating Medicine
across Premodern Worlds



**The British Journal for the
Philosophy of Science**

Early Modern Women:
An Interdisciplinary Journal

Environmental History

History of Humanities

HOPOS: The Journal of the
International Society for the
History of Philosophy of Science



KNOW: A Journal on the Formation
of Knowledge

**The Social History of Alcohol and
Drugs:** An Interdisciplinary Journal

Speculum: A Journal of
Medieval Studies

**I Tatti Studies in the
Italian Renaissance**

