search and discuss ideas and creative efforts of vital importance in both fields. A primary objective of this program is to help the student develop a sensitivity for the various ways by which man tries to understand reality and the impact of one discipline upon another.

At Brown University, George W. Morgan is concerned with understanding man in his wholeness. Morgan has helped develop at Brown a human studies program (started in 1967) wherein a student may direct his major effort to an intensive and sustained inquiry into questions that are of fundamental human importance today. By coupling departmental courses in the curriculum with independent study and seminars in human studies, a student, under the guidance of a faculty adviser, can explore various areas of human experiences or fundamental problems that need to be approached through several disciplines. Examples of themes that students have pursued are the impact of scientific thought on man's self image, man's relationship to his environment, comic and tragic senses of life, and ethics in medicine.

In this symposium, sponsored by the AAAS Section on Education, the participants (students and faculty) will discuss the mechanics of their interdisciplinary programs, the value and frustrations of their experience in this kind of education, and their suggestions for interdisciplinary work in the future.

FREDERICK D. HORN
ROBERT P. DESIENO
Westminister College,
New Wilmington, Pennsylvania

27 December

Scientific Institutions of the Future

The response of scientific institutions to the social expectations addressed to them seems likely to affect the future of research in many ways.

Participants in this symposium include both agents and students of institutional change. Each will describe a significant aspect of research institutions, in ways that may illuminate the processes, and future directions of change within such institutions.

Speakers and Topics

27 December (morning)

Arranged by Philip C. Ritterbush (Organization::Response, Washington, D.C.).

Jack Meltzer (University of Chicago), *The Future of Institutions in Urban Studies.*

John Steinhart (University of Wisconsin, Madison), *Institutions and the Generation of Purpose: Whose Environment Gets Managed and For What?*

Donald W. Collier (Borg-Warner Corp., Des Plains, Ill.), *The Future of Industrial Research Establishments.*

Christian N. Ramsey, Jr. (Institute for the Study of Health and Society, Washington, D.C.), *The Future of Medical Research and Health Care Institutions.*

27 December (afternoon)

Jon Seger (Harvard Graduate School of Education), *Institutional Effectiveness.*

F. Joseph Stokes, Jr. (Philadelphia, Pa.), disscussant.

Thomas J. Cottle (Massachusetts Institute of Technology), *The Uncertain Future of Institutions in Higher Education.*

Philip C. Ritterbush, *The Role of Institutions in Relating the Humanities to Science and Technology.*

27 December

Humor and Science

Why do people laugh? Do they do so out of hostility, or because they are surprised, or simply to relieve tensions? Must one learn to laugh? If so, how and when during childhood does laughter appear? In a larger context, what is the purpose of humor? Does it facilitate human interactions, or disrupt them? Can humor be studied scientifically or does analysis of laughter destroy that which is being analyzed? What about humor in science? Can a man or woman who laughs at his or her own feeble attempts to bring scientific order out of worldly chaos be trusted in the laboratory? Are scientists in their white lab coats members of a new religious order whose sanctity must not be jested at, or is the pinprick of wit a guard against pious scientific pomposity?

These and other questions—both pertinent and impertinent—will be raised and hopefully answered at this symposium on humor and science, in the morning session, featuring serious papers on humor and, during the afternoon session, with random shotgun blasts (satires, spoofs, and other forms of genteel leg-pulling) aimed at various targets by a number of practicing scientists. Audience participation (in the form of questions and comments) will be seriously encouraged at the morning session; audience participation (in the form of laughter) will be seriously anticipated at the afternoon session. Bring your own needles!

JAMES V. MCCONNELL
University of Michigan,
Ann Arbor

Speakers and Topics

Arranged by James V. McConnell (Department of Psychology and Mental Health Research Institute, University of Michigan).

27 December (morning)

Arthur Koestler (London, England), *The Logic or "Grammar" of Humor.* [Paper to be read by James V. McConnell.]

Paul McGhee (State University of New York at Albany), *Children's Humor: Empirical, Methodological, and Theoretical Considerations.*

Werner Mendel (University of Southern California, School of Medicine, Los Angeles), *Humor as an Index of Emotional Means.*

27 December (afternoon)

Joel Kirschbaum (The Squibb Institute for Medical Research, New Brunswick, New Jersey), *Lycanthropy Induced by Irradiation.*

Maurice Ettinger (Dow Chemical Company, Midland, Michigan), *The Populist Scientific Crusade (A Recipe for Increased Job Security or Instant Fame).*

Allan Neil (Texas Christian University), *Illusions, Allusions, Delusions and Elusions.*

Lawrence La Fave (University of Windsor, Ontario), *New Explorations in Insensitivity Training: The Nudeless D (Disencounter) Group.*

James Turner and Robert Boice (University of Missouri, Columbia), *Religiosity in Herpets.*

Selby Evans (Institute for the Study of Cognitive Systems, Texas Christian University Research Foundation, Fort Worth), *Neurons and Other Quantum Phenomena.*

H. E. Marks (University of Georgia), *Computer Model of Hypothalamic Hyperphagia and Normal Feeding Behavior.*

27 December

Lightning

Lightning kills more people and causes more damage than tornadoes in the United States. Thus it seems appropriate for this symposium to have the general purpose of presenting the broad aspects of the lightning flash and the effects of lightning upon planes, space vehicles, man, animals, and forests. Recent measurements of lightning have utilized the techniques of photography, electric and magnetic field measurements, current measurements, spectroscopy, and acoustical measurements to determine the physical characteristics of lightning. Our modern concept of lightning has led to an increasing interest in the hazards of triggered lightning. This is exemplified by the investigation of the Apollo 12 lightning incident and studies of subsequent Apollo launches. As longer planes, such as the Boeing 747, enter the sky the hazard of triggered lightning is of greater concern. Our modern concept of lightning is leading to better protection for homes and other structures. Lightning strikes to humans, both direct and indirect, kill more than 100 persons each year

Lightning flash triggered by a tall tower on Mount San Salvatore, near Lugano, Switzerland. These types of lightning strikes also occur to tall buildings (Empire State Building) and to spacecraft being launched toward the moon (Apollo 12 space vehicle, 14 November 1969). [State University of New York at Albany]