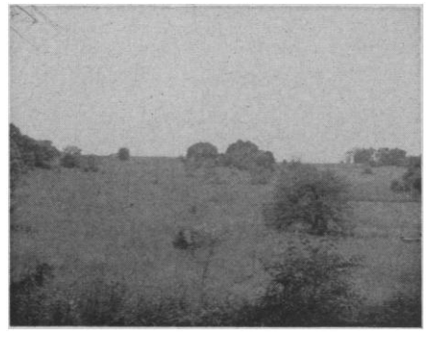
ductions in power use might be effected or which could be implemented should a scarcity of power develop. Barry Commoner will consider the ecological importance and social implications of reducing reliance on power-intensive production technologies. John Todd will discuss biotechnic decentralization as an alternative to the energy crisis; Herman Daly will consider the economic implications of a scarcity of energy; and Richard Stein will review the implications of energy use and need from the standpoint of the architect.

DEAN E. ABRAHAMSON
University of Minnesota Medical School, Minneapolis 55455

29 December

Geological Implications of Solid Waste Landfill



(Left). Well-managed sanitary landfill operation. (Right). Restored landfill area ready for new development. Trees were retained.

Domestic and industrial solid wastes are being produced at an ever-increasing rate. Every method for disposal of this by-product of our highly productive society is encountering objections with the gradual awakening of an environmental conscience in the public mind. With a concern for air pollution, incineration in major metropolitan areas is under attack; even incineration at its best leaves a residue which requires disposal. Open dumping and burning, common methods for handling solid waste disposal, are under attack for health and esthetic reasons.

In response to the recognized shortcomings of other methods of solid waste disposal, the utilization of solid wastes for sanitary landfill has been the fastest growing technique in the last decade. A landfill is a man-made geologic deposit with rather unique physical and chemical properties. Its composition is strikingly inhomogeneous, as is its particle size. The rate of compaction-settling is extremely high in comparison with natural geological sediments. The porosity and permeability of solid waste landfills vary within wide limits and the leachate which seeps forth is frequently a biological and chemical contaminant.

The scheduled symposium on "Geological Implications of Solid Waste Landfill" is dedicated to the principle that "Out of sight, out of mind" is no longer an acceptable basis for getting rid of solid wastes in the ground. Geologists, hydrologists, planners, and landscape architects will address themselves to the definition and recognition of the extent to which various geologic and hydrologic conditions in the ground favor or limit the selection of solid landfill waste disposal sites. There has also been developing a new expertise in the physical and chemical effects of the landfill waste materials upon the sites themselves. The symposium will highlight many of the findings and parameters developed by leading researchers in this contemporary field.

Speakers and Topics

D. A. Stephenson, *What To Do before the Garbage Truck Arrives.*

S. Jackson Hubbard, *Design of a Sanitary Landfill.*

Norbert B. Schomaker, *Construction Techniques for Sanitary Landfills.*

George M. Hughes, *Hydrogeologic Controls on the Movement of Leachates from Refuse.*

Richard R. Parizek and Donald Langmuir, *Management of Leachates from Sanitary Landfill.*

Grover H. Emrich, *Management of Hazardous Geologic Conditions for Safe Solid Waste Disposal.*

Gary L. Merritt and William C. Bucciarelli, *The Geologic Aspects in the Planning and Implementation of the Pennsylvania Solid Waste Management Act 241.*

Edwin G. Otton, *Solid Waste Disposal in the Geohydrologic Environment of Maryland.*

W. L. Fisher and L. F. Brown, Jr., *Geologic Evaluation of Sanitary Landfill Sites, Texas Coastal Zone.*

ARTHUR A. SOCOLOW
State Geologist and Director, Pennsylvania Topographic and Geological Survey, Harrisburg 17120

29–30 December

Living Systems: Synthesis, Assembly, Origins

Several approaches to the artificial production of living systems will be reviewed in this symposium. Attention will be focused on systems and on the supporting levels of cellular construction, especially the relevant macromolecules.

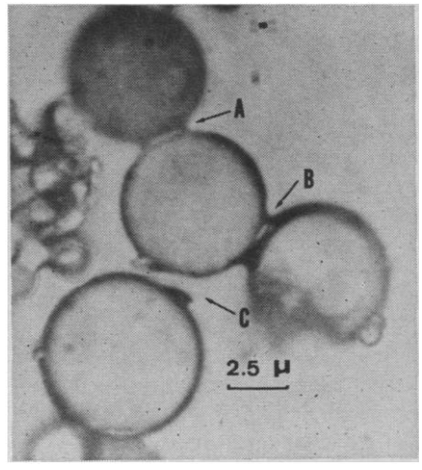
Principal topics to be covered first are the chemical synthesis of contemporary proteins (K. Hofmann, University of Pittsburgh) and nucleic acids (M. Caruthers, M.I.T.). The assembly of such macromolecules into systems is emphasized through reports on experiments with polymers from living systems. Many biomacromolecular preparations have been reassembled into organelles (D. J. Kushner, University of Ottawa); nuclei and cytoplasms of amoebas have been transferred from one membrane to another (J. F. Danielli, State University of New York at Buffalo); and models of primitive macromolecules (R. Lohrmann and R. Sanchez, Salk Institute; and D. L. Rohlfing, University of South Carolina) and of primordial cells and organelles (S. W. Fox, University of Miami)

have been produced under geologically relevant conditions in the total absence of other organisms as a source.

All of the studies have in common, to some degree, the use of model-building techniques and synthetic (constructionistic) modes of thinking, to supplement the more traditional reductionistic studies which depend upon the disassembly of living systems. The symposium will attempt to identify intellectual contributions from one line of study to another.

As the title of the symposium indicates, the papers largely presuppose the validity of the cell theory of life. The presentations are expected to illuminate the nature of the relationship between macromolecules and the living systems, for instance, cells. These two levels of organization are operationally related through assembly processes, which have been identified in considerable variety phenomenologically. Much more specific mechanistic detail is needed.

The artificial production of systems



The connecting structures between proteinoid microspheres are shown in various stages of breakage. The microspheres were prepared by heating 25 mg of 2 : 2 : 1-protenoid per milliliter of distilled water, and decanting. The solution was allowed to cool slowly and was then aged 3 months at room temperature. *A* is intact; *B* shows fracture; and *C* has come asunder.

which more or less resemble living evolved structures is of interest to the space program (R. S. Young, NASA). As such processes are brought under control in the laboratory, they have increasing implications for society and its philosophy (C. C. Price, University of Pennsylvania). These systems promise to bring us further into the wide vistas of "synthetic biology." The variety which can be visualized is manifold, morphologically and chemically, whereas the life which has evolved on this planet is comparatively restricted in type.

How much variation within proteins, nucleic acids, cells, and multicellular organisms is possible? The chemistry and biology of artificial macromolecules and systems should eventually provide answers to this and other questions.

SIDNEY W. FOX
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30 December

Women in Academia

The objective of the symposium is to bring together women in universities, university administrators, and representatives of the executive branches of the federal government to explore the ways and means toward achievement of full equal opportunity for women in the universities. The symposium is a follow-up to last year's AAAS meeting, "Women in Science," sponsored by Sigma Delta Epsilon, which highlighted discrimination against women scientists in universities. This year, it is hoped to focus on the problems faced by universities in complying with President Nixon's executive order prohibiting sex discrimination by government contractors.

The symposium is intended to be pragmatically oriented. Discussions will focus on internal university policies, procedures, organizational arrangements, hiring practices, and special services. The symposium will also discuss the roles of the executive and legislative branches of the government, and ways and means of enhancing the career potential of women in universities.

Discussions should be of general interest to the total university community, particularly those concerned with and working toward equal opportunities for women in universities, university administrators, and professionals concerned with organizational change. The topic, however, has implications beyond the university community, particularly with respect to the policies of business organizations and governmental agencies supporting research and other educational programs in universities.

Speakers and Topics

Arranged by Arie Y. Lewin (associate professor, management and behavioral sciences; coordinator, Social Policy and Urban Affairs Program, New York University Graduate School of Business Administration, New York) and Elga Wasserman (special assistant to the president on the education of women, Yale University, New Haven, Connecticut).

30 December (a.m.)

Mary I. Bunting (president, Radcliffe College), *Informal Remarks.*

Alice H. Cook (professor, industrial and labor relations, Cornell University), *Affirmative Action Toward Sex Equality: An Ombudsman's View.*

J. Stanley Pottinger (director, Office for Civil Rights, Department of Health, Education, and Welfare), *The Role of HEW in Assuring Equal Opportunity for Women on Campus.*

Curtis R. Reitz (provost and vice president, University of Pennsylvania), *The Dynamics of Implementing an Affirmative Action Program at the University of Pennsylvania.*

Edward Schatz (vice president for Academic Affairs, Carnegie-Mellon University), *The Report of the Commission on Women at Carnegie-Mellon University and the Problems of Its Implementation.*

30 December (p.m.)

Dudley E. Herschbach (professor of chemistry, Harvard University), *Women on the Faculty?*

Margaret Rumbarger (associate secretary, American Association of University Professors), *AAUP and Status of Women in the Profession.*

Bernice Sandler (executive associate, Association of American Colleges), *Keeping Things Moving: Short- and Long-Term Strategies.*

Elizabeth L. Scott (professor and chairman, Department of Statistics, University of California, Berkeley), *Developing Criteria and Measurements of Equal Opportunities for Women.*

Lenore Weitzman (assistant professor, Department of Sociology, University of California, Davis), *A Feminist Perspective on Affirmative Action Plans.*

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