

THE MISSION OF THE INTERNATIONAL ACADEMY FOR SYSTEMS AND CYBERNETIC SCIENCES: SOME RECENT DISCOVERIES

Stuart Umpleby
President of the IASCYS Executive Committee

The International Academy for Systems and Cybernetic Sciences was created as an honor society for people who have made outstanding contributions to the fields of systems science or cybernetics. In addition to choosing people to be academicians, the members of the Academy work to aid the growth and development of these fields. Through conferences and publications we seek to learn what the various societies in the field are doing – what questions they are asking and what themes they are pursuing. We then share our discoveries with colleagues in associations in many countries.

Probably more than scholars in traditional fields, people in systems and cybernetics work on three levels – practice, theory and philosophy. Work at each level is used to test, extend and enrich knowledge on other levels. In our discussions at conferences and through the exchange of papers we have learned that scientists in this field have identified three stages in the development of the field. At the level of observed systems, we work to improve engineered systems, management systems and human communication. At the level of cognition we develop analytic methods and simulation techniques and seek to understand the process of cognition and communication. At the level of social systems we search for reliable knowledge and invent and test institutions and procedures to aid innovation, coordination and consensus-building. However, we have found that these stages are described differently in China, Russia and the US and Europe taken together. So, we are now seeking to learn new theories and methods from each other.

We have found that Americans evaluate theories through their practical utility while Europeans organize knowledge according to the history of philosophy. Combining these two approaches has significant advantages. Americans have tested theories of knowledge through neurophysiological experiments. This work has led to ideas about how to expand the conception of science in accord with basic principles from the philosophy of science. The Chinese have had a strong interest in systems engineering due to the large number of construction projects currently underway in China. They have developed a theory and methods of systems engineering that integrate engineering and management more closely than is done in the US and Europe. Russian scientists have developed a theory of reflexive control and they are increasingly using participatory methods at the community level. There are a variety of views of complexity and reflexivity, and current discussions are comparing the various points of view.

As in the past people working in systems and cybernetics seek to learn from and integrate the knowledge in the traditional disciplines, striving for more general theories and more useful methods.

Stuart A. UMPLEBY https://en.wikipedia.org/wiki/Stuart_Umpleby

Stuart A. Umpleby is professor emeritus in the Department of Management at the George Washington University in Washington, DC. He received degrees in engineering, political science, and communications from the University of Illinois in Urbana-Champaign. Umpleby has published articles in Science, Policy Sciences, Population and Environment, Science Communication, Futures, World Futures, The Journal of Aesthetic Education, Simulation and Games, Business and Society Review, Telecommunications Policy, Journal of the Washington Academy of Sciences, Reflexive Control, Systems Practice, Kybernetes, Cybernetics and Human Knowing, Cybernetics and Systems and several foreign language journals. He is a past president of the American Society for Cybernetics. He is Associate Editor of the journal Cybernetics and Systems. Umpleby has received research grants from the National Science Foundation, the Charles F. Kettering Foundation, the Charles Stewart Mott Foundation, the Nathan Cummings Foundation, the U.S. Department of State's Bureau of Educational and Cultural Affairs and the Central Asia Research Initiative. He has consulted with the World Bank, with government agencies in the U.S. and Canada and with corporations in the U.S., Europe, Japan, and China. He has been a guest scholar at the Wharton School of the University of Pennsylvania, the International Institute for Applied Systems Analysis in Laxenburg, Austria, the University of Vienna, the Institute for Advanced Studies in Vienna and the University of St. Gallen in St. Gallen, Switzerland. In spring 2004 he was a Fulbright Scholar in the School of Economics and Business, University of Sarajevo, Sarajevo, Bosnia-Herzegovina. Between 1981 and 1988 Umpleby was the American coordinator of a series of meetings between American and Russian scientists to discuss the foundations of cybernetics and systems theory. These meetings were supported by the Russian Academy of Sciences and the American Council of Learned Societies. His interest in the transitions in the post-communist countries has resulted in his presenting lectures at various institutes of the Academies of Science of Russia, Ukraine, Poland, Hungary, and Bulgaria. He received the Norbert Wiener Award of the American Society for Cybernetics.