

Foreword

Roald Hoffmann

The other day I tried to imagine a world without Gene Garfield. Oh, he'd still be with us, but let's say Dr. Garfield turned out to be a great organic chemist instead of what he is. In that world, I'd saunter into the library on a Saturday afternoon, as I've done for twenty five years. I'd glare at the undergraduates with their feet up on the table near the new journals, those 250 multicolored objects of my obsession, bringing the week's good news to Cornell. Actually that Saturday afternoon there's a football game, so there's a little less competition between the undergraduates and professors for the space of many uses in Clark Hall Physical Sciences Library.

I sit myself down, in that Gene-less world, and begin to look through the journals. I scan the titles, read some abstracts, read in more detail a few pieces of a paper, put aside a handful of articles to copy, hoping against hope that one of the five copying machines has survived a day's abuse. In one issue of *Recueil des Travaux Chimiques des Pays Bas* (I've heard boorish Americans call it the Records of the Traveling Chemists), there is an article reporting calculations on a fascinating cyclopentadienyl thallium complex. But that day something happens—I'm distracted, perhaps by the view across Cayuga Valley, or tired from too much country and western dancing, so I drift as I scan down the pages. The contents don't register.

I miss the article. Which is too bad, because it's relevant, terribly relevant to work Chris Janiak, a German postdoctoral associate and I are doing on thallium and indium



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chemistry. In fact, I don't find the article until a year and a half later, after we've written ours on the subject, when a critical commentator arguing with our interpretation points to this Dutch article and I get the shock, full impact, of not searching the literature, the shock, reverberating back to childhood, of not having done my homework.

In that world there is no *Current Contents*. There is no redundancy mechanism to provide me with another chance to make up for my moment of distraction, a second scan through the riches of the chemical literature.

Then there is this insubordinate graduate student in my group. She had her own way of doing research, and resists my gentle attempts to impose a paradigm. I tell her you should really know the experimental literature of the field before you build an orbital

theory. She says "Ah, hell, let's do a calculation and see if the results are interesting, then we'll look if anyone has made the relevant molecules." I view this curious philosophy as a modern day perversion of the notorious Dirac fallacy of following the beauty of the equations, experiment be damned. I fight back, showing her examples from the literature that violate her orbital interaction diagrams, and in my real world I have a trick for finding these (and I *will* share it with her soon), namely *Citation Index*. We're working on explaining a molecule with a weird geometry, first seen a dozen years ago and still a puzzle today. It's so easy to trace all the papers that reference a key finding of an anomaly, that spot the same paper that she and I took off from. The true value of this creation of Gene's is that it is a bibliographic tool, not a servant of vanity, nor a meterstick for promotion. In the ISI-less world, I have a harder time keeping ahead of my student.

It would be a dull world without Gene Garfield's essays. Where else could I see Joshua Lederberg and Harriet Zuckerman looking toward the space separating them, while discoursing on the postmature nature of the discovery of bacterial sex; get some name-dropping mileage among my jazzy friends out of Rudy Wiedoeft (one also learns there is a World Saxophone Congress every three years—I wonder if they have parallel sessions and if their meeting rooms are sound-proofed better than those of the chemists); where else would I see such deft side-stepping to explain why the work of Gertrude Elion and George Hitchings, who shared the 1988 Nobel Prize in Medicine,

never appeared on lists of most cited papers; learn who taught Mister Rogers to fly; and find out that Gene, Josh, and I were all Peglegs.

And what would I do if I could not look forward to the fourth fifty most cited scientists in 1973-84? I mean, here the first one hundred and fifty have passed, and I'm not on the list! I have my asterisk, and yet I'm not on *his* list. Mind you there are scores of those perfervid molecular biologists, medicos, and their ilk, the same crew that's swamped *Proc. Nat. Acad. Sci. USA* (ISI Accession Number DG 092) taking up most of the space on that list. I bet they're all just citing each other, a thing my chemist friends would *never* dream of doing. They just cite themselves. But the ignominy of it all—Michael J. made the top 150, and I haven't!

In that deprived world no one would call me to pontificate as to why Soviet physics papers are their most cited literature component, or ask me to pronounce (by Federal Express, please) *ex cathedra* of what this highly cited chemistry paper is a harbinger. Of fashion, that's what. Gene certainly has a way to a man's heart. Even if my picture isn't there as often as Josh's, he's helped me make the middle-aged transition from *wunderkind* to sage.

I much prefer this world, where Eugene Garfield and his brainchildren entertain and inform us. Welcome to his essays!

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