LETTERS
Animal Welfare Regulations: G. A. Bingham; Orientation of the Pyramids: C. B. Stephenson; C. H. Smiley; G. S. Pawley and N. Abrahamsen; Delayed Publication: T. Feininger; Realistic Space Goals: B. O'Leary; Pollution Control: G. Hagevik; A. M. Freeman III and R. H. Haveman

EDITORIAL
Faulty Engineers or Neglected Experts?: A. Etzioni

ARTICLES
Science, Technology, and Development: A New World Outlook: G. T. Seaborg
The Coastal Challenge: D. L. Inman and B. M. Brush
Chemostimulatory Protein: A New Type of Taste Stimulus: R. H. Cagan

NEWS AND COMMENT
R. J. Herrnstein: The Perils of Expounding Meritocracy
Nixon-Brezhnev Summit: A New Clutch of Compacts
Scientists Probe Russian Viruses
Latin America: Is Imported Technology Too Expensive?

RESEARCH NEWS
Slow Viruses (II): The Unconventional Agents

BOOK REVIEWS
Black Monday's Children, reviewed by T. Duster; Scientist Extraordinary, S. J. Gould; Books Received

REPORTS
Oil Spills: Measurements of Their Distributions and Volumes by Multifrequency Microwave Radiometry: J. P. Hollinger and R. A. Mennella
Oil and Ice in the Arctic Ocean: Possible Large-Scale Interactions: W. J. Campbell and S. Martin ........................................... 56

Crystallization of NADP-Specific Isocitrate Dehydrogenase: W. F. Burke, J. R. Swafford, H. C. Reeves ........................................... 59

Common Mechanism for Repellents and Attractants in Bacterial Chemotaxis: N. Tsang, R. Macnab, D. E. Kosshland, Jr. ........................................... 60

Induction and Ecological Significance of Gigantism in the Rotifer Asplanchna sieboldi: J. J. Gilbert ........................................... 63

Fire and the Nitrogen Cycle in California Chaparral: N. L. Christensen ........................................... 66

Triple-Stranded Polynucleotide Helix Containing Only Purine Bases: S. Arnott and P. J. Bond ........................................... 68

α1-Antitrypsin Deficiency: A Variant with No Detectable α1-Antitrypsin: R. C. Talamo et al. ........................................... 70

Nonhistone Chromosomal Protein Synthesis: Utilization of Preexisting and Newly Transcribed Messenger RNA’s: G. S. Stein and D. E. Matthews ........................................... 71

Sand Dollar: A Weight Belt for the Juvenile: F. Chia ........................................... 73

Capacitor Electrode Stimulates Nerve or Muscle without Oxidation-Reduction Reactions: D. L. Guyton and F. T. Hambrecht ........................................... 74

Regulation of Muscle Acetylcholine Sensitivity by Muscle Activity in Cell Culture: S. A. Cohen and G. D. Fischbach ........................................... 76

Mobility of Potassium Ion in Frog Muscle Cells, both Living and Dead: G. N. Ling and M. M. Ochsenfeld ........................................... 78


Memory Disruption by Electrical Stimulation of Substantia Nigra, Pars Compacta: A. Routtenberg and N. Holzman ........................................... 83

Technical Comments: Hibernation: Effects on Memory or Performance?: T. M. Alloway, M. L. Riedesel and M. C. McNamara ........................................... 86

Sand dune south of Pismo Beach, California. See page 20. [U.S. Navy]
Faulty Engineers or Neglected Experts?

Social scientists are being made scapegoats for the failure of dozens of domestic programs. The October 1972 issue of *Fortune* reports that "social engineers retreat under fire"—a main source of the shots fired being *Fortune* itself. Its staff writer Tom Alexander reports: "There's plenty of material for recrimination." He then recites the by now familiar catalog of failures of the domestic programs, failure to abolish welfare, poverty, school segregation, and so on—problems that have not been solved despite "record" investments.

The charges against social scientists are about as well founded as those brought in the early 1950's, equating social science with socialism. The discipline, as such, is no more at fault for the failure of many Great Society programs than the study of international relations is for the American involvement in Vietnam.

First, most programs did not receive the funds and manpower they needed. Alexander is, of course, technically correct: the investments in domestic programs reached "record" levels. But this does not make them high, and certainly not high enough.

Second, many solutions require tradition-bound citizens and legislatures to reexamine their views about the world, human nature, and human values. If they balk, and block progress, there is little a social scientist can—and maybe should—do. Thus, crime is usually ranked as the number one domestic problem. Recently the President, on the heels of the governor of New York, has sought to reinstate the death penalty because, it is alleged, all other efforts to turn back the rising wave of crime have failed. But the fundamental remedies that most social scientists favor have not even been tried. Many politicians prefer to grandstand against crime with "tough" speeches and suggest "tough" measures that they must know are either ineffectual or unconstitutional or both.

Why point the finger at social scientists?

The social sciences could be more vigorous than they are—if the politicians let them. The social sciences, as a group, have been the neglected branch of the sciences, receiving a mere 2 to 3 percent of the resource pie, and even that much only in recent years. No wonder there are fields in which little is known: how to help disadvantaged children catch up, for example, or how to respond to the growing dissolution of the family. But even in these areas social scientists can at least point to what will not work. The Coleman Report pointed out that the kind of efforts undertaken, at a cost of roughly $1.2 billion a year, had no discernible results.

If America now seeks to attend to its long list of social problems, an increased investment in social science is the order of the day—not a chopping of their sources of support. Furthermore, social programs, in which the findings of social scientists are utilized, must be allowed to go through the same research and development sequence that missiles and lunar landing crafts go through. An initial mistake made by social scientists was agreeing to the use of their theories in attempts to plan societal changes. They should have insisted on design or table-top or wind-tunnel models in order to initiate, not to bypass, the research and development sequence. We must stop trying to jump directly from sociological blueprints into multibillion-dollar programs.

We can no longer delay facing our domestic needs, and we cannot deal with them without the help of the social sciences. But the social sciences themselves will require much nourishment and fortification before they will be able to fully measure up to this mission.—AMITAI ETZIONI, Professor of Sociology, Columbia University, and Director, Center for Policy Research, 475 Riverside Drive, New York 10027