

Industrial Relevancy of *AIChE Journal*: Impact on Technology

My previous editorials emphasized two main themes of major concern to both editors and authors. First, does the content of the *Journal* truly represent the entire spectrum of good new fundamental research topics in chemical engineering (July 1991)? Secondly, do selection criteria for publication emphasize significance and originality, beyond technical correctness (January 1997)?

In terms of content, the introduction of topical headings in the tables of contents and the judicious selection of several topics for special publication in the *Journal* (imaging methods, protein folding and thermodynamics, and ceramic materials processing) have attracted excellent manuscripts in a wider range of subjects than five years ago. Concerning selection criteria, the editors have been finding that new review forms, where referees are asked much more explicitly to describe not only whether an article is correct and new in the sense of never having been published before, but also why it is important and what influence on the field its publication might have, are eliciting more incisive advice than we had previously been receiving.

Here, I would like to take up a third major theme that I believe an engineering journal should concern itself with. Does the work published in the *Journal* influence engineering practice in the field? Without doubt, the only sensible view to take of this is a very long-range one. I believe that the *Journal* fulfills its mission very well if experimental work and modeling on fields of uncertain, future potential are developed, discussed, criticized and ultimately, left to live or die, in the pages of the *Journal*. This process may take some years of rich, engaging exploration, discussion and publication. No harm is done; in fact, a primary purpose is served, if a subject that once was rich eventually dies. The point is that some subjects must die or at least be put to rest outside the pages of the fundamental research journals.

The difficult question is, By what criteria does a journal, in the service of the field it represents, decide that a particular piece of work belongs to this class of articles in an area that is played out? The (merely correct) criterion, articulated above, is one important standard. Relevance to potential engineering practice is another standard we should attempt to assess more effectively as well.

How should we do this? Seeking industrial referees, though we do it very conscientiously and they respond generously with their advice, is not always effective. Industrial colleagues among us are sometimes either overly impressed with obfuscating academic formalism or, at the other end of the spectrum, derisively critical of efforts that are not obviously directed to solving any immediate problem. Another worrisome point is that less than 10% of the 650 articles submitted to the *Journal* in 1997 were authored by industrial researchers. This may have several origins, but is at least *prima facie* evidence of a disconnectedness between academic research and industrial practice.

Our approach to this will be to develop some objective basis on which we think the influence of work published in the *Journal* on industrial practice can be assessed. The first step is to enlarge the industrial members of the Board of Consulting Editors to generate an advisory forum where this question can be explored productively. We would welcome input into this effort. We always have to ask ourselves why we do a particular piece of work; it is more motivation than content that distinguishes good engineering science from good pure science.

On another note, after three years of excellent editorial service to the *Journal*, Mark Davis of Caltech is stepping out of his post as Associate Editor. He has brought excellent judgment and high standards to this work. He will be ably replaced by Mark Barteau of the University of Delaware, known widely for his high-quality work in catalysis. We are fortunate to have such a well-qualified successor.

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