

Editorial 36

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In this final issue of the year I would like to take a little time to discuss some developments in the field as well as the role and scope of this journal.

A recent conference that I spoke at was held at the Ecole Polytechnique in Paris and was dedicated to bringing about a closer connection between the study of philosophy of chemistry and related disciplines as practiced in the Anglo-American tradition and the Continental approaches of scholars like Bernadette Bensaude. Bensaude, who was also present at the meeting, argued that the analytical approach and its focus on reductionism only represents a small part of the field. Instead she argued for a more practice-centered approach to the nature of chemistry as a laboratory science and a science of the transformation of substances.

The consensus of the meeting was that philosophy of chemistry can embrace a variety of approaches and can only benefit from a rapprochement between authors from the two main traditions that more or less reflect the long-standing Analytic – Continental divide in general philosophy. As an example of work carried out in a US institution but in the Continental tradition I would like to draw readers attention to an article by Babette Babich which includes a substantial section on chemistry and especially on Paneth's work on the concept of an element (Babich 2010).

One of the issues that came up at the meeting at the Ecole Polytechnique was the nature of our journal, *Foundations of Chemistry*. Bensaude has previously written,

Ainsi le journal créé par Eric Scerri en 1999 est-il largement focalise sur les problèmes de réduction de la chimie à la physique. Le titre même du journal semble une réponse de la communauté chimique à la longue tradition d'ignorance de la chimie dans *Foundations of the Unity of Science*, célèbre publication des positivistes logiques.

(Bensaude 2008, p.18).

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This brings up an important point. The reason why this title was chosen was not in fact a response to the logical positivist's neglect of chemistry. It was rather to provide a chemical counterpart to the journal *Foundations of Physics* that had already existed for many years. It was also to emphasize that the scope of the journal was not restricted to the philosophy of chemistry but open to any studies that deal with 'foundational' issues. Most importantly the journal is intended to invite contributions on foundational issues from practicing chemists in much the same way that *Foundations of Physics* appeals to physicists in addition to philosophers and historians of physics.

And while on this point let me mention that the next issue will contain an extensive article by Richard Bader in which he will present his latest thinking on the nature of chemical bonding,¹ to be followed by a special issue devoted to commentaries on his work to be edited by Cherif Matta a theoretical chemist based at Mount Saint Vincent University in Halifax, Nova Scotia.

So to clarify our policy, this journal invites foundational studies from a wide variety of disciplines including philosophy, history and chemical education in addition to mainstream chemistry.

Now to the current issue. We begin with an article by Gordon Woods on the life and work of Mendeleev. This paper forms the last of those in the special issue on the periodic system that appeared in the previous issue under the special editorship of Michael Laing.

This is followed by a highly original article by Conal Boyce which will be of interest to chemical educators in particular. Boyce's concern is with a new category that he has coined called "givens" whose flip side are "freedoms" or "tangibles" in any particular experiment.

Jean Pierre Llorred is a philosopher of chemistry from the Ecole Polytechnique whose interests lie in the field of mereology, that is the study of parts and wholes. Drawing on the work of Joseph Earley and Rom Harré, Llorred sets out to examine the relationship between atoms and molecules in Mulliken's molecular orbital theory.

Gary Patterson, a chemical physicist from Carnegie Mellon University provides an interesting account of Jean Perrin's highly influential book, *Les Atomes*. As Patterson explains in his abstract the aim of his paper is to place the book in its personal and historical context and to reflect on the issues raised for the development of the philosophy of chemistry.²

The issue concludes with two book reviews. The first is a review by Pieter Thyssen, from Belgium, of my own *Collected Papers of the Periodic Table* and the second is Nicos Psarros' review of Klaus Ruthenberg's edited work on the Czech chemist František Wald.

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¹ Philosophical issues connected with the notion of chemical bonding have been the subject of a number of sessions at recent meetings of the Philosophy of Science Association including contributions from Hendry, Needham and Weisberg.

² The study of atomism has received a recent impetus with the publication of Alan Chalmers' book (Chalmers 2009). Interested readers might also consult an extended discussion on this book which was published in the journal *Metascience* (Harré et al. 2010). In addition Alan Chalmers has organized a workshop in the philosophy of chemistry to be held in Sydney and will be editing a special issue of *Foundations of Chemistry* that will contain the papers delivered there.

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