Special Issue

Aesthetics and Visualization in Chemistry, 2

Editorial

The second part of our special issue on Aesthetics and Visualization in Chemistry consists of three scholarly papers, a book review, and something that one does not expect to find in an academic journal. From the surface it looks like an ordinary CD that includes the texts of this journal in digital form, yet its content is more visual than textual. Once you put it into your CD drive and click on start.html, you will experience dimensions of the topic of our special issue that you would otherwise miss.

In "Visualization in Medieval Alchemy", historian of science BARBARA OBRIST from Paris France provides a comprehensive and richly illustrated survey of pictorial illustrations in Medieval alchemy. Putting alchemy in its various philosophical and religious contexts, she distinguishes several major trends, including the presentation of alchemical processes by analogy with biological processes and Christian mythology; the compilation of theoretical principles in tables with combined pictorial and linguistic elements as a means to preserve original knowledge; and the use of geometrical figures as cognitive tools for presenting systems of natural philosophy. She concludes that all these analogical and philosophical illustrations eventually disappeared to be superseded by images of apparatus in practice oriented alchemical writings.

Obrist's conclusion, which holds even more strongly for Lavoisean chemistry, is the starting point of the British historian of chemistry DAVID KNIGHT's "'Exalting Understanding without Depressing Imagination': Depicting Chemical Process". Scanning textbook illustrations from the eighty-year period following Lavoisier, he investigates the imaginative potential of these illustrations with a particular focus on the way processes and operations were depicted. While apparatus and 'hands-on experimentation' frequently appeared as images, very few attempts were made to visually represent chemical dynamics, despite its primacy in the theoretical foundations of chemistry during that time period and its particular attractiveness to Romantic philosophers. Knight argues that this was partly because of the anti-atomistic resistance to the depiction of atoms and atomic processes.

As with pictorial illustrations, the style of linguistic communications in modern chemistry has also become standardized and void of analogical and metaphorical elements. In "The Aesthetics and Heuristics of Analogy: Model and Metaphor in Chemical Communication", the linguist HEINZ L. KRET-

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ZENBACHER from Melbourne Australia argues that there is a need for metaphors for creative thinking in chemistry to occur. He does so by first developing a comprehensive theory that explains metaphors as the creation of new, thought-provoking meaning which bridges the gap between sensual and intellectual spheres. Secondly, he argues against concerns about the excessive proliferation of metaphors in science by suggesting the restriction of the use of metaphors to scientific heuristics and a procedure to screen their validity by the scientific community.

Unlike chemistry, alchemy has a strong tradition of being related to the visual and literary arts. While the relation of alchemy to the visual arts has already been discussed by James Elkins in the previous issue, a recent anthology edited by Alexandra Lembert and Elmar Schenkel, *The Golden Egg: Alchemy in Art and Literature*, focuses on its relationship to literature. Therefore, we are very pleased that GAVIN PARKINSON, from the Courtauld Institute of Art in London, has written a lengthy review of this book that skillfully places the topic in a broader context. Like Elkins in his paper on the visual arts, Parkinson does not shy away from criticizing the sometimes excessive utilization of alchemy in current literary studies.

Finally, because we believe that visual artists can and should make important contributions to the topic of this special issue, we are delighted to publish the virtual art exhibition "Chemistry in Art" both on the internet and on CD attached to the inside back cover of this volume. The art exhibition, which is the first of its kind, includes works from nine artists selected from a large pool of submissions by an international jury as well as a curatorial project including five artists. Overall, these fourteen artists present a surprisingly large variety of artistic perspectives on chemistry and demonstrate that the obvious neglect of chemistry in most previous exhibitions on art and science is unfounded. We end this special issue of HYLE with our introduction to "Chemistry in Art" and a dialogue between Californian art critic DAVID SPALDING and chemist TAMI SPECTOR that introduces their curatorial project and reflects on the general relationships "Between Chemistry and Art".

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