

# SUMMARY REPORT FOR

## *Spices & Medicine*

### From Historical Obsession to Research of the Future

One-day Conference  
24 May 2013 9:30 am – 5:30 pm  
University College London

Organised by Marianne Datiles and Prof. Michael Heinrich  
Sponsored by London BioNat and the British Society for the History of Science

[www.ucl.ac.uk/spicesandmedicine](http://www.ucl.ac.uk/spicesandmedicine)  
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The British Society for the History of Science  
[www.bshs.org.uk](http://www.bshs.org.uk)

The UCL SoP Centre for Pharmacognosy and Phytotherapy  
[www.ucl.ac.uk/pharmacy/people/PBC/psc\\_research\\_centres/cpp](http://www.ucl.ac.uk/pharmacy/people/PBC/psc_research_centres/cpp)

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**London BioNat**



## I. CONFERENCE BRIEFING

On Friday 24 May 2013, University College London (UCL)'s School of Pharmacy hosted a one-day conference entitled 'Spices and Medicine: From Historical Obsession to Research of the Future', sponsored by the British Society for the History of Science (BSHS) and London BioNat. The purpose of the conference was to discuss how Europe's fascination with spices as both food and medicine has contributed to the global exchange and advancement of medical knowledge, from ancient times to today. This was an interdisciplinary event organised by UCL SoP Centre for Pharmacognosy and Phytotherapy (Biodiversity and Medicines Research Cluster) in association with the UCL School of European Languages, Culture and Society (SELCS). It was held in the Maplethorpe Lecture Theatre, 29-39 Brunswick Square, London.

With 145 registered attendees, the conference proved a fantastic opportunity for academics, researchers and practitioners from across multiple disciplines to engage with one another and learn about other perspectives through the conference's eight lectures and two Q&A panel sessions. The expertise of our invited speakers ranged from archaeology and medieval history to food studies, health regulations and pharmaceutical research. This variety provided multiple angles to the topic of spices and its role in the history of science into the modern day, and created a truly interdisciplinary and lively discussion amongst both speakers and attendees, during both the panel sessions and the three breaks.

Lectures were given by (in order of presentation) Professor Paul Freedman, Department of History at Yale University, USA (opening keynote speaker), whose 2008 book *Out of the East: Spices and the Medieval Imagination* was an inspiration for this conference; Professor Marijke van der Veen, Department of Archaeology and Ancient History at the University of Leicester, UK; Dr. Stefan Halikowski Smith, Department of History and Classics, Swansea University, Wales; Prof. Sabine Anagnostou, Department for the History of Pharmacy, University of Marburg, Germany; Tony Booker, UCL School of Pharmacy and the Leverhulme Centre for Agriculture and Health, UK; Dr. Vivienne Lo, UCL Centre for the History of Medicine and China Centre for Health and Humanity, UK; Professor Monique Simmonds, Head of the Sustainable Uses of Plants Group, Royal Botanic Gardens Kew, UK; and Professor Michael Heinrich, Head of the Centre for Pharmacognosy and Phytotherapy, UCL School of Pharmacy, UK (closing keynote speaker). Students and independent researchers were able to showcase their work through a research poster exhibit held in the Square Lounge throughout the day.

Feedback by attendees after the conference praised the diversity of the approaches to spices and medicine presented by the conference. A seminar series is now being planned based on the overwhelming amount of positive feedback of registered attendees who expressed keen interest in participating in and contributing to future spices-themed events. This series will aim to showcase interdisciplinary research relating the history of science in Europe and the 'Orient' to the present day and its relevance across different academic fields, and to foster collaborations within UCL and between institutions around the world. This will also address suggestions for improvement by engaging non-academics more directly in a workshop or seminar format.

Conference organisers: Marianne Jennifer Datile and Prof. Michael Heinrich. UCL students who assisted during the conference: Johanna Michl, Francesca Scotti, Hannah Jennings, Andre Mazzari, Aljawharah Alqathami, Fon Lumlerdkij, Amaka Ezuruike, Ines Rocha, and Sarah Edwards.

## II. ABSTRACTS and SPEAKER BIOGRAPHIES (in order of presentation)

### “Health, Wellness and the Allure of Spices” (OPENING KEYNOTE)

**Paul Freedman**

**Abstract:** Spices in their medieval meaning were aromatic products imported into Europe. They came from as far away as the tiny Indonesian islands that supplied all the world's nutmeg and cloves until the eighteenth century, from India (which medieval Europeans imagined as a land of fabulous wealth and disturbing marvels), and from exotic lands imagined as well as real. Their appeal was based on their use in cooking but extended to medicinal applications, fragrance and their power to denote high status. They were regarded not only as items of gourmandise but as healthful and their medicinal properties were not limited to the treatment of disease but to what would now be termed “wellness” — the pursuit of physical and mental well-being in the absence of particular disease or debilitation. The paper looks at the various uses of spices in medieval Europe and the interactions between the taste for fragrance and the belief in its beneficent properties. Spices were medicines in the medieval period, but the notions of medicine encompassed aspects of health that indicated social status, discriminating taste and an enjoyment of luxury.

**About the Speaker:** Prof. Paul Freedman is the Chester D. Tripp Professor of History at Yale University, CT, USA. He specialises in medieval social history, the history of Spain, comparative studies of the peasantry, trade in luxury products, and history of cuisine. Prior to joining the Yale faculty in 1997, Prof. Freedman spent 18 successful years at Vanderbilt University where he was awarded the Nordhaus Teaching Prize and the Robert Penn Warren Humanities Center Fellowship. Since coming to Yale, Professor Freedman has served as Director of Undergraduate Studies in History, Director of the Medieval Studies Program and Chair of the History Department. He was a visiting fellow at the Max-Planck-Institut für Geschichte in Göttingen in 2000 and was directeur d'Études Associé at the École des Hautes Études en Sciences Sociales in Paris in 1995. A Fellow of the Medieval Academy of America, a corresponding fellow of the Real Academia de Buenas Letras de Barcelona and of the Institut d'Estudis Catalans, he is also a member of the American Philosophical Society and the American Academy of Arts and Sciences.

Prof. Freedman has written extensively on the history of food, spices, and medieval culture. His honours include a 2008 cookbook award (reference and technical) from the International Association of Culinary Professionals for his book entitled *Food: The History of Taste*, and three awards for his book *Images of the Medieval Peasant*: the 2002 Haskins Medal of the Medieval Academy, the 2001 Otto Gründler prize given by the Medieval Institute at Western Michigan University, and the Eugene Kayden Award in the Humanities given by the University of Colorado. He won the American Historical Association's Premio del Rey Prize in 1992, and shared the Medieval Academy of America's Van Courtlandt Elliott prize for the best first article on a medieval topic in 1981. His most recent book, *Out of the East: Spices and the Medieval Imagination*, printed by Yale University Press in 2008, was a source of inspiration for this event.

Prof. Freedman earned his BA at the University of California at Santa Cruz and an MLS from the School of Library and Information Studies at the University of California at Berkeley. He earned a Ph.D. in History at the same institution in 1978.

### “The Roman and Islamic Spice Trade - Early Globalisation”

**Marijke van der Veen**

**Abstract:** Recent excavations at Berenike and Quseir al-Qadim, both ancient ports located on the Red Sea coast of Egypt, have provided new evidence for the spice trade. Due to the arid conditions botanical remains were present in abundance at these sites and these included spices such as black pepper, ginger, cardamom and betelnut, as well as a wide range of other food plants. Berenike functioned as a port during the Roman period (ca. AD 1–550), while Quseir al-Qadim was active during both the Roman and Islamic periods (ca. AD 1–250, known as Myos Hormos, and again during ca. AD 1050–1500, known as Kusayr). This paper will present and explore the archaeological evidence from these ports. Marked differences between the two chronological periods point to changes in the nature and scale of the trade between the Roman and medieval Islamic periods,

in the way the spices were utilized in those periods, and highlight a shift in the way the inhabitants saw themselves and located themselves in the wider world.

**About the Speaker:** Prof. Marijke van der Veen is Professor of Archaeology at the School of Archaeology and Ancient History, University of Leicester. An archaeologist specialising in the field of archaeobotany - using botanical remains from archaeological excavations as her primary data - her research emphasises the meeting of biology and culture through reconstruction of ancient agriculture and the archaeology of food. Her work has focused on agricultural economies (e.g., Iron Age and Roman Britain; prehistoric and Roman North Africa), food supply to Roman quarry sites in Egypt (Mons Claudianus and Mons Porphyrites), and, more recently, the Roman and Islamic spice trade (through archaeobotanical data from Myos Hormos/Quseir al-Qadim, Red Sea coast, Egypt), and tracing the dispersal of foods into NW Europe between c. AD 1-1500.

Prof. van der Veen studied History and Archaeology at the University of Groningen, the Netherlands, and undertook the MA in Economic Archaeology and her PhD in Archaeobotany at the University of Sheffield. She worked at Durham University for five years as the English Heritage adviser of environmental archaeology for northern England before joining the School of Archaeology & Ancient History at University of Leicester in 1992. She is author of *Crop Husbandry Regimes* (1992) and *Consumption, Trade and Innovation* (2011; this publication concerns the spice trade and results from Quseir al-Qadim), as well as editor of *The Exploitation of Plant Resources in Ancient Africa* (1999), *Luxury Foods* (2003), *Garden Agriculture* (2005), and *Agricultural Innovation* (2010); the latter three are issues of the journal *World Archaeology*.

#### **“The Mystification of Spices in the Western Tradition”**

**Stefan Halikowski Smith**

**Abstract:** Oriental spices were mystified in the sense that, from being rare, valuable and of as yet unspecified provenance, these objects were raised within the western phenomenological scheme beyond the commonplace and ascribed marvellous properties. This was a time-worn conception of western society inherited from the first accounts of the expeditions of Alexander the Great by Megasthenes and Ktesias the Cnedian, which endured long after the circumscribed voyages characterizing the Age of Discovery pioneered by the Spanish and Portuguese. The Marvellous constituted very particular rules of engagement, whether for ascriptions within the medical profession, the reduction of plants to botanical families or genera, or economic behaviour in the early modern marketplace. In this paper I shall review some of my work on the spice trade, from the shifting meanings of 'piperitis', to European taste maps, to evolving price ladders in the global commodity chain. How spices moved across the world and infiltrated different societies remains as good a question as it did twenty years ago.

**About the Speaker:** Dr. Stefan Halikowski Smith is Senior Lecturer of History at the Department of History and Classics, Swansea University, Wales. He defended his Ph.D. at the Istituto Universitario Europeo in Fiesole in 2001 with a thesis entitled 'Portugal and the European Spice Trade, 1480-1580'. He has published on the trade in *European Review of History*, *Itinerario*, *Journal of Global History*, *International History Review*, and the *Actas do Seminario de Historia Indo-Portuguesa*, and surveyed developments in the early modern apothecary profession in an article in *Nuncius*. Recently, he has been trying to deepen his understanding of market movements in a contained area of central Europe mid-way between the competing supply systems emanating from Antwerp, Venice and the East European perimeter, and following the introduction of new goods there between 1503-1705. This has included taking a register of surviving storage containers from historical and applied arts museums, as well as apothecary museums.

#### **“Southeast Asian Missions as Centres of Forming, Transfer and Globalisation of Medical-Pharmaceutical Knowledge in the 17th and 18th Centuries”**

**Sabine Anagnostou**

**Abstract:** From the 17th to the 18th centuries, missionaries in Southeast Asia dedicated themselves to providing and establishing a professional medical-pharmaceutical supply for the local population and therefore explored

the genuine *materiae medicae* for easily available and affordable remedies, especially medicinal plants. In characteristic medical-pharmaceutical compendia, which can be classified as missionary pharmacopoeias, they laid down their knowledge to advise others and to guarantee a professional health care. As their knowledge often resulted from an exchange with indigenous communities, these compendia provide essential information about traditional plant uses of Southeast Asian people. Individual missionaries like the Jesuit Joseph Kamel (1661-1706) not only strove to explore medicinal plants but performed botanical studies and even composed comprehensive herbals. The Jesuit missionaries in particular played roles both in the order's own global network of transfer of medicinal drugs and knowledge about the application, and within the contemporary local and European scientific networks which included, for example, the famous Royal Society of London. The results of their studies were distributed all over the world, were introduced into the practical *materiae medicae* of other regions, and contributed significantly to the academization of knowledge. In our paper we will explain the different intentions and methods the resulting works and the consequences for the forming of the pharmaceutical and scientific knowledge. Finally, we will show the options which the works of the missionaries can offer for the saving of traditional ethno-pharmacological knowledge and for the development of modern phytotherapeutics and pharmaceutical supply.

**About the Speaker:** Prof. Sabine Anagnostou is President of the German Society for the History of Pharmacy (DGGP) and Professor for the History of Pharmacy, Philipps-Universität Marburg. She specialises in missionary pharmacy (16th to 18th centuries), the development of networks for international drug transfer and influences on different *materiae medicae*. Prior to joining the research faculty of Marburg, from 2001-2004 Prof. Anagnostou was a Scholar of the Deutsche Forschungsgemeinschaft (DFG) for the project: "Pharmacies of religious orders in Central-Europe and Spanish-America as institutions of the exchange/transfer of medicinal drugs and pharmaceutical knowledge (16th -18th c.)". She was also Fellow of the International Society for the History of Pharmacy in 2004.

Prof. Anagnostou has written on topics relating to the history of botany, history of medicinal plants, ethnopharmacy, and traditional medicinal plants as modern phytotherapeutics. She was lauded as a Privatdozent for her 2009 book *Missionary Pharmacy*, which was awarded Habilitation status by the University of Marburg, and won the Dalhberg Prize by the Academy of Erfurt in 2011. Her doctoral thesis "Jesuits in Spanish-America transferring medical knowledge" was published as a book in 2000 and was awarded the "Prix Carmen Francés" by the International Society for the History of Pharmacy in 2003.

Prof. Anagnostou is a registered pharmacist, having studied Pharmacy at the Bayerischen Julius-Maximilians-Universität in Würzburg. She earned her PhD in the History of Pharmacy at the Philipps-Universität in Marburg.

### **"Curry Spice or Miracle Cure? An Ethnobotanical Investigation"**

**Tony Booker**

**Abstract:** Throughout Europe, herbal medicines, nutraceuticals and functional foods have been growing in popularity and global trade in these commodities is increasing. But some herbs and spices have a history of medical use spanning thousands of years. This talk looks at one of these food-medicines and examines its use by different cultures. To some, it is just one of many ingredients in curry powder, to others it is a wonder spice, capable of treating a wide variety of maladies, from mild digestive complaints to arthritis to cancer. There is some evidence to suggest that it may have medicinal properties but which active ingredients are responsible remains unclear. To further complicate the picture, different species of plant are used and different methods of preparation. There are many examples of how traditional use of a plant has influenced its modern day use as a herbal medicine or led to the discovery of a new drug – why is it that a spice with so much history of medicinal use is still regarded by many as just another curry ingredient?

**About the Speaker:** Tony Booker completed an MSc in Pharmacognosy at The School of Pharmacy, University of London in 2010 and is currently studying for a PhD at UCL School of Pharmacy, supported by a grant from The Leverhulme Centre for Integrative Research on Agriculture and Health. Following a career in the pharmaceutical industry, since 1996 he has been a practitioner of Traditional Asian Medicine and is past

President of The Register of Chinese Herbal Medicine. In connection with TCM education, he was Director of MSc studies in Chinese Herbal Medicine at The College of Integrated Chinese Medicine, Reading, and has sat on the accreditation board of the European Herbal and Traditional Practitioners Association. He is currently a member of The Herbal Medicines Advisory Committee (HMAC) responsible for giving advice to the Medicines and Healthcare Products Regulatory Authority on aspects concerning Chinese Herbal Medicine. He is a guest lecturer at UCL School of Pharmacy and at The Confucius Institute of TCM, London South Bank University. His current research interest is the transformation of traditional Asian medical knowledge into international commodities.

### **“Scent and Synaesthesia: Spice Bags in Cross-cultural Context”**

**Vivienne Lo and Di Lu**

**Abstract:** This paper will begin with a meta-survey of the history of European reception of spices from China including such substances as rhubarb, ginger, ginseng, star anise, the Chinese cinnamons and peppers. Our main focus will, however, be the Chinese use of spice bags as aromatics, and their role in a culturally specific synaesthesia that operated in the Chinese medical context. We will conclude with considering some potential research directions concerned with the cross cultural transfer and translation of Chinese aromatics and spice bags.

**About the Speaker:** Dr. Vivienne Lo is Convener of the China Centre for Health and Humanity at the UCL-Wellcome Trust Centre for the History of Medicine and Senior Lecturer of the History of Asian Medicine and Classical Chinese Medicine at UCL. Dr. Lo specialises in the history of Chinese medical practice. Her research concerns the social and cultural origins of acupuncture and therapeutic exercise. Prior to joining the UCL-Wellcome Trust Centre, Dr. Lo was a Research Fellow of the University of London’s School for Oriental and African Studies (SOAS), and a Research Fellow of the Chinese Academy of Social Sciences’ Centre for the Study of Bamboo and Silk Books. She is Founding Editor of the journal *Asian Medicine: Tradition and Modernity*, and has published extensively on various aspects of Chinese Medicine.

Dr. Lo translates and analyses manuscript material from Early and Medieval China and the transmission of scientific knowledge along the so-called Silk Roads through to the modern Chinese medical diaspora. She is currently finishing a translation and introduction to texts excavated in Hubei (tomb sealed ca. 186 BC), that describe an early phase in the development of acupuncture, and therapeutic exercise. Current projects also include the creation of an on-line database of early Chinese medical imagery, and a history of food and medicine in China.

Dr. Lo earned both her BA and PhD degrees at SOAS.

### **“Spices – New Challenges and Opportunity”**

**Monique Simmonds**

**Abstract:** Spices are clearly still playing an important role in many aspects of our daily activities and provide an important source of income for many countries. This talk will provide an overview of some of the work that Kew has been involved with that includes collating information about the traditional medicinal and cultural importance of spices as well as research into furthering our understanding about their health benefits.

**About the Speaker:** Prof. Monique Simmonds is Deputy Keeper and Head of the Sustainable Uses of Plants Group at the Royal Botanic Gardens Kew, which includes the Centre for Economic Botany and the Biological Interactions Section as well as RBG Kew's Innovation Unit. She is a Fellow of the Royal Society of Entomology, World Innovation Foundation, the Society of Biology, and the Linnean Society. She is Editor-in-Chief of *Biochemical Systematics and Ecology*, and on the editorial boards for *Phytochemistry*, *Phytotherapy Research*, *Physiological Entomology*, *Journal of Tropical Medicinal Plants*, and *Natural Product Communications*. Prof. Simmonds is a Visiting Professor at Birkbeck College University of London, University of Greenwich and the UCL School of Pharmacy.

During her career at RBG Kew, Prof. Simmonds has and continues to coordinate research into the

economic uses of plants and fungi, their potential as pharmaceutical and agrochemical leads, and as sources of sustainably harvested medicines. She has been involved in developing benefit-sharing strategies among community groups across the world, that involve NGOs, commercial and academic collaborators for research on medicinal and agrochemical plants and fungi. Prof. Simmonds has gained extensive experience of working in developing countries, investigating the uses of plants for control of pests as well as the treatment of HIV and malaria. In addition, she has developed chemical authentication methods for use by companies, NGOs, government bodies and field workers to check the quality of plant-derived products being sold as medicines, cosmetics and foods.

Prof. Simmonds earned her BSc (Hons.) from the University of Leeds and her PhD from Birkbeck College, University of London.

### **“From Spices to Superfruits- The Changing Role of Global Trade Links” (CLOSING KEYNOTE)**

**Michael Heinrich**

**Abstract:** Dietary supplements and natural health products are a diverse group of goods now often marketed as superfruits. They are relative newcomers on the global markets of high-value plant products and their increasing popularity is linked both to the 'commodification of the exotic' and to their acclaimed (but often poorly studied or completely unproven) health benefits. For example, the palm *Euterpe oleracea* Martius (açai, Arecaceae) has been acclaimed to have a wide range of health-promoting and therapeutic benefits due to its reportedly high levels of antioxidants linked to relatively high content of polyphenols. Açai has been of great economic importance in Brazil and in recent years, it has become a poster child of the power of the internet in promoting such products. Evidence on its 'effectiveness' is very limited and mostly inconclusive or based on *in vitro* data (Heinrich et al 2011). While the evidence for other health products is better, their commercial success, too, depends on the importance of their acclaimed medical benefits (Heinrich and Prieto 2008). This presentation provides a critical assessment of some current global trade products focusing on our recent research in this context.

The spice trade offers amazing and challenging insights into the historical development of the global dependencies which link producers and consumers of such high value products. Historically the main emphasis had been on the products' roles in providing flavour, aroma and acting as stimulants (like tea or coffee). Today we see rapid rise of internet-driven marketing and a push for ever novel exotic commodities. The acclaimed health benefits are an important addition to these claims. This calls for a systematic and critical assessment of the impact of such products on producers and consumers and of the health benefits and potential risks of these products requiring among others a rigorous systematic strategy which integrates phytochemical and pharmacological is needed in order to review the health claims of dietary supplements and natural health products. Lastly, it calls for strategies to ascertain improved livelihoods for the generally poor and marginalised primary producers of these commodities (Booker et al 2012).

*Booker, A., D. Johnston and M. Heinrich (2012) Value chains of herbal medicines – research needs and key challenges in the context of ethnopharmacology. Journal of Ethnopharmacology 140, 624– 633.*

*Heinrich, M. and J.M. Prieto (2008) Diet and healthy ageing 2100: will we globalise local knowledge systems? Ageing Research Reviews 7 (3), 249-274.*

*Heinrich, M., T. Dhanji and I. Casselman (2011) Açai (Euterpe oleracea Mart.) – a phytochemical and pharmacological assessment of the species' health claims. Phytochemistry Letters 4: 10 – 21.*

**About the Speaker:** Prof. Michael Heinrich (Closing Keynote) is Professor and Head of the UCL Centre for Pharmacognosy and Phytotherapy at the UCL School of Pharmacy. A pharmacognosist, biologist and anthropologist, his many years of research experience have focused on interdisciplinary aspects of medicinal and food plant research (especially bioactive natural products), as well as at the interface of cultural and natural sciences- especially on the traditional use of food and medicinal plants, for example in Mexico and the Mediterranean. Prof. Heinrich joined the UCL School of Pharmacy from the University of Freiburg, Germany. While on sabbatical in 2011-2012 he was Founding Director of Southern Cross Plant Science at Southern Cross University, Australia.

Prof. Heinrich has approximately 130 original full publications and 70 reviews and commentaries. He is editor/co-author of five books, Editor-in-Chief of the journal *Frontiers in Ethnopharmacology*, Reviews Editor for the *Journal of Ethnopharmacology*, is a subject editor of the *Journal of Pharmacy and Pharmacology and Phytochemistry Letters* and on the Editorial Board of several journals.

Prof. Heinrich earned his doctorate degree in biology from the University of Freiburg, and holds an MA degree in in Anthropology.