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EDITORIAL 9

One of the many connections between chemistry and philosophy has been the number of scholars who began their career in chemistry and later turned to philosophy. For example the French philosophers Duhem and Bachelard both started in physical chemistry. In more recent times the paths of American philosophers of science David Lewis and Clark Glymour have taken similar trajectories. Even among the editorial members of this journal we have the cases of Jaap van Brakel and Paul Needham.

With the possible exception of Fritz London, who was of course more of a physicist than a chemist, I am not aware of any examples of scholars who have taken the opposite route, nor why this should be a rarer occurrence, if indeed I am correct in my observation.<sup>1</sup>

In an article in the present issue Charles Seibert examines an aspect of the chemistry-philosophy theme, namely the work of Charles Sanders Peirce. Seibert's claim is that Peirce's boyhood exposure to chemistry prepared him for his study of logic and the formulation of his pragmatism.

A somewhat technical but also accessible article on thermodynamics by Le Vent examines the sufficiency conditions connected with the definition of a perfect gas mixture. Although the author does not claim any originality for the derivations he gives a synthesis of strands of work which usually appear in disparate contexts in a paper that will be of special interest to readers interested in the philosophical aspects of thermodynamics.

Following the resurgence of the philosophy of chemistry in the early 1990s research on the question of the reduction of chemistry seems to have developed along two main fronts. These two approaches appear to coincide, as I see it, with the analytic – continental divide which has permeated the study of philosophy as a whole. Researchers in philosophy of chemistry working mostly in



the US and the UK have adopted an analytical approach to the reduction of chemistry which involves grappling with the technical details of quantum mechanics and quantum chemistry (Hendry, 1998; Ramsey, 1997; Scerri, 1998; Weininger, 1984; Woody, 2000; Wooley, 1985).

On the other hand, work on the reduction of chemistry carried out in continental Europe may sometimes feature quantum chemistry but is usually more concerned with the centrality of 'substance' or 'stuff' in chemistry (Schummer, 1997; Psarros, 1997; van Brakel, 2000; Needham, 1993). Indeed these authors believe that the reduction of chemistry is to be denied not by quibbling about the details of quantum chemistry but in a more radical manner by upholding the primacy of substance over the "Scientific Image" as van Brakel, for example, puts it.<sup>2</sup>

In the current issue Nikos Psarros, who has been a leading representative of this school, gives a radical denial of the reduction of chemistry as usually construed. Perhaps it is now time for philosophers of chemistry to consider the polarisation which I suggest has developed in our community and maybe to start comparing and contrasting the views of these two approaches to philosophy of chemistry.

Van Brakel's book review of Nancy Cartwright's most recent book will be of special interest to readers of this journal. Among other issues van Brakel considers the relevance of Cartwright's views on scientific laws in the context of chemistry, something which the book's author seems reluctant to do herself. In the second book review, which is no less thoughtful or detailed, Jeff Ramsey examines John Burbidge's book on logic and chemistry in the writings of Hegel. In addition Ramsey connects these themes with the work of Kant, that other German philosopher who expounded at some length on the nature of chemistry.

Finally, we introduce a new feature in the form of a commentary on the present state of scholarship in philosophy of chemistry and with the intention of promoting further discussion. The opening comment is from the well-known organic chemist and chemical author Pierre Laszlo. I hope that other editorial board members as well as readers of the journal will follow suit and consider contributing a similar opinion piece for publication.

## NOTES

1. Louis De Broglie also went from philosophy to physics. Michael Polanyi may also be said to have moved from chemistry to philosophy although he did not fully abandon chemistry as in the case of the other examples cited here.
2. There is no suggestion here that these authors within either school have a common approach or research agenda.

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