Science and Technology: Bridging the Frontiers

1. General Interest

Frontiers of the sciences: astronomy, physics, chemistry, biology, geology, mathematics, cognition, microsurgery, herbal medicine, medical genetics and immunogenetics, societal implications . . . urban transportation . . . Mount St. Helens.

2. Directing Science Toward Peace

Arms control and the arms race: strategic weapons systems, negotiation and disarmament, non-proliferation, psychological and bureaucratic dynamics, public opinion and education, political economy . . . international and historical perspectives.

3. Physical Sciences

Astronomy: exploration of the solar system, age and size of the universe, unity of the universe . . . chemically solvable problems, lasers in chemistry, laser development and use . . . revolution in experimental techniques, ultrasensitive mass spectrometry . . . science for the naked eye.

4. Engineering and Technology

Nondestructive evaluation . . . biomechanics . . . sulphur—new uses . . . CANDU reactor . . . bifurcation theory: urban and regional analysis . . . the engineer . . . metrics.

5. Energy

Energy policy: North American systems, transportation fuel, solar energy, conservation, health risks . . . biological conversion . . . beyond conventional crude oil.

6. Environment

Acid rains . . . lead, radicals, environmental toxicology . . . Great Lakes contamination . . . environment in Ontario . . . hazardous waste management.

7. Climate and Ecology

Arctic wildlife . . . forest utilization, tropical forests and arid lands, irrigation in U.S. Four Corners . . . climate and food . . . climate changes: testing theories, Antarctic ice, societal impacts . . . GARP.

8. Agriculture

Animal agriculture . . . pest control: ecology, chemical communication in insects . . . food production: agricultural lands, the United States in the 1980's, small scale processing, impacts of dietary changes . . . food-fuel conflicts, producing and consuming energy . . . gene conservation.

9. Biological Sciences

Adaptation of animals to water, aquatic ecosystems, fish—a renewable resource, developing shark repellents . . . circadian clocks in man . . . evolutionary genetics, genetics and environment . . . mathematical biology.

10. Cell Biology

Biological theories of aging . . . reproductive biology . . . molecules and behavior . . . enzyme polymorphism . . . cancer-cell surface . . . calmodulin . . . *Drosophila*.

11. Medical Sciences

Hypnotism and psychopathology . . . medical imaging . . . taking medication . . . cancer therapy, chemotherapy . . . insulin delivery devices . . . intrauterine diagnosis . . . geographic medicine.

12. Health Care

Immunopharmacology . . . surveillance of drugs, controlled release of pharmaceuticals . . . new medical practices, choices in health care . . . models in health services . . . child health.

13. Sociology

The factory, new manufacturing technology . . . Sino-American exchange of information . . . socioeconomic status . . . society and the handicapped . . . aging from birth to death.

14. Anthropology

Women and science . . . undocumented immigration . . . inequality in rural society . . . religion: in Canada, and food, convergence of perspective with science and philosophy . . . origins of man . . . paleopathology . . . evolutionary theory.

15. History and Philosophy of Science

Alfred Wegener . . . science in history of science, scientific literature, documenting the history . . . systems research and cybernetics, system forming and knowledge, patterns in scientific thinking . . . psychological bases of morality, promoting ethical conduct . . . contrasting views of science and tradition.

16. Information and Computing

Machine intelligence and perception, graph theory . . . human factors, man-machine systems . . . limitations in primary memory . . . information society . . . international exchange of information.

17. Education

Educating for leadership, science and gifted youth, scientific community and science education, medical students . . . science for the physically handicapped, early adolescence, early intervention and black youth . . . achievement testing.

18. Public Access to Science

Science centers and museums . . . local academies of science . . . distance education . . . science in the news . . . science and secrecy . . . public participation in science policy: attitudes, the Canadian inquiry process.

19. Social Implications of Technology

Radioactive wastes . . . the SST controversy . . . innovation and the law . . . managing the nuclear-fuel cycle . . . technology and industrial policy.

20. Science and Technology Policy

University-industry collaboration . . . expert analysis in policy-making, the scientist as expert witness . . . mediation of environmental disputes . . . history in policy analysis . . . policy outlook . . . interdisciplinary research . . . impact and risk assessment.

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Annual Meeting

Toronto

3-8 January 1981

For further details, see the 12 September issue of *Science*.
