

HSTM  
Network  
Ireland

Annual Conference

Ulster University  
Belfast Campus  
York Street, Belfast BT15 1ED

18-19 October 2019



History of Science, Technology, and Medicine Network Ireland  
Annual Conference  
Ulster University, Belfast Campus, 18-19 October 2019



HSTM  
Network  
Ireland

Kindly supported by the School of Arts, Humanities and Social Sciences, **Ulster University**

### **About**

The HSTM Network Ireland fosters research, teaching and public engagement in the history of science, technology and medicine (HSTM) in Ireland. It brings together researchers based in Ireland and welcomes overseas members with relevant interests. We aim to raise the profile of HSTM in Ireland and link Irish-based researchers to an international community of scholars. The Network promotes awareness of archival sources for HSTM on the island, advocates HSTM as a subject at all levels of education, supports and develops public events with an HSTM element and produces an accessible bibliography of HSTM research.

### **Annual Conference 2019**

The conference organisers invite you to register for the HSTM Network Ireland's annual conference taking place at Ulster University, Belfast Campus on 18-19 October 2019. The event will showcase innovative, original research currently being pursued by established and early-career researchers working in HSTM in Ireland and abroad.

Conference registration will cost £20 (coffee breaks and lunches are included in this price).

An optional conference dinner will take place on Friday, 18 October, at Made in Belfast, 23 Talbot Street, Belfast BT1 2LD.

There will be an additional charge of £30 for the conference dinner (which must be paid for in advance via the conference registration system).

All communication should be sent to [Hstmconference2019@gmail.com](mailto:Hstmconference2019@gmail.com)

## Friday 18 October 2019

5.30pm: Registration and coffee (location TBC)

---

6pm – 7.30pm

Conference Keynote

'Life begins at 40: biological and cultural perspectives on middle age'

**Professor Mark Jackson**

*Professor of the History of Medicine and Research Theme Leader for Medical Humanities,  
University of Exeter*

Conor Lecture Theatre

---

8.30pm

Conference Dinner

Made in Belfast, Talbot Street, Belfast

## Saturday 19 October

8.30am Registration and Coffee

### **Session 1: 9am – 11am**

#### **Panel 1a: Technology through Time (BA-00-21)**

Chair: Adrian Kirwan

**Malin Starett (Independent) Colour Me Bad:** 60 Years of the Land Controversy

**Harold Gropp (Heidelberg University):** Ireland and its Mathematical Traditions

**Adrian Kirwan (Maynooth):** The Telephone in Ireland, 1878-1893

**Claire Torrens (Museum and Heritage Service):** Shaped by Industry – Shared with Pride

**Panel 1b: Early Modern Medicine and Science (BA-00-22)**

Chair: Ruth Coon

**Sara Honarmand Ebrahimi (University of Edinburgh):** “Effect of clothes”: The Case of Dr Theodore Leighton Pennell

**Michael Kinsella (Ulster University):** The Irish Private Patients of the Glasgow Royal Asylum, 1840-1899

**Conleth Loonan (Independent):** An International Alchemical Circle based in Liege

**11am – Tea/Coffee**

**Session 2: 11.30am – 1pm**

**Panel 2a: Science as Narrative: Cases from Evolutionary Biology and Geology (BA-00-21)**

Chair: tbc

**Dominic Berry (LSE):** Introduction: Narrative Science for Histories of Science

**Ross Brooks (Oxford Brookes):** Sex beyond Selection in *The Descent of Man* (1871)

**Andrew Hopkins (LSE):** Competing Narratives: The Continental Drift Debate of the Early 20th Century

**Panel 2b: Authorship in Babylonian Science (BA-00-22)**

Chair: TBC

**Moudhy Al-Rashid, Wolfson College (University of Oxford):** “Tried, Selected and Checked”: Experimentation in Mesopotamian Medical Texts

**Sara Mohr (Brown University):** Toward a Unified Understanding of Mesopotamian Cryptography

**E.L. Meszaros (Brown University):** Anonymity and Authorship in the Reception of Mesopotamian Science

**1pm - Lunch**

**Session 3: 2pm-3.30pm**

**Panel 3a: Biology, Environment and Natural Science (BA-00-21)**

Chair: Ashok Malholtra

**Pankoj Sarkar (Tata Institute of Social Sciences):** The British Raj and the Amateur Agricultural Science Writing in India: Pen, Patronage and Knowledge Making at the Periphery

**Kelly Hamilton (St Mary’s University):** Edward Stuart Russell and the Study of Living Things: Philosophy of Biology at the Aristotelian Society

**Caroline Sumptor (Queen’s University Belfast):** Journalism and the ‘Natural History of Morals’ before the *Descent of Man*

**Panel 3b: The Troubles (BA-00-22)**

Chair: Michael Kinsella

**Megan Kelly (Queen's University Belfast):** 'Nursing the Troubles: An Oral History of the Emotional Labour of Acute Nursing in Belfast during the Troubles'

**Ruth Coon (Ulster University):** Healthcare during the Troubles: Working in a Warzone

**Ian Miller (Ulster University):** Radical Politics, Social Psychology and Trauma during the Troubles, c.1968-88

**Session 4: 3.30pm-5pm**

**Panel 4a: Advancement of Medicine, Science and Religion (BA-00-21)**

Chair: Ian Miller

**Mary Hatfield (UCD):** Sensation, Emotion and Early Models of Children's Mental Health 1780-1840

**Charnete Casimero (Ulster University):** From the Golden Fleece to Grey's Anatomy: How Intravenous Therapy Changed the World

**Stuart Mathieson (Queen's University Belfast):** The Last Gentleman Amateurs? Irish Religious Scientists in the Holy Land

**Panel 4b: Race, Gender and Medicine in Asia (BA-00-22)**

Chair: Lauren Young

**Stan Neal (Ulster University):** Racial Science, Diet and Colonial Hierarchy in the Writing of John Crawford

**Nikita Arora (University of Oxford):** Bleeding in the Time of Empire: 'Indian' Bodies and the Medicalisation of Menstruation

**Ashok Malhotra (Queen's University Belfast):** Cutting edge research in the contact zone? - The Establishment of the Nutritional Research Laboratories in Coonoor (1925-1927)

**Session 5, 5pm-6.30pm**

**Panel 4c, Disease through time, BA-00-21**

Chair: Stan Neal

**Patricia Marsh (Queen's University Belfast):** Belfast's own 'Typhoid Mary': The control of healthy typhoid 'carriers' in Belfast

**Eugenie Scott (Ulster University):** Title to be confirmed

**Lauren Young (Ulster University):** Diabetes in Twentieth-Century Ireland

---

6.30pm  
Closing Comments

---

## Abstracts

### **Keynote Speaker:**

**'Life begins at 40: biological and cultural perspectives on middle age'**

***Professor Mark Jackson, Professor of the History of Medicine and Research Theme Leader for Medical Humanities, University of Exeter***

This paper will reflect on how we understand an often neglected period of the life course: middle age. After exploring histories of middle age - its boundaries, meanings, challenges, experiences - the paper will focus on the midlife crisis as a case study to introduce historical approaches to health and well-being in midlife in the twentieth century.

In 1965, the Canadian-born psychoanalyst and social scientist Elliott Jaques introduced a term – the midlife crisis - that continues to structure Western experiences and expressions of love and loss in middle age. During subsequent decades, the midlife crisis became a fashionable means of describing feelings of disillusionment with work, disenchantment with relationships, detachment from family responsibilities, and the growing fear of personal death that began to haunt those beyond the age of forty. In addition to popular expositions of the midlife crisis, scholarly studies within the social and biological sciences also regarded midlife in similar terms: as a physical or psychological tipping point or crossroads in the life course, the moment at which people in the prime of life felt themselves to be at risk of sinking towards senescence and death.

Although the midlife crisis has often been dismissed as a myth or satirised in contemporary novels and films that tend to foreground its comic elements, the concept has persisted not only in stereotypical depictions of rebellion and infidelity at midlife, but also in research that has sought to explain why and how middle age presents particular social, physiological, and emotional challenges. Exploring a rich range of historical sources, in this paper I shall argue that the emergence of the midlife crisis – as concept and experience – during the middle decades of the twentieth century was not coincidental. Rather it was the product of historically specific demographic changes, new biological accounts of ageing, and deepening anxieties – at least in the Western world - about economic decline, political instability, rising levels of divorce, and the impact of family breakdown on social cohesion.

### **Panel 1a: Technology through Time**

**Colour Me Bad – 60 Years of the Land Controversy**

***Malin Starett, Independent Scholar***

Edwin Land was one of the greatest experimenters and inventors of the twentieth century. Having proven his technical problem-solving abilities in inventing the first practical artificial sheet polarizer material, he went on to invent the world's first instant photography system. Later, during research and development for an instant colour photography system, he

encountered various colour phenomena which he thought were inexplicable with the conventional ideas utilised in the science of colour. Land published articles in 1959 and embarked on an extensive lecture tour, wowing audiences with experiments involving projecting photographic images which most people thought were impossible. Land not only showed amazing colour phenomena to audiences, he also claimed that conventional colour science could not explain these phenomena. Understandably, the community of colour vision scientists were offended and thus began one of the largest scientific controversies of the twentieth century.

The intensity of the debate was somewhat forgotten in subsequent years because Land's later "Retinex" theory of colour vision (1964) was less confrontational and therefore more warmly received by the community of colour vision scientists. However, Land's early work in colour science deserves much more attention than it usually receives – it is instructive on multiple levels such as in teaching how industrial research relates to academia, of how different styles of research can lead to different results and questions about whether colour exhibits a presence in the outer world.

### **Ireland and its Mathematical Traditions**

***Harold Gropp, Heidelberg University***

How can it happen that in Ireland the 100th anniversary of the Easter Rising was celebrated on March 27, 2016 whereas the 50th anniversary was held on April 10 in 1966? By the way, the rising took place on April 24 in 1916. In all these cases, it was Easter Sunday. During World War II, celebrating the 100th anniversary of the quaternions in 1943, no real conference could be organized but Hamilton was dedicated a stamp. A few years earlier, the Dublin Institute for Advanced Studies (DIAS) was founded in 1940, consisting of three institutes, the School of Theoretical Physics, the School of Cosmic Physics, and the Scoil an Leinn Cheiltigh (the School of Celtic Studies), hence supporting quite different parts of the academic world. It was the mathematician Eamon de Valera who engaged the Austrian physicist Schrödinger for the DIAS and who arranged a stamp for the physicist Hamilton. De Valera is better known as a leading participant of the Easter Rising in 1916, as the leading Irish politician in the 20th century, the main author of the Irish constitution of 1937. Apart from the political and mathematical background of the 20th century, in my paper I shall describe some further aspects of these relations in Ireland in much earlier centuries. Among others this could be Newgrange, the calendar of Coligny or Feirgil, the Irish bishop of Salzburg, or Columcille and Easter date questions in general.

### **The Telephone in Ireland, 1878-1893**

***Adrian Kirwan, Maynooth University***

The development of telephony in Britain has been covered extensively in the academic literature, however Ireland represents a lacuna in this scholarship. This paper will explore the spread of the telephone in Ireland from its introduction in 1878 to the takeover of the Telephone Company of Ireland (TCI) by the National Telephone Company in 1893. It will explore the methods used to promote the technology in Ireland, including its inclusion in scientific lectures and displays, and investigate the activities of the TCI which was formed in 1882 to promote and supply telephony in Ireland's three southern provinces: Leinster,

Connaught and Munster. Its establishment points to a realisation that local knowledge and influence were important for the development of telephony on the island. By investigating the early development of Ireland's telephonic network, this paper seeks to understand the multiple factors—including economic, technological, political, and business—that impacted this technology's diffusion and use in Ireland.

### **Shaped by Industry – Shared with Pride**

***Claire Torrens, Independent Scholar, paper submitted on behalf of Mid and East Antrim Borough Council – Museum and Heritage Service***

Lady Londonderry has often been hailed as an entrepreneurial businesswoman who ushered in an era of both social and technological changes along the Antrim Coast. During the nineteenth century Lady Londonderry instigated many social as well as industrial innovations chiefly in the villages of Carnlough and Glenarm. One social change was the prohibiting of livestock in tenant homes, animals consequently had to be kept in barns or pens. As keeping livestock in the home posed an obvious health risk. By bringing in reforms such as these Lady Londonderry sought to educate her tenants not only on health issues but also what is socially acceptable in polite society. However, as with most reforms there is usually some form of backlash, many felt that Lady Londonderry was encroaching on their way of life and disregarding their traditions and culture. Although there was a clear health risk, many kept their livestock inside as precaution against prey and thieves. With the animals outside there was more of a danger posed to them thus affecting the family directly as their livestock would have been their main source of income. Furthermore, to build these barns and pens would have cost a considerable amount of money-which the tenants did not have.

Also from a social perspective Lady Londonderry showed other paternalistic though practical approach to her tenants in Ireland opening a soup kitchen and distributing blankets during the Great Famine. After the effects of the famine Lady Londonderry also encouraged tenants to improve their land by offering subsidised seeds to farmers. Lady Londonderry and her husband Henry Vain Tempest saw an opportunity to extract limestone more effectively from their quarry in Carnlough and Glenarm by offering her tenants jobs at the quarries and investing in lime kilns, a railway line and the creation of a harbour at Carnlough. The limestone would join with the coal from their extensive collieries in the north east of England to create steel on the Clyde in Scotland. However, there is obviously a conflict of interests here as working for your landlord creates a close relationship in where the tenant is unable to complain about unsafe working conditions in fear of losing their jobs and their homes and vice versa. This appears to be an overarching theme throughout the nineteenth century, particularly among small rural communities who were limited in available job opportunities and had little to no workers' rights as well as no pension funds.

This is particularly evident during the building of the Antrim Coast road from 1832-1842 by renowned engineer William Bald which was 'funded by the Board of Works and County Grand Jury to the tune of £33,700. It was the biggest civil engineering project ever undertaken in Ireland.' The development of this road was rather risky as the majority of the terrain was rocky and uneven with rock falls highly likely, due to the erosion of the mountains the road is built upon. In order to combat the rocky mountainous terrain Bald

pioneered the method of setting explosions to break through the mountains instead of building around them. It is estimated that '30,000 cubic yards of rock have been hurled down on the shore almost entirely by blasting.' As revolutionary as this was for the era it also added to the high risk factor for those working on the road, as they now had to deal with explosives as well as the chance of rock fall. It is important to note that while a lot of these men were skilled navies used to this type of work, a lot of the men would have also been farmers untrained in manual labour and perhaps were more susceptible to accidents resulting in serious injury or death. As previously stated workers had little rights and no pension funds as the first state pension fund didn't come into effect until 1st January 1909. Thus leaving many desolate after the bread winner was injured or killed as there was no money to continue to support their families, therefore seeing a rise in child labour and decline in education as children were needed to help bring in a wage.

The primary focus of this paper will be to highlight who were the winners and losers of the industrial revolution along the Causeway Coastal Route, the diversification from rural life to industrial life as well as all the social unease these changes brought. Finally, this paper will also analyse the positives brought to the Causeway Coastal Route due to the innovative work by Lady Londonderry and William Bald, such as easier trade routes to industrial Belfast.

#### **Panel 1b: Early Modern Medicine and Science**

##### **"Effect of clothes": The Case of Dr. Theodore Leighton Pennell**

***Sara Honarmand Ebrahimi, Paul Mellon Centre for Studies in British Art postdoctoral fellow/ University of Edinburgh***

While scholarship constituting certain medical missionaries such as Dr. David Livingstone is considerable (Felix, 2013; Livingstone, 2014), the same cannot be said in relation to a number of other medical missionaries including Dr. Theodore Pennell. Albeit not to the same extent as Livingstone, Pennell was a recognised medical missionary. He received his medical training at the University College, London taking his M.B. degree in 1890 and his M.D. degree in 1891. In 1892, he offered himself to the Church Missionary Society (CMS) – he was 25. Pennell was sent to India where he established the Bannu medical mission in north-western India (now Pakistan) in 1893. This paper sheds some light on the life and career of Pennell. Particularly, it discusses Pennell's habit of adopting local dress. Pennell wore local dress on his tours, in the hospital, and when visiting patients at their homes. In current scholarly discussion about colonialism, adopting "native" clothes is mainly viewed as a sign of sympathy for local people. Drawing on affect studies, this paper departs from this perspective: there were moments when Pennell taught about understanding people, but this reason fails to explain what Pennell called "effect of clothes." I argue that we should shift our examination from "what the body is" to "what the body can do" (Ruggerone, 2016). When choosing his clothes, Pennell imagined a future scenario and was mainly concerned with how his clothing could make patients feel less "stressed" and how it could help him to participate in certain activities and cultivate relationships.

##### **The Irish Private Patients of the Glasgow Royal Asylum, 1840-1899**

***Michael Kinsella, Ulster University***

The final decades of the nineteenth century witnessed the continued entrenchment of public lunatic asylums as a cornerstone of welfare and health provision in Ireland. Irish private asylums also flourished in this period offering a good but expensive alternative to publicly funded care and treatment. The latter decades of the nineteenth century witnessed the emergence of a growing middle class in Ireland who found the fees of Irish private asylums to be beyond their means but nevertheless sought alternatives to public asylums. Through an examination of the case books, patient registers and annual reports of the Royal Glasgow Asylum, this paper uncovers a pattern of migration whereby middle and higher-class Irish people, predominantly from Ulster, travelled to Glasgow for the purpose of entering the GRA as private patients. In addition, a number of wealthy, and in some cases prominent, Irish people also journeyed to the GRA in search of care and treatment. The history of Irish psychiatry focusses primarily on pauper lunatics with relatively little attention given to the experiences of the middle and higher-classes. This paper seeks to make a small contribution to addressing this lacuna. The paper argues that the experiences of middle and higher-class Irish people at the GRA were shaped primarily by their social class. Gender was also an important factor in determining both the treatment outcomes, diagnosis and quality of care encountered by the Irish-born patients of this study. This paper contends that there is a lack of evidence to sustain an argument that either ethnicity or religion were major influences on the way in which middle and higher-class Irish-born patients experienced life at the GRA.

**An International Alchemical Circle based in Liege**  
***Conleth Loonan, Independent Scholar***

My submission concerns the existence of an alchemical circle, probably in Liège, in the 1580s. Members included: Richard Stanihurst, Sir Edmund Stafford, the Abbè de Cottignon and a certain Monsieur Bersay. The central activity of the group involved the production of alchemical preparations based on the noble metals – gold and silver - especially potable gold. The Dublin-born polymath Richard Stanihurst (1547-1618) spent three years at the Escorial in Spain, providing advice on Irish affairs to Philip II, as well as carrying out alchemical preparations. Sir Edmund Stafford (1552-1605) was English ambassador to Paris, 1583 to 1590. The other two figures are not identified, as yet: the Abbè de Cottignon possibly served as convener, or secretary of the group, and Monsieur Bersay, known only from a fleeting reference, but one which identified him as a skilled alchemist.

Evidence for the existence of this group. Richard Stanihurst refers to his having been visited by a man on an alchemical matter during his time in Liège. The English diarist John Evelyn (1620-1706) named Stanihurst, Stafford and de Cottignon in his compendium of alchemical documents (written in French/Latin/Italian). Monsieur Bersay is mentioned in one. Other, unknown, members are mentioned as ‘friends’ by Stanihurst. The outstanding questions are: How did Evelyn come by the manuscript copies constituting his compendium and how did he know about a group of alchemists active thirty to forty years before his birth? So far his diary and letters have not revealed this to me.

## **Panel 2a: Science as Narrative: Cases from Evolutionary Biology and Geology**

We address the epistemic work that narrative accomplishes for scientists in the pursuit of science. While the importance of narrative as a literary form is already well developed, evidenced in the growth of studies intersecting science and literature, and the importance of narrative for wider receptions of science and in pedagogy is also clear, our analysis is more specific. We focus on narrative as a way of knowing, one that contributes to epistemic debate, or functions as a means for tackling problems, reaching conclusions, and so on. After an introduction, two papers provide examples from evolutionary biology and geology respectively.

### **Introduction: Narrative Science for Histories of Science**

***Dominic Berry, London School of Economics***

If the motivations and aims of the ongoing Narrative Science project are only glanced at, one might overlook its novelty and potential. While the range of features that historians of science and technology attend to in their cases continues to expand, our panel makes a case for a fresh look at narrative, from the perspective of integrated history and philosophy of science, for reasons more specific than a glance allows. We make this case in full knowledge of the importance that historians already attach to narrative, at least of their own historical narratives if not necessarily of analysis of narrative itself. We also make this case in full knowledge of the lively and expansive field of scholarship intersecting histories of science and literature, which we have learnt from and aim to contribute to. In contrast with these existing interests, it would be fair to conceive of the Narrative Science project as tackling aspects of narrative that are decidedly narrower. They are certainly more specific. But this specificity is the project's strength, enabling historians to travel deeper into parts of their cases they might otherwise overlook, find connections between elements otherwise apparently unconnected, develop interdisciplinary connections between fields that might otherwise be alienated from one another, and - considered from a present-centred perspective - all in ways that take a robust stance on behalf of narrative's ability to contribute to and constitute knowledge.

### **Darwin's Queer Plots: Sex beyond Selection in *The Descent of Man* (1871)**

***Ross Brooks, Oxford Brookes University***

*The Descent of Man, and Selection in Relation to Sex* is well known to contain Charles Darwin's lengthiest exposition of his second great theory after natural selection, sexual selection. Historians of biology, most recently Evelleen Richards, have argued that Darwin framed the theory in resolutely heteronormative terms; indeed, Darwin's construal of "nature's courtship plot" (Ruth Bernard Yeazell) based on stereotyped notions of aggressive males and fussy females has been foundational in the development of a vibrant scholarship on the functions of narrative in science and literature (see, for example, Gillian Beer's

Darwin's Plots). Questions remain, however, about how Darwin broached sex variations—intersexualities, transformations of sex, and non-reproductive sexual behaviours—which fell outside Descent's principal courtship plot, a situation which this paper aims to address. It will explore the role of narrative in Darwin's text as he sought to align his idealised construal of sexual selection with his commitment to the principle of primordial hermaphroditism (dual-sexed origins). The paper will also discuss his handling of the sexual mores and behaviours of indigenous peoples ("savages"). Despite constituting some of the most overt references to non-reproductive sexual behaviours in Descent, Darwin situated the sex lives of such peoples in a highly restrictive narrative of civilizational teleology. Reflecting on these and other queer aspects of Descent, the paper will offer new insights on the range of strategies that Darwin deployed in order to manage subjects which might have brought his book into confrontation with prevailing standards of Victorian gender and sexual respectability.

**Competing Narratives: The Continental Drift Debate of the Early 20th Century**  
*Andrew Hopkins, London School of Economics*

The translation of Alfred Wegener's *The Origin of Continents and Oceans* into English in 1924 provoked a backlash from much of the Anglophone geological community, particularly in the USA. Wegener's proposal that the continents had been in motion, separating and colliding over geological time threatened the existing view that they were fixed, permanent entities. To many, this so-called mobilist view seemed to constitute a more coherent and parsimonious position than the fixist perspective. For example, the anomalous distribution of certain fossil fauna and flora had previously been explained by invoking the ad hoc existence of ephemeral land bridges between continents. Continental mobilism on the other hand had the ability to explain biotic anomalies as well as a number of other puzzling geological phenomena such as how and why mountain chains form and how rocks deposited in a tropical climate could now be located in polar regions. Ultimately however, although Wegener's arguments found cautious acceptance in many places, they failed to achieve a consensus among American geologists, and continental drift sunk into oblivion in the USA until it re-emerged in a different guise in the theory of plate tectonics in the 1960s. This talk will review the main arguments and key personalities on both sides of a debate in which each camp constructed and defended its own narratives of earth history in order to account for the same observations. By reconstructing these competing narratives and making them explicit I will seek to expose the underlying assumptions and prejudices on each side.

**Panel 2b: Authorship in Babylonian Science**

From questions of priority to "Great Man" interpretations, authorship has proven an interesting and problematic area of inquiry within History of Science. New complexities emerge when authorship is examined in the context of scientists and scientific texts in ancient Mesopotamia. This panel examines three different aspects of authorship in Babylonian science, from how authors of medical texts engaged in experimentation, to the interaction between cryptography and authorship, and finally to how anonymity of scientific texts impacts modern reception. These three talks work together to lay out different ways in which authorship and science interact in Mesopotamia.

**“Tried, Selected and Checked”: Experimentation in Mesopotamian Medical Texts**  
**Moudhy Al-Rashid, Wolfson College (University of Oxford)**

There are two main categories of medical texts recorded in the cuneiform writing system. Diagnostic texts list symptoms and diagnoses, and although there is evidence that medical professionals relied on them, the texts themselves do not change or adapt to new knowledge about health and illness. Therapeutic texts, on the other hand, are diverse in form and content, and the therapies they set forth appear to adapt to knowledge about illness and its treatment. In particular, the label of *latku* or *latik*, which means “tested” in Babylonian, suggests an element of empiricism and experimentation. For example, the colophon of one text from Assur that addresses various medical ailments reads, “Tried, selected, and checked procedures, which are established for use. You perform them, they (the patients) will get well.” A therapeutic text from the famous Library of Ashurbanipal at Nineveh ends with, “A reliable salve from the hand of a scholar, it is tried (and) checked.” This paper will explore the label of *latku* as a window onto early science and those who authored its texts in ancient Assyria and Babylonia, and how science can be understood in the intellectual context of the production of cuneiform medical texts. The paper will introduce these medical texts and suggest that their authors relied on experimental and observational knowledge to compose, edit, and adapt therapies, thus providing an early example of ancient science.

**Toward a Unified Understanding of Mesopotamian Cryptography**  
**Sara Mohr, Brown University**

Mesopotamian cryptographic practice made use of all of the major kinds of cryptography--concealment, transposition, and substitution--to remove knowledge that seemed to center around disguising names. While it would be too much to say that there is a single unified concept of “Mesopotamian cryptography,” we can say that the primary usage was for the concealment of names, which largely occurred in the first millennium. Divine, royal, and scribal names dominate the material that was encrypted in Mesopotamia. Whether the intent was to create a unified system or not, this practice of cryptography served to remove scientific knowledge from the world and place it in the control of the select few who were aware of its existence, while also creating new forms of scientific knowledge. I argue that the political changes of shifting powers in the first millennium BCE in Mesopotamia increased the desire to hide names for their connection to the longevity of the scientific communities of people who bore them. It is difficult to find parallels and equivalences in cryptographic practice in Mesopotamia without unifying all instances in a single study, so part of this project presents the first full compilation of instances of cryptographic concealment in Mesopotamia. Though there are problems in identifying a unique and wide-reaching “Mesopotamian” practice, it is possible to examine where these single instances converge and interrogate its significance to scientific understanding and the transmission of scientific knowledge. This presentation therefore presents an overview of the scientific practice of cryptography in Mesopotamia as well as how this technique was used within the realm of scientific texts.

**Anonymity and Authorship in the Reception of Mesopotamian Science**

***E.L. Meszaros, Brown University***

The previous speakers on this panel have complicated how authorship worked for Mesopotamian scientific texts. In light of this new appreciation, it is worth re-evaluating how modern historians of science can approach scientific authorship of this period. This presentation examines how modern conceptions of authorship — in particular gender, class, and age — are used and misused to interpret Babylonian scientific texts. This study fits in well with previous work on decoupling modern understanding of scientific concepts from how they appear in Mesopotamian texts. For example, the identification on Mesopotamian tablets of common mathematical formulae that were later attributed to Greek scholars forces us to think about how these formulae and their “authors” were understood contemporaneously.

In addition to thinking about how scholarly identity, secret knowledge, and knowledge communities have informed known authorship, this presentation also examines instances of anonymity and the effect this has on contemporaneous and modern reception of a scientific text. Because so few Mesopotamian scientific texts are attributed to individual authors, modern scholarship has to interact with these texts in a different way. There is an initial inclination to attribute author-less texts to a time period or culture instead of an individual, but this reduces the agency of ancient scientists and scholars. By examining how complex Mesopotamian scientific authorship disrupts current trends and methods of analysis that rely on individual biographies — both problematic and otherwise — this presentation seeks to identify alternative methods of incorporating Mesopotamian texts into modern studies of History of Science.

### **Panel 3a, Biology, Environment and Natural Science**

#### **The British Raj and the Amateur Agricultural Science Writing in India: Pen, Patronage and Knowledge Making at the Periphery**

***Pankoj Sarkar, Tata Institute of Social Sciences***

The primary aim of this paper is to bring out how the vernacular amateur agriculture science writers in British India emerged and how they eventually played a crucial role in the production, reproduction and circulation of agriculture science knowledge while working under the British empire. This was a complex process which went through numerous changes, scrutinise and it also offers enormous opportunities for the native scientists to show their excellence and to participate in the active knowledge-making process.

In this paper, vernacular archival sources have been analysed extensively to understand the perspective of the colonised as this has rarely been taken into consideration in the scholarship of the history of science in colonial India. Along with this, colonial English archival sources have also been given equal importance. Incorporating both these sources will assist in bridging the gap in the methodology of studying science technology and knowledge production in the colonial context.

My preliminary analysis shows that it was not only the quantity of the native agricultural science writing increased in the last quarter of the 19th century in colonial India but at the

same time, their influence and authority both inside and outside the laboratory, peers, counterparts were also striking. Eventually, it had influenced the circulation, production as well as knowledge and decision making at the peripheries and centres.

### **Edward Stuart Russell and the Study of Living Things: Philosophy of Biology at the Aristotelian Society**

***Kelly Hamilton, St Mary's University***

Edward Stuart Russell's classic history and philosophy of morphology, *Form and Function*, originally published in 1916, is probably his best known work today, and references to it appear frequently in the literature. Russell's intellectual interests were wide-ranging, however, and *Form and Function* was only his first book. In the 1930s, Russell described his thought as having moved through three stages. In *The Interpretation of Development and Heredity*, he characterized the first stage of his thought as a 'methodological vitalism', represented by his article 'Vitalism', published in *Scientia* in 1911. The second, 'psychobiological', stage was represented primarily by his work with the Aristotelian Society in the 1920s, and his book *The Study of Living Things: Prolegomena to a Functional Biology*. In the thirties, he developed the "organismal point of view" that informed his subsequent work on animal behaviour. In this talk, I will consider his philosophy of biology in the second stage of his philosophical development through the lens of his participation in the Aristotelian Society.

When Russell was elected a member of the Aristotelian Society in 1921, the same year as Collingwood, Alfred North Whitehead was about to become president. Whitehead was in the chair as president when Russell read his first paper, "Psychobiology" to the society in their rooms at Gower Street in 1923. Prof. John Scott Haldane opened the discussion that followed, in which Prof. Whitehead and Prof. Nunn took part. In the same year Russell participated in a symposium at the Joint Session of the Aristotelian Society, the Mind Association, and the Scots Philosophical Club. Among those reading papers at the session were A.O. Lovejoy, S. Alexander, R.C. Collingwood, Alfred North Whitehead, and G.E. Moore. Russell's symposium was opened by Prof. Haldane, and Russell and Sir Leslie MacKenzie followed. Professors Alexander and Lovejoy both took part in the subsequent discussion.

These were exciting debates, wide-ranging and exploratory, conducted at a time when a broad range of philosophical ideas were being considered concerning open issues in biology. In this talk, I will focus on the philosophical arguments of the major thinkers engaging Edward Stuart Russell as his thinking evolved during his participation in the Aristotelian Society discussions.

**Journalism and the 'Natural History of Morals' before the Descent of Man**  
***Caroline Sumptor, Queen's University Belfast***

### **Panel 3b: The Troubles**

**'Nursing the Troubles: An Oral History of the Emotional Labour of Acute Nursing in Belfast during the Troubles'**

***Megan Kelly, Queen's University Belfast***

This presentation aims to examine the sociological framework to answer the question, what is emotional labour? In short, emotional labour gives attention to the emotional costs of carrying out various forms of work. This presentation will specifically examine emotional labour and its relationship with the work of nurses. Note, that for the purpose of this essay any job that involved customer service was categorised as a service provider. The purpose of defining emotional labour in a succinct way is to be able to apply the theory to a future PhD: 'Nursing the Troubles: An Oral History of the Emotional Labour of Acute Nursing in Belfast during the Troubles'. Continuing this study will also endeavour to further define and understand emotional labour in the context of a range of service providers; thus proving that there is an omission for this type of research and analysis. With that in mind, this will conclude both the principles, practice and importance of emotional labour; all whilst attempting to define emotion in general as a key ingredient to understanding the theory at hand. At each stage, we will recognise the benefits of emotional labour study, both for advancement in sociology and development in the work of service providers, namely nurses.

The focus in section one will be to examine the teaching on emotion. Although we do not intend to offer a psychological examination, this humble exploration will display emotion as a journey to showing how it leads to emotional labour. This section will conclude by addressing emotional impact and establishing that emotion and environment are married and it is an individual's ability to cope with this explains their relationship with emotional labour. Continuing, section two will begin by recognising the relationship between emotion and emotional labour and use this to identify the primary principles of emotional labour, showing how this looks in practice.

In recognising the key features and examples of emotional labour, this essay will conclude that a scale is the best method to analyse emotional labour and its variables. In doing this we will look at burnout as the peak of a heightened emotional labour and in general observe where this is rooted. To finish, this essay will conclude that emotional labour has many variables and in turn, it will eventually be a unique approach to navigate the career of nurses during 'the Troubles' in Northern Ireland.

**Healthcare During the Troubles: Working in a warzone**  
***Ruth Coon, Ulster University***

From 1968-1998 violent conflict raged in Northern Ireland. The Troubles led to the death of over 3,600 people and injured more than 40,000 others. The health service had to provide care for those injured, as well as continuing to treat the population in general. Quoting A Tale of Two Cities, one staff member recalled the period as such: 'It was the best of times, it was the worst of times.' The paradox of the working experience of medical professionals in this period will be the topic of this paper. It brought many challenges both personally as well as professionally.

New medical challenges had to be faced, including injuries not previously seen by professionals there, caused by bullets, bombs, as well as the often-distressing results of paramilitary punishment methods. Staff at hospitals such as Altnagelvin (Londonderry) and

the Royal Victoria (Belfast) had to learn on the job as an influx of patients with violence related injuries arrived at their doors, changing completely what was the 'norm' day-to-day in the A&E departments and theatres. Staff themselves also had to face many dangers. Hospitals were not immune to the violence and the presence of the security forces, paramilitaries, and civilians at times caused problems. Some hospitals and staff were also attacked during the conflict and tragically deaths occurred. Even traveling to work could be fraught with dangers, with checkpoints, barricades, and snipers being common obstacles to navigate. Yet despite the difficulties, staff also look back fondly on the camaraderie of the time. The rewards of their hard work, saving the lives of the seriously injured. As well as pointing to the benefits brought by their experience. The skills, as well as, the new techniques and technologies developed during the period.

### **Radical Politics, Social Psychology and Trauma during the Troubles, c.1968-88**

*Ian Miller, Ulster University*

During the Northern Irish Troubles (1968-98), the senses of civilians, soldiers and conflict participants were overwhelmed by sights and noises that too often precipitated episodes of emotional disturbance. Cities such as Belfast and Derry were rocked by car bombs, explosions, brutal sectarian murders and the intrusion of an army which many Catholics saw as the agent of a repressive foreign government. In the midst of this, an American social psychologist, Rona Fields, arrived in Belfast. Shocked by the emotional trauma which she saw around her, she spent much of the 1970s writing damning accounts of the British presence in Northern Ireland which she saw as 'psychological genocide'. Her vivid accounts of physical and mental suffering aroused the anger of the government who took steps to have her books withdrawn from publication and actively hindered her research.

This article explores the interaction between the agendas of radical political researchers such as Fields' and local psychiatrists and psychologists who subsequently launched a united attack upon Fields. Instead, they sought to de-politicise the issue of conflict-related trauma by presenting a conflict in which children and civilians were coping well, managing emotional disturbance with psychological defence mechanisms. Ultimately, this paper feeds into broader debates regarding the political role played by medical personnel during the Troubles and the manner by which research and health policies were shaped by the political exigencies of the time. The re-emergence of trauma as a critical legacy issue in post-conflict Northern Ireland prompts a reassessment of who presented a more accurate impression of the sensual and emotional experiences of the Troubles: radical social psychologists or local mental health communities, and for what purposes?

### **Panel 4a: Advancement of Medicine, Science and Religion**

#### **Sensation, Emotion and Early Models of Children's Mental Health 1780-1840**

*Dr Mary Hatfield, University College Dublin*

This paper examines ideas circulating among Irish physicians about the ability of infants and young children to experience and feel sensations. Drawing on the Lockean tradition of empiricism, some physicians believed that the infant could not feel pain or experience emotion. This paper looks at some of the implications Lockean philosophy had on ideas about children and their ability to feel and experience pain and happiness. Unlike other

medical specialities which developed around the treatment of particular organs, body-parts, or types of illness, paediatricians were defined by who they treated. Thus, a key feature of the paediatric discourse in the first half of the nineteenth century revolved around the need to define what constituted maturity and immaturity in the course of human development. Medical ideas about childhood pain and infantile emotion changed during this period as physicians began to measuring patient emotion as part of the diagnostic process. By the 1840s the ideal of a happy or cheerful child became an aspect of assessing childhood health; a deficiency in happiness was considered a reliable sign of poor mental and physical health. Drawing on the work of Roger Cooter, Andre Turmel and Sydney Halpern, this paper examines how infant and child mental health became standardised in the early nineteenth century.

**From the Golden Fleece to Grey's Anatomy: How Intravenous Therapy Changed the World**  
*Charnete Casimero, Ulster University*

What are the key milestones in medicine? This is a tough question to answer as it depends on perspective. In 2007, the British Medical Journal asked its readers a similar question and received some 70 suggestions from which a shortlist of 15 were selected. All the suggestions could be considered worthy, but it is notable that intravenous (IV) therapy failed to make the shortlist. A stroll through any hospital setting will reveal patients with some form of intravascular access device (IVAD) and, as they form the bedrock of most treatments, such systems will be among the first interventions upon being admitted to hospital. Consider the representations of hospitals within the media (print or screen), the image of a patient connected to an IV drip bag is almost inescapable and, for many, its ubiquity would be considered a standard, possibly mundane, procedure. Yet few people are aware of the dramatic events that belie its evolution from antiquity to the present day. Legends, witchcraft, religious beliefs, pseudo-science and some highly imaginative (and bizarre) empirical engineering have all contributed to the development of IV therapy and the devices needed to facilitate it. The evolutionary pathway of IV therapy is punctuated with revolutionary changes in medical practice. This presentation provides an overview of its murky origins, its gradual transformation through the ages, its impact on the wider society and highlights how advances in science and engineering has led to the sterile and robust systems that underpin modern healthcare.

**The Last Gentleman Amateurs? Irish Religious Scientists in the Holy Land**  
*Stuart Mathieson, Queen's University Belfast*

In the early nineteenth century, well-educated gentleman amateurs made a substantial contribution to the natural sciences. Anglican clergy, who could avail of both a university education and a considerable amount of free time, were the archetypal 'parson-naturalists'. However, the emergence of discrete scientific disciplines alongside the professionalisation and secularisation of the academy meant, that by the close of the century, such figures felt out of step, and out of place, in the public scientific arena. Most maintained orthodox Christian beliefs alongside epistemological commitments to a specific philosophy of science. This philosophy was indebted to the inductive methodology of Francis Bacon, commonly held to the originator of the scientific method, and espoused empiricism at the expense of speculation and hypotheses. They thus viewed the hypothetico-deductive methodology that

drove much Victorian science with deep suspicion, particularly as it was adopted by 'Darwinians', such as the ardently secular T. H. Huxley and John Tyndall. Further, speculation abounded about the origins and historical reliability of the Bible, which many religious scientists relied on the same faulty methodology. The opening of Palestine to Europeans, however, offered a chance for religiously-inclined amateurs to contribute to emerging fields, utilising their Baconian scientific methodology, and hopefully demonstrating the veracity of Biblical accounts. This paper considers the contributions of several such Irish amateurs – principally J. L. Porter, missionary and geographer, Edward Hull, director of the Irish Ordnance Survey, and R. A. S. Macalister, the pioneering archaeologist.

#### **Panel 4b: Race, Gender and Medicine in Asia**

##### **Racial Science, Diet and Colonial Hierarchy in the Writing of John Crawford**

***Stan Neal, Ulster University***

The mid-nineteenth century was a key period for the development of race “science” and the theoretical separation of humans into distinct racial categories than would be so destructive in the early twentieth century. This paper explores the work of John Crawford, a key proponent of polygenesis and President of the Ethnological Society. Specifically, it focuses on Crawford’s ideas about race and diet, which were based on his experiences in colonial Asia. By considering the role of Crawford’s work in shaping notions of race as a scientific fact, connected to other sciences such as nutrition, we can trace how the racial hierarchies of a colonialist like Crawford continue to affect how we think about race in the present day.

##### **Bleeding in the Time of Empire: 'Indian' Bodies and the Medicalisation of Menstruation**

***Nikita Arora, University of Oxford***

While several researchers of the social history of medicine in South Asia have studied the biopolitics of childbirth, sexuality, and gender and embodiment broadly, menstrual health has been left unexplored. My research attempts to fill this lacuna through analysing the medicalisation and pathologization of menstrual health at the turn of twentieth century in India through three original sources: a colonial newspaper (Times of India), a medical journal (Indian Medical Gazette), and a vernacular Punjabi quasi-medical magazine (Punjabi Sister).

My study of the advertisements for sanitary towels published in the Times of India (1885-1900) demonstrates that a validation is sought from biomedicine through portraying the sanitary napkin as a 'triumph of science'. I argue that the medical culture in which advertisements appear discredits simultaneously the epistemological grounding of both indigenous knowledges and women's experiences. Through analysing the medical reports on menstruation published in the Indian Medical Gazette, the essay uncovers how evaluative and cultural prejudices seep into 'scientific' discussions. Following Emily Martin (1987), I show how medical articles encourage negative lexicon of disintegration, dying, break-down in the medical explanations of menstruation that convey failure and dissolution in contrast to the productive descriptions of spermatogenesis. Moving beyond it, I argue that menstruation and Indian menstrual body is not only gendered, but also racialised as

medical practitioners construct an artificial difference between superior European menstrual bodies and inferior Indian menstrual bodies. Finally, I analyse how native women respond to the medicalised narratives of menstruation through studying the articles published in *Punjabi Sister* (1912-1931) that transgress the colonizer-colonized binary in innovative ways.

**Cutting edge research in the contact zone? -The Establishment of the Nutritional Research Laboratories in Coonoor (1925-1927)**

***Ashok Malhotra, Queen's University Belfast***

By 1928, Irish physician Robert McCarrison's laboratories in the South Indian hill station Coonoor had become widely recognized as the most important centre for nutritional research in India. Five years earlier, however, his institute had faced closure. This article argues that the establishment of McCarrison's institute was based on his pitch to the Royal Commission on Agriculture in India, in which he successfully aligned his research to satisfy the concerns of various members of the Commission. This discussion uses McCarrison's lobbying for his centre as a case study to examine the broader phenomenon of manoeuvrings and strategic alliances that British colonial scientists in the early twentieth century often had to undertake to establish their research agendas.

**Panel 4c: Disease through Time**

**Belfast's own 'Typhoid Mary': The Control of Healthy Typhoid 'Carriers' in Belfast**

***Patricia Marsh, Queen's University Belfast***

During the early part of the twentieth century Typhoid fever caused concern for both citizens and public health officials in Belfast. According to Dr L. W. Darra Mair, one of the authors of the 1908 Belfast Health Commission Report,<sup>1</sup> Belfast had suffered very heavily from typhoid and that there was excessive mortality from the disease that had extended over very many years.<sup>2</sup> In 1898 typhoid mortality peaked in Belfast with 662 deaths and although there was a gradual decline in the incidence of the disease during the twentieth century, it did not disappear from the city completely until the 1950s. Among the reasons for the high incidence of typhoid during this period were poor sanitation, as well as contaminated water and milk supplies. Also some typhoid outbreaks were caused by typhoid 'carriers.' This paper will discuss the difficulties faced by Belfast Health officials when presented with perfectly healthy typhoid 'carriers' as they tried to curtail the spread of the disease. It will consider the case of an Italian national, Mrs D.E., who was a chronic paratyphoid 'carrier', responsible for outbreaks of the disease in both 1927 and 1931 in Belfast. It will discuss how the case of Mrs D.E. bore similarities to that of Mary Mallon, commonly known as 'Typhoid Mary', the first healthy carrier of typhoid to be traced in North America.<sup>3</sup> It will discuss how the ambiguity around the treatment of healthy 'carriers' by the Belfast public health officials was a cause of concern not only for health officials but also 'carriers'.

**TBC**

***Eugenie Scott, Ulster University***

**TBC**

***Lauren Young, Ulster University***