Foundations of Chemistry (2024) 26:191–192
https://doi.org/10.1007/s10698-024-09520-2

Editorial 77

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Published online: 23 August 2024

Issue 77 of the journal is partly devoted to a conference on acidity while the remaining papers are regular submissions on a variety of topics.

There has been a good deal of renewed interest in the nature of acidity among philosophers of chemistry, which prompted my old friend and fellow founder of the ISPC, Klaus Ruthenberg, to organize a meeting on the subject and to which I was delighted to contribute a presentation. My own contribution was essentially a summary of an article published not long ago in this journal, which is why I did not submit it again to Klaus' special issue. In it I gave a critical assessment of the views of Hasok Chang on acidity (Scerri 2022). Unfortunately, although Hasok presented a response to my article, as well as that of Seeman and Tantillo at the meeting, he could not be persuaded to submit an article to this special issue (Seeman, Tantillo 2023). Since Klaus has written a guest editorial for the acidity meeting, I will leave it to him to introduce the session and to say a little about each of the articles that were in fact submitted.

All that remains then is for me to say something about the five varia articles.

Two authors from Brazil, Diaz de Souza and Porto, provide a review of several philosophical approaches that have been proposed by chemical educators including Johnstone, Mahhafy and Talanquer. Each of these authors propose a multi-level approach to the teaching of chemistry. For example, Johnstone initially proposed a three-level system featuring macro, sub-micro and symbolic levels, which he represented on a triangle. However, as the authors of the present article note, there has been a great deal of disagreement about such classifications of chemical knowledge. They therefore suggest a form of Peircean semiotics in order to resolve some of these disagreements and to reinterpret Johnstone's triangle in the context of vapor pressure curves.

In the second article, Mihalj Poša from Serbia establishes a new mathematical connection between De Donder's differential entropy production and a number of thermodynamic potentials such as Helmholz free energy, Gibbs free energy and enthalpy. He also estab-

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lishes that De Donder's differential entropy production, in an isolated composite system, is equivalent to the differential change in total entropy.

Ricardo Vivas-Reyes from Colombia proposes that many of the counter-intuitive aspects found in quantum mechanics and quantum chemistry can be resolved by appealing to Kant's philosophical principles. This includes the well-known puzzles such as wave-particle duality, and the collapse of the wavefunction. Of course, it remains to be seen just how this laudable goal might be achieved.

Next, three authors from India, Sharma, Das and Ray provide what they claim to be the first bibliometric analysis of the periodic table, which includes identifying the most relevant authors, journals and most productive countries working on this topic. Rather gratifyingly, the authors find that *Foundations of Chemistry* is the journal which has published the highest number of articles on the periodic table.

Finally, and just to reaffirm the point just made, Rodriguez Peña from Spain proposes a new way to present the periodic table, which takes the form of a square spiral that is centered on the element hydrogen, and which is claimed to resolve several of the difficulties that exist in the traditional format.

References

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