

Book Review

A Brief Note on the Book *CHEMISTRY — THE SCIENCE IN CONTEXT*

Recently, I received the second edition of the excellent book of basic chemistry of my Pennsylvanian friend, Dr. Natalie Foster, from the Lehigh University (Bethlehem), where she has her laboratory dedicated to the study of *porphyrins* and *phthalocyanins* (as candidate to contrast agents for applied Magnetic Resonance Imaging). As Associate Professor, she teaches basic chemistry to a large number of courses (including engineering and biology).

It is not my goal to discuss the specific scientific merit of the book, since I am an ecologist working on behavior and ecology of insect, I will limit my view as a person that has worked in Education at under and graduate levels (master and doctorate in biological sciences). So, my main concern here is with its methodology and how it is conceived from didactic and pedagogic standards.

The authors of the book, besides Dr. Foster, are: Drs Thomas R. Gilbert, Rein V. Kirss and Geoffrey Davies (a Distinguished Mathews Professor of Northeastern University, and fellow of Royal Society of Chemistry) (from Northeastern University, in Boston). They are all scholars with high level of scientific qualification, not only in chemistry, but also in education.

The book was reviewed by approximately two hundred reviewers, from a large number of universities and other scientific institutions. All of those *referees* have deep scientific and scholars achievements. The second edition has a lot of new remarks and examples emerging from the advancements of science and technology, specially in space exploration and in other areas. Among those fields, informatics has to be stressed, with its virtual possibilities in education, notably in communication and interactive processes, as well as an instrument, for modeling structures, images, motion processes, and interactivity.

One to the most interesting things in the book, is the use of day-to-day materials, such as a “dish of food”, the “water in the planet”, and so on. One of the most difficult things in philosophy and science in which education is based is the interface mediating the dilemma: practice-theory, general-particular, real-virtual, and dream or utopia *versus* reality. Those are questions that demand deep reflections. The Italian philosopher and social scientist, Giambattista Vico [the *renaissance* author of the *Scienza Nuova*, or simply *New Science*] says that the dream or fantasy is the main promoter of new realities in physical world, and also in social relations. But we can not forget that the arenas where the dreams occur are subjected to the reality, and that to create a new mediating

World of welfare and justice, the knowledge the fine structure of matter and the chemical processes in details is fundamental.

Interesting also in the book are the number of high elaborated figures and info-graphs in it, starting with an excellent photography of a wild bee (organisms of my interest for a long time), which seems to belong to *Xylocopa virginica* inside an helycoidal structure of a nucleic acid, perhaps signifying, the principle or the origin ...So, visually the book is also an *opera maxima*.

Fields as sophisticated as quantic physics are linked to chemistry, and need fine knowledge of chemistry, to develop. The book is also an opportunity for the young generation to prepare with insight to the changing environment of the Planet Earth, with all its complexity and challenges.

So, congratulations to my friend Natalie Foster and, please, extend the same to your colleagues on this important academic realization.

The book's name is Chemistry, the *Science in Context* (Second edition), the authors are Gilbert, Kirss, Foster and Davies, it was published in November 2009, by W. W. Norton & Company, inc., 500 Fifth Avenue, New York, NY 10110 <www.wwnorton.com>.

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