

Editorial: The Public Image of Chemistry, I

Of all the scientific disciplines chemistry seems to be particularly concerned about its public image. Indeed, popular associations with chemistry range from poisons, hazards, chemical warfare, and environmental pollution to alchemical pseudo-science, sorcery, and mad scientists. Despite repeated campaigns for convincing the public that chemistry would bring health, comfort, and welfare, chemists frequently meet with hostility in popular culture. In humanist culture chemistry has a very low profile; philosophers in particular keep to their traditional neglect of anything related to chemistry. Of course, chemists have always been complaining about their low prestige, the lack of public acknowledgment of their achievements, and the misleading popular associations with chemistry, such that we now have a long record of complaints of almost two centuries. More recently, in response to their public image, chemists tried to launch slogans such as 'green chemistry' or even dropped the term 'chemistry' altogether and adopted more fashionable labels such as 'materials science', 'molecular science', or 'nanotechnology'.

Surprisingly or not, chemists have never translated their complaints into serious research programs to understand the public image of chemistry in its cultural and historical contexts. To be sure, chemical societies and, particularly, the chemical industry have commissioned many reports for promotional or marketing purposes. Yet, such reports usually scratch only on the surface and may well have recommended one or the other camouflage tactics. Even the recent boost of academic research in Public Understanding of Science (PUS) has virtually excluded chemistry and, instead, focused on topics such as 'Frankenfood' and genetic engineering. The failure to deal with chemistry in PUS studies is more serious than the traditional neglect in the humanities, because stereotypes of chemistry have dominated the popular image of science in general. Even the most feared image, the 'mad scientist', was originally a 19th-century literary portrait of chemists, such as Mary Shelley's original Victor Frankenstein was, of course, a chemist. Thus, the present special issue of HYLE on the public image of chemistry also helps understand the public image of science overall and fills an important gap in understanding the relationship between science and society.

Studying the public image of science in a journal devoted to the philosophy of chemistry entails a clear departure from the dominant paradigm generated by the philosophy of physics in the 20th century. Indeed, most contributions to this special issue are historical studies on how the public image of chemistry has been shaped both by chemists in popularizing chemistry and by nonchemists in responding to contemporary chemistry. Thus, this special issue provides for the first time an in-depth understanding of the historical

origin and development of the public image of chemistry, which is essential to understanding today's public image. From a philosophical point of view, that is particularly important because the image of chemistry affects many philosophical issues of chemistry – once you understand that it is not always easy to distinguish between a thing and its image. For instance, if the public image mixes up the science of chemistry with the chemical industry, this may impact our understanding of the science/technology distinction and our focus of ethical issues of chemistry. Or, if chemistry is viewed as an experimental laboratory science, with all its alchemical associations, you may readily conclude that its theoretical counterpart is by definition modern physics to which it is supposedly reducible, so that chemistry proper does not pose any epistemological issues worth pursuing. Given the traditional neglect of chemistry by philosophers, it is likely that the public image of chemistry has shaped and still impacts the philosophical mainstream views of chemistry.

The first three papers of the present issue focus on the public image of chemistry as reflected in fiction literature and movies. Roslynn Haynes, one of the very rare English literature scholars with a background in chemistry, argues that since the early 19th century the popular figures of scientists in fiction have been shaped on the model of sinister, dangerous, and mad alchemists. In his quantitative analysis of scientists in 20th-century movies, sociologist Peter Weingart points out that chemistry has been the iconic discipline of the 'mad scientist'. Apart from these clichés, however, a more complex picture of chemistry in society has recently emerged, as Philip Ball shows in his analysis of contemporary American literature.

The next three papers provide a complementary view on how chemists have contributed and responded to their public image. David Knight explores the early 19th-century phase of popularizing chemistry through public lectures with spectacular experiments. Marcel LaFollette's study of the emergence of science journalism in the 1930s illustrates that public views of chemistry depend on difficult negotiations between public demand and professional supply of chemical 'news'. Finally, Pierre Laszlo reconstructs how the self-image of chemists has changed since the mid-20th century as a result of both internal and external developments.

Most of the papers in this and the forthcoming issue of HYLE are based on contributions to two conferences: *The Public Images of Chemistry in the 20th Century* by the Commission for the History of Modern Chemistry (CHMC) in Paris, France, 17-18 September 2004; and a session on 'Contexts of Popularization' at the *5th International Conference on the History of Chemistry* in Lisbon, Portugal, 6-9 September 2005. Additional papers have been invited to complement the scope so that we can firmly say that this is the first comprehensive collection on the public image of chemistry.

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