

The Dialogue Between the Profession and Its "Fringes"

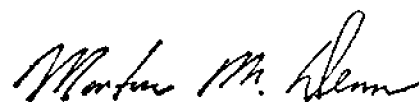
It is fashionable to observe that chemical engineering is now a changing profession. Chemical engineering has, in fact, always been a profession undergoing change, as reflected in the historical evolution of university and industrial research programs. Yet there is a consensus that the changes being experienced now differ substantially from those in the past, because new problems and new employment opportunities require an extension of traditional scientific roots. Individuals have dealt with these new needs; the profession is beginning to do so. Improved communication is a necessary step toward resolving the problem.

There is an identifiable profession of chemical engineering, with a common cultural base and an educational core, and the current transitions in research represent a natural evolution to encompass new areas of application. Such has indeed been the historical process; only the shortest memory is required to recall when process control, for example, was a "fringe" area of chemical engineering, rather than an AIChE/ABET-required core course in the undergraduate curriculum. Chemical engineers active in fringe areas invariably interact with professionals from other disciplines, and they usually establish their own "secondary" professional communities and publication vehicles. As new areas mature, these communities often reestablish themselves as integral parts of more than one of the parent disciplines, while retaining the specialized modes of communication for research. So it has been with our example of process control, and its reestablishment within the academic disciplines of electrical, chemical, and mechanical engineering and mathematics.

The nature of the interactions between the developing areas of chemical engineering and the core of the profession has important consequences for both. The new areas of research represent an important part of the future of the profession, and effective communication is essential

to enable the profession to stay abreast and to evolve with its needs. The best mechanism to ensure that this happens is the publication of research in the traditional, broadly-based journals. This is not to suggest the abandonment of the specialized journals; it is rather to note the obvious: some of this research is so strongly based on traditional chemical engineering concepts that it will interest and excite traditional chemical engineers, and help them and the profession to move in new directions. Nor is it to suggest that altruism is the motivation for publication in traditional chemical engineering journals; communication involves the flow of ideas in both directions, and the skills and interests of experienced chemical engineers can often be crucial to the solution of problems in new areas about which they would not otherwise be informed. (It is easy to point to examples in which the failure to communicate with the core of the parent disciplines has slowed research progress until the rediscovery of "well-known" concepts.)

AIChE Journal should reflect chemical engineering research as it is, not as it was. The submission of papers in materials, biotechnology, surface science, and other nontraditional areas in which chemical engineers are active is strongly encouraged. Such papers published in the *Journal* and other broadly-based publications will probably represent only a small fraction of the research being done by chemical engineers in these areas, as is appropriate; the papers will, however, provide the mechanism for the essential dialogue between the core of the profession and those leading the field into new areas.



Morton M. Denn, Editor