Editorial

WE are living in the most historic decade yet of this century. Although it is not true that the 1950's were dull (supersonic flight, digital computers, the Korean conflict, the first commercial jets, ending with satellites and the beginning of manned space flight), thus far the '70's have been breathtaking to the point of exhaustion.

Some of the changes which occurred with dizzying speed were good. The '70's first brought the wide-bodied jet, a new form of transportation which uncrowds the sky while giving passengers comfort unequaled in previous times. Sophisticated control, sensor, and communication systems have steered our satellites to determine the condition of land, sea, and air, and have given us much better and faster knowledge of distant but vital events. This same level of technology has entered into millions of homes in the form of the electronic calculator and now into grocery stores to register our purchases automatically.

In addition, major political, economical, educational, and technological upheavals have deluged us. A dramatic shift in economic power and poor harvests accelerated the inflation rate beyond the wildest prognostication. Quality of life programs suddenly have included the right to have and use energy for production of other goods, heating, and transportation; and the right to nutritious food. Now, obsolete or economically poor energy resources are looked upon with favor; while in contrast a return to the horse and buggy days and fifty-acre farms is no longer advocated. The issues are clear. They are economic stability, energy, food, and their complex interdependency. There is no question that technology holds the key to achieving these goals.

It is in fact conceivable that, with our present capability for rapid gathering, reporting, and analyzing of data, together with our capability for modeling complex interrelated systems, existing analytical techniques can be used to examine alternate policies for economic resources and their consequences to various segments of the society.

But technology cannot be turned on and off like a light switch. Technology depends on both preservation of engineering productive capacity and carefully accumulated knowledge, sifted and sorted, and easily accessible at several levels of detail. That is where your AIAA journals fit in. Our job is to attract meaningful, relevant papers which report progress in aerospace technology so that a person skilled in that art can utilize those results either for reduction to design or for further improvements in the science. Furthermore, they must be easily retrievable, in a matter of minutes, to be useful in that role. They must be archival in the sense that each paper is correct within the boundaries of the problem addressed, to be superseded primarily by extension of those boundaries. To the best of our existing knowledge, bound journals will be the major archival source for the remainder of this decade. Again, technology must be used to create economies—for example, the rise in the cost of paper may be matched by a new phototypesetter for mathematics. Perhaps in another decade there will be a revolution in technical information. Until then, we will continue to strive for excellence in both the work reported and the reporting style as well.

We are indebted to our retiring Associate Editors who have given so generously of their time and effort: Anthony Demetriades (turbulence and free shear flows); Frank Fernandez (boundary layers and separated flows); Tom Love (thermophysics); and Walter Warren (lasers and experimental fluid mechanics). Ruth Bryans and Anne Huth have again exhibited their virtuosity in the present paper shortage.

Finally, we express our most sincere gratitude to the many reviewers whose time and effort have helped our authors to maintain the high quality of publication. Their names appear on page 2 of this issue.

George W. Sutton
Editor-in-Chief