LETTERS

EDITORIAL
International Technical Assistance

ARTICLES
Meteorites and Craters of Campo del Cielo, Argentina: W. A. Cassidy et al. ........................................... 1055

Field studies have thrown new light on a unique prehistoric encounter of a cosmic body with the earth.

Chemical Communication in the Social Insects: E. O. Wilson .......................................................... 1064

Insect societies are organized principally by complex systems of chemical signals.

The Financial Status of National Merit Finalists: R. C. Nichols ......................................................... 1071

The proportion of these students from low-income families is related to public support for education.

NEWS AND COMMENT

Report from Europe: Technologically, the Atlantic Community Exists: V. K. McElheny ........................................... 1080

BOOK REVIEWS
The Vegetation of North and Central America and of the Hawaiian Islands, reviewed by D. Mueller-Dombois; other reviews by A. M. Carter, J. E. McDonald, W. P. Mason, H. Orlans, R. Syski; New Books ......................................................... 1083

REPORTS
Radioactivity of the Columbia River Effluent: M. G. Gross, C. A. Barnes, G. K. Riel ........................................... 1088

Immunoglobulin Structure: Partial Amino Acid Sequence of a Bence Jones Protein: K. Titani et al. ........................................... 1090

Liquid Waves by Computer: F. H. Harlow, J. P. Shannon, J. E. Welch ........................................... 1092
Turnover of Ribosomal RNA in Rat Liver: J. N. Loeb, R. R. Howell, G. M. Tomkins ........................................................ 1093

Cystathioninuria: Nature of the Defect: G. W. Frimpter .................................................. 1095

Inhibition of Protein Synthesis by Spectinomycin: J. Davies, P. Anderson, B. D. Davis ........... 1096

Lability of Host-Cell DNA in Growing Cell Cultures Due to Mycoplasma: C. C. Randall et al. 1098

Nucleoside Incorporation into Strain L Cells: Inhibition by Pleuropneumonia-Like Organisms: R. M. Nardone et al. .......................................................... 1100

Protein Synthesis by Ribosomes from Heart Muscle: Effect of Insulin and Diabetes: O. R. Rampersad and I. G. Wool ................................................................. 1102

Ultraviolet Damage to Bacteria and Bacteriophage at Low Temperatures: M. J. Ashwood-Smith, B. A. Bridges, R. J. Munson ............................................................. 1103

Induction in vitro of Antibodies to Phage T2: Antigens in the RNA Extract Employed: H. P. Friedman, A. B. Stavitsky, J. M. Solomon ......................................................... 1106

Induction of Tumors in Hamsters with an Avian Adenovirus (CELO): P. S. Sarma, R. J. Huebner, W. T. Lane .............................................................. 1108

Dorsal Spinocerebellar Tract: Response Pattern of Nerve Fibers to Muscle Stretch: J. K. S. Jansen and T. Rudjord ................................................................. 1109

DNA: Reaction with Chloroquine: J. L. Allison, R. L. O'Brien, F. E. Hahn ................................ 1111


Color Adaptation of Edge-Detectors in the Human Visual System: C. McCollough ................ 1115

A Brief Temporal Gradient of Retrograde Amnesia Independent of Situational Change: D. Quarternain, R. M. Paolino, N. E. Miller .......................................................... 1116

Comments on Reports: Dental Caries in Tehuacan Skeletons: E. A. Sweeney ........................................ 1118

MEETINGS Nonequilibrium Thermodynamics, Variational Techniques, and Stability: R. J. Donnelly; Forthcoming Events ................................................................. 1119

COVER

Surging water under a sluice gate is simulated by computer calculations. The sequence of figures shows unretouched computer output, illustrating early stages in the development of a hydraulic jump from a backward-breaking wave. Such numerical solutions of the full nonlinear, time-dependent Navier-Stokes equations make possible the detailed study of this and numerous other problems in fluid dynamics. See page 1092.
International Technical Assistance

The more immediate technical and scientific need of the developing countries is not for knowledge that lies close to the scientific frontiers, but for technical information to meet their own particular needs. Caryl P. Haskins has described the problem (Foreign Affairs, January 1962) as one "of discovery, of sensible and sensitive selection, and, above all, of adaptation to the peculiar and individual requirements of each nation, people, and region."

One effort to meet these needs is being made by Volunteers for International Technical Assistance (VITA), a nonprofit organization started in 1959 by Robert Walker and 13 colleagues from the General Electric Company and Union College in Schenectady. VITA now has nine active chapters, over 1000 members, and an advisory committee that includes Harvey Brooks, Harrison Brown, Owen Chamberlain, Walker Cisler, Augustus Kinzel, Frederick Seitz, and others. VITA's program is one of immediate, practical action to solve locally perceived problems that are submitted by members of the Peace Corps, other U.S. citizens on overseas assignments, the United Nations, and foreign individuals and organizations. Over 1100 requests have been received, and the current rate is about 50 a month. Examples cover a wide range and have included requests for nutritional analyses of foods indigenous to Laos; advice on the methods of canning orange and lemon juice that best preserve vitamin content; instructions on building a rugged and inexpensive cement mixer, a high-flow pump for irrigation, a flashlight-powered slide projector, a simple gristmill, and a poultry incubator; and methods of rodent control. VITA members wrote the Village Technology Handbook, which is widely used by AID technicians and Peace Corpsmen. Perhaps the biggest success was the development of a sturdy and effective solar cooker, built on Fresnel lines, that costs less than $3 and that can be constructed by an unskilled worker.

With a rapidly growing number of requests coming from over the world, more money and more members are needed. As a spontaneous creation of industrial scientists and engineers, VITA is looking primarily to the industrial and business community for the $100,000 that it needs this year, and it is well on its way to achieving this goal. VITA also wants more members who are interested in devoting part of their skill and spare time to helping with the myriad problems of agriculture, construction, health, nutrition, education, and communication that beset a nation which is trying to move rapidly ahead but which lacks an extensive technological background of its own. Contributions and offers to help will be welcome at VITA headquarters, 230 State Street, Schenectady, New York 12305.

In the long run, probably nothing is so important to the emerging nations as an increase in yield per acre, for most of them are still basically agricultural nations and most of them lie in the comparatively unfertile tropic regions. Research and demonstration programs to improve farm products and to train agricultural workers, of the kind pioneered in Latin America by the Rockefeller Foundation, or institutions of the kind exemplified by the Rice Institute in the Philippines may provide the best long-range hope. Such ventures are essential, but they require substantial financing and extended time. For immediate usefulness, and on a scale that encourages individual effort, VITA has demonstrated the effectiveness of another method of aiding developing countries to solve some of their technical problems.—DAEL WOLFE