

*Writing and Revising*  
*the Disciplines*

*Edited by*

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# Writing (and Drawing) Chemistry

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IN the chemical profession our stock in trade is not the book, but the scientific (chemical) article, published in a periodical. I have written 450 of them in my years at Cornell University; my colleague Harold Scheraga has published over 1000. We have promoted an assistant professor to tenure at Cornell with 11 published papers, and we have not promoted one with over 80.

## THE NATURE OF THE BEAST

It is instructive to see the article untamed, roaming its range. For this I would like to begin with some pages from the chemical journal that is arguably the world's best (at least in inorganic and organic chemistry, not in physical chemistry or biochemistry); publication venues and their prestige carry much baggage of history and fashion. The journal is not an American one. It is *Angewandte Chemie*, published out of Germany, it appears simultaneously in German and English editions. Despite its name, the journal contains precious little applied chemistry.

*Angewandte Chemie*, under the inspired and proactive leadership of its editor, Peter Götz, has cultivated an effective mix of largely solicited review or feature articles, short highlights, and many "Communications." These are brief accounts of novel chemistry, presumably worthy of urgent publication. And publication, following review by one to three anonymous (to the author) referees, is certainly rapid. Several Communications in the Nov. 2, 1998 issue of the journal carry June submission dates; the latest is dated July 1, 1998. For my friends in the humanities (I'm there

too; I have been waiting over two years for a paper to appear in the *Canadian Review of Comparative Literature*, all I can say is "It can be done."

Let us leaf (see figures 1–5) through some pages in the Nov. 2, 1998 issue of *Angewandte Chemie* which arrived in my mailbox the week of November 9. (The original lecture on which this text is based was presented on Nov. 16, 1998.)

From these five sequential pages, as well as perusal of a greater sample, one notes:

(1) The authorship is international.

(2) There are many authors per paper; one of the differences between the sciences and the humanities and arts (theater and film are exceptions), is that the sciences have mastered the ethics of collaboration.

(3) The usual scholarly apparatus is there: author affiliations, end-notes (often numerous), acknowledgments of granting agencies and individual assistance or discussion.

(4) An unusual feature, particular to *Angewandte Chemie*, is the mandatory inclusion at the end of any experimental paper of an experimental section, detailing procedures for at least part of the experiments carried out.

(5) Most striking is the remarkable density of graphic material, most of it quasi-iconic representations of microscopic molecular structure. It is this feature of chemistry—the high graphical content of the literature and the science—which led me to include the parenthetical clause in my title (see Hoffmann and Laszlo, 1991). I will return to it, for now I hope I have convinced you that it is not my stylistic prejudice when I say that it is impossible to write chemistry without drawing molecules.

I also note that while there are some graphs and plots of observables, these are relatively few. And still fewer equations. This is not physics.

Is what these figures present typical? Yes, it certainly is so, of the literature of organic, inorganic, and biological chemistry. Physical chemistry is quite different, for its literature (viewed phenomenologically) carries more equations, and fewer depictions of molecules.

#### CALIXARENES

Let us now zoom in on one article, and read it together. I do this for the ostensible reason of analyzing this contemporary text as a text. But I must also 'fess up; I do it because I will not pass up the chance of teaching any audience, including the audience of the present volume, some chemistry.

