Editorial, No. 1

One version of the neglect of chemistry by modern philosophers is by ignoring what philosophical classics thought about chemistry. If the classics did not deal with chemistry, why should there be anything of philosophical interest today? To be sure, some prominent philosophers of the past actually showed little inclination to chemistry. For instance, "Descartes was ignorant of chemistry", as Leibniz, a philosopher who had much to say about chemistry, complained as early as 1679 (*Philosophical Essays* II, A.2). Other rationalists, like Kant, were engaged in founding and promoting mathematical sciences, and, for that purpose, he discredited chemistry as being no science according to his definition. The late Kant, however, facing the New Chemistry and making it a central part of the philosophy of nature in his *Opus posthumum*, is only recently rediscovered (*cf.* the review of Vasconi's book in *HYLE*, **6** (2000), 193-4). If one looks with more care and takes into account that the term 'physics' meant philosophy of nature including chemistry before modern physics established its disciplinary identity in the course of the 19th century, reflections on chemistry show up in nearly every classic, even in those who were rather concerned with moral philosophy, as Rousseau (*cf.* the book review in the next *HYLE* issue) or Mill (*cf.* his *Autobiography*).

One 19th century classic who dealt at length with chemistry was Hegel (*cf.* also the review of Burbidge's book in *HYLE*, **6** (2000), 175-7). Discontent with Kant's restricted frame of *a priori* concepts as the logical basis of all sciences, Hegel extended Kant's foundational approach to include also the fundamental concepts of contemporary chemistry, as philosopher and chemist ULRICH RUSCHIG shows in his "Logic and chemistry in Hegel's philosophy" in the present issue. Hegel's approach, while certainly difficult to follow by modern readers due to his cryptic language, is probably the most ambitious philosophical project to derive chemical concepts in a rationalistic manner. Ruschig's careful and critical study analyzes Hegel's conceptual development step-by-step, regarding how and what kind of chemical knowledge entered the development. He concludes that Hegel took empirical knowledge of chemistry more seriously than he pretended to do. On the on hand, this simply shows Hegel's acquaintance with contemporary chemistry and the difference between empirical sciences and mathematics. On the other, it proves that Hegelian dialectic idealism just fails at the issue of chemistry – a possible reason why Hegel scholars tend to ignore his extensive treatment of chemistry.

We have two other papers that deal with language aspects of chemistry. NIKOS PSARROS, in his "Things, stuffs, and coincidence. A non-ontological

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point of view" picks up an old (Aristotelian) ontological problem from the point of view of modern philosophy of language, the meaning of mass terms or substance names. How can we solve the semantic puzzle that the same thing may be called, for instance, a piece of bronze and a statue, suggesting that these are two different but coinciding things? Based on the (quasi-ontological) presupposition that only so-called count terms, such as 'statue', refer to concrete things, he suggests that substance names refer only to (material) properties and, thus, avoids the doubling of things.

CLAUS JACOB's paper "Analysis and Synthesis. Interdependent Operations in Chemical Language and Practice" investigates the relationship between laboratory manipulations of substances and linguistic manipulations of chemical symbols. By pointing out the law-like character of linguistic rules in chemistry, he shows how this both enables the prediction of successful laboratory operations and hinders new, unconventional experimental approaches. As an example of transcending the classical language-practice relationship, he discusses recent approaches in combinatorial chemistry.

Starting with this issue, and upon request of many readers, we will occasionally publish *Essays* on general concerns and prospects of chemistry addressed to a wider readership. Essays should be clearly distinguished from scholarly articles and meet different criteria. First of all, they should raise general issues in a thought-provoking but balanced way and be written in an attractive and gripping style. It goes without saying that personal views expressed in Essays are not necessarily those of the journal's officials. Furthermore, I would like to encourage comments and discussion about *HYLE* Essays on the e-mail list PHILCHEM (to subscribe, send an e-mail to listserv@vm.sc.edu with the only text in the body of the message "subscribe PHILCHEM your name").

The first *HYLE* Essay, SELEN ALTUNATA's "Chemistry and Humanity" discusses four important issues: whether chemists make informed decisions about the future direction of their discipline; whether chemists pre-analyze the impact of their research on the environment and society; whether they feel the need to reach out to society in general and educate them about their discipline; and whether chemistry has a potential to still significantly contribute to humanity's intellectual and technological evolution.

Finally, I am pleased to say that our book review section is growing in size together with its growing attraction for a wider readership, as many responses prove. As long as the number of books published per year on philosophy of chemistry proper is still below 10, we will continue the editorial policy to include also books on general aspects of the history and sociology of chemistry. However, recent writing and publishing activities in philosophy of chemistry indicate that this might change in the next years.

Joachim Schummer, Editor