



CENTER FOR
HISTORY OF SCIENCE
THE ROYAL SWEDISH ACADEMY OF SCIENCES

A Global History of Linnaean Science, 1750–1820

*An international workshop at the Royal Swedish Academy
of Sciences, Stockholm, Friday 12 October 2012*

Organised by Dr Hanna Hodacs and Dr Kenneth Nyberg in co-operation with
the Center for History of Science at the Royal Swedish Academy of Sciences

Supported by grants from Åke Wibergs Stiftelse
and Stiftelsen Lars Hiertas Minne

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The overarching idea of this workshop is to explore the global geography of Linnaean science. Both centres (whether cosmopolitan Paris or on the Coromandel coast) and frontiers (Norwegian as well as Venezuelan) will be discussed. Within this broad theme there are a number of other topics connecting the papers. The inclusion of many different types of naturalists, long distance travellers, clergymen, botanists and collection builders will form the basis for discussions on legacy, scientific persona and how to write the biographies of Linnaean scholars. We will also discuss how an investigation of everyday practice, such as paper technologies and collection administration, can help inform our understanding of how Linnaean natural history became a global science. While the main focus is on the period from 1750 to 1820, we will take a long view on Linnaean natural history, exploring its prehistory and origins in the 17th and early 18th centuries.

Financed by generous grants from Åke Wibergs Stiftelse and Stiftelsen Lars Hiertas Minne and with support from the Center of History of Science, the workshop brings together a wide range of scholars working on natural history in the 17th, 18th and early 19th century. Aside from the discussions of the papers there will be many opportunities for informal conversations over lunch or coffee, and in the evening all participants are welcome to a workshop reception.

Participants

Beckman, Jenny	<i>Uppsala University</i>
Brenna, Brita	<i>University of Oslo</i>
Broberg, Gunnar	<i>Lund University</i>
Charmantier, Isabelle	<i>University of Exeter</i>
Cooper, Alix	<i>State University of New York – Stony Brook</i>
Dietz, Bettina	<i>Hong Kong Baptist University</i>
Dunér, David	<i>Lund University</i>
Fors, Hjalmar	<i>Uppsala University</i>
Grandin, Karl	<i>The Center for History of Science, Royal Swedish Academy of Sciences</i>
Hansen, Viveka	<i>IK Foundation</i>
Hodacs, Hanna	<i>University of Warwick & The Center for History of Science, Royal Swedish Academy of Sciences</i>
Holmqvist, Bo	<i>Stockholm University</i>
Jonsell, Bengt	<i>Royal Swedish Academy of Sciences</i>
Nyberg, Kenneth	<i>University of Gothenburg</i>
Orrje, Jacob	<i>Uppsala University</i>
Persson, Mathias	<i>Uppsala University</i>
Sibum, Otto	<i>Uppsala University</i>
Skuncke, Marie-Christine	<i>Uppsala University</i>
Sörlin, Sverker	<i>KTH Royal Institute of Technology, Stockholm</i>
Thode Jensen, Niklas	<i>University of Copenhagen</i>
Van Damme, Stéphane	<i>Sciences Po, Paris</i>
Windahl Pontén, Annika	<i>Uppsala University</i>

Programme

The workshop will take place at Linnésalen, Royal Swedish Academy of Sciences, Lilla Frescativägen 4A, Stockholm. The room will open no later than 08.15 for registration.

Introduction

- 08.30 Welcome greeting and practical information
Academy representatives, Hanna Hodacs and Kenneth Nyberg
- 08.45 The Center for History of Science: A Brief Presentation
Karl Grandin, Director

Natural history on the field and in the provinces

Chair: Marie-Christine Skuncke (Uppsala University)

- 09.00 Prehistories of Linnaean Natural History: Origins and Narratives
Alix Cooper (State University of New York – Stony Brook)
- 09.40 Configuring the Linnaean Clergyman: A Reading of the Writings of the Society of Science in Trondheim in the 1760s and 1770s
Brita Brenna (University of Oslo)
- 10.20 *Coffee*
- 10.50 The Global Locality of Linnaean Botany
Bettina Dietz (Hong Kong Baptist University)
- 11.30 The Life Geography of Pehr Löfling, 1729–1756
Kenneth Nyberg (University of Gothenburg)
- 12.15 *Lunch*

Natural history in the centre

Chair: Otto Sibum (Uppsala University)

13.30 Between Global and Local: Paris as a Capital City of the Naturalist World

Stéphane Van Damme (Sciences Po, Paris)

14.10 Tranquebar: The Rise and Fall of a Local Centre of Science in South India, c. 1706–1813

Niklas Thode Jensen (University of Copenhagen)

14.50 *Coffee*

15.20 Linnaeus at Work

Isabelle Charmantier & Staffan Müller-Wille (University of Exeter)

16.00 Building Central Collections – Linnaean Students at Work in London

Hanna Hodacs (University of Warwick & The Center for History of Science)

Conclusion

Chair: Sverker Sörlin (KTH Royal Institute of Technology, Stockholm)

16.45 Concluding discussion: Towards a Global History of Linnaean Science

All participants are invited to a workshop reception after the final session has ended.

It will begin at approximately 17.45 and stay open until 20.00.

Abstracts

Configuring the Linnaean Clergyman: A Reading of the Writings of the Society of Science in Trondheim in the 1760s and 1770s

Brita Brenna, professor of museology, University of Oslo

A Society of Sciences was established in the regional city of Trondheim, Norway, in 1760, in a town – and a country – without a university or any well-established learned community. The founders were a bishop, a rich gentleman and scholar, and the rector of the Cathedral School. My entry into the work of this society is its journal *Skrifter* (Writings), which was first issued in 1761. The preface of the first volume of *Skrifter* invited the readers, addressed as “the lovers of the sciences”, to give the society a hand in promoting its intention. Everyone, the preface stated, could freely choose the topics of their contributions. The society would welcome treatises on history, i.e. learned, civil, natural or church history. Further it would welcome all parts of philosophy, particularly mathematics, natural knowledge and medicine, but also economy, moral knowledge and the natural teachings on God and religion. Thorough treatises on the revealed God were also welcomed, as were poetry and the beautiful arts. In addition civil and public law were welcomed as long as the author was knowledgeable in natural law and the history of law. Thus, it was added, “our goal is very extensive”.

Indeed, this was a society with a remarkably wide ambition, but this seems to have been the case for many such societies in regional towns. Where the ambition of the Trondheim society was truly remarkable, was in the inclusion of theology as one of the *Wissenschaften* suitable for handling in a scientific society. In this paper I will focus on *Skrifter* as it was issued in the 1760s and 1770s, and I will make the broad ambition and generous invitation my starting point. What I am interested in is both the limits of the generosity of the society, and the way in which the writer of a piece for the *Skrifter* was portrayed. Or rather turning the title of Steve Woolgar’s famous article on configuring the user back on itself, asking how *Skrifter* configured its writers. What scientific author was written into the pages of the journal? What I want to ask is not who wrote, but how the writer was configured.

An inspiration for my approach has been Otto Sibum’s and Lorraine Daston’s framing of the “scientific personae” in the special issue of *Science in Context* in 2003. They position the persona between the individual biography and the social

institution, and define it as “a cultural identity that simultaneously shapes the individual in body and mind and creates a collective with a shared and recognizable physiognomy.” Following them then, what I look for is the emergence and implications of a cultural identity, configured in the pages of *Skrifter*. I will present several identities, but will here name but the most strongly endorsed, the cultural identity of the clergyman, well versed in Linnaean natural history.

Linnaeus at Work

Isabelle Charmantier (& Staffan Müller-Wille), University of Exeter

By the end of Carl Linnaeus’s life (1707–1778), Uppsala had become a centre for the study of botany and natural history in general. Yet this centre was wholly dependent on the work of one man: Carl Linnaeus himself. Throughout his life, Linnaeus fulfilled the dual roles of orchestrator and integrator, attracting students and disciples whom he redeployed throughout the world, receiving letters and specimens every day from worldwide correspondents, and assembling, filing, and cross-referencing information about plants and their medicinal virtues within his own collection. Linnaeus often complained throughout his career about feeling overwhelmed and overworked, receiving an ever-increasing amount of information on known and newly discovered plants. How did he manage such an influx of data on a day-to-day basis, and what impact did his information processing technologies have on his classification of the natural world? His manuscripts, held at the Linnean Society (London) and various institutions in Sweden, document how Linnaeus experimented with a variety of paper-based information technologies throughout his career – including commonplace- and notebooks, maps, schematic diagrams and drawings, collections of loose paper sheets, sometimes folded up to form slim files, annotations in interleaved copies of Linnaeus’s own publications, and paper-slips resembling index cards. Linnaeus’s writing technologies were derived from other naturalists’ and were in turn taken up by other scholars, most notably students such as Daniel Solander. We will explore the ways in which Linnaeus successfully adapted known writing technologies to his work, making it easy for correspondents and naturalists to communicate and share information, and in the process making Uppsala a key destination and centre of activity for most botanists throughout Linnaeus’s life.

Prehistories of Linnaean Natural History: Origins and Narratives

Alix Cooper, State University of New York – Stony Brook

Historical portrayals of Linnaeus have, over the years, varied widely. Most common, of course, has been the “textbook” depiction of Linnaeus, along with his followers, as the founders of modern botany and even biology, with Linnaeus’ invention of binomial nomenclature seen as a defining moment in the establishment of a unified system for organizing the natural world. More recently, Linnaeus has been viewed as pioneering modern ecology, with special attention paid to the connections between organisms he laid out in his *Economy of Nature*. Yet simultaneously a somewhat more nuanced and even troubling view of Linnaeus has emerged. This can be seen, for example, in prominent environmental historian Donald Worster’s portrayal of Linnaeus in his history of ecology, *Nature’s Economy*. Here Worster contrasts Linnaeus, whom he describes as harboring “imperial” ambitions in the scope of his natural history, with Gilbert White of Selborne as the representative of a natural history serene in its localism. This paper will explore contrasting depictions of Linnaeus in the history of science as a man both of the center and of the frontier, arguing that he can best be understood in light of the seventeenth- and early eighteenth-century contexts of local natural history.

The Global Locality of Linnaean Botany

Bettina Dietz, Hong Kong Baptist University

This paper will first address how the global claim of Linnaean science to achieve a worldwide registration of flora, fauna, and minerals involved countless actors into collecting, naming, and describing natural specimens at the local level. People who did not necessarily aim at scientific authorship nevertheless got extensively involved in doing natural history. As a result, the “local competence” of the majority of the participants in Linnaean science became a driving force behind the dynamic of a global natural history correspondence. As practitioners of natural history had access to the natural specimens and publications available in their particular geographical area, they automatically had something relevant to offer others. Finally, this collecting and possessing of overwhelmingly local specimens will be linked to the collaborative epistemology of Linnaean botany, which had to rely more and more heavily on the accumulation and aggregation of contributions by many people.

Building Central Collections – Linnaean Students at Work in London

Hanna Hodacs, Center for History of Science, Royal Swedish Academy of Sciences, and University of Warwick

In this paper I will discuss the collection building activities of Linnaeus' students in London, a burgeoning centre for natural history material sourced globally. Focusing particularly on Daniel Solander (1733–82) and Jonas Carlson Dryander (1748–1810), both students of Linnaeus, I will discuss their work in central natural history collections and libraries in late 18th and early 19th century London. Next to his position as Joseph Banks secretary, Solander organised and indexed collections in the British Museum and the collection belonging to the Duchess of Portland. Dryander, who took over much of Solander's duties in Banks' home on Solander's death, bought books and collections on behalf of Banks. Next to organising Banks' library Dryander also worked as a librarian at the Royal Society and the Linnean Society of London. My aim with the paper is to explore the link between displaying and administrating collections and the formation of a Linnaean scientific persona, and ultimately how the identity and work of Linnaean students in London can illuminate ways in which Linnaean taxonomy became a global science.

The Life Geography of Pehr Löfling, 1729–1756

Kenneth Nyberg, University of Gothenburg

This paper outlines an attempt to retrace and analyse what David Livingstone has called the 'life geography' of Pehr Löfling (1729–1756), one of the travelling disciples of Linnaeus who spent his short life studying and working in Sweden, Spain and present-day Venezuela. The main purpose of the project is to explore how the knowledge globalization that Linnaean science represented impacted on, and was influenced by, individual lives on different levels. It also highlights the relationship between northern and southern peripheries of science (Sverker Sörlin) within Europe and, to a lesser extent, between colonial peripheries and the imperial metropolis of Spain (Jorge Cañizares-Esguerra). The aim is to contribute to a more global interpretation of a field of research where both Sweden and Spain have been, until recently, historiographical peripheries.

While Löfling is not a very important historical figure in the conventional sense, he is clearly a potentially significant person due to the trajectory of his life and the wealth of materials (letters, journals and manuscripts, mainly in Madrid) he left

behind. He was closely involved in the formulation of some of the Linnaean principles and one of the most gifted and well trained of Linnaeus's students; he contributed to the spread of Linnaean botany in Europe; and finally he was given the opportunity of applying these principles and practices in a colonial context where they both challenged and were challenged by indigenous epistemologies. What do these exchanges and their outcomes tell us about the theory and practice of Linnaean botany as an example of knowledge globalization in the middle of the eighteenth century? How did space, location, place affect the allegedly universal science that Löffling represented? Finally, what role did curiosity and utility, respectively, play as factors in his scientific work as it evolved in Uppsala, Madrid and Guayana?

Tranquebar: The Rise and Fall of a Local Centre of Science in South India, c. 1706-1813

Niklas Thode Jensen, University of Copenhagen

In the early eighteenth century the small Danish-Norwegian trading colony of Tranquebar in South India emerged as a local centre for production and redistribution of scientific knowledge about India. This was primarily because the town was the headquarters of the so-called Danish-Halle Mission, which utilised its extensive local and transnational networks to produce and exchange scientific data and objects in return for financial and political support. The paper will explore the winding trajectory of the birth, hectic blossoming and death of Tranquebar as a local centre of science in order to investigate the changes in how science could be practised and produced in the colonies through the eighteenth century. Intertwined with this story is that of a less well-known pupil of Linnaeus, Dr. Johann Gerhard König, the "father of modern Indian botany". König incarnates the complexity of science in Tranquebar. On the one hand, he represents the arrival not only of state sponsored science in the shape of Linnaean taxonomy in Tranquebar but of a new Linnaean style, an itinerant style, of scientist as opposed to an earlier resident style employed by the missionaries. Yet on the other hand he had to manoeuvre between several national allegiances just as the missionaries had always done. In this way, new and older modes of science were fused in Tranquebar where science was always a means to an end, whether it be the glory of God, Mammon, the Fatherland or the scientist himself.

Between Global and Local: Paris as a Capital City of the Naturalist world

Stéphane Van Damme, Sciences Po, Paris

The identification of Paris as a capital of Enlightenment is become a commonplace of the historiography, however this representation of an intellectual dominance have been barely discussed. Largely celebrated by Literary history and art history (Louis Réault, 1938, Rene Pomeau, 1966) as a symbol of the French Europe in Caraccioli's book, *Paris, le modele des nations etrangeres*, the centrality of Paris has been called into question both by the Venturian perspective of a cosmopolite Enlightenment and more recently by the 'Enlightenment in a national context' framework which aimed at undermining the significance of the French Enlightenment reduced to a 'coterie of Free-thinkers and philosophers'. Here the French Enlightenment was perceived a threat, as an artefact. If the identification between Paris and Enlightenment is sometimes obvious in the production of universal representations (we can evoke for instance the sources used by Larry Wolf to describe the invention of Eastern Europe to show how central was the Parisian philosophers to shape news representations and knowledge), the place of Paris is not completely clarified. Over the past two decades, several projects originated in various fields: cultural urban history (the project on capitales); history of books (Darnton); history of forms of sociability (Roche, Lilti); history of learned networks (Beaurepaire) ; history of science (Michael Lynn, Schaffer), even intellectual history with its stress on the Encyclopedie gave many insights on the centrality of Paris, but without any attempt to articulate all of these dimensions.

More recently, a new cultural history of Paris which emerged in the wake of the works of Daniel Roche, Steven Kaplan, Arlette Farge, David Garrioch, just to quote a few, underlines the necessity to re-address the local context of Enlightenment. Putting aside the national characteristic of Paris, new approaches wish to understand Enlightenment in terms of locality, not to come back to a local history, but rather to understand both the interplay of scales and the relationship with a metropolitan identity. As David Garrioch stated: "By the 1750s and 1760s, the customary, corporate, and hierarchical social organization of Paris was being seriously challenged – though not eliminated – by changes in the city's economy and demography, by new ideologies and new social practices. (...) From midcentury on, educated Parisians were increasingly influenced by enlightened ideas and by economic and material changes that were widening the gulf between rich and poor. (...) Both the 'middling sort' and the noble and wealthy elite of Paris began to aspire to

a broader 'metropolitan' culture, a shared culture yet one that each group lived and interpreted in different ways".¹

What I would like to argue is the definition of Paris should not be considered as obvious, as a mechanistic reflect of the metropolization of the Parisian elites. If we push Garrioch's argument, metropolises and capitals in general are condemned to be global cities with universal knowledge, forgetting their local identity, blurring their local attachment. This representation is the result of long, intense and uncertain process, sometimes highly polemical, sometimes contested and fragile. Moreover, behind the *cliché* that celebrated the Parisian Enlightenment as a 'party of humanity', we have to understand the difficulties to impose this collective image of a group, and to pay attention to the diverse strategies invented to articulate the strong inscription of Paris as a centre of knowledge and its capacity to produce universal knowledge. In this paper, I would like to explore this tension between a local site for the making of Enlightenment and its partisan aspect through the case study of the making of natural history. Is it possible to be during the Enlightenment universal by defending localism, and to assess what the anthropologist Arjun Appadurai called the "global production of locality". I will argue that natural history offers a good site of observation of this tension.

¹ D. Garrioch, *The Making of Revolutionary Paris* (Berkeley: University of California Press, 2002).

The speakers

Brita Brenna is Professor in Museology at the Centre for Museum studies, University of Oslo. In English she has co-authored *Æmula Lauri; The Royal Norwegian Society of Sciences and Letters 1760–2010* (2009) with Haakon With Andersen, Magne Njaastad and Astrid Wale, and co-edited *Technoscience; The Politics of Interventions* (2007) with Kristin Asdal and Ingunn Moser, and *Routes, Roads, and Landscapes* (2011) with Mari Hvattum et al. Her latest article is “Natures, Contexts, and Natural History” in *Science, Technology & Human Values* July 2012 37: 355–378. She is currently working on a project on exhibition techniques around 1900 and more generally on the history of glass cases.

Isabelle Charmantier earned her PhD from the departments of Animal & Plant Sciences and History at the University of Sheffield in 2008. Her PhD concentrated on the history of ornithology in the sixteenth and seventeenth century. She is now at the end of a three-year Wellcome Trust-funded research fellowship at the University of Exeter that focused on Carl Linnaeus’s writing technologies. Charmantier is interested in the history of natural history throughout the early modern period, the relations between print and manuscript, and the history of information processing practices.

Alix Cooper teaches European history, environmental history, and the histories of science and medicine at the State University of New York in Stony Brook. She is the author of *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe*. She is currently working on two projects: one involving the role of families and households in early modern science, and the other involving the intersections of environmental and occupational health during this period.

Bettina Dietz is an Assistant Professor of European History at Hong Kong Baptist University. Prior to coming to Hong Kong she was a researcher at the Ludwig-Maximilians-Universität (Munich). She specializes in early modern history with a current focus on eighteenth-century natural history. Her articles include “Contribution and Co-production: The Collaborative Culture of Linnaean Botany” (*Annals of Science*, 2012); “Making Natural History: Doing the Enlightenment” (*Central European History*, 2010); “Mobile Objects: The Space of Shells in Eighteenth-Century

France" (*The British Journal for the History of Science*, 2006); "Collections Curieuses: The Aesthetics of Curiosity and Elite Lifestyle in Eighteenth-Century Paris" (co-authored with Thomas Nutz; *Eighteenth-Century Life*, 2005). Dietz's second area of specialization is early modern utopias. She is the author of *Utopien als mögliche Welten: Voyages imaginaires der französischen Frühaufklärung* (Mainz 2002).

Hanna Hodacs is currently working on two post-doc projects, one at the Global History and Culture Centre, University of Warwick, UK (researching early modern Eurasian trade and the Scandinavian East India companies) and one at the Center for History of Science, Royal Swedish Academy of Sciences, Stockholm, where she is working on a project on Swedish naturalists in late 18th century London. Hodacs has previously worked on natural history teaching and travelling in 18th century Sweden as well as on evangelicalism and Anglo-Swedish contacts in the 19th century. The latter was the main topic of her doctoral dissertation (2003, University of Uppsala, Sweden).

Kenneth Nyberg is an Associate Professor of History at the University of Gothenburg. In his doctoral dissertation (2001) he examined images of China in Swedish travel accounts 1749–1912. Since then he has worked and published (mainly in Swedish) on various aspects of 18th century natural history travel, especially Linnaeus's "apostles" and the historiography of Linnaean travel. Nyberg is currently engaged in a study of the life and work of Pehr Löfling, a student of Linnaeus who travelled to Spain and Venezuela in the 1750s.

Niklas Thode Jensen is an Adjunct Professor at the Department of History of the Saxo Institute, University of Copenhagen, Denmark. He holds a PhD from the same department and has recently completed a Marie Curie Postdoctoral Fellowship at the Department of History and Civilization at the European University Institute in Florence, Italy (2009–2011). His research focuses on the history of science and medicine in the former Danish colonies in India and the Caribbean in the eighteenth and early nineteenth centuries. His thesis was published in the spring of 2012 as a book called *For the Health of the Enslaved: Slaves, Medicine and Power in the Danish West Indies, 1803–1848* (Copenhagen: Museum Tusulanum Press, 2012). The focus of his postdoctoral and current research is the scientific activities and networks of the protestant Danish/English-Halle Mission in eighteenth century South India.

Stéphane Van Damme has been Professor of Early Modern History and History of Science at the department of History at Sciences Po (Paris) since 2009. His works are at the crossroads between history of science and urban history. In 2005, he published his PhD dissertation *Le Temple de la Sagesse* (EHESS eds.) on the relationships between the Jesuit conception of the City and knowledge. The same year he also published a book on Paris, entitled *Paris, capitale philosophique* (Odile Jacob, 2005) which addressed the issue of the globalization of science in seventeenth and eighteenth century Paris. His last monograph released last June is the study of the birth of a metropolitan archaeology in Paris, London and New York, *Métropoles de papier* (Belles Lettres Publisher, 2012). His current project is a comparative investigation on the natural history of the metropolis.