The changing role of simulation and the simulation councils

by JOHN MCLEOD
Simulation Councils, Inc.
La Jolla, California

ABSTRACT

Simulation in the broadest sense is as old as man. Everyone has a mental model of his world. Furthermore he will use it to investigate—mentally—the possible results of alternative courses of action.

Simulation as we know it, the use of electronic circuits to model real or imaginary things, began about 35 years ago. Since that time we have seen such vast changes in both the tools and the techniques of simulation that only the underlying philosophy remains unchanged.

And the uses and abuses of simulation have changed radically, too. Seldom has a technology, developed primarily to serve one industry—in the case of simulation the aerospace industry—so permeated seemingly unrelated fields as has simulation. Today simulation is used as an investigative tool in every branch of science, and in many ways that by no stretch of the term can be called science.

These changes have had their impact on our society, too. The first Simulation Council was founded in 1952 after we had tried in vain to find a forum for discussion of simulation among the established technical societies. As interest grew other Simulation Councils were organized, and in 1957 they were incorporated and became known as Simulation Councils, Inc. Because the nine regional Simulation Councils now comprise the only technical society devoted exclusively to advancing the state-of-the-art of simulation and serving those people concerned with simulation, we are now known as SCS, the Society for Computer Simulation.

In 1952 the analog computer was the best tool for simulation, and not one of the technical societies concerned with the up-and-coming digital computers was interested in the analog variety. So circumstances, not purpose, decreed that the Simulation Councils should become thought of as the analog computer society. We are not, and never have been; the Society for Computer Simulation is concerned with the development and application of the technology, not the tool!

That being the case, and realizing the applicability of the simulation technology to the study of complex systems in other fields, the society fostered the necessary technology transfer by soliciting and publishing articles describing applications first in medicine and biology, and for the last several years, in the social sciences.

To foster the change in role of simulation from that of a tool for the aerospace industry to that of a means for studying and gaining and understanding of the problems of our society required that the society also change. This change was first reflected in the technical content of our journal Simulation. It has always been our policy to publish articles describing unusual applications of simulation, but until a few years ago that was the only reason material describing a socially relevant use of simulation appeared in Simulation. Now it is our policy to solicit such articles, and publish as many as are approved by our editorial review board. Therefore much of the material in our journal is now concerned with socially relevant issues.

The Society for Computer Simulation also publishes a Proceedings series. Of the three released to date, all are relevant to societal problems.

The changing role of the society is also evidenced by changes in official policy and in the organization itself. The change in policy was elucidated by our President in an article published in the April 1970 issue of Simulation, which stated in part "...the Executive Committee feels that [our society's] primary mission today should be to assist people who want to use simulation in their own fields and particularly to assist people who are dealing with the world's most urgent and difficult [societal] problems...".

The principal organizational change is the establishment of the World Simulation Organization to stimulate work towards the development of simulation technology applicable to the study of problems of our society from a global point of view.

Concomitant with the spread of simulation to all disciplines has been the increase in interest within technical societies which are only peripherally concerned with simulation. Although these societies are primarily dedicated to other fields, several have formed committees or special interest groups with aims and objectives similar to those of the Society for Computer Simulation.

However, the Society for Computer Simulation remains the only technical society dedicated solely to the service of those concerned with the art and science of simulation, and to the improvement of the technology on which they must rely. That others follow is a tribute to our leadership.