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HEMICAL INTELLIGENCE

The Newsletter of the Society for the History of Alchemy & Chemistry

No. 18, July 2017

Editorial

Welcome to the Summer issue of Chemical Intelligence, in which we report on the celebrations to mark the 80th birthday of Ambix, SHAC's learned journal. The Society's Spring Meeting honoured Professor Bill Brock, who was editor of Ambix between 1968-1983, bringing together all five of the editors still alive today. Professor Brock presented a history of the journal from its inception in 1937 through the present day, charting its fortunes alongside developments in the subject area and on the world stage. A packed programme of papers examining 'New and Old Themes in the History of Chemistry' was delivered by a range of scholars, themselves 'new and old', in terms of their academic careers. A full report, together with a photographic record of the presentations made by the Society to Professor Brock and his wife, may be found on page 30.

As SHAC commemorates the achievements of those who have served the Society over many years, I am happy to report a new addition to the team, maintaining that tradition, as Megan Piorko, a PhD candidate at Georgia State University, is appointed Student Representative. Megan takes over from Mike Zuber, to whom the Society extends sincere thanks and good wishes for the future. It was on Mike's initiative that the annual postgraduate workshop first took place outside the UK, first in Amsterdam, in 2015, and the second, last year, in Utrecht. Both events proved highly successful and extended SHAC's reach to graduate members.

This year, I am pleased to report that the graduate workshop will take place in the USA for the first time, generously hosted by the Chemical H e r i t a g e Foundation (CHF) in Philadelphia. In another first, the workshop will extend



over two days, offering participants the opportunity to enjoy the rich resources available at the CHF. Megan has moved quickly to bring together an excellent lineup of keynote speakers to examine the theme, '(Al)Chemical Laboratories: Imagining and Creating Scientific Work-Spaces', and I suspect the opportunity to watch Lawrence Principe and Jennifer Rampling attempt to reconstruct a late medieval alchemical recipe will prove a compelling draw. More details and the call for papers may be found on page 3.

As always, I am indebted to the many colleagues who provide content for Chemical Intelligence, both by writing and submitting reports and in alerting me to news and events concerning the history of alchemy and chemistry: thank you. One such item, to which I draw your attention, is the launch by the University of Florence of a new history of chemistry journal, *Substantia* (see p. 24) - an encouraging development.

Judith Mawer

SOCIETY FOR THE HISTORY OF ALCHEMY AND CHEMISTRY



SHAC EMAIL COMMUNICATIONS WITH MEMBERS

Important Notice for your attention

In the past, the Society has sent out the majority of 'routine but important' communications to members from the *personal* home or work e-mail address of an officer. Such communications include notices of membership renewal being due, notices of the opening of the Annual Award scheme and of prize competitions, and notices of forthcoming scholarly meetings and of the annual general meeting. (Currently these communications come from the UCL e-mail address of Anna Simmons.)

From later in 2017, such e-mails will come instead from a SHAC-owned e-mail account <u>shacdistribution[AT] [domain to be determined]</u>. The use of this 'corporate' e-mail address, it is hoped, will significantly safeguard the operation of SHAC and the service provided to members. It will allow the team of officers (and others who have administrative duties) at short notice to move or share communications and indeed other work among them or with new recruits to the team.

Members are asked to look out for e-mails coming from account <u>shacdistribution[AT] [domain to be determined]</u>, and to read them, as they may be important. If members find that such an e-mail comes into a 'spam' or 'junk' folder, they should, within their own e-mail application, mark them as 'not spam' or 'not junk' and also send a simple reply such as 'Received'. Taking these steps will normally ensure that subsequent e-mails will arrive directly in the member's proper 'inbox'.

In general, the account <u>shacdistribution[AT] [domain to be determined]</u> will be used only for *outgoing* e-mails from the Society, but each e-mail from that account to members will indicate the e-mail address (usually an [AT] [domain to be determined] address) or the (hyperlinked) webpage for any response.

UPCOMING SHAC EVENTS

SHAC Autumn Meeting and AGM, 2017 Chemistry in Europe: A one-day workshop

Maison Française, 2-8 Norham Road, Oxford, OX2 6SE



The SHAC Autumn meeting will take place on **Saturday 30 September 2017** at the Maison Française in Oxford. SHAC's AGM will also take place during the meeting. Details of the programme and how to register will be sent to members when they are available.

This year's Autumn Meeting takes the form of a one-day workshop on the theme 'Chemistry in Europe'.

Details of the programme and how to register will be sent to members when they are available. The workshop will feature a series of papers which examine chemistry in a European rather than a national context and will cover a range of periods. The deadline for submitting abstracts has now passed.

The Society for the History of Alchemy and Chemistry would like to thank the Maison Française, Oxford for their generous support in hosting this event.

Annual General Meeting

Details of the Society's AGM, taking place at this meeting, will be circulated to members nearer to the time.

8th SHAC Postgraduate Workshop (Al)Chemical Laboratories: Imagining and Creating Scientific Work-Spaces

Chemical Heritage Foundation, Philadelphia, PA



Guest Speakers:

Angela Creager (Princeton University) Lawrence Principe (Johns Hopkins University) Jennifer M. Rampling (Princeton University) Robert Anderson (Chemical Heritage Foundation)

The Society for the History of Alchemy and Chemistry (SHAC) invites abstracts for 20-minute papers by graduate students and postdoctoral researchers for the 2017 Postgraduate Workshop: the first to be held in North America. The



workshop is hosted by the Chemical Heritage Foundation, Philadelphia, PA. For the first time, the workshop will offer a variety of events spread over two days, including talks by guest speakers and early career participants; and an opportunity to examine rare books and other items from the CHF's remarkable collections. We will also attempt to reconstruct a late medieval alchemical recipe, led by Lawrence Principe and Jennifer Rampling.

SHAC's annual series of workshops fosters interdisciplinary exchange among graduate students and early career scholars from any field whose work engages with the history of alchemy and chemistry. The theme for 2017, '(Al)Chemical Laboratories: Imagining and Creating Scientific Work-Spaces', invites us to consider both intellectual and physical laboratory spaces. We will explore how the concept of the laboratory originated, and examine how these sites helped to shape both the theory and practice of alchemy and chemistry (and vice versa). Using items from the CHF's collections, we will ask what pictorial and textual representations of alchemy and chemistry can tell us about these work-spaces, both real and imagined.

We welcome abstracts that engage with this theme, dealing with any historical period and geographical region. Topics might include (but are not limited to):

The materiality of the laboratory space and instruments;

Historiography of chemical sites;

Depictions and descriptions of scientific work spaces in art and literature;

Intellectual and imagined laboratories;

Reconstructing (al)chemical experiments as a historical methodology;

Chemical recipes and evidence for laboratory experimentation;

The evolution of the laboratory as a work-space.

Please send a CV and 350 word abstract to SHAC Student Representative, Megan Piorko, at <u>mpiorko1@student.gsu.edu</u> by 15 September 2017.

A limited number of travel bursaries are available to participants upon application. Information on these will be circulated in the coming weeks. If you are interested in a bursary, please mention this when you submit your abstract.

Sponsored by the Society for the History of Alchemy and Chemistry and the Chemical Heritage Foundation.

AMBIX: Journal of the Society for the History of Alchemy & Chemistry

Articles, book reviews and other content from the first issue of volume 64 of *Ambix* became available to read online in a phased release between 28 March 2017 and 22 May 2017. Hard copies have now been distributed and members will hopefully have received their copy. We apologise that this first issue of 2017 is again late and assure you that the Society continues to work with Taylor & Francis to resolve the challenges that the transition to this new publisher has presented, and to get publication back on schedule.



The articles featured in this issue were:

Anthony S. Travis	'Globalising Synthetic Nitrogen: The Interwar Inauguration of a New Industry'
Fabrizio Bigotti	'A Previously Unknown Path to Corpuscularism in the Seventeenth Century: Santorio's Marginalia to the <i>Commentaria</i> <i>in Primum Fen Primi Libri</i> <i>Canonis Avicennae</i> (1625)'
W.H. Brock	'British School Chemistry Laboratories, 1830-1920'
Leon Gortler & Stephen J. Weininger	'Private Philanthropy and Basic Research in Mid-Twentieth Century America: The Hickrill Chemical Research Foundation'

Issue 2 of volume 64 of *Ambix* is a special issue, guest-edited by Stephen Clucas, titled 'The Royal Typographer and the Alchemist: Willem Silvius and John Dee.' Contents include:

Stephen Clucas, Introduction

Peter J. Forshaw, 'The Hermetic Frontispiece: Contextualising John Dee's Hieroglyphic Monad'

Stephen Clucas, 'The Royal Typographer and the Alchemist: John Dee, Willem Silvius, and the Diagrammatic Alchemy of the *Monas Hieroglyphica*'

Steven Vanden Broeke, 'The Ideal of a Knowledge Society in Dee's *Monas Hieroglyphica* (1564) and Other Productions by Willem Silvius'

Manuel Mertens, 'Willem Silvius: 'Typographical Parent' of John Dee's Monas Hieroglyphica'



ACCESSING AMBIX ONLINE

Important Reminder to Members

SHAC members have access to all back issues of *Ambix* dating back to 1937 via our website www.ambix.org

How to Access Ambix via the SHAC Website

To access these issues you need to log in as a member on the SHAC website <u>www.ambix.org</u> using your username and password. These were sent to existing members when the back issues were first digitised in March 2013. If you have joined SHAC more recently, the username and password was issued when you joined the Society.

If you don't know your username and password please contact the Membership Secretary, Anna Simmons, via <u>membership@ambix.org</u>

Priority Access: Register for Alerts

Issues are published online prior to the physical copy being sent out to members. If you would like to receive notification of when a new issue is available online, please register for Table of Contents Alerts via the Taylor and Francis Website. Click on <u>Register for Table of Contents Alerts</u> or visit <u>http://www.tandfonline.com/action/doUpdateAlertSettings</u>



Sources of Alchemy and Chemistry

The Editors of *Sources*, Lawrence Principe and Jennifer Rampling, confirm that next to be published in this important series will be a critical edition of two Greek dialogues attributed to Cleopatra. Prepared by Vincenzo Carlotta, the edition will include English translation, introduction, and commentary and will be distributed to members of SHAC.

Editions of Coptic alchemical writings, Zosimus Arabus, and the *Book of Alums and Salts* of pseudo-Razī are also in the pipeline.

Books Received for *Ambix* **Review**

NOTE: Appearance in this list does not guarantee review in a subsequent issue. Anyone wishing to act as a reviewer of any of the books should contact *Ambix* reviews editor: José-Ramón Bertomeu-Sánchez (<u>bertomeu@uv.es</u>).

The Personality of Henry Cavendish. A Great Scientist with Extraordinary Peculiarities. By RUSSELL MCCORMMACH. Pp. xvii + 310, illus., index. Springer: Dordrecht. 2014. ISBN: 978-3-319-02438-7.

Healing with Water. By JANE M. ADAMS. Pp. 290. Manchester University Press: Manchester. 2015.

Les identités multiples d'Emile Meyerson. Edited by BERNADETTE BENSAUDEVINCENT and EVA KLEIN. Pp. 293, illus., index. Honoré Champion: Paris. 2016. ISBN: 978-2-7453-3110-6.

La colonisation du savoir. Une histoire des plantes médicinales du "Nouveau Monde" (1492-1750). By SAMIR BOUMEDIENE. Pp. 386, illus., index. Les Editions des mondes à faire: Vaulx-en-Velin. 2016. ISBN: 978-2-9555738-1-5.

The Leibniz-Stahl Controversy. Edited by FRANÇOIS DUCHESNEAU and JUSTIN SMITH. Pp. lxxxix + 443, index. Yale University Press: New Haven and London. 2016. ISBN: 978-0-300-16114-4.

Julius Thomsen. A Life in Chemistry and Beyond. By HELGE KRAGH. Pp. 404, illus., index. Det Kongelige Danske Videnskabernes Selskab: Copenhaguen. 2016. ISBN: 978-87-7304-401-8.

LEMCO. Un coloso de la industria cárnica en Fray Bentos, Uruguay. By LUCIA LEWOWICZ. Montevideo. 2016.

Science in the Public Sphere. A History of Lay Knowledge and Expertise. By AGUSTÍ NIETO-GALAN. Pp. xviii+ 270, illus., index. Routledge: London and New York. 2016. ISBN: 978-1-138-90951-9.



Holding Hands with Bacteria: The Life and Work of Marjory Stephenson. By SONA STRBÁNOVÁ. Springer. 2016.

Daughters of Alchemy. Women and Scientific Culture in Early Modern Italy. By MEREDITH K. RAY, illus., index. Harvard University Press: Cambridge. 2015. ISBN: 978-0-674-50423-3.

One Hundred Years of the Bohr Atom. Edited by FINN ASSERAD and HELGE KRAGH. Pp. 560. Det Kongelige Danske Videnskabernes Selskab: Copenhagen. 2015.

La Porta Magica di Roma, simbolo dell'alchimia occidentale. By MINO GABRIELE. Pp. viii + 219, illus., index. Leo S. Olschki: Firenze. 2015. ISBN: 978-88-222- 6428-2.

Lux in Tenebris. Edited by PETER FORSHAW, illus., index. Brill: Leiden. 2016. ISBN: 978-90-04-33494-6.

The Matters of Empire. Metaphysics and Mining in Colonial Peru. By ORLANDO BENTANCOR. University of Pittsburg Press: Pittsburg. 2017.

A Chemical Passion. The Forgotten Story of Chemistry at British Independent Girls' Schools 1820s-1930s. By MARELENE RAYNER-CANHAM and GEOFF RAYNER-CANHAM. UCL Institute of Education Press: London. 2017. ISBN: 978-1-78277-188-3.

The Imagined Empire: Ballon Enlightenements in Revolutionary Europe. By MI GYUNG KIM. University of Pittsburg Press: Pittsburg. 2017.

When Historiography Met Epistemology. By STEFANO BORDONI. Brill 2017. ISBN: 978-90-04-31522-8.

Synthetic. How Life Got Made. By SOPHIA ROOSTH. Pp. vi + 252, illus., index. The University of Chicago Press: Chicago. 2017. ISBN: 978-0-2264-4033-3-2.

The History of the London Water Industry, 1580-1820. By LESLIE TOMORY, illus., index. Johns Hopkins University Press: Baltimore. 2017.

A History of Modern Chemistry. By NOBORU HIROTA. Trans Pacific Press. 2017.

Kagakushi Jiten [Encyclopaedic Dictionary of the History of Chemistry]. By KAGAKUSHI GAKKAI. Kagaku Dojin: Kyoto. 2017.

Kunskap och kemisk inudstri i 1800-talets Sverige. By ANDERS LUNDGREN. Pp. 398. 2017.

Fictional Matter: Empiricism, Corpuscles, and the Novel. By HELEN THOMPSON. Pp. 359, illus., index. University of Philadelphia Press: Philadelphia. 2017. ISBN: 978-0-8122-4872-2.

Nützliches Wissen. Die Erfindung der Technikwissenschaften. By URSULA KLEIN. Pp. 216, illus., index. Wallstein Verlag: Göttingen. 2016. ISBN: 978-3-8353-1958-5.

GRADUATE NETWORK

Meet the New Student Representative for SHAC: Megan Piorko

Taking over from Mike Zuber as SHAC's Student Representative, we are delighted to welcome Megan Piorko, a PhD candidate at Georgia State University, who here introduces herself:



Hello, I would like to introduce myself as the new Student Representative for SHAC. I am a PhD candidate at Georgia State University, studying the history of alchemical books, and received my M.A. in art history. My dissertation topic is alchemical adept and physician, Dr. Arthur Dee, and his book *Fasciculus Chemicus* (1631). I am interested in his knowledge networks and the materiality of the Latin edition of his text as well as the English edition translated by Elias Ashmole.

This past year I attended workshops at the Folger Library, Rare Book School, and Digital Humanities Summer Institute, and next year I will have a four month fellowship at the Philadelphia Chemical Heritage Foundation. Something I noticed at these workshops that I would like to bring to SHAC is the use of social media and blogs to connect scholars (especially careeryoung scholars) around the world. During my tenure as Student Representative, I will create and maintain a SHAC student blog with corresponding social media

accounts. I hope that this online presence can be a place for students with converging interests in the history of alchemy and chemistry to connect with one another and share their work with each other and a digital audience.

I plan to launch the SHAC student blog and corresponding Twitter/Facebook presence at this year's graduate workshop, which will be held on 1-2 December at the Chemical Heritage Foundation. I am pleased to report that the keynote speakers, addressing the workshop theme 'Chemical Laboratories: Imagining and Creating Scientific Work-Spaces', will be Robert Anderson, Angela Creager, Lawrence Principe and Jennifer Rampling. More details of this exciting event, together with the Call for Papers can be found on page 3 of this newsletter.

I am looking forward to representing the student members of SHAC. Please do not hesitate to contact me with any questions or suggestions (<u>studentrep@ambix.org</u>).

We should like to record our sincere thanks to Mike Zuber for the excellent service he provided as SHAC student representative and wish him well in his future career.



Aims & Objectives of the Graduate Network

The SHAC Graduate Network aims to stimulate research into the history of alchemy and chemistry worldwide, by providing research training, grants and networking opportunities for postgraduate students and postdoctoral researchers working in these fields. As part of this scheme, postgraduates and early career researchers are eligible to apply for grants towards the cost of research (the New Scholars Award). The Society also organises an annual workshop for students and junior scholars, focusing on methods, sources and approaches in the history of alchemy and chemistry.

SHAC Student Representative

The current SHAC Student representative is Megan Piorko, a PhD candidate at Georgia State University, who may be contacted via email (<u>studentrep@ambix.org</u>). Megan is introduced on page 9 above.

Contributions to *Chemical Intelligence*

Graduate members are encouraged to contribute items of interest to this newsletter, including a personal student profile (see format below); reports of conferences, workshops, events etc; articles on places or resources of interest e.g. libraries, archives, museums, laboratories etc; news items about the history of alchemy and chemistry etc. and photographs relevant to the text. Contributions should be sent to: Judith Mawer, Editor, *Chemical Intelligence*, chemintel@ambix.org

Graduate members will find more information about SHAC, its events, prizes and awards, along with details relating to past, present and forthcoming news and activities in the history of alchemy and chemistry, by visiting the Society's webpage: <u>http://www.ambix.org</u>

GRADUATE PROFILE

The graduate profile is always a popular and important feature of *Chemical Intelligence* introducing, as it does, new (or at least relatively new) colleagues and their research interests. If you would like, or at least be willing, to share your own profile with readers, please submit your details to the SHAC student representative, Megan Piorko, <u>studentrep@ambix.org</u>, who I am sure would be delighted to hear from you. Please follow the format used below, restricting your profile to one A4 page and including a photograph of yourself.



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Stephen T. Irish

University of Cambridge



Self Introduction

In 2015 I completed my PhD in History and Philosophy of Science at the University of Cambridge. My thesis, supervised by Prof. Hasok Chang, studied the introduction of 'analytic' crystallography (my term) into British scientific practice in the first two decades of the nineteenth century, through a description of its application in a variety of scientific contexts. These included chemistry, mineralogy, theories of matter, and optics. I regard myself primarily as a historian of chemistry but I enjoy the opportunity to work in other scientific domains as well. One of the great things about chemistry is that it has so many interesting interactions with other sciences. My own academic background has involved diverse fields of study; as an undergraduate in the United States I obtained degrees in philosophy, physics, and mathematics. I am now working to publish some of the material from the thesis. The article 'The

Corundum Stone and Crystallographic Chemistry', forthcoming in *Ambix*, is adapted from its introductory chapter and was recently awarded the Partington Prize. It presents a detailed history and exegesis of the first crystallographic argument presented to a British scientific audience, which demonstrated the relationship of the ruby and sapphire to corundum, a mineral found chiefly in Asia.

What is the greatest challenge you faced as a postgraduate student?

The greatest challenge I faced was the difficulty of forging a narrative from material that had received comparatively little prior historical study. I was frequently on my own to interpret and contextualise my primary source material, some of which had not previously been described at all. Other sources or historical actors had been discussed, but not as part of the historical process in which I was interested. I knew in advance that the project would be like this; I deliberately chose a less-studied topic that I thought would allow me the chance to do original work. Still, this led to some difficult moments. I worried I might never complete the chapter on crystal optics. But simple persistence seemed to pay off.

When I began my PhD studies I was already over the age of 40. I never found this to be a disadvantage.



Vincenzo Carlotta Humboldt University of Berlin

Self Introduction

I received my MA in Classics at the University of Pavia (Italy) and, since October 2016, I have a DFG-funded position as PhD student in Classics and History of Ancient Science at the Humboldt University of Berlin within the Research Training Group 'Philosophy, Science and the Sciences'. My research-supervised by Philip van der Eijk and Cristina Viano-focuses on the Greek alchemical works (falsely?) attributed to Stephanus of Alexandria (6th-7th c. CE). When Marcellin Berthelot provided the first comprehensive edition of the Greek alchemical literature at the end of the 19th c., he deliberately omitted Stephanus' works: in fact, he referred to them as mere 'Byzantine rhetorical exercises'. Are they just so? It is only during the last few decades that the interest towards Stephanus' alchemical speculation has progressively increased. Stephanus' works had an



immense value for Byzantine alchemists, providing the later authors with many doctrines, features, and peculiar readings of the alchemical authorities. In his discussions on alchemy, Stephanus shows a wide and profound interest towards medicine, astronomy, and many other 'sciences' directly related to the philosophical debate contemporary to him. My research is exactly focused on this, i.e., the theoretical merging between philosophical and scientific doctrines in Stephanus' alchemical works. In particular, my work is centered on the discussion of the processes of alchemical transmutation and the philosophical theories of corporeal transformations flourishing in Athens and Alexandria, developing Plato's and Aristotle's thinking on being and substance.

What is the greatest challenge you are facing as a postgraduate student?

Being a postgraduate student is challenging: a contrasting flow of frustration and satisfaction, progress and regress, strain and joy which makes everyday life a very special kind of oneiric adventure. Jokes aside, I shall admit that I feel extremely lucky for having the possibility of developing my academic profile and be trained in such a brilliant research environment as Berlin. Here, I benefit from many opportunities for discussion and collective reflection directly and indirectly related to my research, especially from an interdisciplinary point of view. At the same time, similar encounters with scholars and colleagues, often working on different disciplines and problems, is fascinating, but it is also challenging: indeed, I have to divide my research into sections in order to communicate the work effectively. This is very difficult to achieve without compromising the specificities and peculiarities of my research on Stephanus—with its profound disciplinary specialisation, common to postgraduate research.

OTHER MEETINGS

25th International Congress of History of Science and Technology Science, Technology and Medicine between the Global and the Local

Rio de Janeiro, Brazil.



Questions of place are gaining increasing importance in the work of historians of science, technology and medicine, to such an extent that some scholars suggest this corresponds to a veritable 'spatial turn'. It is unavoidable that researchers take sides on issues such as the situatedness of knowledge and practices, the problems pertaining to their movements across spaces and cultures (and not only along time) and, above all the proper choice of scales of analysis – all the way between the global and the local, which is the core of the 25th ICHST's theme. At the same time, this theme relates to the very nature of the Congress as the largest international gathering of historians of science,

technology and medicine, inviting all of us to think about what we may say to and learn from each other, considering our own multifarious places and standpoints.

More information about this congress is available at:

http://ichst2017.sbhc.org.br/



INTERNATIONAL CONGRESS OF HISTORY OF SCIENCE AND TECHNOLOGY



11th International Conference on the History of Chemistry (11ICHC) Trondheim, Norway

August/Sept 29-02 2017

Keynote Speakers:

Hasok Chang (University of Cambridge)

Registration Now Open

Maria Rentetzi (National Technical University of Athens)

Anders Lundgren (Uppsala University)



In summer 2017, the fortieth anniversary of the creation of the Working Party (WP) on the History of Chemistry (EuCheMS) will be celebrated. The 11th International Conference on the History of Chemistry (11th ICHC) will take place from 29th August to 2nd September, 2017 in Trondheim, a city founded in 997 which served as Norway's capital during the Viking Age. The Norwegian University of Science and Technology (NTNU), which has been the country's centre for technology education since 1910, will host the conference.

The general aim of the conferences organised by the WP is to facilitate communication between historically interested chemists and historians of chemistry, and to gather the community on a regular basis. The Society for the History of Alchemy and Chemistry (SHAC) is a sponsor for this conference, along with NTNU, the Research Council of Norway, the Norwegian Chemical Society, the Chemical Heritage Foundation, Sintef Materials and Chemistry and INEOS/INOVYN.

The conference programme is now available online, where details of registration may also be found : <u>http://www.ntnu.edu/11ichc</u>

The steering organising committee consists of Christoph Meinel, Universität Regensburg, and Ignacio Suay-Matallana, Centro Interuniversitário de História das Ciências e da Tecnologia, Lisbon (chairs of the advisory committee), Annette Lykknes (chair of the local organising committee) and Brigitte Van Tiggelen (Mémosciences, Chemical Heritage Foundation, and chair of the WP).

Contact information for practical questions: <u>111CHC@videre.ntnu.no</u>



The 8th Tensions of Europe Conference Athens Borders and Technology

National and Kapodistrian University of Athens



The 8th Tensions of Europe Conference has as its main theme the history of borders and technology. Sessions include papers studying the history of the relationship between national borders and transnational infrastructures, hidden technological linking and delinking that reinforced or challenged border delineations and demarcations, the relationship between borders and technologically-induced environmental crises and disasters, the virtualization of borders and the territories that they contain through the use of electronic and related technologies, geopolitics and technology, the redefinition of borders

due to the use of technology (and vice versa), all the way from the production to the circulation and use of goods and commodities. Sessions of the conference include themes that fall under the general



agenda of the Tensions of Europe network, e.g. transnational histories of technology, history of European infrastructures and networks, the environment and technology relationship, the democracy-technology connection, conflicting interests and technology, technology and hidden integration, technology and culture, gender and technology, technology and ethnicity, technology and disability.

The Tensions of Europe conference is organized biennially. Tensions of Europe is an interdisciplinary community of scholars who study the shaping of Europe by paying attention to the role of technology and material culture. It welcomes fruitful interaction between historians of technology and scholars who study technology from all other fields of the humanities and the social sciences (http://www.tensionsofeurope.eu). The 8th Tensions of Europe Conference will be co-organized by the Division of History of Science and Technology, Department of Philosophy and History of Science, School of Science, National and Kapodistrian University of Athens (http://www.histech.nl/ www.phs.uoa.gr/hst/) and the Foundation for the History of Technology.

To register for the conference and/or download the preliminary programme, please visit: <u>http://8toe2017.phs.uoa.gr</u>/



HELLENIC REPUBLIC National and Kapodistrian University of Athens



XVII Convegno di Storia e Fondamenti della Chimica/17th Italian Conference on the History of Chemistry

Sala Conferenze dell'Accademia dei XL - Scuderie Vecchie di Villa Torlonia, Rome



The 17th Italian Conference on History of Chemistry is organized by the Italian Society for the History of Chemistry (GNFSC) and the Academy of Sciences. The sessions will include a celebration of the 150th anniversary of the birth of the scientist Maria Skłodowska Curie. In recognition of this, there will be a dedicated panel on radioactivity and its applications. The conference programme will also examine the foundations, discoveries and theories of chemistry; chemistry's schools, technologies and environment; and the origins, characters and places of chemistry. Consideration will also be given to the

content and impact of legislative changes governing university scientific research (Decreto 270/2004).

More information is available at: https://eventi.unibo.it/storiachimica2017

Royal Society of Chemistry Historical Group Chemistry and Anaesthesia - Some Historical Perspectives

Burlington House, Piccadilly, London, Wednesday 18th October 2017



This meeting is free to attend but prior registration is essential. Please contact the Royal Society of Chemistry Historical Group's Secretary, Professor John Nicholson: jwnicholson01@gmail.com if you would like to attend. This is expected to be a popular meeting. If having registered, you are unable to attend, please notify Professor Nicholson.

Programme

10.30 - 11.20	Registration, tea or coffee
11.00 - 11.20	AGM, Royal Society of Chemistry Historical Group
11.20 – 11.45	David Wilkinson 'Anaesthesia ignored; why doesn't chemistry give us the answers?'
11.45 - 12.15	Frank James 'Davy, nitrous oxide and Bristol'
12.15 - 12.45	John Pring 'Nitrous oxide in anaesthetic practice: some reflections'
12.45 - 14.10	Lunch . This is not provided but there are several pubs and eating places nearby
14.10 - 14.50	Ann Ferguson 'Surgical relaxation: Crum Brown to the present day'
14.50 - 15.25	Alan Dronsfield 'Cocaine: a chemical, medical and social history'
15.25 - 16.00	Tony Wildsmith 'Local anaesthetics after cocaine: early results of structure activity studies'
16.00 - 16.20	Теа
16.20 - 16.55	Adrian Padfield 'Carbon dioxide: the original anaesthetic gas'
16.55 – 17.15	David Wilkinson 'Post Manhattan: time for a new chemistry?'
17.15 – 17.25	John Hudson 'Concluding remarks'



The Laboratory Revolution, 1850-1950

The Rise of the Modern Laboratory and the Changing Nature of the University Senate Chamber, Academy Building, Rijksuniversiteit Groningen



The laboratory is the ultimate place where knowledge is created. What had originally only been the workplace of alchemists and chemists, by the end of the nineteenth century had become a standard element in the infrastructure of science. The rise of the laboratory revolutionized the sciences in many ways and it continues to do so up to this moment.

This is all common knowledge and well studied, but what is not so well known is that laboratories also had a tremendous impact on the universities,

which in the nineteenth century were becoming the most common institution for science and scholarship. Simple lecture halls were replaced or out dwarfed by purpose built and impressive laboratories. Even academic disciplines that on the face of it had no need of a laboratory, like astronomy, psychology and linguistics, acquired their own laboratories. Also metaphorically, the laboratory became the paradigmatic site for scientific and scholarly research, as is shown by the historians who liked to compare their libraries to laboratories. Finally social life in the universities was tremendously changed by the rise of the laboratory, each of the laboratories becoming a small, self-contained community of professors, technical assistants, students and administrative personnel.

The conference 'The Laboratory Revolution' intends to bring together scholars from different backgrounds to further the study of how the rise of the laboratory changed both science and the university. By bringing together the expertise of historians of science and scholarship, historians of architecture, social historians, cultural historians and historians of the university, the organizers hope to create a better understanding of the revolution brought about by the laboratory – a revolution that is still going on. **Presentations listed in the programme include:**

- Alan Rocke, 'The Rise of the Academic Laboratory in Europe: Chemistry and the "German Model"
- Klaas van Berkel, 'The Making of Island Nations. Laboratories and the Fragmentation of Dutch Universities 1880-1920'
- Antonio Garcia Belmar, 'The Spatial Differentiation of the Nineteenth-Century Laboratory'

Concluding remarks will be delivered by Prof. Ernst Homburg

Further details of the conference, the draft programme and registration may be found at: <u>http://www.labrevolution2017.com</u>/

Molecules and Models: Seeing Structures

Kenworthy Hall, St Mary's College, Durham University



Organised by the Centre for Visual Arts and Culture (CVAC), as part of the Institute of Advanced Study Theme for 2017-18: *Structure*



Professor Ludmilla Jordanova and other contributors

Molecular models participate in attempts to understand the structure of matter; they are one of the most recognizable of scientific artifacts, featuring, for example, in Maggie Hambling's celebrated portrait of Dorothy Hodgkin and in the much-reproduced photograph of Watson and Crick beside a model of DNA. There is now an extensive scholarly literature on models in general and on specific ones, such as DNA. The meeting will consider the specifically visual properties and impact of molecular models, for example, in advertising and popular culture.

Questions to be addressed include:

- What roles have molecular models played in scientific practice?
- How do they help us understand the nature of that practice?





- What roles do they play in non-specialist representations of science?
- How do they illuminate the theme of 'structure'?
- Might studies of molecular models and representations of them help us understand 'visual thinking'?

Contact <u>cvac@durham.ac.uk</u> for more information about this event.

OTHER MEETINGS: CALLS FOR PAPERS



III Pan-American Conference on the History of Medicine Santiago de Chile, Chile



Popularisation in the History of medicine implies not only local, but also regional and global intentions in the permanent search for knowledge, health phenomena and the study of health. We are grateful, as the Chilean Society for the History of Medicine, to have had trust placed in us by the directors of the Pan American Academy of Medical History. Apart from the conference, and the celebration of the XVIII workshop on Chilean History of Medicine, we have planned conferences, presentations of original works, and round tables, as well as visits to museums and heritage walks.

Deadline for paper proposals: 31 July 2017

More information is available at: <u>http://historiamedicina.cl/iiicongresopanamericano/</u>

SHAC PRIZES AND AWARDS

The Partington Prize 2017

The Society for the History of Alchemy and Chemistry is delighted to announce that the 2017 Partington Prize has been awarded to Stephen T. Irish (Cambridge University) for his article "The Corundum Stone and Crystallographic Chemistry". The essay will be published in the Society's journal, *Ambix*.

The Partington Prize was established in memory of Professor James Riddick Partington, the Society's first Chairman. It is awarded every three years for an original and unpublished essay on any aspect of the history of alchemy or chemistry. The prize consists of five hundred pounds (£500).

OTHER NEWS, EVENTS AND GRANTS

Paul Bunge Prize, 2016: History of Scientific Instruments

Professor Liba Taub, Director and Curator of the Whipple Museum of the History of Science Head of Department of History and Philosophy of Science, has advised that the Advisory Board of the Hans R. Jenemann Foundation has decided to award this year's Paul Bunge Prize to Simon Schaffer for *Leviathan and the Air-Pump*, as well as his outstanding lifetime achievements. He will be presented with the Prize in September 2017, in Berlin, by the Gesellschaft Deutscher Chemiker (GDCH) and the Deutscher Bunsen-Gesellschaft für Physikalische Chemie (DBG) at the GDCh Chemistry Forum, which will also be celebrating the foundation of the Deutsche Chemische Gesellschaft 150 years ago, in 1867.

Previous members and associates of HPS who have been awarded the Paul Bunge Prize include: Otto Sibum (1994), Jim Bennett (2001); Myles Jackson (2005); Charlotte Bigg (2007), and SHAC's former Chair, Robert Anderson (2016), as well as Alison



Morrison-Low (2008) and Brian Gee's book, edited by Alison Morrison-Low and Anita McConnell and sponsored by the Scientific Instrument Society(2015).

SHAC congratulates Professor Schaffer on his achievement.

Alchemy. The Great Art

Staatliche Museen zu Berlin: Kulturforum



This large-scale exhibition at Berlin's Kulturforum illuminates the deep relationship between Art and Alchemy on an exhibition space of 800 square meters. More than 200 works representing over 3,000 years of art and cultural history from the collections of the Staatliche Museen zu Berlin and the Staatsbibliothek zu Berlin will be on display, supplemented by outstanding loans from renowned international institutions.



The term 'Alchemy' is derived from the Greek chēmeía ('metal-pouring', i.e. smelting or alloying) and has been disseminated across the Western world since the twelfth century through the translation of Arabic texts. Handicraft related to Alchemy, however, existed long before the human historical record. Blacksmithing and metallurgy in the Babylonian Empire, the imitation of precious metals and gemstones in what was known as the 'temple industry' and the dyers' trade in Ancient Egypt, the Greek natural philosophers' material conversion processes, and Chinese and Indian pharmaceutical practices and

immortality myths can serve as early protoalchemical evidence.

In medieval Europe, Alchemy was known as Ars magna (the Great Art), and its practice produced artistic effects. The idea that Alchemy is the art that most closely imitates nature was debated at the universities in Paris and Oxford by scholars like Thomas Aquinas and Roger Bacon. Contrary to the popular misconception that the aim of alchemists was primarily chrysopoeia (the making of gold), there were numerous adepts who strove for nothing less than the imitation of the divine act of creation itself, a goal that spurred them on to attempt not only to imitate nature, but ultimately even to surpass it. This drive to transmute naturally-existing matter into a man-made concoction still influences artists today, especially contemporary artists who understand the processual transformation of material as an integral part of their work.

Beginning in the late Middle Ages, art created its own visual language that continues to shape our perception of Alchemy even today. Mythical creatures from the animal kingdom, two-headed hermaphrodites, homunculi in glass vials, and godlike alchemist-creators at work crafting an artificial world based on their imagination are the protagonists of magnificent illuminated manuscripts and alchemical tracts from this period. These images have even filtered down into our contemporary daily lives. The mythology of alchemy is used effectively in scenes in Frankenstein, in adaptations of Goethe's Faust, in the well-received American television series Breaking Bad, and in the manga Fullmetal Alchemist.



The exhibition 'Alchemy. The Great Art' is divided into three sections which trace these different manifestations in artistic and handicraft practice and visual culture from antiquity to the present: CREATION is dedicated to the origins of Alchemy, and shows the influence of alchemical technologies on artistic practice. CREATOR centres the alchemists themselves, presenting them at work and illustrating their creations both allegorically and practically. And CREATURE focuses on the products of the magnum opus, or Great Work – the successful conversion of a base substance into gold, and the spiritual transformation of the adepts, which can be seen in the image of the homunculus, the philosopher's stone, or as visualizations of the process that leads to an all-transforming transmutation. It becomes clear that Alchemy remains to this day far more than a fantastic pipe dream of making gold: Alchemy is a creation myth and therefore intimately related to artistic practice.

On display are paintings and miniatures, drawings and prints, scrolls, manuscripts and laboratory books, photographs and cyanotypes, chemograms and scanographies, sculptures, installations and videos, fake gems and artificial gold, stoneware and porcelain, gold-ruby glass and jewellery. Works of modern and contemporary art include those by Carl Andre, Joseph Beuys, Fischli/Weiss, Heinz Hajek-Halke, Anselm Kiefer, Yves Klein, Jeff Koons, Alicja Kwade, Bernhard Prinz, Sarah Schönfeld, Gerda Schütte, Harry Smith, Natascha Sonnenschein, Rudolf Steiner, and Maria Volokhova.

More information is available at: <u>http://www.smb.museum/en/exhibitions/detail/alchemie-die-grosse-kunst.html</u>



Substantia: A New History of Chemistry Journal

Reported in the Spring 2017 newsletter of the American Chemical Society HIST Division is the following notice:

A new international journal in the history of chemistry, *Substantia*, has been launched by the University of Florence. This peer-reviewed, English- language journal will be published in electronic format twice a year and will be fully open-access.



Substantia can be found on the web at <u>http://riviste.fupress.net/index.php/subs</u> where it is described as 'an open access peer-reviewed academic international journal dedicated to traditional perspectives as well as innovative and synergetic implications of history and philosophy of Chemistry. It is meant to be a crucible for discussions on science, on making science and its outcomes. Substantia hosts discussions on the connections between chemistry and other horizons of human activities, and on the historical aspects of chemistry.'

Vol. 1, No. 1 (2017), published on 28 March 2017, is available to view at the web address given above.

New RSCHG Wheeler Lecture Published Online

Since 1997 the Royal Society of Chemistry Historical Group has published Occasional Papers, which are the texts of lectures given by notable historians of chemistry to the Group. In April 2017, Peter J.T. Morris' Wheeler Lecture *Robert Burns Woodward in His Own Words*, was published to mark the centenary of the birth of Robert Burns Woodward. An abstract of the paper follows:

Peter Morris' Wheeler Lecture explores Robert Burns Woodward's distinctive writing style. This was very different from the style of his colleagues even in the days when chemists wrote papers in a less robotic manner than now. The lecture shows how Woodward was interested in the history of chemistry, it demonstrates the importance of theory and instrumentation in his lifetime, and explores his views on the purpose and planning of syntheses. A belief in the sensuousness of chemistry, considering nature as a source of material and the way that creativity was constrained by the laws of nature were all important for Woodward. Morris argues that Woodward's understanding of nature and the role played by wonder indicates that there is more than a trace of the Scottish Enlightenment, especially the work of Adam Smith, in his thinking. The lecture is published alongside a biography of Robert Burns Woodward written specially for the one hundredth anniversary of his birth in 1917. This biography sheds new light on Woodward's family background.

The three most recent Occasional Papers:

Anthony S. Travis - Nitrogen, Novel High-Pressure Chemistry, and the German War Effort (1900-1918), published April 2015.

Frank A.J.L. James - 'the first example ... of an extensive scheme of pure scientific medical investigation': Thomas Beddoes and the Medical Pneumatic Institution in Bristol, 1794 to 1799, published November 2016.

Peter J.T. Morris - Robert Burns Woodward in His Own Words, published April 2017.

have been published as PDFs, and copies can be downloaded from the following website: http://www.rsc.org/Membership/Networking/InterestGroups/Historical/occasional-papers.asp

The first six Occasional Papers by Mary Archer, Robert G.W. Anderson, Seymour H. Mauskopf, David Knight, William H. Brock, David Knight and Colin A. Russell are currently only available in hard copy and can be found in the Royal Society of Chemistry Library, the British Library and the Whipple Library. It is hoped they will all be available online in due course.



Things Fall Apart

Chemical Heritage Foundation Museum, Philadelphia

An exhibition and walking tour exploring the life and afterlife of things.

Some things decay slowly, such as radioactive isotopes, while others are designed to be disposable, like a paper cup. We're surrounded by constant change as we reclaim, reuse, and re-imagine our material environment.



If nothing lasts forever, how and why do we save what we save? Everything falls apart: compounds break down, solids crumble, surfaces rust. We're surrounded by constant change as we reclaim, reuse, or reimagine our material environment. Yet decay is also connected to our hopes for the future and our understanding of the past. Our impulse to protect treasured objects is a desire to hold onto the stories they tell. But whose stories survive? This exhibition and walking tour explore the life and afterlife of things—and why we fight to preserve them.

Read more about the exhibition in a *Distillations* blog interview with curator Elisabeth Berry Drago.

Featured Artworks

Things Fall Apart also features contemporary art by the winners of our juried competition: Aubrie Costello, Dominique Ellis, Michelle Marcuse, and José Ortiz-Pagán.

Each artist's work offers a unique meditation on themes of change, loss, and transformation. <u>Aubrie Costello</u>'s ephemeral, outdoor fabric installations are subject to wind and rain, revealing the changes wrought by our environment. <u>Dominique Ellis</u>'s intentional manipulations of ceramics materials explore defect and damage in process. <u>Michelle Marcuse</u>'s cardboard architectures generate fantastic—but impermanent—landscapes of memory. <u>José Ortiz-Pagán</u>'s use of transformed steel and rust evokes postindustrial landscapes and the tensions exposed by time.

More information is available at: https://www.chemheritage.org/things-fall-apart

American Chemical Society (ACS): Joint Meeting

In an interesting initiative, the American Chemical Society is supporting a joint meeting in Havana, in January 2018, between US and Cuban historians of chemistry. The ACS will send delegates working in oral history and archives and Dr Robert Anderson, the President and Chief Executive Officer of the Chemical Heritage Foundation, will be presenting a paper. Robert is well known to members of SHAC as former Chair of the Society.

Exhibition of Alchemical Books and Manuscripts; 16th - 20th c

Bibliothèque Abbé-Grégoire, 4/6 place Jean-Jaurès, 41000 Blois, France



STOP PRESS

Accompanying this exhibition is a book exploring the overlap between science, religion and literature in European alchemy, presented by Didier Kahn, Director of Research at CNRS, in collaboration with Œuvres complêtes de Diderot (Paris, Hermann). More information is available at: www.editionshermann.fr



REPORTS

Subject Development Awards:

Elena Serrano, postgraduate fellow, Max Planck Institute, Berlin, Germany

Elena received her SHAC Award in respect of a workshop that she organised to take place in Oxford, in Spring 2017: 'Domesticating the air: the chemistry, material culture, and politics of breathing safely'. She reports:

The Award from SHAC was used for holding a one-day international workshop in the Maison Française Oxford. Scholars from four countries met for discussing pre-circulated drafts in order to prepare a joint volume on the history of techniques and practices for purifying air (see below). The award allowed us also to invite British specialists in our topic (Rob Iliffe, John Perkins, Robert Fox, and Nick Fisher) as discussants.

In addition, we contacted some British scholars interested on the material handling of air for seeking further collaboration. Georgiana Hedeson (Oxford) was interested in participating in our network with the Paracelsian view of poison. With the interdisciplinary team Life of Breath (<u>https://www.dur.ac.uk/cmh/lifeofbreath</u>) we sought possibilities for collaborating on an exhibition on breathing.

Papers discussed at the Meeting:

The Material Handling of the Air: Household and University Expertise in the Medieval West, **Montse Cabré** (School of Medicine, Universidad Cantabria);

Revolutionary Airs: Politics, Body Boundaries, and the New French Chemistry at Late Eighteenth-Century Spain, Elena Serrano (MPIWG-Berlin);

Joseph Priestley and the Politics of Nitrous Air Eudiometry, John Christie (Faculty of History, University of Oxford);

Vapours Calling. The Role of the Site called 'Grotta del Cane' in the Chemical Studies about Gases in the 18th and 19th Centuries, Corinna Guerra (Laboratoire d'Excellence HASTEC, Centre A. Koyré, Paris);

Air between Scientific Enquiry, Product Design and Mercantilism in 17th and 18th Century England, Simona Valeriani (V&A, London, UK);

Bringing Bodies Back to Life. Technical Devices Fighting Asphyxia in 18th Century France, Marie Thebaud-Sorger (CNRS).

The paper, 'Does the Lady Bite?' Respiratory Technologies and the Politics of Urban Space, Jennifer Wallis, was pre-circulated and discussed, although the author was unable to attend the meeting.

Work on the Davy Letters Project nearing completion

Andrew Lacey, Lancaster University

Work on the Davy Letters Project (http://www.davy-letters.org.uk), which is being supported by a SHAC Award in 2017, is nearing completion. The culmination of the Davy Letters Project will be the publication, in four volumes, of *The Collected Letters of Sir Humphry Davy*, with Oxford University Press, in 2018. *The Collected Letters* will present texts of the c. 1150 surviving letters of Sir Humphry Davy (1778-1829) in chronological order, with full annotation, making Davy's scientific terminology more intelligible to contemporary readers and expanding our knowledge of the scientific and literary networks of which he was part. All letters will be transcribed in full and editorial intervention in the text will be kept to a minimum. Davy's original spelling (and misspelling), grammar, and punctuation will be retained. *The Collected Letters* will also include a detailed General Introduction, a List of Letters, Biographies of Correspondents, an Annotated List of Place Names, a Glossary of Chemical Terms, a Bibliography, and a comprehensive Index.

Davy was one of the most significant and famous figures in the scientific and literary culture of early-nineteenthcentury Britain, Europe, and America. Davy's scientific accomplishments were varied and numerous, including conducting pioneering research into the physiological effects of nitrous oxide (laughing gas); isolating potassium, calcium, and several other metals; inventing a miners' safety lamp; developing the electrochemical protection of the copper sheeting of Royal Navy vessels; conserving the Herculaneum papyri; writing an influential text on agricultural chemistry; and seeking to improve the quality of optical glass. But Davy's endeavours were not merely limited to science: he was also a poet, and moved in the same literary circles as Lord Byron, Samuel Taylor Coleridge, Robert Southey, and William Wordsworth. Since his death, Davy has rarely been out of the public mind. He is still the frequent subject of biographies,



and also features strongly in academic studies by both literary critics and historians of science. The Royal Society, meanwhile, continues to award the Davy Medal for 'outstandingly important' discoveries in chemistry.



In spite of Davy's significance and fame, very few of his letters have appeared in print edited to modern standards; fewer than 250 have been published even in the form of quoted extracts or, expurgated and unannotated, in Victorian volumes. *The Collected Letters* will therefore increase the number of published letters written by Davy approximately fivefold. Davy's scientific correspondents include André-Marie Ampère, Sir Joseph Banks, Jöns Jacob Berzelius, William Buckland, Edward Daniel Clarke, Georges Cuvier, John Dalton, Michael Faraday, Alexander von Humboldt, Hans Christian Ørsted, Heinrich Christian Schumacher, William Whewell, and William Hyde Wollaston.

The editorial team consists of Professors Tim Fulford (De Montfort University) and Sharon Ruston (Lancaster University) (co-editors), and Jan Golinski (University of New Hampshire), Frank James (the Royal Institution of Great Britain), and David Knight (Durham University) (advisory editors). The editors are assisted by Dr Andrew Lacey (Lancaster University), whose work towards the end of 2017 will be funded by the SHAC Award. Work on the Davy Letters Project has been ongoing since 2008. At the start of the Project, the editorial team was given the unpublished typescript of an edition of Davy's letters which the late Professor June Z. Fullmer left incomplete at the time of her death in 2000. This typescript, of 736 transcriptions, proved invaluable in leading the editorial team to archives holding the manuscript letters, and in laying the basis for an online database. Since 2008, hundreds of additional Davy letters have been traced in archives all over the world.

When published, *The Collected Letters* will become the standard edition of Davy's correspondence, and will be of much value to those with interests in the fields of history, history of science, and literary studies.

The Collected Letters of Sir Humphry Davy. Eds Tim Fulford and Sharon Ruston, advisory eds Jan Golinski, Frank James, and David Knight. 4 vols. Oxford: Oxford University Press, forthcoming (2018).

Picture credit: Thomas Phillips, portrait of Humphry Davy (1821), NPG 2546, © National Portrait Gallery, London, licensed under CC BY-NC-ND 3.0.

SHAC Spring Meeting New and Old Themes in the History of Chemistry: A meeting to honour Bill Brock and mark 80 years of *Ambix*

Royal Institution, 21 Albemarle Street, London, W15 4BS

20 May 2017

In 2017, SHAC's journal *Ambix* achieved the eightieth anniversary of its publication. To mark this anniversary and the contributions made by one of our longest standing members, Bill Brock, SHAC held a special meeting to explore old and new themes in the history of chemistry. Since *Ambix* was launched in May 1937, sixty-three volumes have been published, and Bill was editor of the journal from 1968 to 1983.



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Bill is Emeritus Professor, former Head of the Department of History, and Director of the Victorian Studies Centre at the University of Leicester. He is seen here (right) during the presentation address given by Professor Frank James, Acting Chair of the Society:



Frank then presented a commemorative gift to Bill, on behalf of the Society: a portrait of the English chemist and physicist, Sir William Crookes OM PRS, (1832-1919), which he can be seen here, sharing with the meeting:







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Professor Brock's wife, Elvina, was presented with a gift of flowers by Dr Anna Simmons, SHAC Secretary:



The Meeting

First to present was **Carolyn Cobbold (University of Cambridge)**. Carolyn's paper, 'Yeast, a Problem. The Rise of Chemical Bread Technologies in the 19th century', related an extraordinary and little studied tale of how Victorian social reformers, scientists and entrepreneurs tried to remove yeast from bread, believing fermentation to be a putrifying and destructive force that was damaging society. While their attempts to pump sulphuric acid and other gases into bread to raise it or replace yeast with baking power ultimately failed, their actions changed the manufacture of bread and introduced new food commodities and bakery products into the marketplace.

During the 19th century, bakers sought to produce bread in greater quantities and reduced time to feed the expanding cities of industrialising countries, forcing them to turn to brewer's yeast to supplement traditional 'sourdough'. Brewer's yeast, however, was notoriously unreliable and unpredictable, varying in its availability, price and effects according to weather conditions and other factors outside of the bakers' control. A lack of consensus surrounding yeast, what it was and what it did, fermented amid significant cultural changes in science and society.

Chemists, such as Justus von Liebig, who promoted a chemical or mechanical view of fermentation, believed yeast to be a force for decay and destruction of flour, its only benefit to bread-making being the release of carbon dioxide. His answer, shared by others, was to remove yeast from bread production and replace it with a chemical method of raising bread, such as baking powder. A variation of this model was the idea of pumping gas into dough, or aerating bread. The Aerated Bread Company, which founded Britain's famous ABC tea rooms, became one of the biggest producers of factory-made bread in the UK.



However, other scientific practitioners, such as Louis Pasteur, argued that yeast was a living organism capable of transforming and breaking down other material but also a substance that could itself be controlled and commoditised in new ways for industrial and scientific uses. Both the domestication of yeast and the invention of baking powder opened up new realms for commodification and manipulation. The industrialisation of bread in the 19th century had many outcomes including changes in everyday life, changes in scientific knowledge and changes in technological processes, teaching us interesting lessons about the way knowledge and technology collaborate.

Rupert Cole (UCL/RI) presented a paper entitled, "Chemist has the answer" (The Guardian): George Porter, a cheerleader for chemistry in post-war Britain', in which he examined the changing cultural trends in the public promotion of chemistry through the rhetoric of George Porter (1920-2002), Nobel Laureate in chemistry (1967), director of the Royal Institution (1966-1985), and President of the Royal Society (1985-1990). Porter's career as a public scientist began in the late 1950s, when he made his debut on BBC television and was recommended to the Royal Institution (RI) as Schools Lecturer. In the following few years he became closely associated with the RI, succeeding Lawrence Bragg as Director in 1966. During this period, he engaged with C. P. Snow's 'two cultures' rhetoric, defending the second law of thermodynamics when Snow withdrew it as his test question of scientific literacy. Towards the end of the decade, science, and chemistry in particular, became the target of both environmentalist and anti-establishment political radicals. In response, Porter became a reactionary apologist for the scientific establishment or a 'Pangloss', ring-fencing chemistry from its applications. From around 1973 Porter u-turned somewhat, promoting again the utility of chemistry for environmental and energy concerns. 'Chemist has the answer', was the Guardian's cynical headline when Porter tried to allay environmental fears. In the 1980s he returned to the Snow-inspired rhetoric of the early '60s in the political battle for science funding under Margaret Thatcher, a former research chemist who visited the RI early in her premiership.





In her presentation, 'The development of non-commercial science journals, in Victorian Britain and beyond', Aileen Fyfe (University of St Andrews) talked about the way that studies of scientific journals and editors have developed since Bill Brock's work on Victorian commercial science journals. She discussed details of her own project on the history of the Royal Society's Philosophical Transactions, which is now the world's longest-running scientific journal (1665 to the present). The Transactions has several key differences from the journals that Bill focused on. For most of its history, it was run as a core activity of the Society and funded by the Society; much of its print run was given away for free to scholarly institutions, and relatively few copies were sold through the commercial trade. Its distribution and financial model was thus very different - and yet very successful until the 1930s - from what we might expect. The Transactions was also notable for being run as a collective venture of the Society: from 1752 to 1990, it did not have a named editor, but was instead managed by editorial committees, assisted by fellows of the Society acting as referees. It was this editorial model that became key to peer-reviewed academic publishing as we know it today. Aileen ended by remarking on the challenges and advantages of studying journals on a 350-year scale: collaboration becomes necessary (to bring both early modern and late modern expertise); but it becomes possible to answer exciting questions that would not be visible on a shorter timescale.

Professor Brock's colleague, **Sally Horrocks (University of Leicester / BL)** took as her subject: "I wish I could say I had a little chemistry set at home": What does oral history really tell us about scientists' childhoods? Dr Horrocks' paper drew on life story interviews with British scientists, most of them collected by 'An Oral History of British Science', a National Life Stories project in conjunction with the British library, to examine the accounts scientists give us of their childhoods. It treated these interviews as narratives, constructed through a process of selection and curation that allows an interviewee to present an account of themselves compatible with their adult scientific identity and identifies communal features of these narratives. These are a means through which interviewees signify their scientific identity to their audience, by drawing on a repertoire of shared and recognisable forms. They include stories of playing with Meccano, the dangers of chemistry sets and explosions and time spent with family members who fostered their interest in science or taught them technical skills.

While childhood involvement in such activities has frequently been cited as a foundation for scientific careers, Dr Horrocks argued instead that in the context of a life story interview, these memories serve as a means for interviewees to lay claim to a scientific identity. They are used to demonstrate this identity to an external audience as much as, if not more, than they provide insights into how time as a child was actually spent. These shared narratives link scientists who have spent their careers in a range of disciplines and whose experiences and upbringings cross time, space, gender and ethnicity, ranging from those born in the UK in the 1920s to those who arrived in the country as teenagers in the 1970s. There is also evidence that scientists actively curate their own life story narratives to fit these collective forms and that they are implicitly aware of what scientific childhoods are supposed to look like. This means that those who feel unable to share in these communal narratives seek to explain the absence of such stories from their own biographies and suggests that we should refrain from making simple causal connections between childhood activities and successful careers in science.



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Alan Rocke (Case Western Reserve University) presented his paper, 'From Gate-Keeper to Enterprise-Breeder: Liebig-Schüler as Entrepreneurs', which concerned two related episodes that shed light on how Liebig's own entrepreneurial propensity was shared by many of his students. The common element in the two stories is the well-known figure of Emil Erlenmeyer, but the paper was structured around the business adventures of two of his friends, fellow former Liebig students Hans Weidenbusch and Carl Clemm-Lennig. The fact that this entrepreneurial activity has been until now nearly invisible, and that these two men are almost completely unknown today, Professor Rocke noted, suggests that we have hitherto recognised only a tiny fragment of that great phenomenon which historians today often refer to as technoscience. The story also suggests something about certain varieties of technoscience that ought not be conflated.



After **Hattie Lloyd (UCL/RI)** presented her paper entitled; 'Fashion and Chemistry - the Incongruous Union', **John Brooke (University of Oxford)** delivered his on 'Chemistry and Secularity: From the Most to the Least Spiritual of the Sciences'. He argued that Chemistry has possibly been distinctive among the sciences in the richness of its relations to religious and anti-religious belief. In its alchemical formation it minimally provided analogies for spiritual transformation. By the end of the nineteenth century it had become a prominent resource for scientific materialism and reductionism. At present it underpins ambitious projects for bio-synthesis, usurping a vocabulary of "creation".

John's stated aim in his paper was not to commend a linear narrative but to sketch a few of the turning points as chemistry became a fully naturalised science. He briefly articulated five theses – that a simple antithesis between natural science and supernatural religion is inadequate; that chemistry, for much of its history, could be on the side of the angels; that, conversely and in other contexts, it could contribute to a corrosion of religious belief; that, as a catalyst for both belief and unbelief, it could be ambiguous in its cultural implications; and that the importance of scientific naturalism as an agent of disbelief is easily exaggerated. Brief references were made to such exemplars as Paracelsus, Robert Boyle, and Joseph Priestley, and in the nineteenth century to Humphry Davy, Edward Frankland and Hermann Kolbe.



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No. 18, July 2017

Bill Brock (University of Leicester) completed the day with 'Distilling History of Chemistry through the Ambix'. Using a series of timeline graphics he reviewed the eighty years of *Ambix's* publication since it first appeared in May 1937 as the Journal of the Society for the Study of Alchemy & Early Chemistry. Its continuity broken by financial woes and the war, its first editor, Frank Sherwood Taylor, did not complete the first two volumes until 1948. Upon his death in January 1956 he was succeeded by Desmond Geoghegan (1902-73), concerning whom little is known except that he was a bibliophile interested in the spiritual tradition of alchemy. Following the death of Douglas McKie, the then Chairman of the Society, in August 1967 he was succeeded by Trevor Williams who urged Geoghegan to accept articles on nineteenth-century chemistry. This had hitherto been barred by the long-standing agreement with McKie (who edited *Annals of Science*) that papers published in *Ambix* would not stray beyond the seventeenth century.



SHAC editors, past and present: (from L-R) Bill Brock, Mike Sutton, Gerrylynn Roberts, Peter Morris, Jenny Rampling

Geoghegan duly accepted two articles on 19th-century chemistry in June 1967, one of which was by Bill who had joined the Society that year under the sponsorship of Frank Greenaway and Bill Smeaton. Unfortunately, Council was no longer happy with Geoghegan's editorship because of his unilateral decision making and failure to use Council referees (the then Society rule for processing papers). Geoghegan duly resigned and Brock was parachuted into the editorship in October 1968.



Brock retired as editor in 1982 only to edit book reviews from 1986 (until 1998) and act as chairman of the Society (1993-2006). Meanwhile, in 1975, the Society had completed its modernisation process by becoming the Society for the History of Alchemy & Chemistry.

During Brock's editorship and that of his successors, Michael Sutton (1983-1991) and Gerrylynn Roberts (1992-2001), the history of alchemy became unfashionable while interest in the history of chemistry in the 18th and 19th century expanded. Although financing *Ambix* remained problematical, the period saw many changes: Heffers (Cambridge) who had printed the journal since 1957, closed its works in 1987. Fortunately continuity was ensured when the print workers bought the factory and founded Black Bear Press. Coloured covers began in March 1974, and illustrated covers in 2002 when Peter Morris assumed the editorship and created an international board of advisers. The Society's financial situation was improved overnight in 2004 when printing and publishing were transferred to Maney Publishing and the editor was relieved from copy-editing and the whole editorial process went electronic. There was also a welcome revival of interest in alchemy amongst young scholars which enabled *Ambix* to better balance its historiographical agenda. This has been notably achieved since Jenny Rampling succeeded Morris as editor in 2013. Finally, in 2016, the Society returned to Taylor & Francis, its original printers, when the firm bought out Maney. The timelines were embellished with anecdotes concerning some of the historians who contributed to *Ambix* during its eighty years.

The meeting ended with a **panel discussion** chaired by Jennifer Rampling, with Bill Brock, John Brooke, and Alan Rocke, with contributions from the floor by John Christie, Frank James, Peter Morris, and Mike Sutton.

The other panellists emphasised the profession's debt to Bill, now 80 and having served SHAC for 50 years, including a term as Editor of *Ambix*. Alan had followed in Bill's footsteps by conducting research on atomic theory in the 19th century. Both he and John had followed likewise in their work on 19th century organic chemistry. And while Bill's own research was focused on the modern period, in his text books he had embraced in masterly fashion the entire sweep of alchemy and chemistry: William H Brock, *The Fontana History of Chemistry* (Fontana: London, 1992); and William H Brock, *The History of Chemistry – a Very Short Introduction* (Oxford University Press: Oxford, 2016)





Bill's career had begun just as Thomas Kuhn had famously shaken up history of science by viewing it as a social activity. Bill had missed being at the inaugural 1959 meeting, but of course had been influenced by Kuhn's subsequent book, Thomas S Kuhn, *The Structure of Scientific Revolutions* (Chicago, IL: University of Chicago Press, 1962). Bill – like his close contemporary David Knight, prevented by his health from attending this meeting as originally planned – had placed his history of chemistry in a social and cultural context, avoiding 'philosophical internalism'. Heated debate between Kuhn and his supporters and their opponents was a thing of the past. No one now was likely to challenge the validity of studying areas such as previously marginalised scientific figures, including women (for instance, Frederica Sebright, 1796-1864), science careers, and local influences (for instance, Lancashire on Edward Frankland (1825-1899).

The relative prominence of alchemy and chemistry (the discussion avoided definitional matters relating to alchemy, chemistry and 'chymistry') had varied over the years. Alchemy had been predominant in the earlier volumes of *Ambix*, but when editorial policy had been changed to admit papers relating to post-1800 chemistry, the overall balance in *Ambix* had shifted towards chemistry. In 2017, however, it was alchemy that seemed especially to interest aspiring historians. History of

alchemy and chemistry was also attracting those with a background in literature. Technically difficult areas of chemistry (physical chemistry and 20th-21st century academic chemistry generally) required an increase in the number of chemists willing to retrain as historians. Historians of the period after about 1990, regardless of their training, would be challenged by the non-creation of conventional paper archives.

The mechanics of journal production, including that of *Ambix*, had been transformed within living memory: 'hot metal', 'galley proofs', and 'page proofs' had disappeared and were not mourned. Commercially, although in 2016 *Ambix* had been, overall, a positive contributor to SHAC's reserves, the publishing business model had been changing surprisingly fast, and future changes could not readily be forecast.

The scholarly and commercial challenges would in due course be dealt with by the next generation of SHAC members, such as the newer scholars who had presented so ably earlier in the day.



With thanks to all who contributed text and images to this report - Editor



Letter to the Society from Professor William Brock

The Chairman & Council Society for the History of Alchemy & Chemistry

Dear Chairman,

I would very much like to put on record to you and my fellow Councillors how much I appreciated the meeting held last Saturday (20 May 2017) to commemorate eighty years of the publication of *Ambix* and my own fifty years of Council membership. The papers chosen were uniformly excellent and the catering arrangements and the reception at the end of the long day were much appreciated by hungry and thirsty scholars and auditors.

On a personal level, it was a moving occasion since, unexpectedly, so many old friends from the UK and overseas gave their day to the meeting. I most warmly thank Council for its presentation to me of the portrait of Sir William Crookes in his OM costume and standing at the back door of his Notting Hill home; and for the wonderful "Thank You" card embellished with the names and thoughts of so many friends. I shall treasure both these items which I'm sure will become family heirlooms. It has been a privilege to serve the Society for so long and to watch its fluctuations of fortune and its current great success. I was privileged to know so many of the officers who have served the Society so well since 1967. I think especially of Frank Greenaway and Bill Smeaton, who both brought me into the Society, as well as the many contributors to *Ambix* (some of whom I mentioned on Saturday) whom I got to know and many of whom became personal friends.

Although stepping down from Council at the next AGM, I shall continue to take pleasure in my membership of the Society while I have life and limb. I wish the Society every success in the future in recruiting officers and to *Ambix* in retaining its position as *the* one and only journal for the study (*sic*) of the history of alchemy and chemistry

With Best Wishes, Yours sincerely,

Bue Brock

W. H. Brock

22 May 2017

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Other Reports

Congrès de la Société Française d'Histoire des Sciences et des Techniques *University of Strasbourg/Faculty of Medicine*

19-21 April 2017

The conference of the Société Française d'Histoire des Sciences et des Techniques, which took place in Strasbourg, in April this year, featured a symposium of particular interest to historians of chemistry: 'Les scientifiques français dans les organisations scientifiques internationales (1945-1970)', was organised by Danielle Fauque, Delphine Berdah and Michel Cotte, with the support of the Club d'histoire de la Chimie. We are grateful to **Danielle Fauque** for providing the following report and to **Brigitte Van Tiggelen** for making a translation on our behalf.

Articulating Nationalism and Internationalism. The case of IUPAC.

International bodies and organizations constitute an uneasy yet vital topic for historic research, especially in our globalised world. For a few years now, from the perspective of its centennial, the International Union for Pure and Applied Chemistry (IUPAC) has been examined through different lenses in a variety of scientific meetings. In essence, a multi-regional, multi-localised, multifaceted organisation, caught in a web of national and supranational networks, the IUPAC faces the challenge of writing a history that does justice to all these threads and, at the same time, of building a compelling narrative showing how individuals informed and shaped these multilevel networks.

At the 2017 triennial congress of the French Society for the History of Science and Technology (Société Française d'Histoire des Sciences et des Techniques), meeting in Strasbourg, a session devoted to the role of French Scientists in post World War II international organisations offered an opportunity to explore how the landscape of international scientific organisations was reconstructed at the end of the conflict. The panel, Les scientifiques français dans les organisations internationales (1945-1970), examined how older structures, such as IUPAC and the umbrella organisation ICSU (International Council of Scientific Unions), had to be reframed with the advent of newcomers such as UNESCO. In the same way, the geography of executive secretariats and offices, specialised bureaus or institutes, international laboratories or stations, that resulted from a consensus formed before the war, had to be renegotiated. This gave rise to a new mapping of international coordinated efforts for standardised, or collaborative, endeavors. It is telling that the international unions themselves, such as IUPAC, spent a long time (re)defining their fields of action. As Nathalie Jas has emphasised elsewhere, the international unions worked at establishing rules, norms and best practices in an apolitical rhetoric that actually does not



withstand the test of evidence. Discussions invariably provoke clashes with national interests.

The panel covered a spectrum of other fields of theoretical or applied knowledge, extending wider than chemistry. These included the measurement of time, archaeology, computer technology, seismology, naval propulsion, and even history of science. The specific French perspective chosen for this panel emphasised how individual actions sought to put France back on the international map of the international after five years of war, with the hope that the country would once again be among the leading nations of science and technology. Despite all these efforts however, French preeminence was forced to cede to the growing Anglo-Saxon hegemony, English becoming the primary, if not the only, language of exchange. Ironically, one witnesses a chain of events and actions very similar to that which happened after WWI, as the keynote lecture, 'Tension fatale. La science entre universalisme et intérêts nationaux, 1870-1940', delivered by Robert Fox underlined. The same grand and idealistic international cooperation initiatives clashed with the same old national ambitions. While the SDN was succeeded by the ONU, and the IICI by UNESCO, it was indeed very often the same men and women at the wheel, with both the same loyalty to their local community and the same devotion to world peace. What is striking, however, is the lesser presence of nations as such, while Europeans or other pan-national alliances were gaining momentum. It seems that the national spirit one witnesses after WWII is more a matter of the identity of scientists themselves, than of national policy.

In the specific case of IUPAC, illustrated by Danielle Fauque's paper, the first general meeting after the war was held in London in 1947, while the pharmacist Raymond Delaby succeeded Jean Gérard as Secretary General, the latter being disqualified because of war collaboration. This kept the most important executive role of the IUPAC executive in the hands of the French. Delaby was crucial in providing the IUPAC with a new organisational structure and in including new disciplines, arguing for some flexibility with the creation of specialised and interdivisional commissions, and fields such as macromolecular chemistry. Interestingly, while Delaby's action was nurtured by a strong desire to serve his country, very little detail is found in biographical reports on his achievements and influence in the international organisation. The sessions showed this seems to be the trend among individuals who devote themselves to such supranational organisations. Such scientists, who are already well known in their field and local community, find this is where their biographers usually put the most emphasis. Since not all of these international institutions keep long-term archives and/or institutional memory alive, a significant part of the history of the international scientific communities and movements tends to get lost. It is often on the occasion of an anniversary, such as a centennial for IUPAC, that there is a rare opportunity for bringing this history in the spotlight.

NEW MEMBERS

SHAC welcomes the following new members:

Alexander Angerhofer	University of Florida, USA
Paulo Corazza	San Paolo, Brazil
Jeffrey Johnson	Villanova University, UK
Andrew Lacey	Lancaster University, UK
Bruce Moran	University of Nevada, Reno
Karoliina Pulkkinen	Darwin College, Cambridge University, UK
Sharon Rushton	Lancaster University, UK
Carmen Simioli	Naples, Italy



We welcome any contributions that newsletter readers might wish to make to *Chemical Intelligence*. This includes, but is not limited to:

- Upcoming Conferences or Meetings
- Publications
- Conference or Meeting Reports (these should not normally exceed 1,000 words)
- News Items or Announcements
- Grants, Fellowships or Awards
- Reviews of Websites, projects or blogs of interest (up to 500 words)

The Editor retains the right to select those contributions that are most relevant to the interests of the Society's members.

We also wish *Chemical Intelligence* to provide a platform for interaction between members. We therefore encourage you to submit:

- Questions you may wish to put to other members
- Materials that you are working on and wish to share
- Suggestions for improvement

For any queries regarding the content of *Chemical Intelligence*, or to propose material for inclusion in future issues, please contact the **Editor: Judith Mawer**, Email: <u>chemintel@ambix.org</u>

WWW.AMBIX.ORG

Society for the History of Alchemy and Chemistry

The Society for the History of Alchemy and Chemistry has a longstanding tradition in the field, organising colloquia, publications and promoting the interdisciplinary study of the history of alchemy and chemistry from its early beginnings to the present. The Society offers support to its members, including an award scheme, regular meetings and events, graduate network, and the triennial Partington prize for original academic writing on any aspect of the history of alchemy and chemistry. It offers a forum for advertising forthcoming events, both within the United Kingdom and internationally, and its website provides a portal to resources relating to the history of alchemy and chemistry. Members receive the Society's journal *Ambix*, the leading scholarly journal in the field of history of alchemy and chemistry. *Ambix* is published by Taylor & Francis and appears quarterly. Members also receive the Society's newsletter, *Chemical Intelligence*, twice yearly, and any new editions from the Sources of Alchemy and Chemistry volume.

Application forms and membership information may be found on the Society's website, <u>http://www.ambix.org/</u>, under 'Membership'.

For all membership questions, please contact the **Membership Secretary, Dr Anna Simmons**. E-mail: <u>a.simmons@ucl.ac.uk</u>