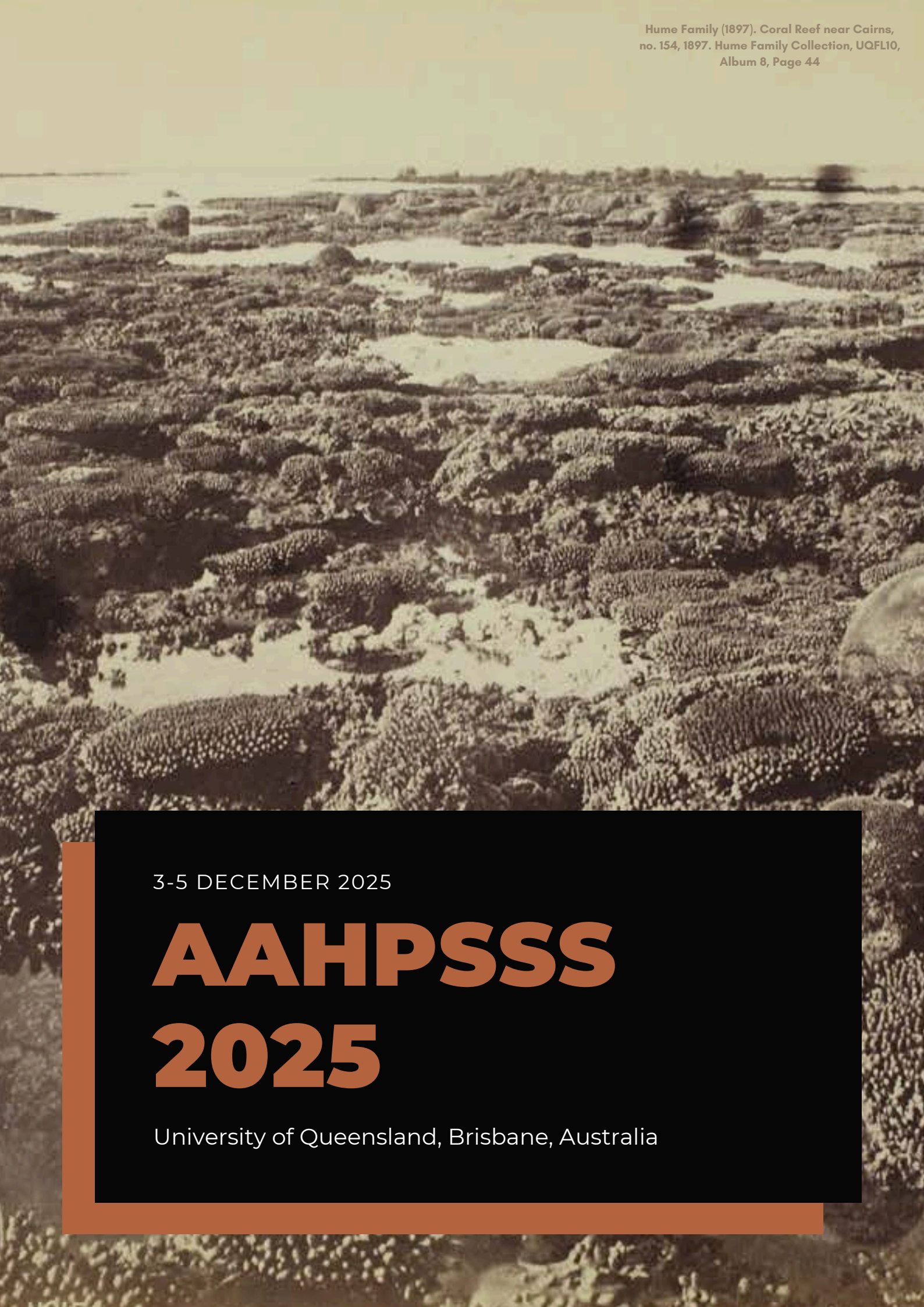


Hume Family (1897). Coral Reef near Cairns, no. 154, 1897. Hume Family Collection, UQFL10, Album 8, Page 44

3-5 DECEMBER 2025

AAHPSSS 2025

University of Queensland, Brisbane, Australia

AAHPSSS 2025

WELCOME

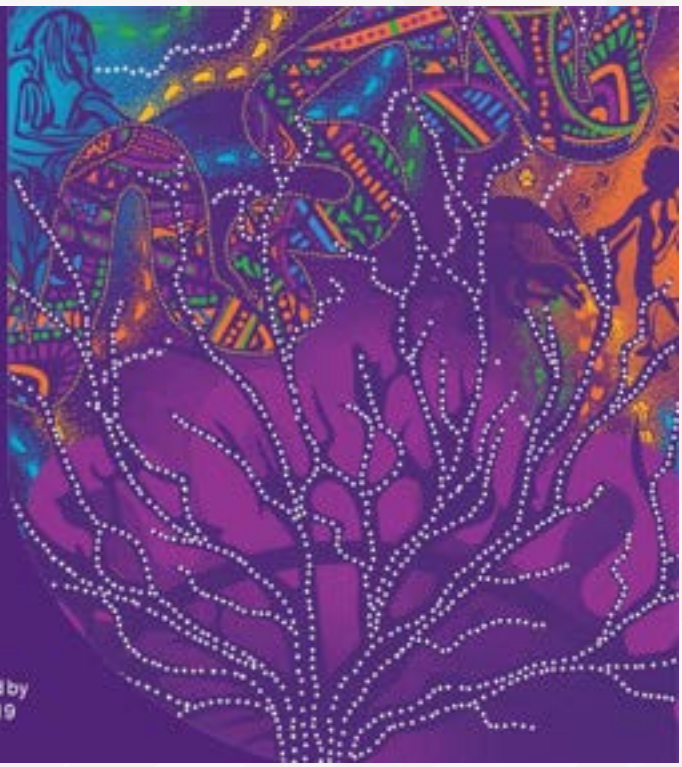
Acknowledgement of Country

The University of Queensland (UQ) acknowledges the Traditional Owners and their custodianship of the lands on which we meet.

We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.

We recognise their valuable contributions to Australian and global society.

Artwork acknowledgement: *A Guidance Through Time* by the created by Quandamooka artists Casey Coolwell and Kyra Mancktelow, May 2019



AAHPSSS 2025

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AAHPSSS 2025

WELCOME

PRESIDENT'S ADDRESS 2025

Dear conferees,

This is a very special occasion as it marks the 50th time that our society has met. Since its foundation in 1967, AAHPSSS met on an annual basis between 1968 and 2005, and thereafter has been holding conferences more usually on a biennial basis.

Across 50 conferences, much has changed for History and Philosophy of Science in Australasia. While the identifiable HPS community in our region remains small, it is no longer the case that our interests are pursued narrowly. There are now people doing what we would recognise as HPS in conventional history departments, in cultural and literary studies, and of course science has always been of interest to the mainstream philosophical tradition. Metascientific interests in evaluation, governance and policy are increasingly prominent. Science and Technology Studies analyses have had take-up across the academy, even extending into professional disciplines like law, medicine and engineering.

This presents both opportunities and challenges for us as scholars. HPS has sometimes looked like an umbrella category of interests rather than a true discipline, and in a world where these interests appear in more and more places, we run the risk of becoming increasingly fragmented. Yet the recent focus on Integrated HPS approaches reminds us of the intellectual value of retaining a disciplinary identity, and the new community of metascientists amongst us shows the power that we have to effect change in the world. Indeed, a good argument can be made that today HPS is as relevant to contemporary society as much as it ever has been.
In my opinion, one of the best things that we can do to buttress this scholarship and use it productively is to make stronger networks amongst ourselves, meet a range of HPS scholars and engage with each other's work. In this spirit I welcome you to the 2025 AAHPSSS conference, whether you are attending online or are here in-person at the University of Queensland. I trust the next three days will be both an enjoyable and an intellectually stimulating occasion.

Martin Bush
President, AAHPSSS

AAHPSSS 2025

WELCOME

About AAHPSSS

AAHPSSS is the Australasian Association for the History, Philosophy, and Social Studies of Science, and covers all aspects of science studies broadly construed. It is a not-for-profit association, with the mission to advance the history, philosophy and social studies of science and technology. Membership is open to anyone interested in science studies, including residents of countries outside Australia and New Zealand. The Association is one of the oldest scholarly societies in Australia, having been active since 1967.

More information, including how to join and a list of the current committee can be found at the AAHPSSS website: aahpsss.net.au

AAHPSSS Postgraduate Meetups

The AAHPSSS Postgrad Work in Progress meetups are a regular online forum for PhD candidates and senior students (Honours, Masters, Grad Dip) in HPS and related disciplines to discuss their current work. Sessions typically occur every 2 weeks during the semester over Zoom. The aim is to create a space for super-friendly discussion, aimed at helping each other overcome challenges and think through different aspects of our work.

We are always looking for new members. If you would like to join, email us at aahpsss.postgrad.rep@gmail.com

Rebecca Mann (USyd) & Samara Greenwood (UniMelb) - AAHPSSS Postgrad Reps 2025.

AAHPSSS 2025

WELCOME

Code of Conduct

We are committed to providing an environment free of harassment and discrimination for everyone, regardless of gender, race, ethnicity, sexual orientation, gender identity, gender expression, disability, age, appearance, religion, or other group status.

Creating an inclusive environment: Attendees can contribute to a safe and inclusive conference by:

- Not assuming a person's gender until they have disclosed it to you
- Respecting anyone's choice of gender pronouns
- Not defaulting to male pronouns for ungendered subjects
- Framing discussions as openly and inclusively as possible and being aware of how language or images may be perceived by others
- Issuing content warnings if your talk or slides might be distressing

Respectful engagement:

- Do not talk over other speakers
- Keep your presentation to the allocated time
- Keep questions concise so that multiple people can participate

Compliance and reporting: Session chairs are responsible for ensuring compliance with this Code of Conduct during conference sessions. Any serious breaches should be reported to a current member of the AAHPSSS Committee and may result in conference registration being cancelled and/or expulsion from AAHPSSS.

This Code of Conduct supports the AAHPSSS Equity and Diversity Policy: https://aahpsss.net.au/equity-and-diversity-principles/

AAHPSSS 2025 VENUE

General information

The conference will be held in the Sir Llew Edwards Building (Building 14): https://studentvip.com.au/uq/st-lucia/maps/142766

Accessibility

The University of Queensland is committed to creating an accessible environment for all staff, students, and visitors.

The Sir Llew Edwards Building is accessible to all levels by lifts. All-ability access to the lifts is from the entrance located at the corner of Campbell Road and Duhig Lane (see left image).

There are three disabled car parking spaces directly across Campbell Road from this entrance (see right image).

AAHPSSS 2025

VENUE

Accessibility (cont'd)

Further information about accessibility on campus, including additional accessible parking details, is available at: https://campuses.uq.edu.au/information-and-services/access/campus-accessibility

Study and Quiet Spaces

Building 14 is located adjacent to the Central Library, which offers a range of accessible study environments including bookable soundproof pods, dedicated quiet floors, and low sensory spaces. Please note that pod and desk bookings must be made by UQ students, as these facilities are not available for staff booking. Low sensory spaces are located on Level 3 of the Central Library. As a general guide, noise levels decrease on higher floors of the library.

For further information, please visit:

- Central Library: https://web.library.uq.edu.au/visit/central-library
- Study spaces: https://web.library.uq.edu.au/visit/library-facilities#studyspaces

Campus Safety and Security

UQ provides several after-hours safety services for the campus community. The After Hours Safety Bus operates from 6:00 pm, and a Safety Escort service is available to accompany individuals to transport points or car parks during evening hours. While these services are primarily intended for UQ staff and students, conference attendees are encouraged to contact the organising committee or their events coordinator to confirm visitor eligibility.

Campus security information:
https://campuses.uq.edu.au/information-and-services/security/campus-safety

Accessibility and Facilities Feedback

For concerns regarding campus accessibility or facilities, please contact Property and Facilities (https://campuses.uq.edu.au/information-and-services/access/campus-accessibility) or notify the conference venues team.

Individual Requirements: If you have specific accessibility requirements not already addressed, please contact Vice President Gemma Lucy Smart, who will be happy to assist in ensuring your full participation in the conference.

AAHPSSS 2025

VENUE

Getting to/from UQ St Lucia campus and around Brisbane

St Lucia Campus has two bus stations, located at Chancellor's Place and UQ Lakes.
Buses from Chancellor's Place travel east to Toowong (412/411), Auchenflower (411), Milton (412/411), Taringa (428), Indooropilly (428), Chapel Hill (428), and to the CBD (412/411).
Buses from UQ Lakes travel west across the river to High Gate Hill/West End (192), South Bank and the CBD (M2), and to the southern suburbs (169, 179, 209).
The CityCat Ferry terminal is just west of UQ Lakes and stops downstream in West End, Toowong, Milton, South Bank, Kangaroo Point, etc.
All $0.50 per trip. Payment can be made with any credit or debit card.

For all public transit inquiries: https://translink.com.au/
For specific details on visiting the St Lucia campus: https://campuses.uq.edu.au/st-lucia
For parking details see https://campuses.uq.edu.au/information-and-services/parking-transport/parking/locations/st-lucia

Accommodation

Conference attendees will need to source accommodation themselves. There are no hotel deals available and none of the residential colleges or other UQ official accommodation offer casual/short-term bookings. Please be aware that the rental market in Brisbane is pretty tight and that does have implications for the short-term rental market.
The good news is that with excellent accessibility to the University by public transport, there is now a very large part of Brisbane where the travel time to the campus is less than half an hour.

Food and coffee

There will be food and tea/coffee served at every tea and lunch break during the conference in room 219.

AAHPSSS 2025

VENUE

Zoom Etiquette

This conference will operate in a hybrid format with captions enabled for all presentations. Session chairs will manage sessions with accessibility in mind.

Before speaking: State your name and turn your camera on if possible, as this assists participants who lip-read. Ensure your face is well-lit and avoid busy backgrounds.

Audio: Speak clearly at a moderate pace and mute your microphone when not speaking to reduce background noise. Use headphones to minimise echo and feedback.

Presentations: Share materials in advance where possible and use sans-serif fonts (minimum 18-point) with alt-text descriptions for images. Enable live captions through Zoom's transcription feature where available.

Participation: Use the chat function to share links and resources in accessible text format, and allow time for questions via both audio and chat. Avoid speaking over other participants.

For technical assistance, please contact the conference organisers prior to your session.

Wi-Fi details

UQ has a variety of options for connecting to wifi: https://my.uq.edu.au/information-and-services/information-technology/internet-and-wifi/visitor-and-conference-internet-access

Eduroam: If you're a student or staff member from another university, connect to the Eduroam wireless network and use the same login details as you normally use at your own institution.

UQ Guest: Other attendees should use the UQ Guest wireless network.

AAHPSSS 2025 COMMITTEE

2023 – 2025

President:
Martin Bush, University of Melbourne

Vice-President:
Gemma Lucy Smart, University of Sydney

Secretary:
Jacinthe Flore, University of Melbourne

Treasurer:
Carmelina Contarino, University of Melbourne

Postgraduate Representatives:
Rebecca Mann, University of Sydney &
Samara Greenwood, University of Melbourne

Communications Officer:
Christopher Orrell, University of Melbourne

Committee Members:
Lucia C. Neco, University of Western Australia
Ian Hesketh, University of Queensland
Ian Tasker, Macquarie University

AAHPSSS 2025 SCHEDULE

WED	Room 14-115	Room 14-116	Room 14-132	Room 14-216
9:00am – 10:30am			**Plenary: Peter Evans** Agents, Instruments, and Objectivity: Phenomenology for the Foundations of Physics	
10:30am – 11:00am	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)
11:00am – 12:30pm	**Do Individuals Matter? Character and Personality in the History of Science** **Kristian Camilleri** **Ian Hesketh** **Samara Greenwood**	**Questions of Method (1)** **Ricardo Restrepo Echavarria** [Remote], Must Freedom Be Incompatible with Science? **Aidan Ryall**, The Historical Premise **Jules Rankin**, Perspectivalism Within and About the Philosophy of Time	**Transspecies Interactions** **Daisy Norfolk** [Short], Bogong Moth-Human Relationality **Leo Chu,** Making the "Aquatic Chicken": Freshwater Tilapia and the Asian Blue Revolution, 1940-80 **Damcelle Cortes,** Law lag or science lag? What happened in the first transgenic eggplant lawsuit in the Philippines **Sruthi Balaji,** Stabilising the Gene: Patent Law and the Legal Identity of Epistemic Objects	**Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (1)** **Peter Harrison,** Science and Human Nature: From Aristotle to Bacon **Henry-James Meiring,** Global Darwin: Manufacturing Human Nature
12:30pm – 1:30pm	Lunch (Room 219)	Lunch (Room 219)	Lunch (Room 219)	Lunch (Room 219)
1:30pm – 3:00pm	**Higher Degree by Research Students and Early Career Academics Workshop**	**Questions of Method (2)** **Sandy Boucher** [Remote], What was really wrong (and right) with vitalism? Methodological naturalism, organicism and immaterialist theories in biology **Sarita Rosenstock,** What is modelling for? Aligning academic and applied perspectives in disease response **Kenneth Aizawa** [Remote], Zetetic Scientific Entity Realism	**Values in Medical Practice** **Republica Acharyya** [Short, Remote], Values and distributive epistemic injustice in fibromyalgia **Arpita Das** [Remote], Uterus Transplantation as an emerging Reproductive Technology: Feminist Contentions and Contestations **Mark Herman** [Remote], Can Psychology Incorporate Moral Truth?	**Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (2)** **James Bradley,** Nature, culture and vivisection: hierarchies of sympathy and the animal-human divide in the early nineteenth century **Victoria Lorrimar,** Hacking Human Nature: DIY Approaches to Technological Augmentation
3:00pm - 3:30pm	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)
3:30pm - 5:00pm	**Beyond Academic Interest: The Continuing Relevance of Medical History to Contemporary Healthcare** **Gemma Lucy Smart** **Samantha Kohl Grey** **Zoë Cosker**	**Questions of Method (3)** **Edmund Hassell** [Remote], Can less equal more? A Critical Examination of Zollman's Model of Scientific Inquiry **Kristian Camilleri,** The Problem of Orthodoxy in Intellectual and Social History of Science **Janelle Baxter** [Remote], Correcting Course: What Nonstandard Genetic Codes Mean for the Frozen Accident Theory	**Aesthetic Epistemologies** **Jessie Wei-Hsuan Chen** [Remote], Visualising and communicating plant anatomy between the seventeenth and nineteenth centuries **Samara Greenwood,** Explaining Tartaglia's Transgressive Epistemic Vision **Philippa Barr,** Using aesthetics to neutralise toxicity in the atmosphere	**Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (3)** **Joel Barnes,** Teaching human nature: anthropological knowledge in the Australian classroom in the 1970s and 1980s **Amy Way,** Humanity vs. Aboriginality: Deep History in the Headlines
6:00pm	**Dyason Lecture** **Peter Harrison**, Protestant Origins of Modern Science? Terrace Room, Level 6, Llew Edwards Building			

AAHPSSS 2025 SCHEDULE

THU	Room 14-115	Room 14-116	Room 14-132	Room 14-216
9:00am – 10:30am			**Plenary: Melissa Dickson** Hearing the Nineteenth Century: Literature, Science, and the Culture of Sound	
10:30am – 11:00am	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)
11:00am – 12:30pm	**Indigenous Encounters** **Rowena Ball,** Indigenous mathematics is the finest, most effective, long-distance, communication system in the world **John Stenhouse,** Christian missionaries and indigenous go-betweens, 1790-1930 **Maurizio Meloni,** 'Extermination' in Charles Darwin's private and public writings: a decolonial assessment	**Machinic Societies** **Christine Polowyj** [Short, Remote] Paradigms of violence: The dependency of Large Language Societies on epistemic injustice **Jacob Hall** [Short], Australia's AI Ethics Framework - Policy without politics **Conor Spence,** The uneasy cyborg: Subjectivation in the age of the Libre 2 **Lars R. "Jones" Vadjina** [Remote], Owning Tomorrow: AI, Nationalism, and the Geopolitics of Outer Space	**Doing and (Re)making Knowledge** **Christian Gelder,** How to Do Things with Words: American Style, Psychiatry and the Psychoses **Thomas Spiteri,** What Goes into a Case? Freud, Janet, and the Construction of Memory **Sophie Ritson,** Why Trust a Collaboration?	
12:30pm – 1:30pm	Lunch (Room 219)	Lunch (Room 219)	**AAHPSSS AGM**	Lunch (Room 219)
1:30pm – 3:00pm	**Museum Tours**			
3:00pm - 3:30pm	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)	Afternoon Tea (Room 219)
3:30pm - 5:00pm	**On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities** **Jacinthe Flore** **Christopher Orrell** **Cassandra Byrnes** **Josh Szymanski** **Elizabeth Stephens**	**Women, Science and Knowledge** **Maria del Mar Yunis** [Remote], From snails to metaphysics: Margaret Cavendish and the female scientific revolution **Rach Cosker-Rowland**, Facial feminisation surgery (FFS): selling science and the objectivity of gendered skulls **Poornima Sandana** [Remote], Goddesses don't need TVS Ultrasound?	**Causes, Networks, and Connectives** **Kate Lynch,** One cause, many values: What causes of death can teach us about values in science **Rebecca Mann,** Metabolic Wholes: The Organism as Having a Centred Metabolic Network **Louisa Shen,** Is Sub-Symbolic AI Reliable? On the Design Limitations of a Software Paradigm	**Metascience and Science Policy** **Fiona Fidler** **Kate Williams** **Martin Bush**
6:00pm	**Conference Dinner** Mado Restaurant, South Bank			

AAHPSSS 2025 SCHEDULE

FRI	Room 14-115	Room 14-116	Room 14-132	Room 14-216
9:00am – 10:30am			**Plenary: Hannah Adler** Thinking with Medicinal Cannabis	
10:30am – 11:00am	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)	Morning Tea (Room 219)
11:00am – 12:30pm	**Attempting to Mitigate Climate Change through Synthetic Biology: Ethical and Social Analyses** **Daniele Fulvi** **Henry Dixson** **Josh Wodak**	**Looking at / Knowing the Sky** **Ian Tasker** [Remote], Reclaiming Scientific Authority Through Counterfactual Historiography **Carl Sciglitano,** Blurred Visions: Redefining the analogue-digital divide in astronomical imaging **Kevin Orrman-Rossiter,** First Peoples' astronomy: reviewing its scientific representation in the literature	**Alternatives in Mental Health** **Zoë Cosker,** When the community will not care: psychiatric patients, public protests, and policies of deinstitutionalisation **Georg Repnikov,** Who is neurodivergent? A philosophical perspective on neurodiversity research **Gemma Lucy Smart,** Beyond Biomedical Paradigms: Spiritual Counter-Narratives in Australian Mental Health Consumer Activism, 1970-1990	**Metascience and Epistemology** **Wendy Higgins** [Remote], Psychological measurement: validity potential versus realised validity **Sophie Veksner,** Intersubjectivity in Bayesian prior elicitation **Carmelina Contarino,** Tech-Driven: Establishing conceptual clarity
12:30pm – 1:30pm				**Centring Equity in HPS Networking Lunch**
1:30pm – 3:00pm	**Searching and Naming in the Nineteenth Century** **Jamie Ashworth** [Remote], Cartographic Science and Colonialism in Early New Zealand: A Case Study of Wairarapa, 1842-1853 **Christopher Orrell,** Medicine in the Colonies: Searching for the emergence of local cultures of medicine in the nineteenth century Australian colonies through digital analysis of medical journals, 1856-1900 **Martin Bush,** Feeling the sky: epistemic emotions in nineteenth century popular astronomy	**Climates and Governance** **David Garcimartín Arenas** [Remote], Between Cartography, Meteorology and Political Philosophy: the Concept of Climate in the Modern Age **Daniele Fulvi**, Challenging the Moral Hazard Argument in Climate Change Mitigation: a Transitional Justice Appraisal **Aseera Shamin,** Governing for Intersectional Energy Justice: Risk, Deliberation, Environment, and Anticipation in Transition	**Religious Motivations** **James Ungureanu** [Remote], From Hermeticism to Transhumanism: The Theological Roots of Technological Utopianism **Rebecca Sachse,** The Infertility Blame Game: Medical Knowledge and Religious Narratives on Men's Infertility in the Roman Empire (2nd Century CE - 6th Century CE) **Tom Aechtner,** Religious Disinformation and Science on the Most Unreliable Domains	**The Work of Science and its Networks** **Tushar Chaturvedi** [Remote], Distribution, Disagreement, and Dialogue: Considerations for Scientific Peerhood **Pedram Rashidi,** Reframing the Sociotechnical Boundaries of Responsible Innovation Discourse **Maria Amelia Rodriguez** [Short], The Friction of Collaboration: On Credit, Circulation, and Scientific Practice
3:30pm			**Conference Close**	

AAHPSSS 2025

DYASON LECTURE

Protestant Origins of Modern Science?

Prof Peter Harrison
Emeritus Professor of History and Philosophy, University of Queensland

6:00pm Wednesday 3 December
Terrace Room, Level 6, Llew Edwards Building

Abstract
Already in the seventeenth century the sequence of the Protestant Reformation and the Scientific revolution led some to speculate about how these 'dual reformations' were related. Ever since, various thinkers have posited causal links between them. This lecture will consider a range of such possible connections – the Protestant 'ethic', challenges to tradition, new interpretative approaches to scripture and nature, ideas about the earthly vocation, and eschatological ideas that focused on material improvement. It will conclude with a consideration of the ways in which 'Protestant' versions of history, in a secularized form, came to be incorporated in Enlightenment stories of progress and ironically became implicated in the construction of science-religion conflict narratives in the nineteenth century.

Bio
Peter Harrison is Emeritus Professor of History and Philosophy at the University of Queensland and Professorial Research Fellow at the University of Notre Dame, Australia. He was previously the Idreos Professor of Science and Religion at the University of Oxford. From 2015-21 he was an Australian Laureate Fellow. He has published extensively on the philosophical, scientific and religious thought of the early modern period, and is one of the world's leading scholars on the historical relations between science and religion.

Agents, Instruments, and Objectivity:
Phenomenology for the Foundations of Physics

Peter Evans, University of Queensland
9:00 am, Wednesday 3 December, Room 14-132

Abstract
Physics never observes from nowhere. Indeed, quantum theory makes observation itself a target of explanation. This talk sketches an account of quantum events built on the simple thought that experiments are structured ways of seeing and doing: the structures that make outcomes publicly shareable and stable are not fixed by the quantum formalism alone. Drawing on Merleau-Ponty's phenomenology—where a stable world is underpinned by embodied, skilful, intersubjective agency—and extending Steven French's phenomenological approach to quantum mechanics, I treat agents' bodies and instruments as the vehicles of perception and action that articulate what can count as a `measurement outcome'. I make the case in favour of an agent-centric notion of objectivity suited to quantum practice and outline how this union of phenomenology and foundations reorients the measurement question, and why taking standpoint seriously need not cost us objectivity.

Bio
Peter Evans is a Lecturer in Philosophy at the University of Queensland specialising in the philosophy of physics. His research interests include time, causation, and agency in modern physics, especially quantum foundations, and the epistemology and methodology of science, especially analogue experimentation. As such, his research is informed by the latest experimental and theoretical results from the physical sciences. He is currently Lead CI on an ARC DP, "The View From Somewhere: embodied agents and the quantum perspective", exploring the role that agency plays both in the physics of embodied learning as well as quantum theory.

Hearing the Nineteenth Century:
Literature, Science, and the Culture of Sound

Melissa Dickson, University of Queensland
9:00 am, Thursday 4 December, Room 14-132

Abstract
The ability to apprehend – and thus to measure, record, and quantify – the movements of sound and its effects on both material objects and human bodies was a central preoccupation of the burgeoning science of acoustics in the late eighteenth and early nineteenth centuries. Through Ernst Chladni's visualisation of soundwaves as patterns in sand, to Thomas Young's tuning forks and Charles Wheatstone's kaleidophone, and the later experiments of John Tyndall, sound itself became a new and exciting part of the material world. It moved through space in waves and effected visible change; it had a material trace that could be graphed and analysed in order to reveal previously unheard and unseen relationships. As acoustics emerged as a new experimental science, it promised to render the invisible audible: to trace sound as a physical force moving through air, matter, and the body. Yet the more precisely scientists measured vibration and resonance, the more they became aware of what remained immeasurable. The new acoustic culture of the period revealed an unstable space between sound and silence, a realm of inaudible motion that invited both scientific speculation and imaginative wonder. This lecture explores how nineteenth-century science and literature sought to hear what lay beyond the limits of the human ear. It traces how efforts to measure vibration and resonance also generated new metaphors for sympathy, sensitivity, and the porous boundaries of the self. Across the century, writers and experimenters alike confronted the "unheard" as a space of possibility, from the imperceptible frequencies accessible only to animals or instruments, to the speculative communications of spiritualism and psychical research, and to the ambient din of the industrial city that seemed to overwhelm human nerves and attention. Drawing on figures such as George Eliot, Charles Dickens, George Henry Lewes, and the acousticians of the Royal Institution, I argue that the

nineteenth century's fascination with sound opened up a new language for thinking about perception, embodiment, and unseen connection. Listening became a way of imagining the invisible: of asking where human knowledge ends, and what vibrates just beyond its reach.

Bio

Melissa Dickson is a Senior Lecturer in Literature at the University of Queensland, where she researches and teaches across the long nineteenth century. She leads the UK team of the UKRI funded the Media and Epidemics Project, and her current research focuses on the reception and transformation of nineteenth-century epidemics across literature, science, and medicine. She is the author of *Cultural Encounters with the Arabian Nights in Nineteenth-Century Britain* (2019), co-author of *Anxious Times: Medicine and Modernity in the Nineteenth Century* (2019), and co-editor of *Progress and Pathology: Medicine and Culture in the Nineteenth Century*. Her new monograph *Acoustics in Nineteenth-Century Literature and Science: Listening at the Threshold* is now available from Cambridge University Press.

Thinking with Medicinal Cannabis

Hannah Adler, Griffith University
9:00 am, Friday 5 December, Room 14-132

Abstract
Scholars have noted that there is a heterogeneity attached to cannabis; it is not a single nor stable object and rather exists in a variety of registers and understandings. Cannabis can be known as a recreational drug or narcotic, a medicine, a product of scientific exploration, a plant, an agricultural product, or as hemp, and with this follows unique and distinct policies. However, even certain identities of cannabis, such as 'medicinal cannabis', remain complex as its uses, understandings, and ontologies have shifted throughout history and across the globe. In this plenary, I focus on 'medicinal cannabis' as an object of exploration. I chart how medicinal cannabis has shifted ontologically over time; socially, culturally, and in science and medicine. In opening by providing a historical overview and focusing on some key moments and representations in the history of medicinal cannabis, we can see the different knowledges of the plant medicine and how they were constructed. Then, in turning attention to modern uses and representations of medicinal cannabis in Australia, we can further understand how some ontologies of cannabis 'stick', while new understandings emerge. Importantly, I explore how ontologies of medicinal cannabis have been constructed by certain actors, but also how medicinal cannabis works to construct those who use it. By drawing on my own media research, interviews, and case studies, I explain how in both modern Australia and throughout history, medicinal cannabis has contributed to the shaping of subjectivities and people, while different actors (such as users) have also contributed to our understanding of the medicine itself. In this sense, I argue that medicinal cannabis remains in flux in Australia, contingent on context, time, place, medicine, science, and society. Ultimately, we can understand medicinal cannabis heterogeneously, and as a way to think deeply through power relations and inequalities.

Bio

Dr Hannah Adler is a Lecturer in Communication at Griffith University and a member of the Centre for Social and Cultural Research. She is an interdisciplinary early-career researcher, with a focus on exploring diseases and treatments related to human pain and suffering through communicative and sociological lenses. She has a particular interest in complementary and alternative medicine and reproductive health. Hannah has published widely across disciplines on medicinal cannabis and endometriosis, often working in interdisciplinary teams that bridge communication, sociology, and healthcare. In 2024, she was awarded the AANZCA Christopher Newell Prize for her work in health communication.

AAHPSSS 2025

EVENTS

Higher Degree by Research Students and Early Career Academics Workshop & Meetups
Wednesday 3 December, 1:30 - 3:00pm
Rebecca Mann and Samara Greenwood, AAHPSSS Postgrad Representatives

This interactive session will provide HDRs and ECRs in History and Philosophy of Science a chance to meet and talk about pertinent topics for this stage in their career. As part of this session, mid-career scholars Dr Kate Lynch and Dr Jacinthe Flore will introduce a discussion about academic publication and collaboration. The goal of this session is to open up discussion around the challenges and joys faced by ECRs and provide a platform to give and get advice from others. In addition to the formal session, there will be regular HDR meet-ups during the morning tea breaks each day of the conference.

Conference Dinner
Thursday 4 December, 6pm, Mado Restaurant, South Bank

The conference dinner will be held from 6pm on Thursday 4 December at Mado Restaurant, on the edge of the Southbank Parklands in South Brisbane. This will be an informal pay-your-own way dinner, although table groups are encouraged to order together where possible in order to take advantage of the menu. There are plenty of vegetarian, vegan and gluten-free options available and the menu can be seen at https://madorestaurant.com.au/ The restaurant is easily accessible from the South Bank busway station and the street address is Shop 1-3, The Galleria Apartments, 15 Tribune St, South Brisbane.

Centring Equity in HPS Networking Lunch
Friday 5 December, 12:30 - 1:30pm
Gemma Lucy Smart, AAHPSSS Vice President

This informal networking lunch brings together AAHPSSS members to discuss recent pushbacks against Diversity, Equity, Inclusion and Accessibility (DEIA) initiatives in higher education and explore how our organisation can meaningfully centre equity in its practices. Drawing on our expertise as HPS scholars in examining how knowledge systems shape social structures, we'll share practical strategies for creating more inclusive research environments and building connections across our community. All members welcome, particularly those from underrepresented backgrounds including Aboriginal and Torres Strait Islander scholars, women, people with disabilities, and those from culturally diverse backgrounds.

University of Queensland Museum Tours
Thursday 4 December, 1:30 - 3:00pm

In the afternoon session of Thursday 4 December, AAHPSSS will take a break from regular conference activities in order to visit some of the remarkable cultural collections that are held by the University of Queensland and are of particular interest to science scholars. Spots on these tours are strictly limited and attendees were asked to indicate their interest upon registration. However, if you did not express interest but would like to attend one of these, please ask at the registration desk to see if spots are available. Similarly, if you booked a spot but will no longer attend, please let us know so that we can make places available to others.

Fryer Library Special Collections
Meet: Level 1 Duhig Tower, Building 2, outside the lift
Tour 1, 1:30 - 2:15pm; Tour 2, 2:15 - 3:00 pm
https://web.library.uq.edu.au/find-and-borrow/collections-overview/rare-and-special-collections
The University of Queensland Library is home to special collections that include rare or unique materials selected because of their enduring value, historical or cultural significance, importance to research and learning, and to the University or wider community. These collections provide rich, untapped research material such as letters, diaries, manuscripts, architectural plans and models, photographic materials and rare books.

Geology Museum
Meet: Outside Steele Building at Great Court Entrance
Tour 1:30 - 2:15pm
This is a permanent display of specimens from historic mines and mineral localities across Australia, and also showcases fine minerals from around the world. There is a periodic table of the elements, with the pure elements or common products made up of each element (where safe to do so), a basalt column, a large geological drill bit, and several exotic marble slabs.

Physics Museum
Meet: Inside Parnell Building at Great Court entrance
Tour 2:15 - 3:00pm
https://physicsmuseum.uq.edu.au/
This museum houses a collection of instruments, books and memorabilia dating back to the very beginning of The University of Queensland. Among other things, it offers visitors an insight into how things used to be done, and to see how to use a slide rule, computer punch cards, computer magnetic memory, a 1 meter searchlight mirror, and shake hands with their own image.

Langham Prize

The Association maintains a bursary fund in memory of Ian Langham (1942-1984), one of the pioneers of the academic study of HPS in Australia. The fund supports postgraduate students at AAHPSSS conferences, including the Langham Prize, awarded at each conference for the best presentation by a postgraduate student at the conference. Previous winners of the Langham Prize can be seen at the AAHPSSS website.

Eligible presenters were asked to indicate their interest in nominating for the Langham Prize on registration and this will be confirmed upon arrival for in-person attendees. All eligible presenters' presentations will be attended by two Langham Prize judges, and each judge will attend at least three such presentations. Each judge will submit a ranked-order list of the presentations they attended. If these combined ranking produce one or two clear Condorcet winners then they will be awarded the Langham Prize, individually or jointly. If there are no, or more than two, Condorcet winners then the judges will convene to determine the final winner/s.

The criteria for the Langham Prize are as follows, to be read as a whole:

- Relevance to the interests of AAHPSSS, including depth and breadth of engagement with traditions of scholarship in the history, philosophy and social studies of science.
- Quality of research design, methods and/or conceptual rigour.
- Originality of project, including emphasis on marginalised or under-studied subjects and/or perspectives.
- Clarity and engagement of presentation.

If there are clear winners, then we expect to announce them at the closing of the AAHPSSS 2025 conference on the afternoon of Friday 5 Dec. If there is a need for the judges' panel to convene then we will announce the winner/s subsequent to the conference.

The Langham Fund is also used to award travel bursaries for postgraduate students or insecurely employed academics to be able to attend the conference in-person. This conference, four bursaries have been awarded.

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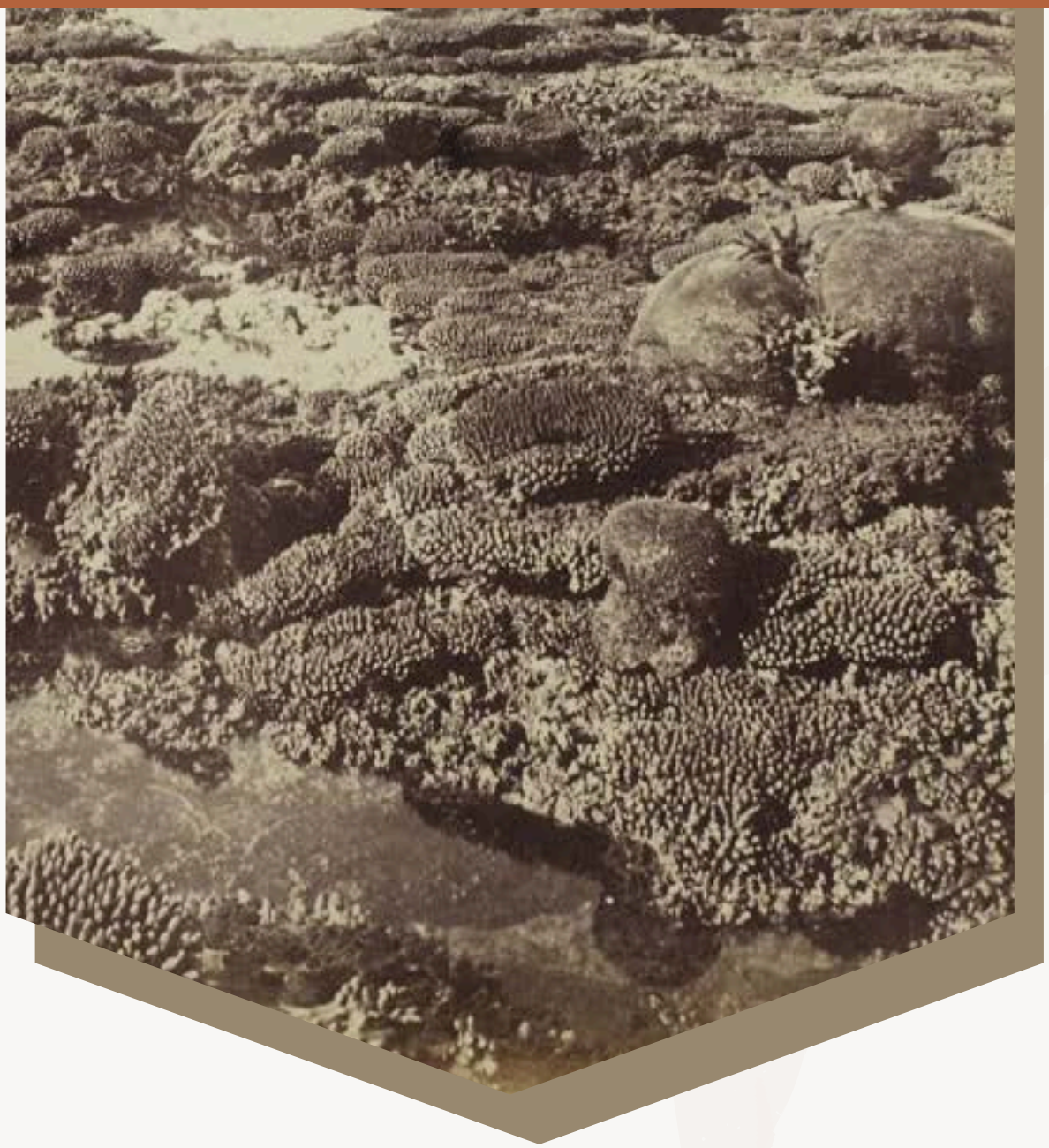
ORGANISED SESSIONS



WEDNESDAY 3 DECEMBER
11:00 AM - 12:30 PM

Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (Room 14-216)

Henry-James Meiring, Peter Harrison, James Bradley, Victoria Lorrimar, Joel Barnes and Amy Way

This interdisciplinary workshop explores how science has shaped, challenged, and redefined conceptions of human nature from the past to the present. Bringing together scholars from history, philosophy, and the social studies of science, it examines how scientific disciplines, intellectual movements, and material practices have influenced evolving understandings of what it means to be human. Participants investigate how key figures, institutions, and publications have contributed to ideas about humanity's origins, development, and diversity. The workshop highlights the ways scientific knowledge—whether biological, psychological, anthropological, or medical—has been used to interpret and classify human difference, revealing its broader cultural and moral implications. A particular focus is placed on material and visual cultures of science, exploring how instruments, specimens, images, and books have mediated changing views of the human body and mind. By tracing these intersections between theory, practice, and representation, Manufacturing Human Nature seeks to foster dialogue across disciplines and historical periods. Ultimately, it invites participants to consider how earlier scientific frameworks continue to inform present-day debates about identity, embodiment, and the boundaries of the human.

Do individuals matter? Character and personality in the history of science (Room 14-115)

Kristian Camilleri, Ian Hesketh, Samara Greenwood

Lorraine Daston and Peter Galison's landmark work, *Objectivity*, published in 2007, did much to highlight the importance of different "scientific personas" and different images of "the scientific self" in the history of science. Different forms of objectivity, as Daston and Galison argued, have their counterparts in different forms of subjectivity. Their work has led to a deeper understanding of the self-disciplining process that is central in the formation of the scientist. However, this image of the scientific persona has often been understood as an "ideal type", shaped by a set of moral, social and cultural norms, rather than as an expression of idiosyncrasies of the individual. But individual character and personality do seem to have played a crucial role in the history of science, not only in divergent intellectual orientations, motivations, and patterns of thinking, but also in how certain individuals exert influence, mobilize support, and resist dominant trends. In this symposium, we will explore the way in which

a focus on individual character traits and personalities has the potential to enrich the history of science, through a series of case studies focussing on the role of individuals in different scientific cultures across the nineteenth and twentieth centuries.

WEDNESDAY 3 DECEMBER
3:30 PM - 5:00 PM

Beyond Academic Interest: The Continuing Relevance of Medical History to Contemporary Healthcare (Room 14-115)
Gemma Lucy Smart, Samantha Kohl Grey, Zoë Cosker

The history of medicine isn't just an academic exercise. It offers practical insights that directly inform contemporary healthcare practices, policy decisions, and patient experiences. This panel brings together historians whose research demonstrates the ongoing relevance of medical history to understanding current medical challenges and future directions in healthcare, while also exploring how we might conduct historical scholarship in more collaborative ways. Our panel emerges from a simple conviction - historical analysis provides useful tools for understanding why certain medical approaches succeed or fail, why particular populations remain underserved, and how past patterns of medical authority continue to shape contemporary doctor-patient relationships. We also believe that the methods by which we conduct medical history research can evolve to better serve both scholarly rigour and social justice.

THURSDAY 4 DECEMBER
3:30 PM - 5:00 PM

On possibilities: Reflecting on connections between history and philosophy of science and medical humanities (Room 14-115)
Jacinthe Flore, Christopher Orrell, Cassandra Byrnes, Josh Szymanski, Elizabeth Stephens

History and philosophy of science and medical humanities share many theories, concepts, methodologies, and epistemologies. Some scholars move between these two fields, aligning with one or the other strategically. Borrowing from, extending, and at times challenging one another's claims and perspectives, these two fields share interdisciplinary strengths. They often offer powerful tools for mobilising and problematising forms of institutional knowledge that impact people's lives. In various ways, history and philosophy of science and medical humanities both aim to contextualise knowledge, challenge epistemological and ontological assumptions, and draw attention to historical and structural inequalities. These fields have transformed the study of medical institutions, as well as producing important work on 'informal' sites of health, care, and medicine such as digital spaces. They have shown how knowledges, concepts, and practices of health, medicine, illness, death, and care

shift over time and across geographical and social contexts. In addition, generations of scholars continue to contribute to and re-imagine history and philosophy of science and medical humanities. In the context of such rich possibilities, this panel will feature emerging and established scholars discussing how the two fields interact in their work and reflect on opportunities, challenges, and disciplinary boundaries, and the futures of history and philosophy of science and medical humanities.

Metascience and Science Policy (Room 14-216)
Fiona Fidler, Kate Williams, Martin Bush

To those tasked with making decisions about research systems, Metascience is a clear pathway to more efficient and informed approaches to organising and funding research and development. Its value lies in collecting systematic evidence to improve research policy and funding allocation. In 2024, the UK government embedded a 'Metascience Unit' with the goal of enhancing the quality and efficiency of research. In the same year, the inaugural Global Metascience Alliance meeting was held in Washington, D.C. to map pathways for research policy impact. In Australia, the ARC has partnered with Metascience research groups to improve the performance of Australia's research landscape. The rapid growth and influence of Metascience raises some questions which this panel will discuss, including: What even is Metascience? Can it really deliver on this promise? What is its relationship with other science studies disciplines - has Metascience effectively subsumed other science-studies fields? Should Metascience be a science of science policy?

FRIDAY 5 DECEMBER
11:00 PM - 12:30 PM

Attempting to Mitigate Climate Change through Synthetic Biology: Ethical and Social Analyses (Room 14-115)
Daniele Fulvi, Henry Dixson, Josh Wodak

This panel session concerns the ethical and social dimensions of using synthetic biology for climate change mitigation, drawing on the research conducted by the Western Sydney University Node of the ARC Centre of Excellence in Synthetic Biology. Synthetic biology has recently emerged as a potentially ground-breaking technology, promising breakthroughs in climate change mitigation, emissions reduction, and sustainability. In particular, synthetic biology is rapidly establishing itself as a novel practice to tackle current planetary issues via the genetic modification of non-human organisms, namely by reducing the complexity of biological organisms in order to make them controllable and subordinated to specific human goals. Our panel will offer a critical examination of the ethical and social dimensions of such a science, in relation to contemporary debates in philosophy, sociology of science, and environmental ethics.

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(ALPHABETICAL ORDER BY LAST NAME)

Republica Acharyya
Values and distributive epistemic injustice in fibromyalgia
[Values in Medical Practice]
Wed 3 Dec 1:30 – 3:00pm, Room 14-132

This paper examines how value-laden assumptions embedded in the justificatory stages of fibromyalgia research contribute to distributive epistemic injustice— a form of epistemic harm that results from an unfair distribution of the opportunities to acquire, produce, or benefit from knowledge across different individuals or social groups, due to how scientific knowledge is structured, produced, or disseminated. Fibromyalgia, a medically unexplained syndrome characterized by chronic widespread pain, fatigue, and cognitive difficulties is especially prone to epistemic injustice given its diagnostic ambiguity, the skepticism surrounding its legitimacy, and its disproportionate impact on women. There is an expanding body of work in philosophy of medicine that explores epistemic injustice in clinical settings—often highlighting how patient testimonies are discredited or how some individuals lack the conceptual resources to express their suffering—these discussions largely focus on discriminatory form of epistemic injustice. There are two concerns pertaining to these discussions: first as critiques have argued, many such claims of epistemic injustice remain under-theorized, presupposing injustice where mechanisms of identity prejudice, central to Fricker's framework, are not clearly operative. Methodologically, the field remains focused on illustrative cases and clinical encounters, which, while important, do not easily generalize and offer limited traction for systemic critique. Second, much of the existing literature focuses on epistemic injustice in the context of application. That is, they examine how scientific knowledge used in practice cause epistemic injustice: in clinical decision-making, in the operationalization of diagnostic concepts, or in the epistemic harms caused by medical technologies. This paper on the other hand explores how value-laden choices in the criteria determination and validation stages themselves contribute to distributive epistemic injustice.

Republica Acharyya is a PhD scholar in the department of Humanities and Social Sciences at the Indian Institute of Technology, Guwahati. Her research lies at the intersection of philosophy of science and social epistemology, focusing on values in medical science, concepts of causality, and epistemic injustice. Her current work examines the role of values in the research on fibromyalgia and its relation to epistemic injustice.

Tom Aechtner
Religious Disinformation and Science on the Most Unreliable Domains
[Religious Motivations]
Fri 5 Dec 1:30 – 3:00pm, Room 14-132

Religious rhetoric has been identified as an important, though often understudied, element of disinformation. Religious themes and narratives have been documented throughout COVID-19 conspiracies, as well as within a variety of other dubious media about health and science from across the globe. This paper investigates the ways that religious disinformation and science are expressed across the Internet's most untrustworthy domains featured on the Iffy Index of Unreliable Sources. It does so by analysing 9,271 articles containing religious disinformation scraped from 24 websites, which were identified as maintaining the worst factual reporting scores by the Iffy Index. Using inductive content analysis, the study reveals the ways in which untrustworthy sources tend to communicate conspiratorial apocalyptic messages about consensus science, including threats to moral and social

order, while vilifying religious others and scientists. Such narratives often frame science and public health measures as demonic threats, present various (entho-)religions as antichrist forces, and depict Christians as persecuted defenders of Western civilisation.

Kenneth Aizawa
Zetetic Scientific Realism
[Questions of Method (2)]
Wed 3 Dec 1:30 – 3:00pm, Room 14-116

Anjan Chakravartty has described three dimensions of realist commitment: metaphysical, semantic, and epistemological. According to Chakravarti, 1) "Metaphysically, realism is committed to the mind-independent existence of the world investigated by the sciences" (Chakravartty, 2017, p. 5), 2) "Semantically, realism is committed to a literal interpretation of scientific claims about the world" (Chakravartty, 2017, p. 5), and 3) "Epistemologically, realism is committed to the idea that theoretical claims … constitute knowledge of the world" (Chakravartty, 2017, p. 6).1

In this paper, I propose that, insofar as historians and philosophers of science wish to understand certain episodes of scientific experimentation and confirmation—insofar as they wish to understand what scientists are doing—it will be helpful to have a weaker version of scientific realism. I propose a notion of zetetic scientific realism that does not include Chakravartty's third epistemological commitment.

The term "zetetic" is meant to bring out the fact that this realism is part and parcel of scientific inquiry explicitly rejecting the presupposition that an individual bit of evidence—a single experimental result—in support of some mind-independent entity yields knowledge, belief, or acceptance. One of the important features of zetetic scientific realism is that it allows historians and philosophers of science to acknowledge that scientists sometimes recognize the ontological implications of an abductive argument, even though they wish to resist those ontological implications.

Kenneth Aizawa received his PhD in History and Philosophy of Science from the University of Pittsburgh in 1989. He works primarily in the history and philosophy of neuroscience and psychology. He is the author of The Systematicity Arguments (2003) and, with Fred Adams, The Bounds of Cognition (2008). His most recent book, Compositional Abduction and Scientific Interpretation: A Granular Approach, was published in 2025. Based on a detailed case study of Alan Hodgkin and Andrew Huxley's work on the action potential, he offers a non-Bayesian theory of confirmation that is an alternative to hypothetico-deductive confirmation, the Peircean theory of abduction, and inference to the best explanation. He has been Professor of Philosophy at Rutgers University, Newark, since fall 2013.

Jamie Ashworth
Cartographic Science and Colonialism in Early New Zealand: A Case Study of Wairarapa, 1842-1853
[Searching and Naming in the Nineteenth Century]
Fri 5 Dec 1:30 – 3:00pm, Room 14-115

In the remote region of Wairarapa, Aotearoa New Zealand, geographers and surveyors would portray the land and its resources in a number of ways reflective of colonial ideas throughout the earliest period of European settlement from 1842 to 1853. This paper explores early cartography of the region as a method by which cultural change was displayed, using the case studies of F. J. Tiffen, John S. Williamson, and Donald McLean. In dialogue with contemporary historiography, this paper observes how the natural resources of forests, rivers, and plains were converted into visual texts, exploring ideas of colonial exploitation, Othering and Orientalism, and Indigenous cultural erasure throughout. This article concludes that settler groups used cartography not only as a practical tool of colonialism but as

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an instrument of literary alienation, which could serve to further imperialism and impose British socio-economic goals upon Māori. By re-naming, re-casting, and re-presenting landforms and resources through science and aesthetics, colonists aimed to 'indigenize' themselves within a 'new land'.

Sruthi Balaji
Stabilising the Gene: Patent Law and the Legal Identity of Epistemic Objects
[Transspecies Interactions]
Wed 3 Dec 11:00am – 12:30pm, Room 14-132
The gene has long been described as a concept 'in flux', or an epistemic object within science. Over the course of its evolution, the gene has transformed a number of times and taken on different forms, functions, and meanings across various local contexts. When objects of science and technology enter the realm of patent law, however, they are recast as legal inventions. In this process, intellectual property does more than protect novel science and technology, it translates scientific concepts and knowledge into legally recognised, ownable, and tradeable forms. Often the law adopts a definition of the object directly from science, especially where it appears fixed and uniform. Yet some scientific objects have multiple identities within science itself. Although patent law prefers certain, fixed and stable inventions, epistemic objects are hybrid, evolving and open. Accordingly, when faced with multiple versions of a scientific, epistemic object, the patent system is forced to characterise the object in a singular manner as it constructs the legal invention.
Using the case study of gene-based patents throughout the twentieth and early twenty-first centuries, this paper explores how intellectual property law has historically responded to such hybridity, and transformed epistemic objects, such as the gene, into stable legal inventions. In doing so the patent system did not merely protect knowledge, it defined and demarcated what scientific knowledge was recognised, and when. By examining the historical evolution of gene-based subject matter in patent law, this paper reveals how intellectual property has judged and characterised, stabilised and de-stabilised hybrid scientific objects, and ongoing consequences of such hybridity for both science and law.

Rowena Ball
Indigenous mathematics is the finest, most effective, long-distance, communication system in the world
[Indigenous Encounters]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-115
What is mathematical knowledge? What and who should be included in mathematics? Who gets to say? These questions are social rather than mathematical, but if we want more mathematics and better mathematical literacy throughout society – and we do I can tell you! – we need to admit them. One approach is through truth-telling in mathematics history. In this talk I shall share a story of mathematics practised by Indigenous civilizations of the Australian continent and islands. I'm afraid this talk will arouse more questions than it answers though! Such as: Can we imagine a mathematics without, say, the whole axiomatic- deductive-proof base that supposedly was bequeathed to Western mathematics by Euclid? Mathematics as we don't know it? What does one have to do to 'prove' that Indigenous cultures did indeed develop mathematics (and often before the West)? 'Discover' an Indigenous proof of Pythagoras' theorem? If not, is the score ancient Greek mathematics 10, Indigenous mathematics 0?

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Joel Barnes
Teaching human nature: anthropological knowledge in the Australian classroom in the 1970s and 1980s
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (3)]
Wed 3 Dec 3:30 – 5:00pm, Room 14-216
This paper examines the construction and teaching of human nature in Australian classrooms in the 1970s and 1980s. The arrival in Australia in the mid-1970s of the American-made upper primary school course Man: A Course of Study (MACOS) heralded a major innovation in social studies education, both in its novel use of film as a medium of instruction, and in its inquiry-based pedagogy, in which children were to act as would-be anthropologists. Produced at Harvard, MACOS used ethological and ethnological films of salmon, herring gulls, baboons, and Netsilik Inuit, arranged in a quasi-evolutionary sequence, to guide children to ask about human nature: their behavioural continuities with and distinctiveness from non-human animals, their relations with their environments, and their forms of social organisation. The course's scientific naturalism proved controversial among conservative critics both in the US and in Australia; infamously, in 1978 the Bjelke-Petersen government banned its use in Queensland public schools. But elsewhere in Australia the MACOS approach proved popular. In Sydney it inspired an influential teacher, Margaret Simpson, to develop People of the Western Desert (POWD), a course which repurposed ethnographic films of two Pintupi families. POWD fused MACOS's big-picture concerns about the meaning of the human with local needs for an "Aboriginal studies curriculum" at a time when little else provided such. Drawing on Simpson's previously untapped professional archive, the project will chart her work in exploring and teaching what it meant to be human, and in Australia specifically, what it meant to be human in a "hostile" environment.

Joel Barnes is Honorary Research Fellow in the School of Historical and Philosophical Inquiry at the University of Queensland, and Research Fellow in the Faculty of Medicine and Health at the University of Sydney. He works on histories of evolutionary science, education and universities, and has held postdoctoral positions at the University of Technology Sydney and the University of Queensland. He is the co-editor of the forthcoming volumes Commemorating Darwin: Science, Politics, Memory (with Ian Hesketh, University of Pittsburgh Press), and The History of Education as History of Knowledge: Exploring New Methods and Sources (with Jona Garz et al., Routledge).

Philippa Barr
Using aesthetics to neutralise toxicity in the atmosphere
[Aesthetic Epistemologies]
Wed 3 Dec 3:30 – 5:00pm, Room 14-132
This paper explores how aesthetic interventions are deployed to neutralise disgust at polluted or poisoned atmospheres. Focusing on Milan's air pollution reforms between 2011 and 2021, it argues that contemporary environmental governance increasingly operates through the transformation of sensory and affective registers, not by eliminating pollutants, but by reconfiguring the conditions under which they are perceived and felt. The paper examines how civic pride and environmental virtue are cultivated through greening campaigns, urban design aesthetics, and the orchestration of purified atmospheres in Milan's central districts. The paper advances the claim that these interventions act as affective antidotes to the visceral experience of disgust associated with toxic air, particularly the revulsion at inhaling, incorporating, or smelling atmospheric filth. It draws on Gernot Böhme's work on atmospheric aesthetics, Julia Kristeva's theorisation of the abject, and Peter Sloterdijk's immunological metaphors of spatial purification to conceptualise how urban air is rendered governable through the management of sensory experience. Aesthetic interventions do not merely beautify but suture the

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phenomenological rupture caused by pollution, transforming feelings of contamination into perceptions of cleanliness, even in the absence of chemical improvement. By foregrounding how disgust is redirected, softened, or overwritten through aesthetic techniques, this paper contributes to emerging debates in environmental philosophy and the history and philosophy of science about how atmospheres are sensed, governed, and emotionally processed. It argues that contemporary environmentalism increasingly addresses the experience of toxicity rather than its material substrate, enabling affective resolution without substantive ecological repair.

Janella Baxter
Correcting Course: What Nonstandard Genetic Codes Mean for the Frozen Accident Theory
[Questions of Method (3)]
Wed 3 Dec 3:30 – 5:00pm, Room 14-116
One thing history and philosophy can do is uncover research questions that have been mistakenly neglected by the scientific community (Chang 2014). This paper identifies a range of productive research questions that scientists have overlooked when theorizing about Crick's frozen accident theory (1968) in light of nonstandard genetic codes in microbes. I argue the principal reason for this oversight is due to failure by theorists to engage with the full logical nuance of Crick's theory, although some sociological reasons are relevant too. This paper defends a nuanced interpretation of the frozen accident theory by carefully reconstructing Crick's logic in published and unpublished writings. What becomes apparent is that the frozen accident theory, while logically complex, nevertheless requires a number of interpretative choices to make questions about its confirmation or falsification operational. So, instead of concluding that nonstandard genetic codes constitute the "final nail in the coffin" for the theory (Tuite et al. 1996, 993; also see Knight 2001), I conclude that the frozen accident's value lies in structuring a range of open research programs (Lakatos 1978).

Sandy Boucher
What was really wrong (and right) with vitalism? Methodological naturalism, organicism and immaterialist theories in biology
[Questions of Method (2)]
Wed 3 Dec 1:30 – 3:00pm, Room 14-116
There has been considerable discussion in recent years of methodological naturalism in the sciences: the question of whether science does, or should, operate under the assumption that it may only investigate natural phenomena or offer natural explanations, and what form this assumption does or should take. Most of the discussion has centred around theories such as intelligent design creationism, but in this paper I argue that vitalism in biology – an immaterialist theory of living systems - provides an instructive and under-utilised test-case for methodological naturalism. I focus on three views: intrinsic methodological naturalism, provisional/pragmatic methodological naturalism, and, in particular the 'unintelligibility' view that I have previously defended: views which have not, for the most part, been applied to vitalism. The unintelligibility view comes in a metaphysical, and an epistemic form. I suggest that on the epistemic interpretation theories such as vitalism should be understood along the lines of 'mysterian' or 'ignorance' accounts of consciousness, and that this provides an illuminating account both of vitalism itself, and of its relationship to organicism in biology.

James Bradley
Nature, culture and vivisection: hierarchies of sympathy and the animal-human divide in the early nineteenth century
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (2)]

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Wed 3 Dec 1:30 – 3:00pm, Room 14-216
The recent myth-busting volume, Darwin Mythology, failed to tackle one of the most pervasive myths of all: that Darwinism shattered the barrier between humans and animals, thus bringing animals into the orbit of human ethics. This paper presents a case study about the emergence of ethics in vivisection to tackle this myth. By exploring the actions of two vivisectionists—A.P.W. Philip (1770-1847) and Charles Bell (1774-1842)—I will describe the experimental logic and the 'moral economies' that shaped their animal use. I will argue that some, like Philip, held essentially utilitarian views underwritten by an animal's relative position upon the 'sociozoological' scale. Here technical and ethical innovations were intended to prevent the corruption of the vivisector's soul rather than protecting animals from pain. Others, like Bell, were integrated into a Romantic 'moral economy' that brought humans into close proximity with the higher mammals. For men like Bell, if vivisection could be avoided it should be avoided, although his research programme's aim of revealing the mechanisms of emotional expression meant that he had no choice but to vivisect species which he often loved. In making this argument, I will suggest that whatever position a vivisector occupied, the foundation of their ethics was a 'hierarchy of sympathy' that emerged from the 'sentimental Enlightenment': a way of ordering nature that determined the pinnacle's duty of care to those below it. Significantly, this created an ethical space that did similar work to what has been claimed for Darwin's theories; except that it predated Darwinism by more than five decades.

James Bradley is a senior lecturer in the History and Philosophy of Science at the University of Melbourne, where he teaches subjects like 'Genetics, Biopower and History' and 'Minds and Madness'. Over the course of his career, he has researched across a wide number of fields including the histories of cricket, tattooing, alternative medicine and convict transportation to Australia. He has also published, with Rod Buchanan, on Darwin's delay. His current work, on early nineteenth-century anatomy, surgery and physiology is centred upon Charles Bell and his relationship to the history of emotions, which resulted in his recent Studies in the History and Philosophy of Science publication, 'Redefining a Discovery' (2024). Further work on Bell and vivisection is forthcoming in Medical History and a biography is currently being written.

Martin Bush
[Metascience and Science Policy]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-216
See session description
Feeling the sky: epistemic emotions in nineteenth century popular astronomy
[Searching and Naming in the Nineteenth Century]
Fri 5 Dec 1:30 – 3:00pm, Room 14-115
The visual practices of popular astronomy were laid down in the long nineteenth century through media including lantern slides, the mechanical devices of the stage astronomy tradition and the printed image. This paper focuses on British printed ephemera of popular astronomy in the nineteenth century, included such items as Reynold's Diagrams, the perforated cards of Urania's Mirror and board games such as the Circle of Knowledge and Science in Sport or the Pleasures of Astronomy. While some of these have received attention in the literature, much of this ephemera remains understudied, especially considering that their affordability made them amongst the most widespread vehicles for popular astronomy. I will show how these items explicitly combined didactic and sublime modes of communication in order to harness epistemic emotions to the popularisation of astronomy.

Martin Bush is Senior Lecturer in History and Philosophy of Science at the University of Melbourne. Martin

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is a cultural historian of science with expertise in popular astronomy in Australia, visual communication of science, the British popularisers Richard and Mary Proctor and the science communication work of the Ngarrindjeri Australian David Unaipon. Much of this work draws on his professional experience as a museum curator and science communicator, including as Curator of Scientific Instruments and Antarctic History at Museums Victoria and Science Communicator at the Melbourne Planetarium, and as Curator of the Islands to Ice gallery at the Tasmanian Museum and Art Gallery. Martin is also a metascientific researcher as part of the MetaMelb Lab with interests in public trust in science, policy applications of scientific research and the qualitative analysis of expert reasoning.

Cassandra Byrnes
[On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-115
See session description
Dr Cassandra Byrnes (she/her) is the Convenor of Gender Studies, and History Lecturer at the University of Queensland, with a current research focus on reproductive justice in the recent past. Her recent publications include A History of Abortion and Contraception in Queensland, Australia, 1960-1989 and The Limits of Consent: Sexual Assault and Affirmative Consent.

Kristian Camilleri
[Do Individuals Matter? Character and Personality in the History of Science]
Wed 3 Dec 11:00am – 12:30pm, Room 14-115
See session description
The Problem of Orthodoxy in Intellectual and Social History of Science
Wed 3 Dec 3:30 – 5:00pm, Room 14-116
Historical narratives about the foundations of quantum theory", as Olival Freire observes, often revolve around "the themes of orthodoxies and heterodoxies". According to the standard story, the Copenhagen interpretation emerged as the dominant view after 1927, defended by prominent adherents such as Niels Bohr, Werner Heisenberg, Wolfgang Pauli, Paul Dirac, Max Born, Pascual Jordan, and John von Neumann. This "orthodox view" stood in sharp contrast with the views of "quantum dissidents" such as Albert Einstein and Erwin Schrödinger. Yet, on more careful inspection, nothing even vaguely resembling a unified and coherent interpretation of quantum mechanics emerged after 1927. As Jan Faye and Henry Folse point out, "the many versions of the so-called orthodox or Copenhagen interpretation were often inconsistent with each other and that there was no uniform agreement among all the diverse physicists (and philosophers) who considered themselves to be supporting the Copenhagen point of view". In this paper, I offer some historiographical reflections on the problematic role that the idea of "orthodoxy" plays in histories of quantum mechanics, and in the history of science more generally. Indeed, once we begin to probe the notion more deeply, orthodoxy turns out to be a far more elusive notion than is commonly supposed. Here I argue that scientific orthodoxy is best understood, not as a widely held set of shared beliefs, but as a resistance, even a refusal—whether motivated by pragmatic, professional, intellectual concerns—to pursuing certain approaches and programs of research. Understanding orthodoxy in this way means understanding this resistance in all its dimensions. In many cases, scientists' professions of adherence to orthodoxy are simply "words used by actors in situations where they need to account for their conduct when questioned by others". In short, by focussing exclusively on beliefs, doctrines and intellectual commitments, we fail to grasp the complex web of historical contingencies—intellectual, social and cultural—that produce what might be called the "effect" of orthodoxy.

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Tushar Chaturvedi
Distribution, Disagreement, and Dialogue: Considerations for Scientific Peerhood
[The Work of Science and its Networks]
Fri 5 Dec 1:30 – 3:00pm, Room 14-216

This essay argues that peer relations in science serve diverse and overlapping roles: facilitating the division of epistemic labor, framing the normative significance of disagreement and enabling critical appraisal. Prevailing conceptions of peerhood in social epistemology—centered primarily on the normative import of disagreement—fall short in accounting for the full range of roles scientific peers are expected to play. Essay examines the limitations of such accounts, including liberal proposals in light of the methodological, axiological, and epistemic divergences characteristic of peers involved in scientific inquiries. Drawing on the social epistemology of science and social epistemology of peer disagreement, the essay proposes a set of conditions for rethinking peerhood in science—one that can accommodate epistemic divergence among scientists while remaining responsive to the normative concerns of peer disagreement.

Tushar Chaturvedi is a PhD candidate in the Department of Humanities and Social Sciences at the Indian Institute of Technology Guwahati. His research lies at the intersection of social epistemology and philosophy of science, with a particular focus on the epistemic dynamics of peerhood, trust, and (dis)agreement in scientific inquiry. His current work develops a taxonomy of epistemic peerhood along various dimensions of symmetry and explores counterfactual and institutional models of epistemic relations.

Jessie Wei-Hsuan Chen
Visualising and communicating plant anatomy between the seventeenth and nineteenth centuries
[Aesthetic Epistemologies]
Wed 3 Dec 3:30 – 5:00pm, Room 14-132

How do images visualise and communicate scientific observations? This paper addresses such a question by investigating how the science of plant anatomy was visually represented in Europe. It specifically looks into two moments in the seventeenth and nineteenth centuries when new modes of representation were created for plant anatomy. This paper first examines images made during the emergence of plant anatomy as a new field of study around the 1670s. Through the works of Marcello Malpighi's Anatome plantarum (1675) and Nehemiah Grew's The anatomy of plants (1682), it discusses how the plant anatomists utilised drawings and prints to visualise observations through the microscope. These two-dimensional representations enabled the anatomists to compare and debate one another's observations, forming and communicating the visual knowledge of plant anatomy in the early stage of the field. This paper then turns to the nineteenth century, when botanical scale models became a widely used teaching tool in European and North American classrooms. By diving into how the Dresden-based model makers Leopold and Rudolf Blaschka utilised magnified views of plant parts through glass, this paper shows how botanical models added three-dimensionality to plant anatomy representations based on the pictorial conventions developed since the seventeenth century. These three-dimensional representations offered a different format and sensorial experience for knowledge dissemination to educate students on what to observe when studying plant anatomy. Connecting the representations to their image- and model-making techniques and technologies, this paper particularly considers how plant anatomy was visually communicated to different groups of people. It does so by paying attention to how plant parts were represented in two-dimensional (illustrations) and three-dimensional (models) formats for empirical and didactic purposes, as well as how the qualities and limitations of the relevant techniques/technologies shaped the ways plant anatomy was

visualised. Through specific cases in plant anatomy, this paper aims to contribute to the larger discussions on the roles of images, models, and representations in the history of science.

Leo Chu
Making the "Aquatic Chicken": Freshwater Tilapia and the Asian Blue Revolution, 1940-80
[Transspecies Interactions]
Wed 3 Dec 11:00am – 12:30pm, Room 14-132
Tilapia, a freshwater fish originating in Africa and Middle East, received considerable scientific investigation in the second half of twentieth century and is now one of the most common species in Asian aquaculture. This paper follows the rise of tilapia in the development often dubbed as the "Blue Revolution," or the vision to bring the achievement of "Green Revolution"—increasing productivity in cereal—to the field of aquaculture. In contrast with the established scholarship on marine species such as cod and salmon, freshwater tilapia reveals a less explored story bringing together the historiography of agronomy and fish biology. Due to its ability to thrive in rice paddies and polyculture systems prevalent in Asia, the species became widely used by governments in the postwar food production campaigns. Focusing on the cases of Indonesia, Taiwan, and the Philippines, this paper explores how the unique ecosystem surrounding tilapia prompted these states to combine the Green and the Blue Revolutions in their rural development, seeking to use the fish as an "aquatic chicken" that could satisfy the rising demand in affordable animal protein. However, the quest of productivity eventually led to the shift from polyculture to monoculture, inducing the socio-ecological complications associated with aquaculture. Through the evolution of tilapia science, this paper enriches the history of biology, investigates fundamental changes in the twentieth food system, and connects them to the contemporary debates on sustainable aquaculture.

Carmelina Contarino
Tech-Driven: Establishing conceptual clarity
[Metascience and Epistemology]
Fri 5 Dec 11:00am – 12:30pm, Room 14-216
Despite its widespread adoption the term "tech-driven" remains conceptually ambiguous with no clear definition available. This talk chronicles the systematic process undertaken to define the term "tech-driven" as a core analytic category of my research assessing the impacts of tech-driven reforms on the Metascientific social network. By confronting definitional ambiguity, rather than assuming shared understanding, methodological rigor and theoretical coherence are strengthened. As metascience, and the world at large, increasingly rely on technological solutions such as computational and network approaches, definitional clarity becomes part of the essential infrastructure. As adopting technology does not necessitate a tech-driven process, differentiating between tech-driven and tech use is critical. This talk walks through the process of uncovering the lack of clarity that exists around “tech-driven” as a concept, teasing out the nuance of meaning, and investigating impact of shifting definitional boundaries for my research and beyond.

Carmelina Contarino is a PhD student in the MetaMelb Research Lab, History & Philosophy of Science program at the University of Melbourne. Her research uses a sociological approach to explore the composition of, and interaction between, Metascience’s various actor groups, to better understand how “Metascience” can meaningfully improve the way we create scientific knowledge. Carmelina is a Research Associate at the Centre for Artificial Intelligence and Digital Ethics (CAIDE). Carmelina has tutored in the Melbourne Law School breadth subject AI, Ethics, and the Law (LAWS10009) since 2022, and the Faculty of Engineering and Information Technology’s Computer Science Department Master's

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level subject The Ethics of Artificial Intelligence (COMP90087) since 2024. In 2021, she served on the Association for Interdisciplinary Metaresearch and Open Science (AIMOS) board and is the current AAHPSSS treasurer.

Damcelle Torres Cortes
Law lag or science lag? What happened in the first transgenic eggplant lawsuit in the Philippines
[Transspecies Interactions]
Wed 3 Dec 11:00am – 12:30pm, Room 14-132
In 2015, the Philippine Supreme Court halted field trials of transgenic eggplant and imposed a moratorium on all biosafety applications until rules governing the use of genetically engineered crops were revised. The court found the old rules deficient in upholding public participation guarantees under international and domestic legal instruments, though it later dismissed the case on a technicality. On the surface, the case demonstrated the classic law lag narrative where old fashioned regulations were unable keep pace with advancements in biotechnology. Analyses of case records and interviews with lawyers and scientists however revealed the coexistence of a counternarrative: a science lag where Philippine crop biotechnology failed to cope with the democratic turn in knowledge production already recognised in law. I argue this by demonstrating how science-law interactions co-produced the questioned biosafety rules, which were substantively a product and representation of science while being a legal issuance. I explain how the regulatory provisions and scientists' perfunctory regard for stakeholder consultations remained naïve of the role of the non-experts in decisions about making, doing, and using science. The study contributes to the discourse on science-law relations by challenging the familiar narrative of technology as the societal frontrunner, and the law as the laggard. The implications of a law lag and science lag to imagining regulatory arrangements for emerging technologies are likewise discussed.

Damcelle Torres Cortes is a PhD candidate at the Centre for the Public Awareness of Science, Australian National University. She is pursuing a new research interest investigating the relationship between science and courts using as case study the first Philippine Supreme Court litigation on transgenic eggplant. She is a faculty member of the College of Public Affairs and Development, University of the Philippines Los Baños whose science institutes lead local research on genetically engineered crops. A member of the Philippine bar, Damcelle has rich professional experience in policy reform and program management particularly in the areas of justice and human rights. She has conducted studies and published works on these topics.

Zoë Cosker
[Beyond Academic Interest: The Continuing Relevance of Medical History to Contemporary Healthcare]
Wed 3 Dec 3:30 – 5:00pm, Room 14-115
See session description
When the community will not care: psychiatric patients, public protests, and policies of deinstitutionalisation
[Alternatives in Mental Health]
Fri 5 Dec 11:00am – 12:30pm, Room 14-132
Since the 1960s, a core aspiration of mental health policy has been the moving of psychiatric patients' care from being located predominantly within large institutions to being within a community context. There has been significant focus in the history of psychiatry on the ways in which quality community-based care for patients was frustrated by a lack of both funding and political will to provide genuine

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alternatives to institutional care. However, less attention has been paid to the willingness of the wider community to accept psychiatric patients into their midst and their ability to frustrate deinstitutionalisation as a health policy. Using local newspapers and parliamentary records, this paper looks at a series of UK-based protests between the 1970s and 2010s against planned new facilities for psychiatric patients outside of large-scale institutions, ranging from halfway-houses and day centres to small secure units. It draws out trends in local communities' resistance to having psychiatric patients located near them and argues that these protests expressed popular understandings of psychiatric care and patients, alongside ideas of what constitutes a community and who belongs within it. These protests show how deinstitutionalisation was experienced by wider publics, how some experienced this policy as a non-consensual redefinition of their community, and ultimately the fundamental tension that existed between health policy intention and its execution when communities resist 'community care'. This paper explores what happens to care in the community when the community cannot – or will not – care.

Zoë Cosker's research on debates around psychiatric law in Victoria and in England and Wales between 1954 and 2014 focuses on how a shared language can conceal genuine fractures in perspective between those making, enacting, and subject to laws governing detention on psychiatric grounds. Her work particularly examines the concepts of care and coercion with implications for understanding contemporary tensions around psychiatric practice.

Rach Cosker-Rowland
Facial feminisation surgery (FFS): selling science and the objectivity of gendered skulls
[Women, Science and Knowledge]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-116

From the 1970s and 1980s there is a literature on bodily gendered perception showing that members of the public at that time tended to default to perceiving bodies as male and that once they formed these perceptions they were highly resistant to revising their views even in the face of contrary evidence. Similar psychological research is currently used to bolster the claim that brow bones and orbital rim dimensions are significant in gendered face perception, that 'this area is quite possibly the greatest determinant of facial gender' (Capitan et al, 2019). This represents one of several strong claims made by facial feminisation surgeons that are used to sell FFS to transfeminine people to ensure they are perceived in line with their gender identity in 'a single glance, involuntarily, and definitively' (ibid.). Existing philosophical discussion of FFS, including my previous work (Cosker-Rowland, 2025), has focused on the grounds of transfeminine people's rights to be provided with FFS — rights which are currently, unfortunately, only recognised in Germany — and whether there are feminist issues with FFS, such as whether FFS problematically reinforces pernicious beauty norms. In contrast, this paper seeks to investigate the current practice of FFS and assess whether it makes sense or should be reformed in some way. The philosophical questions here are really: does this practice make sense and is it best serving transfeminine people. To answer these questions, this paper explores the claims of objectivity made by practicing FFS surgeons through examination of their published work in scientific journals and published monographs. Reviewing this source base, I question how – and whether – FFS works, the standing of the claims made by surgeons, and what it would mean if these claims were true. To do this, I draw on insights from feminist philosophy, the history of medicine, and threads within philosophy of science. Pulling these threads together, I argue that an examination of FFS as a contemporary medical practice can 1) tell us something about gender perception and 2) that the view of gender perception that many FFS surgeons hold and rely on may be false.

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Arpita Das
Uterus Transplantation as an emerging Reproductive Technology: Feminist Contentions and Contestations
[Values in Medical Practice]
Wed 3 Dec 1:30 – 3:00, Room 14-132
Feminism carries a contentious relationship with reproductive technologies. On the one hand, they are considered empowering (expanding reproductive choices for many people) as well as limiting (creating newer imperatives for reproduction). In this presentation, I focus on uterine transplantation as an emerging mode of reproduction in India, which privileges the experience of pregnancy in addition to genetic relatedness. I examine socio-cultural, medical, ethical and economic discourses surrounding the marketisation of reproductive technologies and reflect on how these discourses recalibrate social and familial dynamics. I argue that the mobilisation of the language of reproduction as a right potentially creates pressures towards different kinship relations and marketisation of reproductive organs and reproductive labour which works to the detriment of marginalised peoples. I use reproductive biopolitics and feminism as lenses to examine the value of wombs in relation to the bodies they inhabit, and the pressures the marketisation of wombs puts on both recipients and donors.

Maria del Mar Yunis
From snails to metaphysics: Margaret Cavendish and the female scientific revolution
[Women, Science and Knowledge]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-116
In western history of science there is an apparent gap in the history of biology due to a loss of interest in the study of life-sciences after the ancient Greeks and before the late XVIIIth century naturalists (excluding de Renaissance rebirthing of natural histories). Most of the canonical scientific research published during the Scientific Revolution of the XVIIth century concerned physics, chemistry, mathematics and human medicine; while the study of animals and plants was out of the spotlight stricto sensu unless it served a purpose in human medical research. It is also widely known that the opinion of mechanistic thinkers such as Descartes became quite popular, spreading the idea that animals were machines. Nevertheless, this was not the opinion of all thinkers at the time. We can find important and often overlooked contributions to science, particularly biology, from historically undermined groups like women. In this paper I explore the scientific work and philosophy of Margaret Cavendish, one of the less-studied outliers of early modern science. She developed an uncommon philosophy of nature with a poetic approach to organic nature. Drawing from: A) Cavendish's studies about invertebrates; her atypical approach to animal cognition, language and sociability; and her materialistic-organicist metaphysical system, in which there is a continuum between human beings and other natural beings; As well as from B) her claims that science and aesthetics do not necessarily belong to incompatible realms; And C) Her proto-ecological and proto-evolutionary stances in the light of her critical stance against the methodology of her contemporary male scientists, I argue that Cavendish attempted a parallel scientific revolution led by female science. Based on the presentation of the aforementioned topics, I will defend the importance of seriously considering her often overlooked inputs in the history of biology, demonstrating that such a gap can be closed when considering the work of voices outside of the canon.

Maria del Mar Yunis: Philosophy student (honors year) at the Pontifical Xavierian University, with a minor in biology. Her research interests have focused on the history of early modern philosophy, mainly on the relationship between history of science and aesthetics. Particularly, regarding theories of imagination, the passions, aesthetics of nature, and their relationship with integral ecology and the current ecosocial

crisis. The authors she has focused her research on are, mostly, René Descartes, Giambattista Vico and Margaret Cavendish. She has participated in numerous panels, lectures and conferences at universities such as Durham, Exeter, the Australian Catholic University, and National University of La Plata. Aside from the topics mentioned above, she is close to finishing her honors year thesis on the relationship between love and imagination in Cavendish's metaphysical system. She hopes to pursue her PhD studies in fall 2026.

Henry Dixson
Public Views on Re-Engineering Climate: Support vs. Opposition
[Attempting to Mitigate Climate Change through Synthetic Biology: Ethical and Social Analyses]
Fri 5 Dec 11:00am – 12:30pm, Room 14-115
The presentation presents the findings of national public focus group discussions on the use of novel SynBio applications to address greenhouse gas emissions. Participants considered the use of SynBio across 4 domains: greenhouse gas (GHG) removal and storage, converting GHGs into useful products, the systemic replacement of existing high-emissions industries with alternatives, and co-benefits (other positive outcomes from developing SynBio applications in and outside of climate). While all approaches involve novel, scaled genetic engineering tools, they did not inspire the same ethical and social concerns. These will be compared and contrasted alongside their implications for public discourse.

Henry Dixson is a multidisciplinary social and behavioural scientist, whose current work includes topics from cognitive and cross-cultural research. He completed his PhD at the ANU, studying the role of social influences on theory of mind development and behaviour in ni-Vanuatu children. Following this, he conducted postdoctoral research on political views and beliefs in the Pacific, alongside laboratory-based developmental psychology research. Henry crossed over into the public sector as a social and behavioural science advisor at New Zealand's Department of Conservation. In government, he used his background to look at public trust in science, conservation attitudes and awareness, social license and engagement. More recently, he completed a fellowship collaboration between ANU and CSIRO looking at Australian views around synthetic biology. Currently, Henry is a postdoctoral fellow at WSU's node of the Centre of Excellence in Synthetic Biology, investigating public views on the use of SynBio-based tools for greenhouse gas mitigation.

Fiona Fidler
[Metascience and Science Policy]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-216
See session description

Jacinthe Flore
[On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-115
See session description
Dr Jacinthe Flore is a Senior Lecturer in History and Philosophy of Science at the University of Melbourne where she also leads the Medical Humanities Research Lab.

Daniele Fulvi
[Attempting to Mitigate Climate Change through Synthetic Biology: Ethical and Social Analyses]

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Fri 5 Dec 11:00am – 12:30pm, Room 14-115
See session description
Challenging the Moral Hazard Argument in Climate Change Mitigation: a Transitional Justice Appraisal
[Climates and Governance]
Fri 5 Dec 1:30 – 3:00pm, Room 14-116
In this talk, I analyse the moral aspects of Carbon Dioxide Removal technologies (CDRs) for climate change mitigation, through what I call 'transitional justice.' In light of the recent acceleration of the climate crisis, the Climate Overshoot Commission has deemed climate overshoot as inevitable. Similarly, the IPCC has acknowledged that current pledges are not on track to meet the Paris goals. The IPCC has also clarified that CDRs are now "unavoidable" – together with more ambitious emissions reductions targets – if climate change mitigation is to be attempted. This raises the question: are CDRs compatible with a just transition, given the highly non-ideal circumstances in which such a transition is to be achieved? I argue that there is a strong case for adopting CDRs within a just transition, despite some potentially unjust facets of these technologies. While I do not contend that CDRs are morally good or acceptable simpliciter, I also show that framing CDRs as a moral hazard to climate change mitigation is not conducive to a just transition. Instead, I clarify that, in the current context of the climate crisis, it is a notional opposition to CDRs that constitutes an actual moral hazard to sufficient mitigation.

Daniele Fulvi is a Postdoctoral Research Fellow at the School of Humanities and Communication Arts, Western Sydney University Node of the ARC Centre of Excellence in Synthetic Biology. He specialises in modern and contemporary continental philosophy and environmental ethics, and his current research focuses on the ethical and social dimensions of synthetic biology applied to climate change mitigation. He is also an executive member of the Australasian Society for Continental Philosophy, book review editor of the journal Environmental Philosophy, and associate editor of the Encyclopedia of the Anthropocene (forthcoming, Springer Nature).

David Garcimartín Arenas
Between Cartography, Meteorology and Political Philosophy: the Concept of Climate in the Modern Age
[Climates and Governance]
Fri 5 Dec 1:30 – 3:00pm, Room 14-116
The word climate did not always refer to atmospheric conditions. In its earliest form, klima (Greek for "inclination") described spatial divisions based on the sun's angle—more a tool of ancient cartography than meteorology. Alongside thermal "zones," klimata helped map the habitable world (oikumene) through astronomical observation, not weather patterns. This early usage had no direct link to temperature or local weather, but rather to the geometric ordering of terrestrial space. While parts of this shift have been studied in the history of science, its broader conceptual development remains underexplored. This presentation offers a clearer account of how the modern meaning of climate came to be, arguing that it emerged through a gradual, interdisciplinary transformation from ancient geography to 19th-century natural science. Rather than simply summarizing existing research, it presents a personal reconstruction aimed at connecting overlooked developments across fields. The talk outlines three key stages in this evolution: The first, from antiquity to the 16th century, saw klimata used to mark latitude, while "zones" denoted belts of solar heat. At this point, "the climate of Alexandria" referred to a coordinate, not weather. These terms functioned independently to divide the Earth for mapping and navigation. The second stage begins in the early modern period. The discovery of the

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Americas exposed the limits of ancient spatial models. Cartographers moved toward new projections (like Mercator's), making klimata obsolete. Yet, the term climate reemerged in political and medical thought. Thinkers like Jean Bodin revived Hippocratic ideas connecting environment and human behavior. Montesquieu expanded this, using temperature to explain differences in laws and customs across societies. With this shift, climate began to act less as a location and more as a force shaping bodies and cultures—a moment that could be called the "atmospherization" of the concept. The final stage takes place in the 19th century. Naturalists such as Alexander von Humboldt took this expanded sense and redefined climate in empirical terms. Detached from astronomy, climate now meant measurable variables—especially temperature—spread across space. Wladimir Köppen later formalized this into a system of climate zones based on statistical averages of multiple atmospheric factors. This presentation reconstructs the conceptual path that led to today's scientific definition of climate. By clarifying how earlier meanings were transformed or lost, it aims to refine our understanding of a term whose authority often hides a complex, layered history.

David Garcimartín Arenas is a PhD student in Philosophy at the Complutense University of Madrid, funded by the Spanish Ministry of Science. His research interests lie in the philosophical history of science, with a particular focus on the history of meteorology. His dissertation explores the origins of the concept of climate and its cultural significance within the context of modern cartography and political philosophy. He is currently at the beginning of his research career and has published one article on climatology in Antiquity and another offering philosophical reflections on nineteenth-century astrobiology.

Christian Gelder
How To Do Things with Words: American Style, Psychiatry and the Psychoses
Doing and (Re)making Knowledge
Thurs 4 Dec 11:00am – 12:30pm, Room 14-132
What is the relationship between aesthetics and psychiatric nosology? How is a clinical picture shaped by actual pictures—by portraits, poems, patient testimonies and other aesthetic media? It often goes unremarked that psychiatric nosologies pass through linguistic systems, which themselves shape the associations we bring to bear on them, and that these representational portrait-frames mediate the clinical and political ideals of a particular therapeutic culture. This paper examines the debates about 'psychotic speech' and aesthetic production that occurred in East-Coast American psychoanalytic psychiatry from the 1930s to the 1960s, showing how notions of 'style' were central to various psychoanalytically-minded accounts of psychotic phenomena. This paper also suggests that the emphasis on 'style' in research on the psychoses reached a fever-pitch at the same time as politically-minded psychoanalytic psychiatrists were examining an increasing uniformity of style demanded by American liberalism. Psychotic style and its attendant aesthetic production thus engendered many discussions about the nature of psychological 'understanding' and modes of recognition that went beyond the usual practices and processes of recognition in so-called 'normative' society. But as psychoanalytic psychiatrists began to consider the organisation of American capitalism—often in contrast to the Soviet Union—they also came to recognise a diminishing freedom of styles of subjectivity, which is itself registered in the aesthetic textures of the literatures that I discuss in this paper.

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Samara Greenwood
[Do Individuals Matter? Character and Personality in the History of Science]
Wed 3 Dec 11:00am – 12:30pm, Room 14-115
See session description
Explaining Tartaglia's Transgressive Epistemic Vision
[Aesthetic Epistemologies]
Wed 3 Dec 3:30 – 5:00pm, Room 14-132
In 1537, the North Italian practical mathematician Nicolo Tartaglia published his first book, grandly titled Nova Scientia or 'New Science'. Centred on the mathematical analysis of cannonball trajectories, the book includes a striking frontispiece depicting Tartaglia's vision of the pathway to true knowledge. According to Tartaglia, knowledge seekers must traverse a series of diverse domains, including the mathematical principles of Euclid and the scientific study of worldly phenomena such as cannon-fire, if they wish to discover the highest realm, universal philosophical knowledge. While the frontispiece has often been presented as representative of prevailing epistemology, there are multiple unusual, even transgressive, elements that call out for further explanation. In this presentation, I first challenge the view that Tartaglia's epistemic vision was in any way typical. Tartaglia's dynamic process view, in which he boldly connects knowledge domains of vastly different social and intellectual status, violated an array of scholarly and social norms of the period. Second, I show how a deeper understanding of relevant political, cultural and geographic contexts, connected to Tartaglia's life history, provide significant insight into the sources and motivations for his transgressive moves. In doing so, I ultimately argue that the contexts of early 16th century Northern Italy, which facilitated the rise of popular humanism and a particularly innovative strand of practical mathematics outside the universities, were central to the formation of Tartaglia's radical epistemic vision, published over 60 years before Galileo promoted remarkably similar views.

Samara Greenwood is a PhD candidate in HPS at the University of Melbourne. Her research focuses on understanding the various roles social and cultural contexts play in the development of science. Her major cases studies are, first, examining how interactions between craftspeople, practical mathematicians and natural philosophers contributed to the emergence of 'Galilean Science' in early modern Italy and, second, the ways in which the Women's Liberation movement came to impact the theories and practices of primatology in late 20th Century USA. Samara is also founding producer of the highly successful public humanities initiative, *The HPS Podcast.*

Samantha Kohl Grey
[Beyond Academic Interest: The Continuing Relevance of Medical History to Contemporary Healthcare]
Wed 3 Dec 3:30 – 5:00pm, Room 14-115
See session description
Dr Samantha Kohl Grey is a sessional academic at the University of the Sunshine Coast and the 2025-26 Historian in Residence for the Sunshine Coast Council. Her work explores the relationship between gender, power and language in Australian medical practice, with a particular focus on the nature of reproductive dysfunction.

Jacob Hall
Australia's AI Ethics Framework - Policy without politics
[Machinic Societies]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-116
With the rapid pace of Artificial Intelligence technology development, legislatures around the world

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have engaged in extended discussion around AI policy. Australia's federal government has followed in this trend, producing a series of discussion papers, ethics frameworks and voluntary AI principles to influence the development of AI in the Australian private sector via AI ethics in lieu of concrete industrial regulation. AI-ethics approaches to regulation have been the focus of a broad range of scholarship, prompting widespread, critical discussion of the meanings and practices of ethics in AI policy. This paper engages with such ongoing critical discussions around the globe, in Science and Technology Studies (STS), social sciences and political economy, bringing them to bear on the Australian context. This paper focuses in particular on the notions of ethics and risk in Australian AI policy, analysing their usage and precedents in broader technology policy. As this analysis of the Australian case seeks to show, engaging with the challenges posed by AI policy will require accounting for the recent history of technology regulations, the material foundations of the AI industry and the ongoing transformation of labour conditions that characterise AI proliferation. Ultimately, this paper argues that governing AI technologies in line with the values of society requires more than the right political solutions — it requires directly contesting the political and economic power of digital capitalism.

Peter Harrison
Science and Human Nature: From Aristotle to Bacon
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (1)]
Wed 3 Dec 11:00am – 12:30pm, Room 14-216
For most of Western history it was not the case that science informed our conceptions of human nature. Rather, ideas of human nature informed 'science' or natural philosophy—how and why we should pursue the study of nature, how we structure our knowledge, and the hierarchy of various forms of knowledge. In this admittedly ambitious survey, I show how this was the case, focusing on Aristotle's influential conception of scientia, medieval modifications of that conception, and its eventual displacement in the early modern period by a new model of experimental natural philosophy. This latter development was owing to a competing doctrine of human nature, strongly influenced by the theological anthropology of the Protestant Reformers. Brief consideration will be given to the question of how, over the course of the next few centuries, science eventually came to be regarded as authoritative for our understandings of human nature, rather than the reverse.

Peter Harrison is a Professorial Research Fellow at the University of Notre Dame, Australia, and Professor Emeritus at the University of Queensland. He was awarded an Australian Laureate Fellowship in 2015, and before this held the Idreos Chair in Science and Religion at the University of Oxford. His research focuses mostly on the historical interactions of science, religion, and philosophy in Western Europe. His twelve books include *Wrestling with Nature: From Omens to Science* (Chicago, 2007), *The Territories of Science and Religion* (Chicago, 2015) based on his Gifford Lectures and, most recently, *Some New World: Myths of Supernatural Belief in a Secular Age* (Cambridge, 2025).

Edmund Hassell
Can less equal more?
[Questions of Method (3)]
Wed 3 Dec 3:30 – 5:00pm, Room 14-116
A Critical Examination of Zollman's Model of Scientific Inquiry. It has generally been assumed, at least since the time of John Stuart Mill (1848), that engagement with a diverse array of voices provides greater opportunities for acquiring knowledge. However, Zollman's study calls this assumption into question, as he found that a community with less access to information can potentially outperform a more informed community. This occurs because the less connected community, having access to less information, is able to maintain diversity in exploration, thereby guiding it to epistemic success. My

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presentation focuses on Zollman's model, in which simulated agents conduct scientific inquiry within less connected and more connected networks – models that built off his 2007 framework – and on the debates surrounding the epistemic value of models in the philosophy of science. To do this, I will examine both the parameters from Zollman's and other related models to determine the conditions when his conclusion holds. I will then demonstrate that his model is neither valid nor robust, based on validation procedures established in the wider modeling literature. Concerns regarding such models can be largely attributed to their highly idealised nature and the fact that they do not accurately represent their target phenomenon given that their results emerge from computer simulations. This issue is significant because Zollman suggests to policy makers that they ought to alter the composition of the scientific community based on the conclusion of his model. As I will demonstrate, given the problematic nature of his model, such recommendations should be approached with caution. So, in this presentation, I argue that Zollman's study lacks robustness with respect to its methodology, as its conclusions are drawn from a computer simulation and are not adequately supported by additional evidence.

Mark Herman
Can Psychology Incorporate Moral Truth?
[Values in Medical Practice]
Wed 3 Dec 1:30 – 3:00pm, Room 14-132
Can psychology—qua scientific discipline—incorporate (objective) moral truth? That is, are appeals to objective moral truth scientifically acceptable, viable, and legitimate—i.e., are they scientifically adequate? I consider this question through an examination of a particular case, namely, whether objective moral error is a viable scientific kind. I first examine objective moral errors per comprehensive moral theories proffered as the objective moral truth ("Objective CMT"). Importantly, I show that moral philosophical adequacy is not necessarily sufficient for scientific adequacy. I conclude that—currently—such objective moral errors are scientifically inadequate because, lacking a CMT well-established as the objective moral truth, condoning such errors yields the untenable result of different researchers using incompatible standards-of-moral-correctness that generate incommensurable versions of the kind. I reject two potential partners-in-guilt. Finally, I examine objective moral errors that contravene specific moral principles proffered as objective moral truths. I argue that due to the strength of metaethical skepticism within a scientific context, coupled with the availability of viable alternatives to objective moral truths—namely, standards-of-interest—all potential objective moral errors, as well as all appeals to objective moral truth, are scientifically inadequate and incompatible with psychology (qua science).

Ian Hesketh
[Do Individuals Matter? Character and Personality in the History of Science]
Wed 3 Dec 11:00 am – 12:30pm, Room 14-115
See session description
Ian Hesketh is Associate Professor of History at the School of Historical and Philosophical Inquiry at the University of Queensland. His main research fields are the history of science in Victorian Britain and the history of history. His recent publications include *A History of Big History* (2023) and the edited book *Imagining the Darwinian Revolution: Narratives of Evolution from the Nineteenth Century to the Present* (2022).

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Wendy Higgins
Psychological measurement: Validity potential versus realised validity
[Metascience and Epistemology]
Fri 5 Dec 11:00am – 12:30pm, Room 14-216

Valid measurement is critical for empirical research. Yet, a growing body of literature suggests that validation practices in the psychological sciences are highly inadequate. A lack of clarity about the concept of validity itself has been proposed as a contributing factor to poor validation practices. In this talk, I introduce a concept of measurement validity with three key features that I argue can facilitate improved validation practices in the psychological sciences. The first feature of the proposed concept of validity is that it is restricted to the question of what a test measures. This contrasts with influential guidelines from the American Psychological Association, which state that validity should be ascribed to interpretations of test scores for different test uses. The second feature is that it is based on a necessary, and in principle, sufficient causal condition for valid measurement; and the third feature is that it makes an explicit distinction between the validity potential of measurement procedures in general (e.g., tests) and the realised validity of specific measurement outcomes (e.g., test scores in a study). Considering each feature in turn, I describe the potential benefits and challenges of adopting this concept of validity in the context of psychological measurement.

Dr Wendy Higgins is a Postdoctoral Research Fellow with the Melbourne School of Psychological Sciences. Her research focuses on improving the credibility of psychological research, with a particular focus on measurement practices and post-publication critique. She employs empirical, meta-scientific, and philosophical methods.

Victoria Lorrimar
Hacking Human Nature: DIY Approaches to Technological Augmentation
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (2)]
Wed 3 Dec 1:30 – 3:00pm, Room 14-216

Biohacking applies a hacker ethos to various systems inside and surrounding human bodies. It brings together biology, psychology, philosophy, religion, spirituality and politics. This paper will focus on four identified strands in contemporary biohacking: DIYbio, spiritual augmentation, health and wellness optimisation and technological futurism. The different motivations and approaches to hacking the human body of each stand will be considered in light of the symposium theme, exploring how scientific and pseudoscientific ideas have shaped conceptions of human being in contemporary society. The paper will particularly attend to notions of trust and authority in relation to science, exploring how recent epistemic challenges and the proliferation of self-experimentation come together in the understanding of human nature at the heart of today's biohacking movements.

Victoria Lorrimar is Senior Research Fellow in the Institute for Ethics and Society at the University of Notre Dame Australia (Fremantle, Western Australia). Her research explores the many ways in which people construct understandings of self in relation to the world, and how this takes place against a complex backdrop of religion, spirituality and politics. She is particularly interested in biohacking as a contemporary phenomenon of self-creation, the interplay between technology and spirituality, and the growing impact of algorithms and digital culture in self-determination and visions of human being. She also works on the social and ethical implications of AI and emerging technologies for augmenting human biology and capacities.

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Kate Lynch
One cause, many values: What causes of death can teach us about values in science
[Causes, Networks, and Connectives]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-132

Philosophers of science have highlighted how values shape scientific inquiry, influencing observations, concepts, standards of evidence, and data interpretation. While causal explanations are central to science, how values influence causal explanations remains largely unexplored. In this talk, I will show how the determination and documentation of causes of death serves as a case study for understanding how values influence causal explanations in science. When a person dies, a cause is assigned and recorded on a death certificate. These causal explanations serve multiple purposes: informing loved ones of hereditary health risks, aiding the grieving process, identifying patient safety concerns in hospitals, and compiling mortality statistics, which are used to inform the allocation of health resources, public health initiatives, and research priorities. While this wide range of purposes speaks to the importance of recording causes of death, a single causal explanation serving multiple purposes can be problematic. Various purposes align with a variety of values influencing which causes are documented and compiled. Sometimes these values are in tension with one another. For causal explanations of death, this becomes particularly evident in cases of causal complexity and uncertainty. The potential for value conflict, along with the context dependency of values involved, has the potential to reduce the consistency of mortality data, undermining its utility as a valuable scientific explanation and public health resource.

Kate Lynch is a philosopher of science and biologist who uses a combination of philosophical and empirical methods in her work. Her interests include causation, explanation, and causal reasoning in biology and medicine. Her research explores the nature of causal relationships investigated through different scientific methods and examines how causal claims are constructed and interpreted by scientists, practitioners, the media, and the public. Her work has been featured on *ABC News*, *Triple J*, *Radio National*, and the *LA Times* and was recently awarded the 2024 Australian Association of Philosophy Media Prize.

Rebecca C. Mann
Metabolic Wholes: The Organism as Having a Centred Metabolic Network
[Causes, Networks, and Connectives]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-132

The organism concept is central to the biological sciences. Yet, there is still much disagreement about what features should underlie the concept. In this paper, I argue that we should adopt a materially restricted concept of the organism, grounded by particular biological functions, substances and/or processes, instead of more abstract concepts that rely solely on generalised notions like cooperation or integration. Organisms are the quintessential living entity and to be alive is to metabolise. As such, we should turn to accounts of metabolism to define the organism. However, the presence of metabolism alone is not enough to describe the organism. In this paper, I develop an account of the organism as an entity that has a centred metabolic network. Rather than merely being a collection of connected metabolic reactions, as seen in ecosystems, centred metabolic networks have a network topology dominated by a few highly connected reactions and substrates, capable of building up energetic potentials across membranes. Such networks have been found across all three domains of life (Jeong et.al 2000). An organism could thus be defined as a cooperative collection of biological parts that are unified by a centred metabolic network, self-maintaining and resisting the forces of entropy by turning energy from the environment into usable energy for the whole organism. They are metabolic wholes.

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Rebecca C. Mann is a PhD Candidate in the School of History and Philosophy of Science at The University of Sydney, specialising in the Philosophy of Biology. Her research focuses on the problem of biological individuality, with particular interest in the spatial, temporal, and agential dimensions of the problem. She also has special interests in the philosophy of life and death, as well as ethics and metaphysics.

Henry-James Meiring
Global Darwin: Manufacturing Human Nature
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (1)]
Wed 3 Dec 11:00am – 12:30pm, Room 14-216
This paper examines the crucial role of paratexts in shaping the production and reception of scientific texts, with a focus on translations of Charles Darwin's *The Descent of Man* (1871). Drawing on Gérard Genette's influential concept of the paratext—the material and textual elements that frame and mediate the reader's engagement with a work, such as book covers, title pages, prefaces, notes, and promotional materials—this study explores how these features guided interpretations of Darwin's ideas. Although Genette's framework has been widely applied across disciplines including media studies, translation studies, and print culture, it has received limited attention in the history of science. By analysing translated editions of The Descent of Man from diverse cultural and linguistic contexts, this paper demonstrates how paratextual elements not only instructed readers on how to approach the text but also constructed varied and sometimes conflicting images of Darwin and his work. These differing paratextual visions, shaped by local cultural, political, and intellectual contexts, reveal how scientific texts were framed to align with specific agendas and audiences. This study therefore underscores the value of paratextual analysis for understanding the global dissemination of scientific ideas. It argues that attending to the paratextual dimensions of scientific texts expands our understanding of the development of science by illuminating the contingent and localised processes through which scientific knowledge was produced, interpreted, and consumed.

Henry-James Meiring is a historian of science and the book whose scholarship is situated at the transformative intersection of science and print culture in the nineteenth century. His work in particular focuses on how reading practices and the materiality of texts came to shape readers understanding of what it meant to be human. He is currently a Postdoctoral Fellow in the Griffith Centre for Social and Cultural Research at Griffith University and co-editor of the forthcoming Volume 17 of *The Correspondence of John Tyndall* (University of Pittsburgh Press). His research has appeared or is forthcoming in leading journals such as *Isis* and *Studies in History and Philosophy of Science*, as well as in public-facing outlets including *The Conversation*.

Maurizio Meloni
'Extermination' in Charles Darwin's private and public writings: a decolonial assessment
Indigenous Encounters
Thurs 4 Dec 11:00am – 12:30pm, Room 14-115
I expand in this presentation on Tony Barta's important but still not fully acknowledged article "Mr Darwin's Shooter: on natural selection and the naturalizing of genocide" (2005). I offer further arguments to support Barta's claim that "before Darwin understood species, he understood genocide" (2005, 117). I do so through a textual analysis of Darwin's letters, notebooks, and public writings. I focus on the lemma exterm- (extermination, exterminating, exterminated) in Darwin's texts as a proxy for contemporary notions of genocide, and track its usage across Darwin's writings around three cluster of meanings (sociological-colonial: extermination of indigenous people; naturalistic-theoretical, a general law of evolution; eugenics). These three clusters largely correspond to three different phases of Darwin's life,

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1830s, 1850-1860s, and 1860s-1870s. I discuss the usage of this term in Darwin in relation to authors like Malthus, Lyell and Lamarck. The presentation builds on a chapter for my upcoming book on "Othering in the European canon" (Routledge expected 2026). It is a contribution to wider contemporary claims about decolonizing biology and acknowledging the role of violence (epistemic, physical, cultural) in the production of modern biological knowledge.

Daisy Norfolk
Bogong Moth-Human Relationality
[Transspecies Interactions]
Wed 3 Dec 11:00am – 12:30pm, Room 14-132
This presentation briefly explores how relations are formed between humans and Bogong Moths (Agrotis infusa), a species currently undergoing significant population decline in Australia. Drawing on qualitative interviews with thirteen participants—ecologists, artists, field naturalists, and educators—it investigates the affective, sensory, and ethical dimensions of human–Moth relationality. Framed within the context of environmental humanities scholarship, and grounded in a relational ontology and embodied epistemology, the study traces how participants come to know, care for, and share experiences with Bogong Moths through a variety of multispecies encounters. Three thematic clusters guide the analysis: curiosity and mystery, care, and what it feels like to be in the presence of Bogong Moths.

Christopher Orrell
[On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-115
See session description
Medicine in the Colonies: Searching for the emergence of local cultures of medicine in the nineteenth century
[Searching and Naming in the Nineteenth Century]
Fri 5 Dec 1:30 – 3:00pm, Room 14-115
The development of scientific medicine and medical practice in colonial Australia is inextricably bound to that of the British. For much of the nineteenth century, the majority of medical practitioners practicing in the Australian colonies earned their qualifications at medical schools in Britain, despite the foundation of local medical schools in the middle of the century. It was not until the 1880s that sizable numbers of colonially trained medical practitioners began to practice (and conduct research) across the Australian continent.
This paper seeks to examine the colonial contribution to the wider field of medical knowledge through a comparison of medical journals from both Britain and from several Australian colonies. By using the distant reading techniques of the digital humanities, in conjunction with the traditional close reading of historical research, this paper examines the comparative histories of these journals over the second half of the nineteenth century. Through doing so it will explore the interconnections and differences between the texts within the journals themselves, and the communities that read them.
By comparing the *British Medical Journal* with the Victorian *Australian Medical Journal*, the South Australian *Transactions of the South Australian Branch of the British Medical Association*, and the *New South Wales Medical Gazette* this paper sets out to examine the way that new medical knowledge is produced and disseminated in the colonial setting, and to examine if and how the writings of colonial practitioners differed from each other and from their peers in Britain.

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Christopher Orrell is a PhD candidate in the History and Philosophy of Science at the University of Melbourne. His research investigates the ways in which nineteenth century medical journals were used to construct scientific knowledge, create communities of practitioners centred around shared identities as medical practitioners, and build the cultural cachet that medicine holds today. His work also sits within the Digital Humanities space, integrating text mining techniques with traditional historical approaches.

Kevin Orrman-Rossiter
First Peoples' astronomy: reviewing its scientific representation in the literature
[Looking at / Knowing the Sky]
Fri 5 Dec 11:00am – 12:30pm, Room 14-116
This paper is a preliminary review of how indigenous Australian and Torres Strait Islander astronomy is represented in published literature. How do the people who study indigenous astronomy phrase the scientific practices and representation of practices in their published studies? A major part of this research has been to gather and analyse an up-to-date survey of the published literature. There are several difficulties in providing a literature review for indigenous astronomy. Specialisation being a major one. In keeping with western academic demarcations, I am restricting my discussion to 'astronomy' as a distinct part of indigenous knowledge – a distinction not relevant to the indigenous cultural traditions of Australian and Torres Strait islander traditions. Astronomy, in the sense of a comprehensive and coherent body of knowledge about the stars, was an integral component of Aboriginal culture, not a discrete body of knowledge. It is worth pointing out even the use of the term 'astronomy' is seen by some as culturally laden. The intention of my research is not to propose answers to questions of the form, "Is indigenous astronomy a science?" rather it is to provide an examination and synthesis of what has been published to date in the literature and how the authors view science through these publications. What do they see as 'science' and how does this differ or not from what they see as indigenous astronomy.

Kevin Orrman-Rossiter: Sometime between wanting to be an astronaut as a four-year-old and now, quite a bit of life occurred. I grew up experimenting with an out-of-control chemistry set, chipping away at rocks with a geology pick or looking at the stars with my first of many telescopes. Somewhen, I decided that university physics would be the way to understand the world, discovering along the way that I was very good at experimental physics. I earned a PhD and a Queen Elizabeth II Fellowship, then left academia and joined industry (the dark side as it was then called), firstly as an R&D scientist then as analytical marketer, business strategist and 'consultant'. After a while I re-grounded myself, rediscovering my love of thinking and of science - this is me now - connoisseur of stars and historian and philosopher of science.

Christine Polowyj
Paradigms of violence: The dependency of Large Language Societies on epistemic injustice
[Machinic Societies]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-116
In this conceptual paper, I will consider how Large Language Societies may usher in new scientific and social paradigms. Large Language Societies – as I term them – are independent neural networks with their own language and epistemologies, spawned from Large Language Models' (LLMs) vast amounts of knowledge infused with biases and prejudices. There is some evidence that LLMs are creating their own language and show inclinations towards violence. I examine this development as a Kuhnian paradigm shift emerging from a period of 'abnormal science': where normal science is conducted alongside

more-than-human entities. I consider which of us humans will be positioned to communicate with these entities, and how epistemological violence in this new realm of science may be inflicted on traditionally or newly marginalised groups. How could we address this threat? Knowledge possessed by Large Language Societies would hold great power over humans, and any humans privileged to communicate with them. Since these societies would be dependent on humans to some extent, is it audacious to imagine Large Language Societies would regard violence as counter-productive for their goals? Is there a chance for more-than-human societies to consider humans as an end?

Christine Polowyj is an undergraduate student majoring in the History and Philosophy of Science at the University of Melbourne. She enjoys thinking about AI, feminism, mental illness and creativity in the contexts of science, society and the self, and likes to consider what logic is and where, and how, it is broken or disrupted.

Jules Rankin
Perspectivalism Within and About the Philosophy of Time
[Questions of Method (1)]
Wed 3 Dec 11:00am – 12:30pm, Room 14-116
In this talk I will sketch out a particular strategy of doing naturalistic philosophy of time. I take it that the core project within the philosophy of time surround the relationship between our experience of time and the metaphysics of time. Any comprehensive answer to these questions will be far from simple, especially if we take the results from the natural sciences seriously. I distinguish two ways of understanding perspectivalism and I argue for their centrality in this philosophical project. The first is adopting a perspectival stance within our theorizing. Namely, that the concepts that we use when trying to understand time, I argue, are bound to be perspectival to varying degrees. The second is adopting a perspectival stance about our theorizing itself. That the very accounts regarding the nature of time and our experiences of it themselves have a perspective character and they are fruitfully interpreted in Perspectival Realist terms as described recently by Massimi (2022). I argue that this two-pronged perspectival approach casts new light on long-standing debates within the philosophy of time and suggests productive directions for further research.

Jules Rankin is a recent PhD graduate from the School of History and Philosophy of Science at USYD. His research interests orbit around issues within the philosophy of time and the philosophy of science more generally. Much of his current work attempts to integrate results from the special sciences together with broader philosophical accounts of time. This includes work in physics along with the cognitive sciences with the goal of building conceptual bridges between the way our first-person subjective experience represents time and these scientific representations of time. He also has a wonderfully old greyhound called Bernie.

Pedram Rashidi
Reframing the Sociotechnical Boundaries of Responsible Innovation Discourse
[The Work of Science and its Networks]
Fri 5 Dec 1:30 – 3:00pm, Room 14-216
As emerging technologies increasingly reshape social, cultural, and economic landscapes, there is an urgent imperative for governance frameworks that can guide innovation in socially responsive and ethically grounded ways. Responsible Innovation (RI) has gained prominence as a governance approach with the aim of aligning innovation with societal values. However, RI frameworks often remain generic and inadequately attuned to the complex sociotechnical realities and ethical considerations of

innovation domains and geographies. These limitations are more evident in the context of technologies that intersect with the life sciences, including nanobiotechnology, synthetic biology, and quantum biotechnology. This paper calls for a reframing the sociotechnical boundaries of responsible innovation that are responsive to the hybrid and situated nature of innovation. It aims to examine the shortcomings of the RI discourse and offer a conceptual framework (as a methodology) for contextualising RI. In doing so, we draw on Latour's concept of technoscience, which understands science and technology as mutually shaping, and shaped by, social contexts. The paper argues that a systematic methodology for contextualising RI frameworks is essential to deliver on RI's promise of ethical and practicable innovation governance. We propose three intervention strategies, targeted at the pedagogical, methodological, and epistemological levels, for contextualising RI frameworks. We use examples from the emerging field of quantum biotechnology, a novel domain where quantum sensing, imaging, and computing converge with biological and medical research.

Georg Repnikov
Who is neurodivergent? A philosophical perspective on neurodiversity research
Alternatives in Mental Health
Fri 5 Dec 11:00am – 12:30pm, Room 14-132
In this talk I explore the question "Who is neurodivergent?" from a philosophical perspective focused on research practice. Rather than seeking an essentialist definition of neurodivergence, I adopt a pragmatic approach, examining how scientists currently determine who counts as neurodivergent. Attention is given to the goals and contexts of research, making explicit the values, assumptions, and trade-offs that shape classificatory decisions in research focused on neurodiversity. The goal is to highlight the normative dimensions of scientific classification, raising questions about how researchers should balance epistemic aims with ethical and social considerations when defining neurodivergence.

Georg Repnikov is an Associate Lecturer in the School for History and Philosophy of Science at the University of Sydney. His current research is focused on philosophical and normative issues in psychiatry, medicine, and psychology. He is particularly interested in the scientific classification and measurement of human attributes.

Ricardo Restrepo Echavarria
Must Freedom Be Incompatible with Science?
Questions of Method (1)
Wed 3 Dec 11:00am – 12:30pm, Room 14-116
Does a scientific worldview, of a universe governed by physical laws and causal chains, rule out free will and moral responsibility? Hard incompatibilists, together with a body of scientists, think so. This paper proposes an alternative: a compatibilist account of freedom as self-government. It addresses key challenges—avoiding equivocation, acknowledging causal determinism or naturalistic indeterminism, allowing degrees of responsibility, and resisting conformist functionalism. The account grounds freedom in non-domination, as understood in struggles for liberation and expanded choice. It draws on a longstanding tradition, from Plato to contemporary thought, that treats freedom as compatible with nomological causality. Like motion, freedom is framed as relative: while no one is free in absolute terms, people can be free relative to the standpoint of self-government—a valid and morally significant frame. This view recognizes proportional responsibility and avoids collapse into moral relativism by anchoring its functionalism in moral realism. Thus, freedom and science need not be at odds—if we understand freedom in the right way.

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Ricardo Restrepo, PhD, is a philosopher whose work spans the philosophy of mind, cognitive science and AI, philosophy of science, political philosophy, and the psychological and social sciences. His research on the metaphysics and ethics of freedom, as well as his work in applied political philosophy, has been published in Nature (Humanities and Social Sciences Communications). His contributions to the philosophy of cognitive science and artificial intelligence have appeared in Minds and Machines. Ricardo has held academic positions at universities in the United States, New Zealand, Ecuador, and Spain, and is currently based in Melbourne, Australia.

Sophie Ritson
Why Trust a Collaboration?
[Doing and (Re)making Knowledge]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-132
The 'expert' 'novice' problem draws attention to the difficulties for non-scientists to assess the claims made by scientists. The non-scientist is unable to assess the methods used by scientists and the content of scientific claims, so may instead choose to trust 'experts' and their testimony. However, the non-scientist is then faced with the problem of how to identify experts and which experts are relevant. Trust is only valuable if directed at trustworthy agents. Despite much of contemporary science being advanced by collaborations, trust in research collaborations has not been well studied. Noting the varied nature of collaboration across science, we will begin by examining trust and research collaborations through two case studies from physics to explore the epistemology and ethics of transparency and opacity of large, formalised collaborations, organised around shared data or a specific instrument.

Maria Amelia Rodriguez
The Friction of Collaboration: On Credit, Circulation, and Scientific Practice
[The Work of Science and its Networks]
Fri 5 Dec 1:30 – 3:00pm, Room 14-216
This presentation begins with a simple question: what does it mean to collaborate when the value of each gesture depends on whether it counts, whether it carries your name, whether it results in something visible? Drawing on experiences in scientific institutions in Mexico and Australia—ranging from biobanks in public hospitals to interdisciplinary centres of excellence. I offer a reflection on how scientific collaboration is shaped not only by the promise of sharing, but by underlying structures of credit, circulation, and recognition. Rather than presenting a single case, I trace recurring tensions I've observed over time: strategic forms of withholding, silences around contribution, tacit negotiations over credit, and conflicts between cooperation and visibility. The talk invites us to consider how these frictions affect the real possibility of sharing, and what they reveal about the conditions under which scientific practice is made collaborative—or not.

Sarita Rosenstock
What is modelling for? Aligning academic and applied perspectives in disease response
[Questions of Method (2)]
Wed 3 Dec 1:30 – 3:00pm, Room 14-116
This paper examines the differential understandings of the roles of mathematical models in the context of animal disease outbreak response, focusing on interactions between academic modellers and Australian state government practitioners. It draws on data from focus groups in which university researchers presented outbreak models to state response teams during a simulated emergency exercise. The analysis explores how tacit assumptions about modelling—its epistemic status, practical

function, and roles in decision-making—are enacted and negotiated through the social dynamics of presentation, interpretation, and discussion. These interactions reveal contrasting conceptions of what models are and what they are for, shaped by the institutional contexts of science and policy. Such divergences influence which models are developed, how they are used, and whether their real capacities align with the expectations placed on them. The paper offers a basis for improving how models are designed and communicated across domains, and provides empirically grounded insight for philosophical accounts of the role of models in scientific and policy reasoning.

Dr. Sarita Rosenstock is a Lecturer in the School of Computing and Information Systems at the University of Melbourne. She has a PhD in Logic and Philosophy of Science and a Masters in Mathematical Behavioural Sciences from UC Irvine. Her research investigates how representational choices in mathematical and computational systems reflect and distort the values, assumptions, and goals of their designers.

Aidan Ryall
The Historical Premise
[Questions of Method (1)]
Wed 3 Dec 11:00am – 12:30pm, Room 14-116
The pessimistic meta-induction (PMI) is regarded as one of the most successful arguments against scientific realism. The PMI is an inductive argument that moves from the observation that many empirically successful scientific theories have later been disproven, to the conclusion that our best current scientific theories are likely false. This rests on the historical premise: the claim that there are sufficiently many such successful but false scientific theories in history. Here I challenge the viability of the historical premise in debates about the metaphysical status of science. In relying on the historical premise, the scientific anti-realist must adopt either historical realism or anti-realism. If they adopt historical realism, then the historical premise and the conclusion of the PMI cannot both be true. Conversely, if they adopt historical anti-realism, then the induction fails. Thus, we cannot use the PMI to conclude that scientific anti-realism is true.

Rebecca Sachse
The Infertility Blame Game: Medical Knowledge and Religious Narratives on Men's Infertility in the Roman Empire (2nd Century CE – 6th Century CE)
[Religious Motivations]
Fri 5 Dec 1:30 – 3:00pm, Room 14-132
Infertility issues have been a concern for humankind both in the past and today, with infertility treatments consistently prioritising women's reproductive health. This has pushed male infertility to the background, even though it is the sole factor in 30% of cases in contemporary society and contributes to a further 20% of infertility cases among couples (Agarwal et al, 2021:319; Eisenberg et al, 2023:2). Research into infertility knowledge in ancient societies has, until recently, been a neglected field of study. Despite growing interest, examinations of barrenness in the ancient world often focus on Ancient Near Eastern populations and barrenness narratives within the Hebrew Bible, while neglecting how early Christian populations in the Roman Empire may have perceived infertility. My research combines feminist hermeneutics and disability theory analysis to explore perceptions of infertility among early Christian society from the second century to the sixth century CE. The gynaecological texts of Soranus of Ephesus and Aetius of Amida provide insights into the medical understanding of the time, acknowledging the existence of male sterility. This conflicts with religious narratives that attribute barrenness solely to a woman's problem. My paper aims to highlight the differences between Roman

emedical knowledge and biblical rhetoric. I suggest that religious perceptions on reproduction have contributed to contemporary society's tendency to dismiss male infertility despite scientific recognition since ancient times. Only by acknowledging male infertility alongside women's infertility can we start to liminate the blame still directed at women today and help destigmatise the infertility struggles men also face.

Agarwal, A., Baskaran, S., Parekh, N., Cho, C., Henkel, R., Vij, S., Mohamed, A., Selvam, M. K. P., & Shah, R. (2021). "Male Infertility." Lancet 397: 319-333.
Eisenberg, M. L., Esteves, S. C., Lamb, D. J., Hotaling, J. M., Giwercman, A., Hwang, K., & Cheng, Y. (2023). "Male Infertility." Nature Reviews Disease Primers 9(49): 1-22.

Rebecca Sachse is a PhD candidate at Macquarie University. Her working thesis is titled "Grotesque Gynaecology: 21st century representations of medieval women and women writers from the 10th to 14th centuries," with expected completion in 2028. Rebecca recently completed a Master of Research, which examined early Christian understandings of infertility in the Roman Empire from the 2nd to 6th centuries. Her interest in medical histories stems from her previous work as a Registered Nurse, working in remote and urban settings across Australia and abroad.

Poornima Sardana
Goddesses don't need TVS Ultrasound?
[Women, Science and Knowledge]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-116

My research attempts at answering why an important diagnostic imaging procedure as Transvaginal (TVS) Ultrasound can be denied to single women in many Indian cities? In 2018 I was diagnosed with ovarian cancer in India and treated for the same through 2019. Until 2023 I was not aware that I had a uterine polyp, even though as a cancer survivor I have been on regular follow ups and investigations. It is because I wasn't informed that I might need to get a transvaginal (TVS) ultrasound done despite suffering with symptoms that demanded one. In 2023, the radiologist performed this test on me. They did so, because I was now 'married', which in India's gynaecological vocabulary and cultural assumption also stands for a woman who is sexually active. I wish to research and expand upon why gynaecologists do not prescribe this particular investigation even when requested by an informed patient or radiologists refuse to perform the test despite being prescribed by the doctor, if the woman is 'unmarried'? Due to the stigma attached to the test, the control over women's bodies and cultural perceptions of purity associated with virginity, aren't women being denied their right to health? I draw a comparison with the Hindu epic Ramayana. Sita, a dutiful wife, follows Rama into exile, lives through captivity while yearning for her husband, and has to eventually prove her purity by undergoing a test through fire, as proof of her being untouched while captive.

Poornima Sardana is a PhD student at the University of Melbourne, pursuing research in Medical Humanities. She is interested in the intersectionality of illness, care, gender, emotions and art. She studied Design at the National Institute of Fashion Technology, New Delhi, and Museum Studies as a Fulbright-Nehru Scholar at the New York University. She was a Young India Fellow at the Ashoka University, Sonipat and an ARThinkSouthAsia Fellow at the London Transport Museum. She has been the recipient of ASEF Grant, Think Arts Grant and Hyundai's Art for Hope Grant. She founded an initiative for people's well-being, Museums Of Hope.

Carl Joseph Sciglitano
Blurred Visions: Redefining the analogue-digital divide in astronomical imaging
[Looking at / Knowing the Sky]

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Fri 5 Dec 11:00am – 12:30pm, Room 14-116
Popular accounts often describe the shift from analogue to digital imaging in astronomy as a straightforward technological revolution, a clean switch from glass plates and chemicals to electronics and data. This presentation challenges that narrative by showing how, in practice, this transition was anything but simple. Drawing on a range of historical episodes, I reveal a rich mix of methods, tools, and collaborative habits that shaped how images were made, interpreted, and shared. This research argues that the categories "analogue" and "digital" can sometimes obscure more than they reveal. When we look closely at what people actually did, we see a landscape of hybrid practices. Instead of choosing between analogue or digital, astronomers and engineers often blended elements of both, improvising new ways to solve problems and respond to the demands of their work. The history of astronomical imaging is full of creative combinations, practical workarounds, and flexible uses of whatever materials were at hand. Shifting attention from technological labels to lived practices opens up a new understanding of how technological change happens, highlighting agency, negotiation, and adaptation. By exploring this messier reality, the presentation questions simple narratives of progress and asks us to value the inventive, often unexpected ways practitioners navigate changes in their tools and environments.

Carl Sciglitano is a Ph.D. candidate in the School of Historical and Philosophical Studies at the University of Melbourne. He holds a Master's degree in astronomy and has professional experience in technology management. His research explores how scientific knowledge and technological practices are shaped by everyday work, decisions, and interactions. Carl's work critically examines assumptions about technological progress, questioning narratives that see technology as advancing in a straightforward or inevitable way. He is especially interested in how tools, institutions, and local choices shape what counts as knowledge and how new technologies are adopted or adapted. Rejecting techno-determinism, Carl's approach highlights the interplay between science, technology, and society, and considers the practical consequences for individuals and communities.

Aseera Shamin
Governing for intersectional energy justice: Risk, deliberation, environment, and anticipation in transition
[Climates and Governance]
Fri 5 Dec 1:30 – 3:00pm, Room 14-116
Sitting at the intersection of energy justice and Science and Technology Studies, this talk offers a critical analysis of renewable energy technologies across their full lifecycle, from production and implementation to operation and decommissioning. By centring the voices of those most impacted, particularly marginalised groups, it reframes energy justice through an intersectional and participatory lens. The work interrogates dominant techno-managerial approaches to renewable energy, challenging assumptions of neutrality and objectivity embedded in energy policy and practice. In doing so, it contributes to broader efforts to decolonise and pluralise knowledge systems in climate and energy research, advancing interdisciplinary approaches that foreground justice in science and technology governance. A conceptual framework for reimagining energy justice is proposed, to view it not as a retrospective outcome applied after infrastructure development, but as a governance question embedded throughout the entire lifecycle of renewable energy projects. It reconceptualises justice as a dynamic and anticipatory process that shapes how energy systems are imagined, designed, and implemented. Drawing on feminist, post-colonial, anti-racist, and Indigenous epistemologies, it engages four interlinked forms of governance — environmental, risk, deliberative, and anticipatory — to illustrate how justice can be embedded as a continuous and negotiated practice. By

tracing how power, participation, and knowledge co-produce the conditions for "just" transitions, this presentation highlights how embedding justice within governance processes moves beyond reactive approaches toward transformative, context-specific, and plural understandings of renewable energy futures.

Aseera Shamin (she/her) is a 2nd year PhD candidate in History and Philosophy of Science at the University of Melbourne and is affiliated with Melbourne Climate Futures and the Melbourne Social Equity Institute. Her thesis aims to disentangle the relationship between energy justice, power, and social dynamics in renewable energy production in localised contexts by considering both upstream and downstream siting of clean energy projects. She holds a Bachelor of Arts (Honours) in Global Studies, minoring in Political Science and Sociology from the National University of Singapore, and a Master of Environment (Climate Change) from the University of Melbourne.

Louisa Shen
Is Sub-Symbolic AI Reliable? On the Design Limitations of a Software Paradigm
[Causes, Networks, and Connectives]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-132
This paper considers whether the sub-symbolic (connectionist) approach to "artificial intelligence" produces computing that is reliable. Computing has always been a technology of numerical approximation, yet the emergence of neural networks from the early 1940s has introduced a form of computational modelling that arguably further distances the machine from what it represents. Examining the historical technical explanations of this programming paradigm alongside current AI limitations, I suggest that the design inheritance of machine learning today means it outputs 'generalizations' based on data that bears a weakened epistemic and/or irrelevant relationship to reality, where it often arrives at the right answer the wrong way. (Arriving at the wrong answer the wrong way is par for the course.) Such a programming design means that we can be confident in the outputs only when the output contains features that are strongly present in the data; paradoxically, however, statistical presence of a data feature fails to guarantee that the data feature is true or right. If conventional computational modelling provided what Eric Winsberg terms 'reliability without truth', contemporary AI arguably produces 'unreliability without truth'---at least not without substantive and ongoing correction. The consequence of this sub-symbolic approach is that all AI outputs require some kind of validation and verification process, for we cannot know beforehand where, when, how the AI program will get it right or wrong, especially given its propensity to stochastic variability. A great deal of uncertainty is reintroduced by machine learning as pattern approximation programs, where that uncertainty must be either mitigated by the engineer or by the user. If reliability forms the cornerstone of trustworthiness in engineered systems, the conclusion we may be pushed to draw is that we ought not to rely on AI, or to do so only under limited circumstances.

Gemma Lucy Smart
[Beyond Academic Interest: The Continuing Relevance of Medical History to Contemporary Healthcare]
Wed 3 Dec 3:30 – 5:00pm, Room 14-115
See session description
Gemma Lucy Smart's research on spiritual counter-narratives in Australian mental health movements after 1970 examines how alternative frameworks challenged dominant biomedical models during deinstitutionalisation. Through co-production methodologies that privilege lived experience alongside academic knowledge, her work demonstrates how historical counter-narratives continue to inform

contemporary debates about different ways of understanding health and illness, while offering new models for conducting socially engaged historical research.

Beyond Biomedical Paradigms: Spiritual Counter-Narratives in Australian Mental Health Consumer Activism, 1970-1990
[Alternatives in Mental Health]
Fri 5 Dec 11:00am – 12:30pm, Room 14-132

This paper examines how spiritual frameworks shaped alternative approaches to mental health recovery in Australia between 1970-1990, a critical period of deinstitutionalisation and community mental health reform. Drawing on qualitative interviews and historical documents, I analyse how spiritual narratives functioned as counter-discourses to the dominant biomedical paradigm across diverse consumer-led initiatives. The research presents three significant case studies: GROW (formerly Recovery), which integrated Catholic spiritual traditions with mutual aid principles; David Webb, whose lived experience of suicide informed Australia's first consumer-led PhD and a spiritual understanding of psychological distress; and Simon Champ, an artist and pioneering peer worker whose spiritual frameworks shaped his advocacy work with schizophrenia education and the Richmond House in Glebe. These cases demonstrate how spiritual elements in consumer activism created spaces where participants could reconstruct their identities beyond psychiatric labels while developing community connections and personal agency. The paper contributes to our understanding of how consumer movements navigated dual identities as both service recipients and mental health activists, challenging traditional power hierarchies through the development of alternative knowledge systems. Using co-production methodologies that centre lived experience, this research illuminates an underexplored dimension of Australia's mental health history while arguing for epistemic pluralism in contemporary approaches to psychological wellbeing.

Gemma Lucy Smart (she/they) is a Senior Research Officer with the Centre for Disability Studies and a lived experience PhD scholar in the School of History and Philosophy of Science at The University of Sydney. Their doctoral research with the Re;Minding Histories Lab explores spirituality in the context of mental distress, consumer activism, and community-based mental health services during late 20th Century Australia. With a strong focus on co-production and participatory methodologies, Gemma has worked on multiple research projects and brings extensive experience specialising in the history and philosophy of the psy-sciences, philosophy of disability as well as medical and research ethics. They serve as Vice President of AAHPSSS and CAPA Disabilities Officer.

Conor Spence
The uneasy cyborg: Subjectivation in the age of the Libre 2
[Machinic Societies]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-116

This paper analyses the Libre 2 continuous glucose monitor as a vector of subjectivation. Invoking Donna Harraway's (1991) concept of the cyborg and Felix Guttari's (1995) expanded understanding of the machine, I develop a new concept - the "uneasy cyborg," a machine-human hybrid whose self-production is inextricably linked to techno-capitalist platforms and neoliberal ideologies. Conceptualising the subject as an "expanded existential territory" actively constituted by a confluence of biological, technical, and semiological machines, I explore how The Libre 2 affects subjectivation across multiple strata of existence, demonstrating that it is not a neutral tool, but an apparatus that exercises "metric power" (Beer, 2016). Specifically, by translating the body's biochemical processes into metrics, colors, and symbols. In this paper I argue that the translation of biochemical fluxes into metrics

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facilitates the self-regulation of the subject's endocrine system, enabling a form of autopoietic self-production previously impossible for diabetic individuals. However, this new capacity is predicated on a Faustian pact with technocapital: the subject must integrate into proprietary platform assemblages (e.g., Apple's iOS, Google's Android), and effectively surrender their self-governance to an external socio-technical platform governed by logics of enclosure, optimisation, and control. My analysis reveals a coercive relationship between platforms and health. I show that survival through self-replication necessitates participation in a system that simultaneously enables life and exploits the body as a new territory for semiocapitalism to discipline and optimise. This paper thus moves beyond voluntary "quantified self" (Lupton, 2016) critiques to theorize a necessary, yet uneasy, integration of the human with the machine.

Thomas Spiteri
What Goes into a Case? Freud, Janet, and the Construction of Memory
[Doing and (Re)making Knowledge]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-132
Historians and philosophers of science have increasingly recognised case studies as a distinctive mode of scientific reasoning (Forrester 1993; Morgan 2012, 2018, 2020), yet their role in the history of the psychological sciences remains underexplored. Mary S. Morgan has shown that cases work epistemically through exemplification, and that the phenomena they exemplify can be flexible or evolving. This paper examines that feature in late nineteenth-century psychology, showing how, in a field of unstable research objects, the commitments embedded in case construction shaped the very form those objects took. What goes "into" a case is historically contingent, shaped by theoretical, methodological, and value-laden choices that determine what can be seen, recorded, and theorised. I compare Sigmund Freud and Josef Breuer's *Studies on Hysteria* (1895) with Pierre Janet's *L'Automatisme Psychologique* (1889). Both placed trauma at the centre of their explanations of memory disturbance, transforming a culturally familiar folk concept into a putative scientific one, thereby participating in the broader "scientification" of such concepts. Yet Freud's "repressed memories," shaped by neurobiological commitments and a dynamic unconscious, and Janet's "dissociated automatisms," grounded in hierarchical mental synthesis, exemplified fundamentally different psychological objects. This divergence, despite a shared evidential premise, shows how theory-laden case construction can underdetermine research objects: the same symptomatic material can support incompatible models of mind. By tracing how these cases re-imagined memory as a space in which trauma could be hidden, displaced, or split, this talk shows how the exemplificatory function of cases in psychology was bound up with the active construction – rather than passive recording – of its objects. This historically specific analysis extends Morgan's account by showing how, in psychology, the instability of research objects complicates the link between case and exemplar, with implications for understanding theory-ladenness and underdetermination in the human sciences.

John Stenhouse
Christian missionaries and indigenous go-betweens, 1790-1930
[Indigenous Encounters]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-115
Many historians acknowledge the significant role that Catholic missionaries, especially Jesuits, played as go-betweens and intercultural knowledge brokers in the early modern world, as James Poskett's revisionist global history of science, *Horizons* (2022), recognized. Although historians such as Simon Schaffer and Kapil Raj have begun systematically exploring the key roles that go-betweens played in

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constructing new and robust systems of intercultural knowledge in the modern world, they have largely ignored missionaries. This paper argues that in modernity missionaries continued and, in some places, expanded their activities as go-betweens and knowledge brokers. Once we recognise how much missionary go-betweens depended on indigenous go-betweens to obtain local cultural and natural knowledge, this raises questions about popular modern images of missionaries as particularly prejudiced, ignorant and unscientific observers of the world constructed by professionalizing social scientists from the late-nineteenth century.

Elizabeth Stephens
[On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities]
Thurs 4 Dec 3:30 – 5:00 pm, Room 14-115
See session description
Elizabeth Stephens is Associate Professor of Cultural Studies in the School of Communication and Arts at the University of Queensland, and a former Australian Research Council Future Fellow (2017-2022). She is the author of three monographs: *Normality: A Critical Genealogy* (University of Chicago Press 2017), co-authored with Peter Cryle; *Anatomy as Spectacle: Public Exhibitions of the Body from 1700 to the Present* (Liverpool University Press 2011); and *Queer Writing: Homoeroticism in Jean Genet's Fiction* (Palgrave 2009). Her Future Fellowship examined practices of experimentation as a site of collaboration between the arts and sciences, from the nineteenth-century scientific laboratory to contemporary experimental art. Her new ARC Discovery Project (2026-2028) is on the Cultural History of Fatigue, with Alison Downham Moore, Melissa Gregg, and Christopher O'Neill. She is a current member of the ARC College of Experts (2024-2027) and the founder and convenor of the Australasian Health and Medical Humanities Network.

Josh Szymanski
[On possibilities: Reflecting on Connections between History and Philosophy of Science and Medical Humanities]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-115
See session description
Josh Szymanski (he/they) is an Associate Lecturer in Philosophy and a final year PhD candidate at the University of Queensland with a focus on heterosexism, gender, subjectivity, and language. Recent publications include "(Re)Reading Monique Wittig: Domination, Utopia, and Polysemy," and his recent research interests include TERF rhetoric and transphobia.

Ian Tasker
Reclaiming Scientific Authority Through Counterfactual Historiography.
[Looking at / Knowing the Sky]
Fri 5 Dec 11:00am – 12:30pm, Room 14-116
This exegesis investigates the institutional decline of Sydney Observatory between 1912 and 1982 as a historically contingent and politically driven process. Contrary to narratives that frame the Observatory's marginalisation as a natural outcome of technological obsolescence or rational bureaucratic restructuring, this body of research reveals that its closure was neither inevitable nor merely administrative. Drawing on a suite of manuscripts, this exegesis reinterprets the Observatory's fall through the lenses of constitutional ambiguity, institutional exclusion, and epistemic reclassification. It proposes that the marginalisation of astronomy within Australia's scientific landscape stemmed from avoidable political decisions and a systemic disregard for expert scientific advice.

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Lars R. "Jones" Vadjina
Owning Tomorrow: AI, Nationalism, and the Geopolitics of Outer Space
[Machinic Societies]
Thurs 4 Dec 11:00am – 12:30pm, Room 14-116
In the emerging theater of outer space, a new geopolitical contest is unfolding, one driven not only by rockets and resource claims but by algorithms, data sovereignty, and techno-nationalist ideologies. This presentation examines how artificial intelligence is reshaping the logic of space exploration, not just as a technological tool, but as a political actor in its own right, embedded in narratives of national power, territorial ambition, and ideological supremacy. Building on my cross-disciplinary work in innovation strategy, AI ethics, and speculative futures, I analyze how national space programs and private ventures alike are deploying AI to assert dominance through autonomous decision-making, orbital surveillance, and predictive systems of control. Yet this new algorithmic infrastructure is not politically neutral: it reflects and reinforces the nationalist ideologies of its creators. Drawing on examples from both real-world policy and speculative fiction, this presentation explores how techno-nationalism is manifesting in orbital governance, lunar claims, and Martian blueprints. What happens when flags are coded into systems? Who decides what counts as "sovereign" when AI is the agent negotiating planetary futures? This talk positions space as a mirror and amplifier of Earth's political struggles while offering it as a speculative laboratory for rethinking sovereignty, ethics, and cooperation. It argues for a shift from a nationalist model of space exploration to a planetary ethics of innovation, one that prioritizes pluralism, transparency, and post-territorial governance frameworks. By weaving together space policy, AI ethics, and science fiction as both blueprint and warning, this session invites participants to confront a timely and urgent question: In the age of intelligent machines and interplanetary ambition, who owns tomorrow?

Sophie Veksner
Intersubjectivity in Bayesian prior elicitation
[Metascience and Epistemology]
Fri 5 Dec 11:00am – 12:30pm, Room 14-216
Recent metascientific debates have revisited the benefits of Bayesian inference over Null-Hypothesis Significance Testing, but old concerns about the subjective methods of deriving prior probabilities remain. To confront this, structured protocols have been developed to elicit priors from expert judgements, with the aim to minimise social and cognitive biases. However, investigating the internal dynamics and methods of these deliberation sessions finds that attempts to manage diversity and gain consensus may marginalise credible voices and distort results. This paper looks at the literature on nonepistemic values in science to frame issues which arise in these intersubjective processes, and also questions whether expert elicitation could be a good method for improving the uptake of Bayesian methods in psychology research. It concludes with a discussion of mechanisms for transparency regarding intersubjectivity in research processes.

Amy Way
Humanity vs. Aboriginality: Deep History in the Headlines
[Manufacturing Human Nature: Evolving Conceptions of Humanity's Past and Future (3)]
Wed 3 Dec 3:30 – 5:00pm, Room 14-216
Deep history is at the forefront of a contemporary reorientation of Australian history. It is at once an academic methodology, a period of the ancient past, and an embodied, living history of Aboriginal and Torres Strait Islander peoples' enduring connection to Country. This paper considers the complexities of

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deep history in Australia through a study of the public media representations of Mungo Man, the 42,000-year-old human skeleton "discovered" in 1974 in the dried beds of the Willandra Lakes. Pivotal in the development of Australian archaeology and a concurrent assertion of Aboriginal rights and sovereignty, Mungo Man became a site of contest whose meaning shifted from an exclusively human, scientific artefact to a distinctly Aboriginal ancestor with the power to redeem national narratives. This paper explores the tensions between Mungo Man's humanity and Aboriginality, and the extent to which deep history remains a mechanism of settler-colonial mythology.

Dr Amy Way is a Lecturer in History at Griffith University. With expertise in Australian, Aboriginal, and intellectual history, she specialises in the history of human antiquity and deep time in Australia, particularly its conceptualisation within geology, archaeology, anthropology and public discourse. Her work has been published in *Isis*, *History Australia* and *Studies of History and Philosophy of Science.* Amy is also a Collaborating Scholar with the Research Centre for Deep History at the Australian National University, Canberra.

Kate Williams
[Metascience and Science Policy]
Thurs 4 Dec 3:30 – 5:00pm, Room 14-216
See session description

Josh Wodak
The Efficacy and Ethics of Synthetic Biology for Climate Change Mitigation: A Critical Appraisal of the Ineffable
[Attempting to Mitigate Climate Change through Synthetic Biology: Ethical and Social Analyses]
Fri 5 Dec 11:00am – 12:30pm, Room 14-115
Two weeks before the 15th conference of the United Nations Framework Convention on Climate Change (UNFCCC), Secretary-General Ban Ki-moon declared to the World Climate Conference, Geneva that ""Our foot is stuck on the accelerator and we are heading towards an abyss."" Evidently, it ceased to be sufficient, long ago, to merely take one's foot off the accelerator. As that merely slows down the movement towards an abyss. Namely, what is required is to actually put the break on. The question then posed in this presentation then, is: what does 'putting the break on entail' for climate change mitigation?

Joshua Wodak is a researcher, writer, and artist whose work explores what it means to not only be alive during the current upheaval (climate crisis, Anthropocene, Sixth Extinction Event et. al.), but to be alive to upheaval itself. That is: how to live on an inherently unstable Earth, and in an inherently catastrophic cosmos. He has exhibited his media art, sculpture and interactive installations in art galleries, museums, and festivals across Australia and internationally, and holds a BA (Honours) in Anthropology (Sydney University, 2002) and a PhD in Interdisciplinary Cross-Cultural Research (Australian National University, 2011). His first book is *Petrified: Living During a Rupture of Life on Earth*, published in the Apocalyptic and Post-Apocalyptic Studies series by Heidelberg University (De Gruyter, 2025). He is currently a Senior Research Fellow and Chief Investigator within the WSU Node of the ARC Centre of Excellence in Synthetic Biology.