

The Role of a Scientific or Technical Journal

Y. S. Touloukian¹

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When I was requested to prepare the lead article for this first issue of the *International Journal of Thermophysics*, I thought it might be most appropriate on this occasion to reflect on the role of a journal.

Why a new journal? I believe the birth of a new journal reflects a recognition that a given discipline has reached a degree of maturity, and the need exists for the advances in the field to be recorded and documented in a more systematic manner. A scientific journal simply constitutes a convenient vehicle for the deposition and transfer of scholarly writings. The fact that a journal assumes an international aspect reflects the further recognition that the contributions in the field will come from multinational research efforts, thus stressing the need for improved channels of communication. The *International Journal of Thermophysics* promises to be a depository for contributions in the important area of thermophysical data and theory, irrespective of somewhat arbitrary academic categorizations of disciplines, such as physics, chemistry, engineering, geophysics, biophysics, food technology, etc. Properties of matter are of a universal nature and knowledge of them will be generated and used by engineers and scientists irrespective of what their formal training may be called. For example, the fact that a thermal property determination is carried out at low temperatures does not make these results uniquely of interest to low temperature physicists. Indeed, they constitute primarily data on thermophysics, of interest and value to a broad spectrum of users.

If one accepts the proposition that the discipline of thermophysics, or the

¹Director, Center for Information and Numerical Data Analysis and Synthesis (CINDAS), and Distinguished Atkins Professor of Engineering, Purdue University, West Lafayette, Indiana 47906, U.S.A.

data on thermophysical properties, is of interest to a broad user community, as well as to the specialist who generates it, then there is a very real possibility that this new journal will indeed effectively accomplish one of the primary goals desired by all users of technical information; namely, hoping to find in one journal the majority of writings in thermophysics rather than having to search over a wide spectrum of publications, where data on thermophysical properties might be diffusely and incidentally published.

The above consideration leads us to an important question concerning journals. The question that must be answered is: Who is a journal to serve—the contributing authors or its reader public? Are the interests of these two audiences of a journal in conflict with one another or complementary? To the extent that the role of a journal is to record for posterity the scientific and technical findings of researchers, to be used and built upon by a broader audience of readers, it would seem that the journal should aim to serve primarily its reader public. On the other hand, it is only natural for a researcher to publish his or her results in a media that will bring his/her findings to the attention of the widest possible audience of potential readers. These two outlooks inherently merge into a common interest, since what is good for the reader constituency is also good for the contributing authors.

A third aspect of a journal's function is, of course, to advance the discipline of the science and technology it represents. It does this best by attempting to separate the nonsense from the plausible and the relevant. Naturally, the final responsibility falls on the International Editors and the Editor-in-Chief. The *International Journal of Thermophysics* is indeed fortunate to have such a distinguished group of individuals who, I am sure, will serve the thermophysics community well. However, does this mean that all data accepted and published by the *Journal* will be correct and without blemish? The answer is, of course, no! No practicable and realistic peer-review and editorial process has in the past, nor will in the future, assure the complete accuracy of published research results. We know through long years of experience that the best we can expect is to keep the scientific and technical enterprise relatively honest through the mechanism of peer review. While this latter seldom assures complete screening of scientifically erroneous writings, it does a reasonably good job of policing overtly illicit and shoddy work.

In closing, I do wish to stress that no journal will rise above the standards and expectations of its reader constituency. Hence, I wish to urge both the generators and users of thermophysical property data to keep their sights high. The editors need and deserve your full support.