British Society for Literature and Science

2020 Conference

With the Sheffield conference cancelled, the society is happy to have received electronic papers – videos, audio, PDF, and slides – from 35 delegates. These we have presented online, where they will be available to members of the society from 15-30 April 2020. We are also holding the AGM and one of our keynotes live on the 17th.

To access all of this content, please visit https://www.bsls.ac.uk/members/bsls-annual-conference-2020 (make sure you're logged in or this link will not work).

In this document, you will find a list of the papers subdivided into very loose categories in order to help browsing. Following that, the abstracts and biographies of the speakers (as submitted to the original conference) are appended in alphabetical order.

We hope you are staying safe, and that you enjoy the conference!

Will Tattersdill
Communications Secretary

Papers Available Online

Individuals and Networks

- Fabian Hempel & Uwe Schimank - The Autonomy and Social Responsibility of Science as reflected in Amitav Ghosh's *The Calcutta Chromosome* (PDF).
- Graham Matthews - Uncertainty, Exactitude, and Risk: AI Narratives in Singapore (PDF).
- Ellen Packham - 'Would That all Mechanics Could Write as Well': Encouraging, Generating and Managing Correspondence in Technical Periodicals of the 1820s (PowerPoint with Audio).

Rhetoric

- Jenni G. Halpin - Synthesizing Science and Theology against an Analytic Rhetoric (PDF).
- Peter Middleton - Eyes, Ears, and Information: A New Reading of Claude Shannon's *The Mathematical Theory of Communication* (PDF).
- Kate Owen - Mary Trye: *Medicatrix, or the Woman Physician* (Video).
- Alex Sherman - The Mysteries of Experience: Ann Radcliffe's Critique of Experimentalism

The Brain and Mental Health

- Stephen Hills - "The Interface Organ": *Gravity's Rainbow*, Ivan Pavlov and the Plastic Brain (PDF).
- Rebecca Housel - Madness and Medicine: Representations of Mental Illness in Popular Culture (Video).
- Josh Powell - Dissociative Depersonalisation and the Perspectives of Modernism (Video).

Form, Narrative, Vocabulary

- John Holmes - 'The ask aches in me': Ronald Duncan's Scientific Poetics (Video).
- Irene O'Leary - 'This will not be a funny book': comic and cognitive interactions and *The Curious Incident of the Dog in the Night-time* by Mark Haddon (Video & PDF).
- Alessia Pannese - Automaticity: From Physiological Property to Literary Device (Video).
- Michael H. Whitworth - Scientific Words-in-freedom: Mina Loy (Video).

Genetics and Eugenics

- Jerome de Groot - The Disruption of History and Narrative in Post-Genomic Writing (Video).
- Allegra Talavera Hartley - 'We have no use for sterility, for above all things we aim to keep the race going': Sex, Gender, and the construction of 'Mother' in Charlotte Haldane's *Man's World* (1926) (Video).
- Catriona Livingstone - 'How can we alter the crest and the spur of the fighting cock?': Julian Huxley, Popular Biology, and the Feminist Pacifism of Virginia Woolf (PowerPoint with Audio).
- Natalie Riley - Out of Date: Genetics, History and the Novel of the 1990s (PDF).

The Origin of Species

- Daniel Ibrahim Abdalla - 'Heredity, Heredity'. Evolutionary Biology in the Works of Henry James, Elizabeth Robins ~~and Edith Wharton~~ (Video).
- Gianamar Giovannetti-Singh - *Pas si candide, M. Voltaire*: the weaponisation of the Ezourvedam in the emergence of theories of human genesis (PowerPoint with Audio).

Microbiomes

- Katherine Ebury - Joyce's Nonhuman Ecologies (PDF).
- Dennis Summers - Symbiogenesis and the Human Microbiome as Collage: What is Videodrome? (Video & PDF).

Ecosystems & Nonhuman Animals

- Daniel J. Bowman - The Poultry Suicide Club: Animals in Early Automotive Culture (PowerPoint with Audio).
- Lauren Cullen - 'We and the Beasts are Kin': Ernest Thompson Seton's *Wild Animals I Have Known* and Canadian Human-Animal Kinship (PowerPoint with Audio).
- Harriet Newnes - Shared Pasts, Shared Futures: Reading Sustainability in George Henry Lewes and George Eliot (PDF).
- Emma Trott - Power, Posthuman Bodies and Other Animals in Literary Accounts of Experimental Cardiac Surgery (PDF).
- Sheng Yue - Bogged in the "Fairy Fire": Metaphor of Entanglement and Futility in Iris Murdoch's *The Unicorn* (PDF).

Space – The Final Frontier

- Rachel Crossland - '[E]ssentially a popular science': Astronomy in Early Twentieth-Century British Periodicals (PowerPoint with Audio).
- Richard Fallon - Frontiers of Time and Space: Manifest Destiny and Scientific Authority in J. J. Astor's *A Journey in Other Worlds* (1894) (Video).
- Rachel Hill - Astronomy and Literary Modernism in Olaf Stapledon's *Star Maker* (Video).

Death

- Ivy Chua - Beyond the Prognosis: An Examination of Resilience in Terminally Ill Pediatrics through Illness Narratives (PDF).
- Marta Donati - Wireless Echoes: Absence, Bereavement and Sound Technology in John van Druten's *Flowers of the Forest* and Joe Corrie's *Martha* (PDF).
- Sharon Ruston - The Science of Life and Death in *Frankenstein* (Video).

Nuclear

- Helena Bacon - The Ghost in the Atomic Machine: Spectral Readings of Nuclear Techno-Sciences (PDF).
- Hannah Cooper-Smithson - 'This poisonous, white, crumbling poem': Inger Christensen's alphabet as an Irradiated Text (PDF).

'Heredity, heredity!': Evolutionary biology in the works of Henry James, Elizabeth Robins and Edith Wharton

Reviewing Henry James's disastrous play *Guy Domville* in 1895, George Bernard Shaw wrote dismissively that, 'it takes us back to the exhausted atmosphere of George Eliot, Huxley, and Tyndall'. This linkage of James to a novelist and two scientists reveals him as a keystone in the legacy of what has been called 'two cultures' debates, especially as they arise from the arguments presented by Matthew Arnold and Thomas H Huxley in the 1880s. This paper is organized into two parts: firstly, I demonstrate that James's plays--which have remained overlooked by critics because of their assumed aesthetic inferiority as compared to his criticism and novels--demonstrate the extent to which writers engaged with precepts of evolutionary biology, specifically concerning the transmission of hereditary material. Secondly, I discuss the role of heredity in the works of two of James's close compatriots: the well-known author Edith Wharton and the lesser-known playwright, actor, author, and eventual suffragette Elizabeth Robins. This paper positions James, Wharton, and Robins alongside more familiar engagements with evolutionary biology such as Shaw's paradigm of Creative Evolution and Henrik Ibsen's dramatization of heredity, thereby demonstrating the importance of theatre in understanding this period's relations between literature and science.

Daniel Ibrahim Abdalla is a DPhil Candidate in English at Wadham College, Oxford. His thesis considers the way that concerns of the *fin-de-siècle*--like children, gender, and inheritance--emerge from advancements in evolutionary biology. He has worked as a Graduate Research Assistant on the European Research Council project, Diseases of Modern Life: Nineteenth Century Perspectives and currently convenes the American Literature Research Seminar at the Rothermere American Institute, Oxford.

The Ghost in the Atomic Machine: Spectral Readings of Nuclear Techno-Sciences

Fred Botting states that '[a]llied, ghosts and machines eclipse human faculties,' (2008). This assertion seems to encapsulate the two central components of Western nuclear narratives and their consequences. In *Uranium* (2009), Tom Zoellner litters his prose with references to the spectral and the monstrous, utilising ideational rather than empirical language as he charts the techno-scientific uses of this 'dark and greasy' rock. Official U.S. nuclear press release writer and Manhattan Project journalist William Laurence describes how, 'the world became for [him] one vast Poëesque pit over which a uranium pendulum was slowly swinging down,' upon attending a 1939 national meeting on nuclear fission, and the resulting bomb as a 'spectre' on the American cultural landscape (1947). In this paper, I will explore how the Gothic has been, and can be used as a framework through which to chart the cultural history of uranium, and to construct narratives around this primordial element, the technologies we have developed from it, and our ambivalence toward them; the element itself is so unusual and unwieldy that we have had to construct this haunted language around it, as Zoellner and Laurence do, to articulate our fear of its unstable properties, this spectrality seemingly also a way of denying or displacing our relationship to it, and our utilisation of it.

Dr Helena Bacon is an associate lecturer at Anglia Ruskin University and UEA. She has published work on representations of biology within Matthew Barney films and *Carnivàle* in relation to an American carnivalesque, and has forthcoming pieces on Mexican animation, Gothic Westerns and the short form as connected to East Anglian landscapes. Her first novel was long-listed for the Mslexia unpublished novel award 2017 and she is currently working on a critical introduction to the Western.

The Poultry Suicide Club: Animals in Early Automotive Culture

In the first automotive periodical ever published in the English language—*The Horseless Age*—the editor E. P. Ingersoll claimed that the automobile was a 'humane' technology, which would ensure the liberation of horses from human service. Whilst the automobile offered equines some relief from their heavier burdens, this form of humanitarianism sought to remove horses entirely from human society—to usher in a horseless age. In this paper, I evaluate the extent to which early automotive culture truly encouraged the humane treatment of nonhuman animals in the U.S., considering factors such as roadkill and habitat destruction notably absent from automobile advertisements. By analysing some of the earliest texts of a now-classic U.S. genre—the road narrative—I will reveal some surprising features of our relationship with this revolutionary technology. Human tendency to zoomorphise these machines leads to the formation of emotional bonds, and even calls for more 'humane treatment of automobiles.' In a world where humans have increasingly fewer meaningful relationships with other animals, what does it mean to care about cars—to love horsepower more than horses?
179 words.

Daniel J. Bowman is a WRoCAH-funded PhD candidate at the University of Sheffield. His project, *Horsepower: Animals in Automotive Culture, 1895-1935*, explores the impact of the automobile on the lives of animals, both human and nonhuman, in U.S. literature. Daniel is also a member of the Sheffield Animal Research Centre (ShARC).

Beyond the Prognosis: An Examination of Resilience in Terminally Ill Pediatrics through Illness Narratives

Child mortality has greatly decreased since the advent of modern medicine in the 1950s, which significantly influenced cultural perceptions of death and mortality (Roser et. al). Whereas families in the nineteenth century were largely inured to death, a child's death in the twenty-first century is generally considered premature and unexpected (DeSpelder and Strickland). Since a child has a limited capacity to act, medical decisions including the cessation of treatment are typically made by their parents. This incapacity reduces the patient's autonomy and sense of self, and is further exacerbated by the power imbalance within the doctor-patient relationship as mature pediatric patients (aged 14-21) risk having their voice doubly negated as both a patient and a child.

Terminal illness narratives such as *Regine's Book* (2012) by Regine Stokke, *Before I Die* (2007) by Jenny Downham and *Five Feet Apart* (2018) by Lippincott et. al illustrate these complexities through personal experiences of pediatric illness and dying. These narratives depict children as highly resilient in the face of terminal illness and starkly contrast the biomedical model's singular focus on curative treatment. These texts also reveal the ways in which terminal pediatric patients renegotiate their desire for normalcy against various limitations as a form of resilience and seek to preserve their personhood beyond their prognosis.

Ivy Chua is a Masters student at Nanyang Technological University, Singapore where her multi-disciplinary research examines dignity, voice, and personhood within pediatric illness narratives. Her research interests include pediatric illness, palliation, doctor-patient discourse, and mental health within contemporary literature.

This Poisonous, White, Crumbling Poem: Inger Christensen's *alphabet* as an Irradiated Text

In 2019, threats of nuclear warfare and climate change led the Bulletin of the Atomic Scientists to set the world's doomsday clock at two minutes to midnight, a level only reached at one other point in history: 1953, when the United States and the Soviet Union began weapons testing as part of the Cold War. Nuclear technologies hold a special significance in ecocritical studies of Anthropocene literature, with the Trinity Test being identified by some critics as the moment that defines the beginning of the Anthropocene. To develop a poetics of the Anthropocene, we must therefore look to a poetics of the nuclear, a poetics that expresses the insidious contamination of radiation, and the entangled temporalities of nuclear time. Inger Christensen's 1981 poem *alphabet* is a text haunted by its nuclear context. I argue that the alphabetical, mathematical and repetitious structures in *alphabet* mirror the uncanny intermingling or 'thickening' of time(s) that we experience in the Anthropocene. Referring to Jacques Derrida's *Spectres of Marx*, I argue that *alphabet* can be read as an irradiated landscape, with repeating words acting as textual isotopes, contaminating Christensen's poem with the spectre of our radioactive legacies.

Hannah Cooper-Smithson is a poet and PhD student from Nottingham Trent University. Her thesis is a critical-creative interrogation of form in contemporary ecopoetry and is funded by the AHRC Midlands3Cities DTP. Her poetry has been published in various journals, including *The Interpreter's House*, *Plumwood Mountain* and *becoming-Botanical: a postmodern liber herbalis* (Objet-a Creative Studios, 2019).

‘[E]ssentially a popular science’: Astronomy in Early Twentieth-Century British Periodicals

In the preface to her 1890 book, *The System of the Stars*, Agnes M. Clerke described astronomy as ‘essentially a popular science’, before arguing for the importance of ‘literary treatment’ as ‘the foe of specialisation’. In this paper I will explore examples of the, if not literary, at least non-specialist, representation of the quintessentially popular science of astronomy in a number of early twentieth-century British generalist periodicals. I will consider both articles which specifically seek to explain and describe particular aspects of astronomy, and pieces that touch on it merely in passing. I will also discuss examples of advertisements using astronomical ideas and imagery, such as the ‘wireless message from Mars’ about Dunlop tyres in the *Cornhill Magazine* in 1901. As a particularly visual science, astronomy was especially well suited to presentation in a publication like the *Illustrated London News*, which will be my main focus here, but I will also reflect on the differences between the news-like, illustrated, approach of this weekly, and the more wordy, non-illustrated, approaches of reviews like the *New Quarterly* (1907-10) in order to consider what such varying styles can tell us about the popular status of astronomy and its ‘literary treatment’ during this period.

Rachel Crossland is a Senior Lecturer in English at the University of Chichester. Her first book, *Modernist Physics: Waves, Particles, and Relativities in the Writings of Virginia Woolf and D. H. Lawrence*, was published by Oxford University Press in March 2018.

"We and the Beasts are Kin": Ernest Thompson Seton's *Wild Animals I Have Known* and Canadian Human-Animal Kinship

"I hope some herein find emphasized a moral as old as Scripture – we and the beasts are kin…Since, then, the animals are creatures with wants and feelings differing in degree only from our own, they surely have their rights" (Seton 1898). Canadian writer Ernest Thompson Seton's remarks about the rights of animals exemplify the changing attitudes towards animals in nineteenth-century North America. Moreover, Seton's statement concisely stresses the ethical questions percolating in late nineteenth-century literature and culture: what is the status of animals in the post-Darwinian sociopolitical landscape of Canada, and more urgently, in a period when humans were dependent on animals for their own existence? Seton, a self-proclaimed artist-naturalist, sought to answer these questions with his 'realistic histories' of wild animals. The shift to interest in animal intelligence and consciousness from the 1860s onward – as opposed to an interest in taxonomy and classification – led to a desire to understand the experiences of other animals – their subjectivity, their interiority, their individuality – and the various means which could be employed to reach this understanding. This paper posits why writing about Seton is important to our understanding of not only animal subjects, but also to defining the place of Canadian literature about animals within other discourses of British Victorian fiction.

Lauren Cullen is a doctoral candidate in English at the University of Oxford. She received her BA (Honours) and MA from Queen's University, Canada. Her thesis explores nonhuman and human animal kinship as well as animal subjectivity in nineteenth-century literature and culture. Her research interests include literature and science, animal studies, and sensation fiction.

Wireless Echoes: Absence, Bereavement and Sound Technology in John van Druten's *Flowers of the Forest* and Joe Corrie's *Martha*

In the inter-war period, occultist belief underwent a strong renaissance in anglophone countries. In the United Kingdom alone, the conjunction of thousands of deaths caused by World War I and the increased engagement with new communication technologies fuelled the creation of new metaphors and mythologies, which flourished in the fragmentation that characterized post-war climate and modernist culture. The functioning mechanisms of sound technologies, such as telephone, gramophone and radio, held a certain paranormal lure; the development of the wireless inspired avenues of telepathic research. This paper considers two occultist war plays, John van Druten's 1934 *Flowers of the Forest* and Joe Corrie's 1935 *Martha,* to discuss the intertwinement of spiritualist and scientific discourse within popular culture. Both plays stage experiences of telepathic communication with deceased World War I soldiers, framing telepathy as a healing tool for mourners. The paper argues that bereavement held a leading role in cementing the amicable relationship between scientific enquiry and the spectral. Taking into consideration the relationship between physical bodies and disembodied voices, this study follows the trail of the wireless within the dramatic texts, in order to detect, within them, the influence of what Roger Luckhurst has termed 'the technologization of the occult' on inter-war mourning practices.

Marta Donati is a current second year PhD student at the University of Sheffield, working on spectrality and bereavement in inter-war British and American theatre. She previously completed a BA in English and Related Literature and an MA in Film and Literature at the University of York. She is part of the WRoCAH Electronic Soundscapes Network.

James Joyce's Nonhuman Ecologies

In this paper I will focus on James Joyce's investments in life at the microscopic level in *Ulysses* and *Finnegans Wake* as a way of linking literature and science methodology with Grusin's 2015 concept of a 'nonhuman turn' within animal studies and ecocriticism. My particular intervention will be to turn an established historical conversation about Joyce's knowledge of the nature of matter and embodied experience towards his aesthetic and ethical emphasis on nonhuman life, and consider how his interests in science facilitate connectedness across different categories of being. Previous ecocritical scholarship on Joyce has mostly concerned itself with whole entities, whether human or nonhuman, from Joyce's representation of rivers or trees to Joyce's attitudes to particular species and biological principles; I hope by going smaller to go bigger via Tim Clark's emphasis on the importance of literary scale-framing in response to the climate crisis. Clark argues that our daily ethical, aesthetic and critical decisions should be multiplied by 'both by zero and by infinity' in order to determine our personal responsibility for the environment. I will argue that Joyce's use of the nonhuman microscopic scale, informed by the complexities of quantum physics, might help us to cope with that difficult equation.

Katherine Ebury is Senior Lecturer in Modern Literature at the University of Sheffield. Her first monograph, *Modernism and Cosmology*, appeared in 2014, and she is the co-editor (with Dr James Alexander Fraser) of *Joyce's Non-Fiction Writings: Outside His Jurisfiction*, which appeared with Palgrave in 2018. Her articles have appeared in journals such as *Irish Studies Review, Joyce Studies Annual, Journal of Modern Literature,* and *Society and Animals*.

Frontiers of Time and Space: Manifest Destiny and Scientific Authority in Two American Prehistoric Interplanetary Romances of the 1890s

This paper focuses on two scientific romances: A Journey in Other Worlds (1894) by the New York multimillionaire J. J. Astor IV and Journey to Venus (1895) by the Washington homeopathic physician Gustavus W. Pope. In these action-packed stories, crack teams of American explorers violently colonise other planets, which, in a recurring trope of the period, are inhabited by prehistoric animals. At the time the United States was fast becoming the home of vertebrate palaeontology thanks to incredible fossil resources, most of these resources unearthed via the country's westwards expansion—'Manifest Destiny'. With the frontier closing, white imperialists like Astor hungered for new avenues of expansion. The nascent genre of prehistoric interplanetary fantastic fiction allowed characters to symbolically conquer the past, present, and future. I will show how Astor and Pope used Jupiter and Venus as imaginative spaces for American expansion; moreover, I will argue that both authors used their fiction to promote an entrepreneurial and democratic approach to participation in science. These bombastic and often disturbing texts provide important insights into the relationship between scientific knowledge, romance, and imperialism in the 1890s, when the United States was on the brink of the Spanish-American war.

Richard Fallon. I am an Honorary Research Associate in the Department of Science and Technology Studies at University College London. I received my PhD in English from the University of Leicester in 2019 and my monograph, Reshaping Dinosaurs in Late Victorian and Edwardian Literature, is under review with Cambridge University Press.

Pas si candide, M. Voltaire: Voltaire's weaponisation of the Ezourvedam in the emergence of theories of human genesis, 1760-1799

"In September or October of 1760, François-Marie Arouet, more commonly known by his nom de plume Voltaire (1694-1778), was delivered a manuscript at his château in Ferney by Louis Laurent de Fédebre, the Chevalier de Maudave (1725-1777). This French manuscript, entitled *Ezourvedam*, took the form of a dialogue between two Brahmins: Chumontou, who "defends the unity of God," and Biache, a superstitious figure who "believes in the religion of the Indies." This article examines Voltaire's instrumentalisation of the Ezourvedam, which discusses the origin of the world, to bolster his arguments for polygenesis, which he favoured over monogenesis because it could explain variations between different races without recourse to divine intervention. Presented as a dialogue between two Brahmins—although actually compiled by French Jesuits in India—the Ezourvedam enabled Voltaire to appropriate an exoticized text to legitimise his theological arguments and attack the Christian scriptural tradition. By exploring the ways in which Voltaire selectively quoted from the Ezourvedam in the second edition of his highly influential Essai sur les mœurs et l'esprit des nations (1761), this article suggests that the philosophe deployed the manuscript's alleged exoticism and antiquity to discredit the authority of Biblical chronologies."

Gianamar Giovannetti-Singh is a doctoral student in History and Philosophy of Science at the University of Cambridge. His PhD research explores the changing nature of historical and scientific credibility during the Jesuit China mission and examines the tensions between globalisation and mondialisation in the emergence of Enlightenment disciplines.

Post-genomic Identities in Sound and Verse

This paper considers the impact of genomics on several rappers and poets. I will use two responses to the new post-genomic period – Kendrick Lamar's 'DNA' and Michael Symons Roberts's 'To John Donne' – to establish ways in which genomics has impacted upon historical sensibility and ideas of selfhood. Then I'll look at the impact of widespread genetic testing for ancestry by considering the response of Zaffar Kunial ('Self-Portrait as Bottom') and Residente (*Residente*) to the 'evidence' presented to them by their particular genetic ancestry tests. I want to focus on ideas of identity, selfhood, and genomic ancestry, as well as to investigate what kinds of new tools and positions this post-genomic state might offer to the artist. Finally I'll think about what this implies for historical sensibility and aesthetics.

Professor Jerome de Groot teaches in the Department of English, American Studies and Creative Writing at the University of Manchester. He is the author of *Consuming History* (2008, 2nd ed. 2016), *Remaking History* (2015) and *The Historical Novel* (2009) as well as numerous articles on historical fictions, re-enactment, manuscript studies and historiography.

Synthesizing Science and Theology against an Analytic Rhetoric

Similar to a too-frequent occurrence within science and literature, science and theology has been prone to promoting itself as bringing scientific rationality to support an otherwise imprecise and a-rational field; coupled with the analytical and systematic approach so often dissecting and cataloguing notionally-distinguishable aspects of the subject at hand (science and theology; father, son, and spirit; mind and body; etc.), this methodological and rhetorical pattern undermines many efforts to think together science and theology. Two texts by Rev. John Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-Up Thinker* (1996) and *Living with Hope: A Scientist Looks at Advent, Christmas, and Epiphany* (2003), serve as examples. Both present their subjects for popular, lay audiences and seek to narrate a consistent world-view in which scientific and theological thinking not only lay equal claim to an effective description of reality but also are both necessary to the completion of such an undertaking. Arguing that popularizing presentations of science and theology have been overly dependent on Ian Barbour's foundational schematization of four models for the interaction of science and theology, my goal is to disentangle his combinations of epistemology, numinosity, and materiality from others' divisive rhetoric separating science from theology.

Jenni G Halpin is an associate professor of English at Savannah State University (Georgia, USA) and Overseas Representative (North America) for the British Society for Literature and Science. She teaches composition, drama, and British literature. Her scholarship engages with literature, science, ethics, and temporality, among other things.

‘We have no use for sterility, for above all things we aim to keep the race going’: Sex, Gender, and the construction of 'Mother' in Charlotte Haldane’s *Man’s World* (1926)

As the only one of her novels to receive any significant academic attention, Charlotte Haldane’s 1926 *Man’s World* has caused a rift in scholarly opinion regarding its categorisation as either dystopia or utopia. There are obvious dystopic elements in Haldane’s text. Set in a future society run by a male scientific elite, the sex of a foetus can be determined and controlled, allowing for ‘orders’ to be placed depending on the current needs of the state. As a result, women are divided into ‘neuters’ and ‘mothers’. As genetic gatekeepers, ‘mothers’ are selected for their physical and psychological ‘superiority’. However, this means motherhood is afforded state recognition as a vocational role, recognition that Haldane sought for the 20th century woman. I argue, then, that rather than trying to apply strict categorisation, this text is best read as a companion piece to Haldane’s historical and sexological study, *Motherhood and Its Enemies*, published the following year. Reading the novel in this context, the reader comes to understand Haldane’s vocational mother as a figure who is emblematic of the problematic constraints on feminism in the late 19thand early 20th century. *Man’s World* is conflictingly utopic *and* dystopic, reflecting a first wave feminist movement trapped between women’s suffrage and contemporary sexological and eugenic debates surrounding the biologically ‘normal’ woman.

Allegra Talavera Hartley received her PhD in 2018 from the University of Huddersfield where she currently lectures in Victorian Literature. Her research focusses on science and gender in the late 19th and 20th century and she is currently working on the republication of Charlotte Haldane’s first novel, *Man’s World* (1926).

The Autonomy and Social Responsibility of Science as reflected in Amitav Ghosh's *The Calcutta Chromosome*

In our presentation we take a look at the novel's story line about the history of Malaria research in colonial South Asia during the late 19th century. Regarding the autonomy of science and against the standard account of the advancement of modern science, the novel pleas to think twice about the multi-layered role of science in society. In that regard, we discuss two interpretative angles:

1. *A reading of collision avoidance* as an indigenous movement redirects colonial science in order to preserve the local order, culture, and religion.
2. *An intersectional reading* that considers this subversion of colonial science as an emancipatory act by local Dalits to overcome their subaltern position within the social order of the traditional caste system, colonial power, and Western science.

In the first reading, the autonomy of science degrades into social irresponsibility; in the second, the autonomy of science is used, for right or for wrong, as a weapon against multiple structures of oppression. We argue that both interpretations shed new light on the conventional view of an autonomous science as a self-evident component of the "package" of modernity.

Fabian Hempel is a PhD fellow at the University of Bremen and studies the representation of the autonomy and social responsibility of science in science novels.

Uwe Schimank is professor of Sociological Theory at the University of Bremen and co-director of the Fiction Meets Science research programme that explores sociocultural aspects of science in literature.

Astronomy and Literary Modernism in Olaf Stapledon's *Star Maker*

'The Great Debate' of 1920 saw eminent astronomers, Harlow Shapley and Heber Curtis posit very divergent arguments for the size of the universe. Shapley postulated that the Andromeda Spiral is part of our galaxy, with the Milky Way delimiting the entire extent of the universe. Conversely, Curtis hypothesised that such spirals were discrete galaxies in their own right. By the end of the 1920s Curtis would be proven right, with the extent of the universe expanding to unforeseen dimensions, necessitating new scales of thought to be attempted.

Germinating over two decades and published in 1937, Olaf Stapledon's magnum opus *Star Maker* is a clear beneficiary of these astronomical debates. Furthermore, with no concrete characters, minimal plot and an unconventional narrative arc, *Star Maker* is not only emblematic of a reconceptualised universe, but also a formidable example of experimentation in modernist literature. Indeed, the text is only nominally a novel; instead it may be more accurate to *situate Star Maker* as an exercise in myth-making, an attempt to harmonise human destiny with newly gigantic cosmic amplitudes.

So far, there has been a dearth of critical attention to Star Maker's entanglement of the twin webs of astronomy and literary modernism; this paper will address this lack.

Rachel Hill has recently completed her MA in Cultural Studies at Goldsmiths, University of London. She is currently an associate research fellow at Strelka Institute for Media, Architecture and Design, where her research focuses on the contemporary imaginaries of outer space. She has previously spoken in various conferences and workshops on the intersection of astronomy, spaceflight, science fiction and ethics. Hill also regularly writes for publications such as Foundation: The International Review of Science Fiction, The Quietus, Strange Horizons and The Women's Review of Books.

‘The ask aches in me’: Ronald Duncan’s Scientific Poetics

In 1961 the poet and playwright Ronald Duncan suffered an emotional collapse. Over the following decade he rebuilt himself through an intense engagement with science. The result is his cosmological epic *Man*, published from 1970 to 1974 in five parts comprising 63 cantos in total. Unlike earlier scientific epics, Duncan’s poem does not take the findings of science and fashion them into a narrative or programme. Instead, he seeks to recapitulate within his poetics the scientific project of continual enquiry in which results are only ever provisional and inevitably constrained by the limits of the human mind. For Duncan, it was imperative that poetry should grapple with science in its form and texture as well as its subject matter, which necessitated in turn a re-evaluation of what constituted poetry itself. In this paper I will explore his experiments in fashioning a poetics which could incorporate scientific data and replicate scientific methods, along with his evaluation of the lyric quality of science itself. I will ask how far Duncan is able to achieve his aim to rejuvenate poetry through science and how far, if at all, *Man* offers a resolution to the trauma that beset him.

John Holmes is Professor of Victorian Literature and Culture at the University of Birmingham and Secretary to the Commission on Science and Literature. His books include *Darwin’s Bards* (2009), *The Pre-Raphaelites and Science* (2018) and the edited collections *Science in Modern Poetry* (2012) and *The Routledge Research Companion to Nineteenth-Century British Literature and Science* (2017, co-edited with Sharon Ruston).

Madness and Medicine: Representations of Mental Illness in Popular Culture

From variations of Lewis Carroll's *Alice's Adventures in Wonderland* (1865) to representations of Mary Shelley's *Frankenstein* (1818), popular culture is rife with images of madness and its connections to medicine. My 20-minute presentation will include an historical context of the literatures of madness connecting the texts to today's pop culture, including crossovers with comics a la the 2019 debut of "Batwoman," whose evil twin calls herself "Alice" and has rabbit-faced henchman with references to the rabbit hole and all. The connection between mental health issues and medicine in popular culture will be the overall focus, showing a trend toward identifying madness as a variation of resiliency (a disturbing trend that has yet to be addressed in the discourse surrounding it medical treatment for mental health).

My name is **Dr. Rebecca Housel**; I'm a *NY Times* bestselling author and editor for Wiley (*Philosophy & Pop Culture* series), as well an author and editor of the *Mental Health for Millennials* series (Book Hub; Galway & UK 2017, 2018, 2019). I write, "Survive Anything" for *Psychology Today* as well. My Ph. D. is in Medical Humanities and Science Writing with a B. A. and M. A. in English, Editing, Publishing and a literary focus on Medieval/British Literature.

“How can we alter the crest and the spur of the fighting cock?”: Julian Huxley, Popular Biology, and the Feminist Pacifism of Virginia Woolf

The paper takes as its starting-point a letter written by Virginia Woolf in 1940 which speculates about the possibility of ending war. ‘Can we change sex characteristics?’ Woolf asks. ‘How can we alter the crest and the spur of the fighting cock?’. In writing this letter, Woolf is recalling a passage she read in 1932 from the biological textbook *The Science of Life,* co-written by Julian Huxley: a passage which, in Woolf’s terms, describes a ‘hen that became a cock or vice versa’. The paper demonstrates that Woolf’s writing of this period, particularly *Three Guineas* and *Between the Acts*, responds to Huxley’s works of popular biology, specifically their discussion of secondary sex characteristics, hormones, and the instability of biological sex, in order to envision a way out of the repeating cycle of violent domination that she traces in contemporary society, and to conceive of a future society not built upon a binary model of gender. This is not to suggest, however, that Woolf’s feminist, pacifist politics are passively influenced by Huxley. On the contrary, Woolf challenges the conservative aspects of Huxley’s books, specifically their promotion of eugenics, and their insistence on pathologizing those who stray outside the gender binary.

Catriona Livingstone. I was awarded my PhD in 2018 by King’s College London, for a thesis on Virginia Woolf, science, and identity. My work is published or forthcoming in the *Journal of Literature and Science, The Year’s Work in English Studies* and *Woolf Studies Annual*. I co-organized the 2017 BSLS Winter Symposium.

Uncertainty, Exactitude, and Risk: AI Narratives in Singapore

AI narratives in Singapore are part of a literary tradition—that has its roots in Romanticism—of writers who are horrified by the exact and valorise an ontology of uncertainty. Their depictions of AI tend to focus on hive minds, singularities, and grids that homogenise culture and efface the individual. As citizens of a postcolonial nation, Singaporean writers often weave the language of imperialism into their narratives in order to conceptualise and warn against the potential effects of an autonomous superintelligence on human culture and society. As a thinly-veiled critique of technocratic forms of governance, these narratives suggest that quantification is incompatible with critical reasoning and warn against increasing degrees of mathematical exactitude which leave no room for the uncertain and the incomplete.

AI appears as the latest in a long line of instrumental approaches that seeks exactitude through abstraction while its practitioners declare themselves free from ideology, fantasy, and emotion. What Steven Connor calls the "ideology of number" proclaims that number is exact while the realm of the word, the tone and the gesture is imprecise. Whereas literary writers tend to deride exactitude as inhuman and laud imprecision as a vital component of the human condition, Singaporean AI narratives often complicate this binary by showing the ways in which attributes typically deemed intrinsic to humans can be found within the machine. However, such an approach also suggests its opposite: that numbers are not simply oppositional to but constitutive of the human. Overall, I argue that Singaporean AI narratives seek to protect the particular, the anomalous, and the minute from the tyranny of number but in doing so they actually re-couple numbers to the human.

Graham Matthews is Assistant Professor in English at Nanyang Technological University, Singapore. His most recent book is *Will Self and Contemporary British Society* and his work on contemporary literature has appeared in leading journals including *Modern Fiction Studies, Textual Practice*, *Journal of Modern Literature, Critique*, *English Studies*, and *Literature & Medicine.* He is currently writing a monograph entitled *The Hardware of Culture: Science and Technology in Mid-century British Literature*.

Eyes, Ears, and Information: A New Reading of Claude Shannon's *The Mathematical Theory of Communication*

In this paper I offer an experiment in bringing book history, biography, new materialism, new media studies, and literary criticism to bear on one of the most influential science texts of the twentieth century, Claude Shannon's *The Mathematical Theory of Communication*. This text gave us the concept of "information," now used in almost every field of inquiry from quantum physics and molecular biology to digital humanities. I start with the book's genesis in an obscure technical journal, and show how it was reframed by several intermediaries, Warren Weaver a Rockefeller Foundation director whose beliefs about which sciences were significant had a lasting impact on developments in genetics and communications, the nuclear scientist Louis Ridenour, and eventually a literature professor, Wilbur Schramm, who facilitated its actual publication as a book by University of Illinois Press. Schramm is known today as the founder of both the Iowa Writers Workshop, the first major creative writing programme, and mass communications studies. I show that Schramm and Weaver's interest in Shannon was partially provoked by their own personal pathologies of speech and hearing. I conclude with analysis of the rhetorical implications of Shannon's decision to reframe older terms for communicative effectiveness as information. My hope is to demonstrate that literature and science studies can throw new light on recent history of science from within an emerging synthesis of literary analysis and innovative methodologies in media theory and studies of material culture.

Peter Middleton. I am now Emeritus Professor of English at the University of Southampton. I have published books and essays on modern poetry, have a book of essays on poetry authorship due to appear from University of New Mexico Press in 2021, and am currently working on a genealogical history of the code concept.

'This will not be a funny book': Humour, Complexity and *The Curious Incident of the Dog in the Night-time* by Mark Haddon

Humour is given short shrift early in *Curious Incident* in a passage warning readers of the absence of jokes in the novel: 'I cannot tell jokes because I do not understand them'. Warning is immediately comically undercut as the child narrator dissects a joke with misplaced forensic precision in terms of linguistic outsourcing 'has three meanings' and cognitive processing of incompatible meanings 'making the word mean the three different things at the same time'. Understanding ricochets in and out of the fictional world as it hurtles among the narrator's technical bravado, its framing as social gaffe and amused cringing in readers who 'get' the joke.

This paper addresses the play of comic and cognitive interactions in the novel by combining textual analysis with a complexity approach that draws on the neuroscience of humour. I argue that comic effects in the novel are driven by entanglement and perturbations. Humour entangles other literary devices in the novel as well as cognitive processes and cultural discourses beyond the novel. Entangled interactions perturb each other, leading to continual interpretive collisions and divergences. As interpretation, understanding relentlessly morphs through the dynamics of entanglement and perturbations.

Irene O'Leary is an external PhD candidate in literary studies at James Cook University, Australia. Her research interests include literary dynamics, complexity theories, fiction and writing techniques. She is also working on the wicked problems of style and elegance (i.e. staying on) in her longboard surfing.

'A woman's thoughts signifies little': Subversive Rhetoric as Self Promotion in Mary *Trye's Medicatrix, or The Woman Physician*

In 1675, against the backdrop of what Steven Shapin calls 'silent technicians', or 'undocumented' contributions by women to early modern science, a book entitled *Medicatrix, or the Woman Physician* by Mary Trye was printed. Although Mary Trye is often briefly mentioned in works that discuss female medical practitioners or the plague pamphlet war that followed the 1666 outbreak, Trye's skilful use of rhetoric and printing conventions has yet to be thoroughly examined. *Medicatrix* captures the scathing and passionate (sometimes even humorous) voice of an early modern female Doctor who used gender rhetoric, plague rhetoric, interpretations of Christian duty/charity and evidence-based medicine against her father's detractors. This paper examines the sophistication of *Medicatrix's* language and argues that Trye successfully inverts negative gender types regarding women's intellect and sensibilities to launch a scathing attack on Galenic, licensed medicine. Through feigning inferiority as an unlearned and grieving daughter, Trye establishes an anti-rhetoric rhetoric which supports the chymists cause, highlights the illogical nature of Galenic regimens, and positions herself as the natural heir to her father's medical practice.

Kate Owen has recently completed an MA at King's College London in Early Modern English: Texts and Transmissions. During her studies she has become interested in how early modern scientific knowledge was disseminated and how this has affected meaning and transmission. She also volunteers at Barts Hospital Museum and Archive.

‘Would That all Mechanics Could Write as Well’: Encouraging, Generating and Managing Correspondence in Technical Periodicals of the 1820s

In Britain between 1822 and 1825, at least seven new periodical publications (including the Mechanics’ Magazine) were established for engineers, artisans and mechanics. The role of periodicals in the development and transformation of nineteenth-century science has come under increasing scrutiny in recent years. However, within that scholarship investigations into the function of engineering and technical literature are under-represented. The new technical periodicals of the 1820s offered commercial potential and gave editors the opportunity to build credibility and status that could support other careers, such as patent agency, engineering consultancy, technical authorship or teaching. In this paper, I will explore the almost universal aspiration among those editors to include reading audiences in the production of their publications. Frequently this was a result of needing ‘free’ copy or in the hope of generating sensationalised debate, but in some cases there was a genuine desire amongst editors to improve the writing style of British mechanics such that their correspondence could ‘do honour to any work’. By comparing the attempts that different editors made to include their readers in their productions, this paper will demonstrate the variety of ways in which editors of these new publications encouraged, educated and managed their correspondents.

Ellen Packham is a third-year PhD candidate at the University of Aberdeen, supervised by Dr Ben Marsden and Prof Ralph O’Connor. Ellen’s project investigates the literary habits of British engineers between 1750 and 1900, focusing on the periodical publications developed by, and for, communities of engineers and mechanics.

Automaticity: From Physiological Property to Literary Device

French poet André Breton proclaimed Surrealism to be '[p]ure psychic automatism'. In an attempt to access the 'superior reality' of the automatic thought, nineteenth- and early twentieth-century artists developed techniques of automatic writing, drawing, and painting, in which they strove to become spectators of their own subconscious, and to act as automatic, passive vessels for its creative force. The growing interest in the role of automaticity in late nineteenth- and early twentieth-century literature was paralleled by contemporary progress in the understanding of the central role of automaticity in human physiology. A key contributor to this understanding was the discovery and characterisation of the autonomic nervous system, which was shown to carry out physiological functions that are essential for survival entirely automatically, that is, beyond wilful control. As French physiologist Claude Bernard observed, a significant implication of this discovery was a new conception of human nature as seemingly 'free and independent', whilst in reality relying on automatism.

Drawing from Breton's and Bernard's respective observations, in my paper I will examine automaticity as literary device in the light of automaticity as physiological mechanism. I will suggest parallels between the discovery of automaticity as an evolutionarily adaptive physiological property that liberates the organism from the necessity to apply conscious control to ensure its own survival (for example by autonomously maintaining breathing, heartbeat, and all other life-sustaining functions without requiring conscious effort), and the re-interpretation of automaticity as an aesthetic device that liberates the individual from logical and rational thought, and, through metaphors, juxtapositions, non-linear narratives, and free associations, enables access to creative avenues not normally available to the conscious mind.

Alessia Pannese (University of Oxford) trained in law (Laurea, University of Rome 'La Sapienza'), veterinary medicine (Laurea, University of Perugia), veterinary science (MPhil, University of Cambridge), neurobiology and behaviour (PhD, Columbia University), and literature and arts (MSt, University of Oxford). She has held fellowships at Institutes for Advanced Studies in New York, Paris, Delmenhorst (Hanse-Wissenschaftskolleg), and London.

Dissociative Depersonalisation and the Perspectives of Modernism

This paper will examine how the experiments with narrative perspective that characterise literary modernism can inform psychological and psychiatric understandings of dissociative depersonalisation. The 2013 Diagnostic and Statistical Manual of Mental Disorders defines dissociative depersonalisation as an experience of unreality and detachment from one's 'mind', 'self', 'body', or 'surroundings'. The concept has held a prominent place in psychiatric discourse since it was coined at the end of the nineteenth century (by Etienne Dugas), but it has rarely been discussed in the Humanities disciplines, or in relation to literary writing. Given that depersonalisation is commonly known as an 'as if' experience that stretches its subject's capacity for simile and metaphor, this paper suggests that literary studies has much to add to the psychological study of depersonalisation. In particular, it will argue that careful consideration of the work of D.H. Lawrence, Katherine Mansfield and Samuel Beckett can help nuance an understanding of how one can continue to participate in life without feeling as if 'they' are 'quite there'.

Josh Powell is a Lecturer in the English Literature department at Cardiff University. His doctoral thesis focused on Samuel Beckett's relationship with experimental psychology, and a monograph based on this project will be published in January 2021 as part of Bloomsbury's Historicizing Modernism series. He has recently published articles in the Journal of Literature and Science and Philip Roth Studies, and his latest article, which focuses on the writing of Ann Quin, is forthcoming with Textual Practice.

Out of Date: Genetics and Historical Fiction

During the final decades of the twentieth century a whole generation of British writers fell under the spell of evolution. This sea-change in the British novel was entwined with the popular rise of neo-Darwinism and the steady flow of speculative science publications by evolutionary biologists and psychologists such as Richard Dawkins, E. O. Wilson, and Steven Pinker. Pursuing a reductionist account of human behaviour which united evolution and genetics with neuroscience, books like Dawkins' The Selfish Gene promoted an explanation of the mind as the brain, and the brain as an evolved organ, determined by natural selection.

In this paper, I consider the particular relationship between genetics and the historical novel during this period. Following on from studies of the neo-Victorian novel (e.g. Shuttleworth, 1998), I argue that contemporary historical fictions are similarly drawn to issues surrounding the 'real', 'factual', and 'authentic'; making them fitting vehicles for addressing the seductive lure of contemporaneous genetic materialism. Taking A. S. Byatt's Babel Tower (1996) as my case study, I show how Byatt uses her fictional exploration of classical 1960s genetics as an analogue with which to critique the alarming ascent of genetic determinism during the not-so-distant era of the novel's own publication.

Natalie Riley is a PhD candidate and teaching assistant at Durham University. Funded by the Wellcome Trust, her project explores mind science in the contemporary novel. She has written for The Polyphony and Journal of Literature and Science, with publications in Glyphi and BMJ: Medical Humanities forthcoming.

The Science of Life and Death in *Frankenstein*

Mary Shelley's novel *Frankenstein* emerged from a climate of fear. As scientific knowledge increased and new resuscitation techniques were widely reported by the Royal Humane Society, the public worried that the boundary between life and death was not as definite as had been thought. There was a real concern that doctors could not tell with any precision when very ill people were alive or dead. Members of the public worried that they might be buried alive or their corpses stolen from their graves for use in medical experiments. This paper will show how Shelley capitalised on the uncertainty caused by new scientific and medical ideas of life and death.

Professor Sharon Ruston is Chair in Romanticism at Lancaster University. She has co-edited the *Collected Letters of Sir Humphry Davy* for Oxford University Press (2020) and is currently writing a trade book for the Bodleian Library Press called *The Science of Life and Death in Frankenstein* (2021).

The Mysteries of Experience: Ann Radcliffe's Critique of Experimentalism

In Ann Radcliffe's novels, the difference between appearance and truth, sensation and reality, is constantly emphasized: things always "seem" but rarely are, characters frequently do "not comprehend" what they see, and even the narrator can only say that events "probably" happened one way or another. Such stylistic tics, I argue, are only the most obvious manifestations of a broader Radcliffean experiential epistemology, one central to how later Gothic novels treat their "mysteries" and which indexes long-simmering discomforts with experimentalist objectivity. On the one hand, Radcliffe proceeds with a skepticism that seems evocative of scientific empiricism, an exaggeratedly "modest witnessing" which reports only what is apparent. But, on the other, Radcliffe does not place her faith in an experimentalism of witnessed, repeatable, and describable events mediated by objective instruments. Instead, lone characters experience singular events that elude standard methods of description, and, most importantly, they must grapple with their bodies' limitations as sensing instruments. Radcliffe's emphasis on the embodied nature and aesthetic dimensions of experience became an important resource for later Gothic fiction, making the Gothic a rallying point for an epistemology of experience against that of experiment.

Alex Sherman is a PhD candidate in English literature at Stanford University. He researches the eighteenth century English novel in relation to mathematics, with a focus on geometry and spatial intuition.

Symbiogenesis and the Human Microbiome as Collage: What is Videodrome?

Collage is a powerful mode of creation in many media, and also a productive theoretical lens with which to view all sorts of things. I've developed a comprehensive theory of collage that depends on three specific criteria. They are the gap, the seam and contested space. The first collage, on this planet at least, was likely the creation of a new type of single-celled organism about 3.5 billion years ago called eukaryotes. Called symbiogenesis, it has all the hallmarks of collage.

The human microbiome is another interesting collage. As biologist Jan Sapp writes "A new understanding of life is emerging today, one in which organisms are conceived of as multigenomic entities, comprising many species living together. We are genetic and physiological chimeras. We did not just evolve from bacteria, we have evolved with them...." Research has suggested that human psychology is influenced by microbes within our digestive system.

All of this has surprising relevance to the 1982 film Videodrome written and directed by David Cronenberg. The main character can be seen as a symbiogenetic evolutionary advancement who is controlled via techno-biological entities inserted into his gut.

Dennis Summers has exhibited artwork in a wide range of genres and media internationally for over 30 years. His work is in the collections of several museums including MOMA, and the Pompidou Center. Much of his artwork has been crafted using collage strategies. He is the Arts Liaison for SLSA.

‘What becomes of the broken hearted?’: Metaphor, (Post)human Bodies and Power in Literary Accounts of Cardiac Surgery

This paper approaches the Posthuman through representations of heart surgery in contemporary writing, in which challenges to the parameters of the human demonstrate the experiencing self’s entanglement with multiple bodies, processes and material agencies. Metaphors of the heart in Western culture position it as the site of feeling, character and emotion, meaning that literary encounters with cardiac surgery necessarily engage with ways of being. This paper reads such encounters to ask: what happens to the idea of self when not only does a surgical procedure disrupt the boundary between apparently interior and exterior environments, but foreign matter agentially reshapes or replaces critical parts of the human body? The transplanted part of the heart disrupts essentialist definitions of the body in physical terms – categories such as genetics, species or the organic no longer adequately constitute boundaries between self and other, and such insights critique established power dynamics including those relating to race, class and gender. Surgical interventions reveal how *all* bodies are always already entangled with other selves and other matter, where matter is ‘a dynamic and shifting entanglement of relations, rather than as a property of things’ (Karen Barad). They also suggest that if ‘Nature’ is an ‘artificial construct’ (Timothy Morton), so too is the concept of the ‘natural’ human body.

Dr Emma Trott is working on a one-year Wellcome Trust-funded fellowship in the School of English at the University of Leeds, exploring metaphor and heart disease in contemporary literature and film. Her most recent publication is a short essay titled ‘On Ken Smith’s Heart’ in *Stand*. Her PhD was on the ecopoetics of Simon Armitage and Jon Silkin and she is interested in the dialogues and crossovers between the environmental and medical humanities.

Scientific Words-in-freedom: Mina Loy and John Rodker

For a decade or more after T. S. Eliot's 'The Metaphysical Poets' (1921), the dominant model for the use of science in English-language modernist poetry was the seventeenth-century conceit. But prior to Eliot's revival of the 'metaphysicals', there were other viable practices. In 1899, Arthur Symons had influentially noted Jules Laforgue's use 'colloquialism, slang, neologism, [and] technical terms' in his poetry. In the period 1910-1914 the Italian Futurist F. T. Marinetti had advocated the investigation of the 'inhuman' qualities of matter ('Technical Manifesto', May 1912), and, while he was concerned that 'molecular life' should not be introduced into poetry as a 'scientific document' ('Wireless Imagination', May 1913), his encouragement of unexpected analogies gave a place for scientific vocabulary in poetry.

The present paper will consider the place of scientific vocabulary in the poetry of John Rodker and Mina Loy. Loy, resident in Italy 1907-1916, was closely associated with several futurist writers. Though more closely associated with the Vorticist movement than the futurists, Rodker wrote The Future of Futurism (1927) in the To-Day and To-Morrow series. This paper will attempt to understand their methods of using scientific terminology and images closely associated with science: in Rodker's case, terms such as 'light-cones', 'osmoses', and 'sphygmogram'; in Loy's, terms such as 'infusoria' and 'radium.' Do such terms imply a larger structure of ideas -- a submerged conceit -- or are they being used in other ways?

Michael H. Whitworth is the author of *Einstein's Wake: Relativity, Metaphor and Modernist Literature* (2001), and other articles and chapters on literature and science. He is Professor of Modern Literature and Culture at the University of Oxford and a Tutorial Fellow at Merton College, Oxford.