

## Progress Demands That Scientists Now Put Internet Addresses On All Communications

By Eugene Garfield

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A short item in the *New York Times Magazine* of April 17 (page 19) humorously addresses the problem of "Address Proliferation." The writer cynically observes that "stationery is becoming top-heavy." The item laments the passing of the good old days, when "all you needed was an address." Thanks to "E-mail mania," letterheads now are so cluttered with information that there is little room left for a message. The writer refers to the appearance of E-mail addresses--following that of long ZIP codes and fax numbers--as "the final insult."

Well, given the international science community's traditional reliance on print and telecommunications, and the rapid growth of the Internet to facilitate collaborative research, current realities make the Times complaint misguided. Until there are universally acceptable ID codes for each of us, we need all of these numbers. Throughout my career as a science communicator, I've consistently urged that all authors--no matter the communications medium--provide as much address information as possible in their letters, scholarly papers, proposals, and so forth in order to foster maximum dialogue.

About 35 years ago, as publisher of *Current Contents*, I decided to include author reprint addresses, since the flow of reprints is

fundamental to the research process. My decision turned out to be a wise one. The number of reprint exchanges prompted by *Current Contents* annually is estimated to be in the millions.

At first, of course, the addresses were used primarily for surface and air mail. But with significant increases in postage costs, combined with the emergence of copying machines and fax technology, more contact information became necessary.

Despite the obvious desirability of providing full addresses, it seems to take people a while before they habitually supply them. Indeed, when *Current Contents* first began to include addresses, a major stumbling block was the failure of publishers to include authors' complete postal addresses in their journals. At the time, less than half supplied them, and few included ZIP codes. Now, probably 80 percent to 90 percent of scholarly articles include complete addresses--but it took almost two decades for that to happen.

Today, as witness the articles on page 1 and page 17 of this issue, we are well into the Internet era. But while the principal mode of communication may be changing, the essential processes of scientific endeavor remain much the same. Despite the full-text

capabilities afforded electronically, for example, the hard-copy reprint remains ubiquitous. Although they may request reprints over an information network, scientists still seem to prefer the printed versions. (Most users currently can accept only ASCII versions, anyhow. So this pattern is likely to hold for the foreseeable future.)

But addresses facilitate much more than the exchange of reprints; they also promote direct personal communication. In fact, reprints often serve as a prelude to in-person contact, the exchange of ideas, and, frequently, the birth of productive collaborations. The international character of the scientific enterprise adds to the importance of correspondence, since colleagues separated by expanses of time and distance may never meet in person over a lifetime.

Each of us eventually will have a unique Internet address. We owe it to ourselves

and the science community to use it--as well as our mailing addresses, ZIP codes, fax numbers, and phone numbers--on all correspondence, whether print or electronic. As far as "clutter" is concerned, most Internet addresses are brief enough--not much longer than an international telephone number. (You can reach me, by the way, by "dialing" [garfield@aurora.cis.upenn.edu](mailto:garfield@aurora.cis.upenn.edu) or, via the Internet through CompuServe, at 71764,2561.)

I hope to return to this topic next year with the good news that a significant percentage of journals, as well as individuals, are routinely including their fax numbers and Internet addresses on all communications. For starters, you can buy a rubber stamp or stickers to update your letterheads to include your street addresses, your phone and fax numbers, and your E-mail addresses.