SOCIETY FOR THE HISTORY OF ALCHEMY AND CHEMISTRY

Postgraduate Workshop on the History of Alchemy and Chemistry

Department of History and Philosophy of Science,
University of Cambridge
Wednesday 26 September 2012

'Representing Alchemy and Chemistry'

Programme

10.00–10.20 Registration and refreshments

10.20–10.30 Introductions

10.30–11.30 Representing Alchemy
Chair: Dr Jennifer Rampling (University of Cambridge)

1. **Mike Zuber** (University of Amsterdam) – 'Ancient Wisdom in Alchemical Symbols'
2. **Hilde Norrgrén** (University of Oslo) – 'The Alchemy of "Hans Egede's Philosophical Dream and Parable"'

11.30–12.30 Keynote Lecture 1: 'It's Complicated: Alchemy and Chemistry's Relationship with Art'
Dr Spike Bucklow (University of Cambridge)

12.30–13.30 Lunch (provided by SHAC)

13:30–13:50 Introduction to the Ripley Scrolls
Dr Jennifer Rampling (University of Cambridge)

13:50–14.00 Walk to Fitzwilliam Museum

14.00–14.50 Visit to the Ripley Scroll at the Fitzwilliam Museum

14:50–15.00 Return from Fitzwilliam Museum

15.00–16.00 Representing Chemistry
Chair: Prof Hasok Chang (University of Cambridge)

1. **Rachel Dunn** (University of Durham) – 'Oh, No, H_2O: Representation in the Work of John Dalton'
2. **Matthew Paskins** (University College London) – 'Representations of Potash'

16.00–16.15 Tea and coffee

16.15 – 17.15 Keynote Lecture 2: 'The Role of Chemistry in Alfred Stieglitz's Experimental Aesthetics'
Dr Chiara Ambrosio (University College London)

17.15–18.15 Roundtable discussion
Introduced by Kat Austen (*New Scientist*) on Depictions of Chemistry in the Media

ABSTRACTS

Mike Zuber (University of Amsterdam) - Ancient Wisdom in Alchemical Symbols

This paper explores some of the meanings derived from alchemical symbols, as elaborated in the late seventeenth century by Wilhelm Christoph Kriegsmann, Johann Rudolph Glauber and the singularly obscure Johannes de Monte-Snyder who was to become one of Isaac Newton's trusted authorities. In the early modern period, the traditional symbols of alchemy were considered to be the key to the knowledge of the ancients. Far from being arbitrary, conventional signs, these combinations of lines and circles revealed the true nature of alchemical substances and their secret powers. Kriegsmann linked alchemical symbols to Hermes Trismegistus, the inventor of both alchemy and hieroglyphic writing, and was concerned with establishing which ones had not been corrupted over time. Moving beyond the standard repertoire, Monte-Snyder proposed to use the basic symbols as an alphabet for 'chymical syllables,' akin to what we would nowadays refer to as chemical formulas. While still using the same language, Glauber encouraged greater trust in the 'signature of fire,' meaning the experimentally established attributes of a given substance. Yet even he professed admiration for the natural philosophy of the famous 'Egyptian schools.' In spite of their differences, these three approaches take for granted that alchemical symbols were meaningful in their own right.

Hilde Norrgren (University of Oslo) – 'The Alchemy of "Hans Egede's Philosophical Dream and Parable"'

The Norwegian/Danish Lutheran priest Hans Egede (1686 - 1758) is well known as "the apostle of Greenland". Much less known is the fact that he was also a practicing alchemist. In his diaries Egede reports having studied and practiced alchemy, seeking to produce the Philosopher's Stone in order to finance his missionary work among the Inuits. It is evident from the diaries that while in Greenland, he believed himself on one occasion to have been very close to discovering the secret of the Philosopher's Stone.

Egede compiled a large alchemical library which he brought with him to Greenland. This library, as well as the information about which books it comprised, have been lost, and very little is known about his alchemical ideas. His only extant alchemical text "Hans Egede's Philosophical Dream and Parable, wherein he shows how he proceeded to prepare the Philosopher's Stone" (year unknown) has previously received very little attention from historians of alchemy. This paper will offer a preliminary analysis of Egede's alchemical ideas as expressed in his Parable.

Rachel Dunn (University of Durham) - OH, No, H2O: Representation in the Work of John Dalton

In this paper I will discuss representation in early nineteenth-century chemistry with reference to the work of John Dalton. The focus of the talk will be on the design and implementation of Dalton's atomic symbols. I will first examine the individual symbols presented in *A New System of Chemical Philosophy* (1808-1827) and attempt to categorize them according to design.

The discussion will then shift to the two-dimensional representations of compounds Dalton drew using his individual symbols. In creating these compounds he assumed the simplest possible formulae, e.g. water as a binary compound, OH, rather than, as we now know, H2O. Essentially, Dalton had to make assumptions as to the numbers of atoms that combined to form each compound.

He also had to compensate for a lack of analytical study in gravimetric composition. I will examine the ways in which he manipulated the symbols, looking at his spatial arrangements to suggest he was one of the earliest stereochemists. In doing this, the posters and handbills he employed as pedagogic tools will be presented. Finally, I will draw conclusions on his deductive reasoning and hope to show that his visual thinking was apparent in his symbols.

Matthew Paskins (University College London) - Representations of Potash

From the 1750s on, British chemists tried to give explicit recipes for the production of potash, a process long known – they claimed – to the vulgar, but not known to the learned. These recipes were particularly invigorated by the attempts, supported by parliament, to introduce a potash manufacture in the colony of Virginia, and to replace imports from Russia. The London-based Society for the Encouragement of Arts, Manufactures and Commerce were central to this process. While the production of potash was chemically a relatively simple matter, the attempt to reproduce the best kinds of potash turned on aesthetic questions of imitation: what were the material properties of the Russian potash, and how could they be imitated, and what relation did this bear to chemical analysis?

In this paper I explore these questions by drawing on and extending Maxine Berg's idea of "imitative invention" – the ways in which imitation of products in new materials and through new processes led to product innovations, which Berg argues is typical of many forms of manufacture during the eighteenth century, particularly in Britain. By extending these ideas to raw materials, I argue, we can see how those materials were represented, explicated, and reinvented in new settings and through new processes. In the process, chemists appear as both arbiters (offering judgments on the quality of new products) and as consumers (questioned in parliament as to their uses of potash, and what kinds they would be willing to buy). Materiality and natural knowledge act alongside each other to construct these representations of the chemist, alongside manufacturers, in the production of this raw material which is simple to produce but complex to approve.

Roundtable Discussion

Introduction by Kat Austen (*New Scientist*): The Depiction of Chemistry in the Media

Chemistry has somewhat lost its sparkle as far as the media is concerned. Compared to physics, biology and environmental science there are few prominent popularisers of chemistry, few books written on the subject for consumption by the layperson and there is a woeful dearth of articles in the popular press. Why?

Broadly speaking, it is because innovations in chemistry lack fizz. Physics holds the promise of new universes unveiled by the discovery of new particles, or the birth of this universe to be finally understood. Biology, with the pull of the natural world - or of manipulating it - still holds the excitement of discovery and power. But, ask the popularisers, what is new in chemistry, for it to claim as its own? Gone are the heady days of experimenting to work out reactions. Gone are the most of the gaps in the periodic table. And of the few really attention-grabbing developments that do exist, most have been stolen from under chemistry's umbrella, forming their own labels of nanotechnology, pharmaceuticals and materials science.

Chemistry has lost not only its sparkle, in the eyes of the public, but also its identity. Is there a way to get it back?