

projects, were "merely procedural using the latest technology." Yes, we used supercomputers and nuclear magnetic resonance equipment in our research; so do thousands of professional scientists, both in academia and in industry. But the idea that simply using the opportunities one is given is indicative of a less-than-noble desire to "milk the system" that science must be done in poverty to be the "true pursuit of science," is distressing.

A competition like the STS, perhaps the most prestigious in the nation, should single out students for recognition for no reason other than excellence in research.

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Citations and Careers

In view of the recent interest in science citations (News & Comment, 7 Dec., p. 1331; 4 Jan., p. 25; Letters, 23 Mar., p. 1408; 29 Mar., p. 1546), I wish to make the following observations.

In the not too distant past, scientific productivity was evaluated by the publication record. To achieve status and recognition, one simply had to publish a number of papers over a reasonable time period. It was not essential that the papers, in fact, be read. All this was changed by the indefatigable Eugene Garfield, best known for establishing the concept that scientists would pay for the table of contents of journals, allowing them to avoid subscribing by requesting free reprints from proud authors. Scientific journals happily went along, contributing to their own suicide, as researchers quickly limited their subscriptions to a single journal. *Current Contents* is now on diskette and prints reprint requests with a single key-stroke!

The next great advance was the cross-referencing of citations in a monumental publication, the *Science Citation Index* (SCI). It was no longer sufficient to publish; now one had to be cited as proof of being read. In the process, a list of core journals was established; those not included were relegated to permanent obscurity.

Citation quickly became established as a new tool with which to evaluate relevance and productivity. I regularly checked my papers and found good and bad news. The good news was that I was being cited and, theoretically, my papers were contributing to science. The bad news was that the most frequent citer was myself. My career bumped along in a lazy sort of way. As a horticulturist who published in the arcane

and obscure field of sex determination in spinach, I managed almost never to be cited (except by myself) even though I had published in some fairly prestigious journals, such as *Genetics* and the *Journal of Heredity*. However, wonder of wonders, as the years flew by I found my citation record increasing and I was cited in *Fertility and Sterility*, a journal far removed from the field of horticulture! My spirits soared; my career flourished. Science worked! Good science, no matter how obscure, would contribute to humankind's stream of knowledge. I was happy and I prospered. Persistence had paid off and Garfield's idea had directly benefited me.

Piqued by curiosity, I decided to check exactly who was citing me. I soon found, to my horror, that the SCI had screwed up—lumping my papers (Jules Janick) with those of a John Janick. We had both scored the equivalent of a cross ruff in bridge. As we published, citing ourselves, our citations doubled. My depression was somewhat alleviated by my increasing salary, scientific awards, a distinguished professorship, and an honorary degree from the University of Bologna.

I wondered how many others found themselves in this disconcerting but rewarding situation. On a hunch, I checked with an old colleague, Charlie Etal, and found that his career, as mine, had soared. A slow if methodical researcher in an obscure field, Charlie had been promoted to Graduate Dean. He pointed out that two of his lab partners from grad school, Florence Ibid and George Anon, had similar experiences. We thank you, Dr. Garfield.

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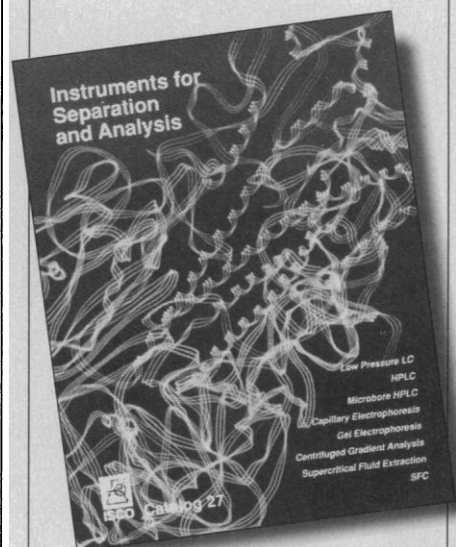
Uhl's Deification

Christopher Uhl is a good guy, but to my knowledge he is still one of us mortals. Constance Holden (Careers in Science, 24 May, p. 1123) writes that "One day in 1974, Uhl awoke, at age 25, to an apotheosis of sorts." If so, he would thereafter have been a god of sorts. I suspect the word should have been "epiphany," although strictly speaking it was only an epiphanic moment. Or perhaps it's all proleptic, and the best is yet to come. The best, that is, of sorts.

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