

ABSTRACTS AND BIOGRAPHIES

OLIVER BETTS AND THOMAS SPAIN

Curators, National Railway Museum

The Exported Iron Horse: Kenneth Cantlie, China Railways and British Locomotive Construction

The largest object at the Railway Museum is the 600 class locomotive No. 607, also known as KF-7, and many questions have been raised about why we have a locomotive which ostensibly operated on China's Railways in the collection. However, this paper shows that scratching the surface reveals a story of political intrigue, family connections, the founding of modern China and the export of British technology and expertise overseas. All of this has been made possible through researching the personal archive material of the locomotive's designer Kenneth Cantlie, which presents a fascinating insight into the circumstances surrounding the development of China's railway network between 1929 and 1937, as well as some tantalising insights into its operation after 1949. While we know the circumstances of its return to Britain as a diplomatic gift, we know little of its career between 1950 and 1973 when the type was withdrawn from service. Consequently, this paper also functions as a call for collaboration to complete the story of a remarkable locomotive design.

Oli Betts is the Research Lead at the Railway Museum, York, and is responsible for the museum's research profile. He is currently researching the social and cultural legacies of the static railway network, the Permanent Way, and the impact of railway accidents on how society viewed technologies.

Thomas Spain is a PhD graduate and Research Associate at the Railway Museum, York. His current research interests include examining the sometimes antagonistic relationship between railway and road transport, as well as railway lobbying in this regard. He has recently completed a thesis entitled "Food Miles": Britain's Transition from Rail to Road-based Food Distribution, 1919–1975'.

MICHAEL J CLARK

Centre for the Humanities and Health, King's College London;
UCL China Centre for Health and Humanity

*A New Perspective on Chinese Movies:
YiMovi, an Anglo-Chinese Collaborative Web Site for
Chinese Medical Humanities and Film*

Following a series of workshops and conferences on the theme of Chinese Medical Humanities held in London and Beijing between 2014 and 2017, an international group of scholars based principally in University College London, King's College London and Peking University Institute for Medical Humanities have developed *YiMovi*, a dual-language web site designed to facilitate the use of Chinese films as resources for teaching, learning and public engagement in the Medical Humanities. This presentation provides an introduction to the ideas and interdisciplinary practice which inspired the site's creation, together with a brief demonstration of its content and potential applications, both, as an online resource for medical humanities education and research and as a way of introducing wider audiences through the popular medium of film to some of the complex medico-social, historical and cultural factors affecting health, illness and well-being in China today.

YiMovi (www.yimovi.com/en) is a recently-launched dual-language (English and Mandarin) web site intended to facilitate the use of Chinese films as resources for study, teaching and public engagement in Chinese Medical Humanities. Following a brief account of the site's creation and of the ideas and interdisciplinary practices which inspired the site's creation, I shall give a brief demonstration of some of its content and functionality and discuss its potential applications both as an online resource for medical humanities education and research and as a way of introducing wider audiences to some of the more complex social, historical and cultural, as well as medical, factors affecting health, illness and well-being in China today.

Michael J Clark is an Associate Member of the Centre for the Humanities and Health, King's College London, and an Honorary Lecturer in the UCL China Centre for Health and Humanity, where he co-teaches the 'Chinese Film and the Body' module in the M.A. in Chinese Health and Humanity. He was formerly Head of the Medical Film and Audio Collections at the Wellcome Library for the History and Understanding of Medicine, London, and has published a number of articles on the representation in film and television of various aspects of medicine and biology, as well as on the history of psychiatry and legal medicine.

BRENDAN CORMIER

Lead Curator of 20th and 21st Century Design for the
Shekou Partnership, Victoria and Albert Museum

Exploring Unidentified Acts of Design in Shenzhen

Where does design take place in the Pearl River Delta? How does design manifest itself in a region that is so intensely invested in low-cost production that it has been dubbed the 'factory of the world'? On 5 December 2015 the V&A presented *Unidentified Acts of Design* at the Shenzhen Urbanism Architecture Bi-City Biennale, curated by Brendan Cormier and Luisa E Mengoni. The display explored 8 stories about design and production in Shenzhen and the Pearl River Delta. It was initiated as a pilot project to help the curatorial team explore more thoroughly Shenzhen's design and production landscape in the lead-up to the opening of the V&A Gallery at Design Society in 2017.

Brendan Cormier is a design curator at the Victoria and Albert Museum. For the last three years he has been working on the curation of the new V&A Gallery in Shenzhen, China, which opened last December. In 2016 he curated *A World of Fragile Parts* at the Pavilion of Applied Arts in Venice, a collaboration between the V&A and the Venice Biennale. Prior to working at the V&A, he was the managing editor of *Volume Magazine*, based in Amsterdam, the Netherlands.

CHRISTOPHER CULLEN

Emeritus Director, Needham Research Institute; Emeritus Fellow of Darwin College, University of Cambridge

The Missing Object: Putting Things back into Research in the History of Science in Pre-Modern East Asia

Like many historians of science, particularly historians of ancient science, much of my work has consisted of reading and explicating texts. But the museums I enjoy most offer me a chance to do something different: they guide me into experiences of encountering the materiality of the world, set in the full complexity of its social and cultural context. So in this talk I shall reflect on what my experience of reading texts has taught me about the necessity of also learning to read things – a category in which I include cosmic objects such as the sun, moon, stars and planets, but also man-made objects, such as instruments and models. I shall illustrate what I have to say with two main examples. Firstly, I shall give an account of my own experience of acting as a naked-eye sky-watcher in the ancient Chinese tradition, using such simple instrumentation as pole gnomons and a water clock. Secondly, I shall describe how the discovery of a representative of a previously unknown type of object from seventeenth century Japan gave new insight into the social location of an interest in astronomy beyond the narrow circles of experts. Both these examples point to ways in which the history of science in East Asia can contribute to the increasingly successful efforts of museums to transcend their former role of simply preserving and displaying 'old things'.

Christopher Cullen read Engineering Science at Oxford, and later did a PhD in Classical Chinese at SOAS, University of London, under the supervision of D C Lau. He has published widely on the history of science in China, and served as editor of the *Science and Civilisation in China* series. He is Emeritus Director of the Needham Research Institute, and an Emeritus Fellow of Darwin College, Cambridge. His most recent publications are *Heavenly Numbers: Astronomy and Authority in Early Imperial China* (2017), a narrative history of the foundational period of Chinese astronomy from third century BCE to third century CE, and *The Foundations of Celestial Reckoning: Three Ancient Chinese Astronomical Systems* (2017), translations of relevant source materials with detailed explanations.

YUYU DONG

Associate Professor, School of History and Culture of Science, Shanghai Jiao Tong University

Knowledge, Administration and Technical Innovation: The Development of the Chinese Water Clock in the Northern Song Dynasty

Astronomy played a very unique and significant role in ancient China. Apart from its scientific values in calendar-making, astronomical observation and time keeping, astronomy also contributed substantially to social and administrative regimes for the Empire of China. In particular in the Northern Song Dynasty, a glorious era with great achievement of science and technology innovations, the government paid more attention to the astronomical regimes. A number of astronomical activities were established, including calendar reform, and the making of new astronomical instruments. Drawing on the astronomical water clock by Yan Su (燕肅), Shen kuo (沈括) and Su song (蘇頌), this paper asks how the scientific knowledge was obtained; how the technology about water clock were developed; and what were the relations between their technical innovation and the duties of administration? The paper concludes that the Song government played an important role for supervising the innovation of astronomy. The needs of imperial administrative management promoted the innovation and development of astronomical instruments by government officials.

Yuyu Dong received his PhD in history of science and technology from Shanghai Jiao Tong University. He is now Associate Professor and postgraduate supervisor for history of science and technology at the School of History and Culture of Science, Shanghai Jiao Tong University. He is General Secretary of the Shanghai Society for the History of Science and Technology, and a committee member of the Chinese Society for the History of Science and Technology. He is the Editor-in-Chief of *Chinese Dictionary: The Astronomy Branch: Calendar* (2012) and the author of *A Study of How the Government Dealt with the Drought and Flood in the Northern Song Dynasty* (2016). He has published over 20 influential papers on his research fields such as ancient astronomical sciences, history of disaster as well as science and society. He was an academic visitor at STIS of the University of Edinburgh in 2015–2016.

FA-TI FAN

Associate Professor, Department of History, Binghamton University, New York

Collecting Nature in Late Imperial and Modern China

This talk begins with a question: How did the Chinese collect and display objects of science? The focus here is not on the more familiar objects of science and technology, such as clocks and astronomical instruments in the court collection, but rather on what might be loosely classified under the umbrella term of natural history (including *materia medica*). We'll start with the Ming and Qing period and trace the changes to the twentieth century. In the process, we'll compare the Chinese and the European tradition of collecting and displaying objects of nature and of science, technology, and medicine.

Fa-ti Fan is the author of *British Naturalists in Qing China* and of numerous articles in the history of science and technology in East Asia. He is currently completing a project on earthquakes and seismology in twentieth century China.

XI GAO

Professor of History and Medical History, Department of History, Fudan University

The Dual Founding Ideal of Museum of Chinese Medicine

Today almost every Traditional Chinese Medical University has a history museum of Chinese medicine. This particular museology began in China as a subdivision of the science museum, which in its original form was a product of western medicine's propaganda in China in the nineteenth century. As an embodiment of 'Western Science', it served to introduce natural history, knowledge and remarkable achievements of science to the public. The first history museum of Chinese medicine was founded in 1938 by physicians trained in institutions of western medicine, yet with an aim to maintain the 'tradition' of Chinese medicine and to recount to later generations the history of Chinese medicine and its immeasurable contribution to mankind. Following the historical view of the progress and science, the history museum of Chinese medicine has experienced three developing stages with disparate goals: to trace the history of traditional Chinese medicine and to find connections between science and tradition (before 1949); to display the brilliant achievements of the traditional Chinese medicine and to conduct patriotism education (before 2000); and to involve traditional medicine in the modern life through high-technology and multimedia.

This talk will explore the dual founding ideals of the Museum of Chinese Medicine by giving an account of the short history of the medical museum and its current status in China. I will portray the view of Chinese historiography that influenced the construction of the history museum of Chinese medicine, and how the museum, in turn, influenced the recording of the history of Chinese medicine.

Xi Gao received her PhD in history from Fudan University. She is now Director, Professor and PhD supervisor of Modern History at History Department, Fudan University. She is also Deputy Director of the Committee of the Chinese Society for the History of Medicine, and a committee member of the Chinese Society for the History of Science and Technology. She is the author of *A Biography of John Dudgeon: A British Missionary and Chinese Medical Modernisation in Late Qing Dynasty* (2008). She has published over 30 influential papers on her research fields, such as medical missionaries, Chinese medical modernisation and the history of medical cultural exchanges between West and East. She was a visiting fellow and visiting associate at Harvard-Yenching Institute in 2004–2006 and in 2013–2014. She has organised three international conferences, one on 'The History and Medicine, the Dialogue between West and East', the other on 'Westward Spread of Chinese Knowledge and Goods', and the third on 'Therapeutic Commodities and Trade in the Early Modern and Modern World during 2016–2018'.

CORINNA GARDNER

Senior Curator of Design and Digital at the Victoria and Albert Museum

Rapid Response Collecting at the V&A

Recent acquisitions at the Victoria and Albert Museum in London include a WeChat-enabled soft toy, a set of Christian Louboutin shoes in five shades of 'nude', the mobile game *Flappy Bird* and a painted umbrella sourced on the streets of Hong Kong in the days immediately after democratic uprising in late September 2014. All have been acquired as part of the V&A's Rapid Response Collecting activities, a model of collecting that through objects seeks to raise questions of globalisation, mass-manufacture, technology and regulation.

Taking Rapid Response as a starting point, in this talk I will look at how we collect, make a case for designed things and their ability to tell political and social stories about our global age, and consider the role of the museum as a place to foster informed public debate.

Corinna Gardner is Senior Curator of Design and Digital at the Victoria and Albert Museum. Corinna leads the collecting programme for product and digital design and holds responsibility for the museum's Rapid Response Collecting activities. In 2015 Corinna co-curated *All of This Belongs to You*, an exhibition about the design of public life.

ANNE GERRITSEN

Professor, Department of History, University of Warwick; Kikkoman Chair for the Study of Asia-Europe Intercultural Dynamics, Leiden University

English Bodies, Chinese Rhubarb: Representations of China through Botanical Knowledge

This paper explores the cultural history of rhubarb. It focuses on the meaning of rhubarb in the exchange between China and Europe and the significance of the growing trade in this therapeutic commodity. The paper considers the ways in which knowledge about rhubarb circulated along the trade routes between China and Europe. Around the turn of the sixteenth century and the start of the seventeenth century, a number of significant changes imply a turning point in the global life of rhubarb. As Jesuit and other travellers began to frequent China, knowledge about the cultivation and storage of the rhubarb plant began to circulate more widely. The Dutch and the English established trading companies that brought goods, including rhubarb, faster, more reliably and more cheaply from China, leading eventually to the vernacularisation of botanical knowledge about China.

Anne Gerritsen is Professor of History at the University of Warwick and, for the period from 2013 to 2018, she holds the Kikkoman Chair for the study of Asia-Europe exchanges, with special attention to art, material culture and human dynamics at the University of Leiden. She was educated at the University of Leiden and holds a PhD from Harvard University. She has published in a number of different areas, including Chinese history (the religious cultures of the Song-Yuan-Ming period, friendship, gender and literature and the history of Jingdezhen), material culture (including three co-edited books with Giorgio Riello, namely *Writing Material Culture History*, *The Global Lives of Things*, and *The Global Gift*), global design history and the global history of porcelain trade. Most recently, she has been awarded a grant by the Wellcome Trust about the global exchange of medical commodities.

JORDAN GOODMAN

Honorary Research Associate, Department of Science and Technology Studies, University College London

Making Art and Botany in Canton: John Bradby Blake and his 'Compleat Chinensis' (1767–1773)

(This research is being done in collaboration with Josepha Richard (University of Bristol) and Peter Crane (Oak Spring Garden Foundation) and in conjunction with the John Bradby Blake Project.)

In 1772 John Bradby Blake, a recently appointed East India Company, resident in Canton (he had first arrived in the port city in 1767), proudly boasted to his father in London that in his spare time he had been working on a 'Compleat Chinensis of Drawings copied from Nature, with a Collection of Specimens, Plants, Seeds, etc., etc., with every necessary description relative to their Uses, Virtues, Culture, Seasons, Parts of Fructification, [when] in bloom'. Before arriving in Canton, Bradby Blake, who had had a classical education, became interested and proficient in botany and drawing and had befriended many of Britain's leading naturalists, for whom he promised Chinese specimens. Unfortunately, on 16 November 1773 and aged only twenty-eight, Bradby Blake died and worked stopped on the 'Compleat Chinensis'. About a year later some two hundred remarkable Anglo-Chinese plant drawings, brilliantly coloured, scientifically accurate and reflecting the latest Linnean principles – together with sundry accompanying notes, giving precise details on Bradby Blake's artistic and horticultural practices – arrived in London. Captain John Blake, Bradby Blake's father, may have attempted to continue his son's ambitious project but, at some point, this was abandoned. The drawings and notes were passed down through the family until the early 1960s when they were purchased by Paul Mellon and are now one of the outstanding items in the library of the Oak Spring Garden Foundation, Virginia, USA.

My talk will tell the story of the practices, including textual and representational ones, Bradby Blake applied, in a unique cross-cultural collaboration with at least one Chinese artist, an unknown number of gardeners and a bilingual Chinese intermediary, to produce his unfinished 'Compleat Chinensis'.

Jordan Goodman is an Honorary Research Associate in the Department of Science and Technology Studies at University College London. He has published extensively in the fields of the history of science, history of medicine, cultural history and economic history, in articles and in books. The latest results of his research into the Anglo-Chinese world of knowledge production in London and Canton were published in Curtis' *Botanical Magazine*, December 2017. He is currently writing a book about Joseph Banks' global projects, entitled *The Enlightenment of Joseph Banks*, to be published in 2019 by HarperCollins.

JESSICA HARRISON-HALL

Curator, China and Vietnam, Asia Department, The British Museum

Displaying Historic Chinese Technology

The British Museum opened its new *Sir Joseph Hotung Gallery for China and South Asia* a few months ago. This permanent display attempts to show the history of China through visual art and material culture dating from the Neolithic to the present. The exhibition is aimed at attracting the interests of a broad range of international and domestic visitors of all ages and backgrounds. It showcases the breadth and strengths of the British Museum's collections and includes important loans from other public museums and private lenders. Although the displays understandably reflect the highlights of the British Museum collections, they also illustrate the technologies of production, transnational and international exchanges of technology. Thus we introduce through objects and graphics: rice cultivation, coil and wheel made pottery, and jade carving in the Neolithic period cases. While we present new technologies such as writing, bronze casting, wheeled transport and horse riding on entering the Bronze Age area of the gallery. Some displays focus on the transfer of technologies such as early weapon making, glass manufacture and inlay techniques. Inventions are explored through printing, mass-production of ceramics or multiple carvings of stone Buddhas. Glaze technology, shipping, clock making, lacquer ware and silk weaving presented. There are many works on paper in the gallery and these are rotated every six months, so that it might be possible in future rotations to include displays on Chinese acupuncture and traditional medicine, perhaps in the case that focuses on the long nineteenth century. I would also be keen to explore Chinese space travel, as represented in posters, in the case devoted to the twentieth and twenty-first centuries.

Jessica Harrison-Hall is Head of the China Section at the British Museum. Her research interests focus on the art and material culture of Ming and Qing dynasty China (1368–1911) and in China's global relationships. She worked on a major AHRC project with Professor Craig Clunas (2012–2015) investigating early Ming connections with the wider world. Research outputs included an exhibition and book *Ming: 50 Years That Changed China* (2014); a popular book *Ming: Art, People and Places* (2014); and academic conference proceedings of 30 papers *Ming China: Courts and Contacts 1400–1450* (2016). She led the China curatorial team (2015–2017) for the Sir Joseph Hotung Gallery of China and South Asia in Room 33 and curated a gallery for Chinese Ceramics in Room 95 (2006–2009). She has curated international exhibitions in Europe and Asia, including in Hong Kong and Belgium, and *Vietnam: Behind the Lines. Images from the War 1965–75* (2002). Her latest publication is *China: A History in Objects* (2017), with Italian and Portuguese editions in 2018.

MASATO HASEGAWA

Postdoctoral Fellow, Dept. III, Max Planck Institute for the History of Science, Berlin

Transport, Animals and Human Labour in Late Imperial China

Animals, wheeled vehicles, and human labour have long played an integral role in transport, farming and military logistics in Chinese society. The use of pack animals, such as horses, mules, donkeys, goats and camels, significantly raised the volume of loads, goods and provisions that could be transported simultaneously. Animals were also used to plough the fields and to pull carts, enabling humans to expand the scale of agricultural production and to extend the distance over which one could travel with loads. The choice of animals and the type of appropriate equipment for farming and transport were often shaped by local climate and seasonal weather patterns. In areas with ready access to waterways, boat transport could supplement overland transport methods and increase both the speed and the volume of transport. In high-latitude areas, on the other hand, frozen waters and accumulated snow in winter facilitated the use of sleds and other equipment. No less important were the roles of humans. In order to enable transport of loads in a dependable manner, the employment of animals and equipment required careful planning, constant care and regular maintenance. Primarily focusing on the wartime transport of provisions in early seventeenth century China, this presentation examines the notions of efficiency and reliability in the use of boats, pack animals, carts and human labour in late imperial China. Drawing on writings of Mao Yuanyi (1594–1641), one of the most prolific writers of the period on military logistics, I will discuss the manner in which he assessed the costs and benefits of the available transport methods in his time. Of all the methods he considered, Mao clearly favored what he called 'human transport' (*renyun*), which exclusively relied on the physical labour of human bearers. Analysis of his forceful argument in favor of human labour not only highlights the significance of long-term reliability in his calculations. It also illuminates how his consideration of reliability in the transport of provisions was intricately interwoven with his understanding of local topography, local climate and the availability of human labour.

Masato Hasegawa received his PhD in History from Yale University in 2013 and is currently a Postdoctoral Fellow at the Max Planck Institute for the History of Science in Berlin. Previously, he taught Chinese, Korean and East Asian history at the University of Oregon, Columbia University, and New York University. His research has centered on the question of how human lives, animals and technologies intersected in the Asian borderlands, in particular the Sino-Korean borderland in the early modern and modern periods. His dissertation 'Provisions and Profits in a Wartime Borderland: Supply Lines and Society in the Border Region between China and Korea, 1592–1644', examined the devastating effects of war mobilisation on the society and farming cycle of the Sino-Korean borderland from the late 16th to the early seventeenth century. He is currently revising his dissertation for book publication and preparing a new project on the notion of reliability in the use of transport technologies in the Sino-Korean borderland of the seventeenth and eighteenth centuries.

SEUNG-JOON LEE

Department of History, National University of Singapore; Needham Research Institute, Cambridge

Science, Food and Energy in Twentieth Century China

Nothing was more important than fuel energy in an industrial economy. When Mao Zedong was triumphantly standing atop the Heavenly Peace Gate in Beijing's Tiananmen Square to declare the founding of a new socialist regime on 1 October 1949, food calories arguably remained the prime source

of energy in China's national economy, then predominantly agricultural. Nascent China's industrial economy was concentrated only in a few coastal cities and still consisted of labour-intensive and light industries, rather than energy-intensive and heavy industries. To build a strong socialist economy that was industrially mighty and yet egalitarian, the Chinese working population would need to eat better and consume more food than it ever had before. Against this backdrop, the Communist authorities undertook unsparing efforts to promote the nutrition work program (*yingyang gongzuo*) in order to optimise the working population's food consumption. In return, nutritionists and dieticians stepped up their research into achieving more scientifically-proven regimes. At the convergence of the state effort and scientific endeavour was the provision of a public meal service, that was both nutritious and economical, on an unprecedented scale. Rather than starting from ground zero, however, the Communists emulated the state-led nutrition movement that the previous regime had once practiced. Industrial canteens – once a political battleground upon which workers seeking their food entitlement and the KMT-style labour management frequently collided – transformed into a new space that embraced various culinary innovations, nutritional experiment, and the politicisation of nutritional knowledge.

Seung-joon Lee is currently teaching modern Chinese history at the National University of Singapore. He is the author of *Gourmets in the Land of Famine: The Culture and Politics of Rice in Modern Canton* (2011) and a number of articles including 'The Patriot's Scientific Diet: Nutrition Science and Dietary Reform Campaigns in China, 1910s–1950s', *Modern Asian Studies* (2015). His research focuses on the social, cultural, and political history of food, health and science in China. He is currently completing his second book, *Revolutions at the Canteen: Food and the Politics of Eating in China, 1910s–1950s*.

HAIJING LI

Postdoctoral Researcher, National Academy of Innovation Strategy, Beijing; Needham Research Institute, Cambridge

From Defense to Control: The Development of the Approach of Prevention and Control on the Qiantang River (1927–1949)

The Qiantang River is a unique river on the south-east coast of China. It connects to the sea and has a unique distinguishing feature – its tidal bore. The tidal bore is very dangerous and has a destructive power. In order to defend the Qiantang River tide disaster, people have been pursued the 'defense' approach before the Qing Dynasty, by constructing a seawall. With the introduction of the Western approach and technology of hydraulic into China in the 20 century, the hydraulic experts hoped to completely eliminate the disaster through the implementation of the Qiantang River's prevention and control project. Thus, the approach of the Qiantang River's project was changed from the 'defense' to 'control'. On the basis of researching the historical materials, this article describes the evolution developing process of the approach of the prevention and control project, explores and analyses the contents of different projects and its impact on the Qiantang River.

Haijing Li received her PhD from the University of Science and Technology of China and was Associate Professor in the National Water Museum of China until 2017. She majored in the modern history of water conservation in China. She is now a Postdoctoral Researcher in the National Academy of Innovation Strategy in Beijing, focusing on the relationship between water conservation policy, science and technology, and hydraulic experts in China. While at the NRI as a Li Foundation Fellow she will research the impact of modern European hydraulic science and technology on China.

JOSEPH P MCDERMOTT

Emeritus Reader, Faculty of Asian and Middle Eastern Studies;
St John's College, University of Cambridge

*Paper-Making and Printing Technologies and their
Westward Transmission*

Among the many Chinese technological innovations we know of, few rival the making of paper and the printing of books as Chinese contributions to human civilisation. In discussing their different sets of skills and their once forgotten passage across Eurasia as Chinese contributions to our common human culture I would like to review the history of that long transmission of technical knowledge in light of more than a century of modern textual and archaeological scholarship. In particular I want to show how, what we presently know of the Eurasian transmission of the craft of paper-making, can instruct our assessment of common claims of Chinese printing technology's Eurasian transmission before Gutenberg's invention of the printing press in ca. 1450. My proximate aim then is to see how Chinese historians can make use of one set of knowledge about Chinese technology to explore what we can reasonably learn about other sets of such learning, both textual and archaeological. But, my ultimate aim is to help us understand more accurately the role of major Chinese cultural achievements in other Eurasian countries' accumulation and spread of knowledge, a fitting topic, I believe, for the discussion of Chinese civilization in any twenty-first century museum of science and technology.

After teaching Chinese history in the UK, the US, and Japan for nearly thirty-five years, he recently retired as Reader Emeritus in Chinese History at Cambridge, where he remains a Fellow of St John's College, Cambridge. His interests in Chinese history are wide-ranging and encompass the economic and social as well as the cultural and the political life of pre-modern China. His principal publications include *A Social History of the Chinese Book*, *The Book Worlds of East Asia and Europe, 1450–1850*, *The Making of a New Rural Order in South China*, *State and Court Ritual in China*, and 'Economic Change in China, 960–1279', in *The Cambridge History of China*, Sung Dynasty, 960–1279, v5, pt2.

STEPHEN MCDOWALL

Lecturer, School of History, Classics & Archaeology,
University of Edinburgh

*Body Image: A Visual Economy of Death in Photographs
of Semi-Colonial China, ca. 1860–1927*

Western observers of China prior to the long nineteenth century had frequently evoked the concepts of 'cruelty' and 'barbarousness' to describe the Chinese people, descriptions that eventually became part of the justification for colonial interference. As that century began, verbal descriptions were complemented and eventually replaced by visual images, which appeared first as watercolours and later as photographs, carefully composed, or taken on the spot, at sites of war, rebellion or violent executions. Many of these items have found their way into British collections, including those of the Science Museum and the Wellcome Library.

It would be easy enough to question the nature of the 'evidence' presented in these images. What I will try to do instead is to consider the way such photographs – as three-dimensional objects – were (and are) viewed, purchased, collected, inscribed, copied, circulated, displayed, and archived. The social biographies of these photographs have challenged me to rethink their place in the Sino-British encounter and to place them within the context of a longer British history of violence as public spectacle. They have also made me think more deeply about the ways in which historians now interact with source materials held by our major repositories.

Stephen McDowall is Lecturer in History at the University of Edinburgh, where he specialises in Chinese cultural history and the material and visual cultures of Sino-Western interaction. He has published on travel, landscape and memory in late-imperial China, the cultures of ceramics in global history, and on the social biographies of Chinese and Chinese-like objects in UK collections. His current project concerns the ways in which visual signifiers of 'Chineseness' functioned in eighteenth and nineteenth century British visual culture. His research on the visual commodification of the Chinese body in nineteenth century photography is funded by the Carnegie Trust.

WEIPIN TSAI

Senior Lecturer, Department of History, Royal Holloway,
University of London

*The Design of Postal Routes in Relation to Railways in Northern
China in the Early Twentieth Century*

The Great Qing Imperial Chinese Post Office was established in 1896 under the management of the Chinese Maritime Customs Service, and focused initially on providing letter and small parcel services to the general public within and between Beijing and China's treaty ports. However, expansion was rapid, and the period after 1900 can be seen as a golden decade for postal development, as the service expanded organically to most interior provinces, connecting provincial capitals, cities and counties across China's more populated areas.

Much of the thinking behind the design of the postal routes, particularly in north China, was closely related to railway development. The rail connections between Beijing, Tianjing and Northeast China, Beijing and Hankou, and Beijing and Zhangjiakou in particular, having huge impact on postal logistics. Although the rail connection between Beijing and Zhangjiakou was relatively short, it later played an important role in keeping the Chinese postal service alive and viable when the service was expanded to Outer Mongolia.

Weipin Tsai is a historian of modern China at Royal Holloway, University of London. Her research interests include print culture, communication networks and broader issues relating to Chinese modernity and globalisation. Her current research topics are the history of the Chinese Maritime Customs Service, the Chinese Post Office and private letter hong (minxinju). Her publications include *Reading Shenbao: Nationalism, Consumerism and Individuality in China 1919–1937*, and *Print, Profit, and Perception: Ideas, Information and Knowledge in Chinese Societies, 1895–1949*.

LESLIE DE VRIES

Lecturer, East Asian Studies, Department of Religious Studies, University of Kent

Visualising the Formless: A Case Study of Zhao Xianke's 'Thread that Runs through Medicine' (1617?)

Zhao Xianke's *Thread that Runs through Medicine* (*Yiguan*) might not ring too many bells in the twenty-first century. Yet, during the early Qing dynasty this text became extremely popular and provoked fierce criticism as well. Xue Dachun (1693–1771), one of the most influential figures associated with the Han scholarship (*hanxue*) movement in medicine, regarded Zhao Xianke as the ultimate example of bad medical practice. Although Xue's criticism can be understood in the context of the epistemic shift from Song-Ming cosmology to Han scholarship, more complex issues were at stake, as Zhao Xianke and his followers had their own polemic agendas. Through my case history of Zhao's visualisations of the formless, I show how Zhao Xianke challenged prevalent styles of medicine. I do not only zoom in on the complexities of late Ming – early Qing Chinese medicine, but also illustrate how Zhao's new ways of seeing the body and therapeutic practices travelled to the southern edge of East Asia. Intriguingly, at the time of Xue Dachun's fierce criticism, Zhao Xianke's medicine was about to exert an everlasting influence in Vietnam.

Leslie de Vries is a Lecturer in East Asian Studies at the University of Kent. His research focusses on the history of medicine in China and Vietnam. Leslie earned his PhD degree in Oriental Languages and Cultures at Ghent University in 2012. From 2013 to 2015, he was a Research Fellow in the 'Beyond Tradition: Ways of Knowing and Styles of Practice in East Asian Medicines, 1000 to the Present' project at the University of Westminster (funded by the Wellcome Trust). Leslie also serves as Book Review Editor East Asia (China) for *Asian Medicine: The Journal of the International Association for the Study of Traditional Asian Medicine*.

JING ZHU

UK-China Rutherford Research Fellow, Science Museum, Co-convenor of the workshop

Photographing Bodies of Non-Han in the South-West of China in the 1930s and 1940s: Anthropometry, Museum Collections and Gender

From around 1900 onwards, photography, a new visual medium and technology introduced from the West, began to replace Miao albums, a long-established genre of ethnographic illustrations depicting the ethnic minorities in the south-west borderlands. As China modernised, photography became a more popular and 'trusted' medium of representing ethnic minorities. In the 1930s and 1940s, in particular during the second Sino-Japanese war, a large number of photographs of non-Han in the south-west borderlands were produced by Chinese anthropologists and amateurs. Taking global, transnational and interdisciplinary approaches, this paper investigates the representation of the bodies of non-Han in photography. In the light of traditional visual materials, it reveals new styles and characteristics, influenced by Western technology, anthropology and museology, in representing the bodies of non-Han; it explores the 'mental image', or visual grammar, embedded in the photography and asks how scientific and visual realities of ethnicity were recreated, popularised and imagined through political and gendered discourses. It is very significant to bring the case of China's ethnographic photography to the current scholarship on anthropology and photography, as a challenge to the homogenised, simplified and universalised tendencies of Foucault-inspired colonial interpreting framework. Casting new and intriguing light on the visual rhetorics of Republican-era photography, and their entanglement in political power and a spectrum of gendered discourse, this paper examines the visual order of human variation in Republican-era China and highlights the bio-politics of racial theories, and the localisation and dynamics of image reproduction in different cultural systems.

Jing Zhu is Research Fellow at the Science Museum in London. She received her PhD degree in History from the University of Edinburgh under the supervision of Dr Stephen McDowall and Professor Francesca Bray. Her research focuses on the production and reproduction of visual knowledge of ethnography in late imperial and Republican China. From September onwards she will take up a postdoctoral fellowship as part of a joint programme of the Kunsthistorisches Institut in Florence and the Max Planck Institute, Berlin. Her book manuscript *Imperial Structures of Culture and Ethnicity: Gender and Representation of Non-Han People in Late Imperial and Republican China* is to be published with Brill.

CHAIRS

Selena Yuan is UK-China Rutherford Research Fellow at the Science Museum and Co-convenor of the workshop. She completed her doctoral research on museum education in 2015. Before joining the Science Museum as UK-China Rutherford Research Fellow in March 2018, she has been working as a freelance educator and independent researcher in Shanghai. She taught the course *Design Thinking* at Shanghai Tech University and has been working on a number of educational projects and research projects for Shanghai Museum. She has published more than 10 articles in areas of museum learning, qualitative research and innovation education.

Bergit Arends is Acting Head of Research and Public History at Science Museum Group as well as a curator and a researcher at the Department of Geography at Royal Holloway, University of London. Her PhD thesis of 2017 is titled 'Contemporary art, archives and environmental change in the age of the Anthropocene'. She curates the *Kunst/Natur* programme at the Natural History Museum, Berlin (2016–2018), and was Curator of Contemporary Art at the Natural History Museum, London (2005–2013). She studied Curating at the Royal College of Art, London. In her research, she explores the interferences of the arts and the sciences, focusing on environmental humanities, arts and curating.

Tilly Blyth is Head of Collections and Principal Curator at the Science Museum. She was the Lead Curator of the Information Age gallery, and her work on the social construction of new technologies led to innovative online projects for Channel 4, Sky and the BBC. She studied Physics at the University of Manchester before migrating towards the social sciences, with postgraduate degrees in Science Policy and the Sociology of Technology. She is a trustee of the Raspberry Pi Foundation and a voting member of BAFTA.

Alison Boyle is Keeper of Science Collections at the Science Museum with overall responsibility for physical sciences collections, spanning from the tenth century to the present day. Her research interests are in the collection and interpretation of twentieth century physics, and she recently co-edited *Challenging Collections: Approaches to the Heritage of Recent Science and Technology* published as part of the *Artefacts* series.

Robert Bud is Research Keeper at the Science Museum, where he was formerly Keeper of Science and Medicine. Holder of a PhD in the History of Science from the University of Pennsylvania. He is an honorary fellow at both UCL and University of Cambridge and has for some years served as an honorary professorial fellow at Queen Mary University of London. He has also been the Sarton Professor at the University of Ghent. His publications include studies of biotechnology and penicillin which have included the experiences of both Europe and China. Currently he is working on the history of applied science, which takes in both technology and biomedical developments.

Emma Stirling-Middleton is Project Curator: China-UK Collaboration at the Science Museum. She currently works with a museum in Hong Kong to develop an exhibition about clocks and watches. In 2017–2018, she led the development, delivery and management of *Medicine & Bodies*, a new permanent gallery about the history of medicine at the Science Museum. Before joining the Science Museum in February 2017, Emma worked at international touring exhibitions company Nomad Exhibitions where she developed 14 blockbuster exhibitions in partnership with over 21 major cultural institutions across 10 different countries, including 7 collaborations with Chinese museums. Emma has a special interest in UK-China cultural partnerships. In recent years she collaborated with Inner Mongolia Museum and Nanjing Museum to produce exhibitions on a diverse range of subjects, from the production and symbolism of silk textiles during the Qing dynasty to the burial customs of the Liao dynasty. Key projects include *Genghis: Rise of the Mongol Khans* produced in partnership with Inner Mongolia Museum and the National Military Museum of the Netherlands and *Romantic Scotland: Castles, Land and Sea*, a partnership with Nanjing Museum, Historic Environment Scotland and National Galleries Scotland. *Romantic Scotland* was the focus of the AHRC-funded research project 'Producing/Consuming 'Romantic Scotland': Exhibitions, Heritage, Nation & the Chinese Market'.

Ronit Yoeli-Tlalim is Senior Lecturer in the History Department at Goldsmiths, University of London. Her research deals with the transmission of medical ideas along the so-called 'Silk-Roads'. Her article 'Re-visiting "Galen in Tibet"' was published in 2012. She has co-edited three volumes with Anna Akasoy and Charles Burnett: *Rashīd al-Dīn as an Agent and Mediator of Cultural Exchanges in Ilkhanid Iran* (2013); *Islam and Tibet: Interactions along the Musk Routes* (2011) and *Astro-Medicine: Astrology and Medicine, East and West* (2008). She has also co-edited (with Vivienne Lo) the Silk Roads Special Issue of *Asian Medicine: Tradition and Modernity* (2007). Her book *Re-Orienting Histories of Medicine: Encounters along the Silk Roads*, is forthcoming with Bloomsbury.