composition. One of Scott's students has developed a nonlinear theory of compressibility, based upon analysis of laboratory-sedimented clays. Richardson's laboratory work on the behavior of artificial marine sediments is directed toward the development of a theory for the mechanics of sinking of solid objects through the upper few meters of marine clays. Laboratory data of E. C. Robertson's (U.S. Geological Survey, Silver Spring, Maryland) show that at relatively low stress levels aragonitic muds from the Bahamas do not have a component of compression resulting from the crushing of aragonite needles (as postulated by Ruth Terzaghi in 1940).

Morgenstern reviewed his work on submarine slump mechanics, pointing out that slumping can take place on low slopes (1 degree to 28 degrees), that Terzaghi's theory of liquefaction may underestimate the time it takes for excess pore pressures to dissipate, that slumping can be expected when the uniformity coefficient is less than five, and that submarine slumps may not be initiated by low-to-moderate-magnitude earthquakes because the dynamic stresses may in fact be small. A. Andresen (NGI, Oslo) presented an historical resumé of Norwegian submarine flowslides.

The response of sediments of St. Andrew Bay, Florida, to artificial loading by concrete blocks of various shapes was described by G. H. Keller (U.S. Naval Oceanographic Office). Keller also described a nuclear sediment density probe that uses backscattering techniques to measure in situ density at water depths down to 6500 meters.

The extensive program in sea floor engineering at the Naval Civil Engineering Laboratory (Port Hueneme, California) was reviewed by R. Smith. Few data were presented, however, because of their classified nature. Smith emphasized that the strength of deep sea sediments is dependent upon their age as well as their composition. He also discussed the application of soil mechanics to problems related to the recovery of the hydrogen bomb off Spain. McClelland outlined problems of sea floor engineering of particular interest to his commercial firm. Among these problems were (i) the friction capacity of piles, (ii) estimation of lateral load-bearing capacity, and (iii) problems related to pipeline construction and stability on the sea floor. J. Heacock (ONR, Washington) summarized his interpretation of the Navy's requirements for marine geotechnical information.

Laboratory investigations at the University College of North Wales on the relation between acoustic and mass properties of North Atlantic deep-sea cores were reviewed by D. T. Smith. Hamilton reviewed NEL's program in this field of research and gave a graphical presentation of the speed of sound versus porosity of core samples. He showed that Pacific sediments plot in groups that reflect their environment of deposition; he recommended that pulse techniques be used to measure the speed of sound. J. J. Gallagher (Naval Underwater Sound Laboratory, New London, Connecticut) explained that his program followed NEL's guidelines, but cores are analyzed at the University of Rhode Island for their physical-acoustical properties. C. T. Fray (Lamont Geological Observatory) is studying acoustic reflecting layers in deep ocean sediments. Recent work suggests that the "Layer-A" reflector found throughout much of the North Atlantic may be the uppermost surface of sediment of Cretaceous age.

Several papers on instrumentation under development reflected both the sampling and the in situ testing needs of marine geotechnologists. Kögler explained the operation of the Kiel group's box corer. The corer is now being outfitted with a vibrohead for taking relatively undisturbed cores in sands. (Kögler, who is conversant with the Russian literature, said that vibrodrilling and coring is an advanced art in the Soviet Union.) A. Rosfelder (Scripps) displayed drawings of several corers that are to be built for taking large, "undisturbed," and oriented samples from the sea floor. Andresen presented drawings of an in situ pore pressure gage, accurate to pressure differences of 2 kg/cm^2. The gage was developed to measure pore pressures in fjord sediments where artesian pressure may be significant. This gage will be tested ultimately in the deep sea by Richards. Working with Richards at Illinois are R. Olson (Civil Engineering) and K. Preiss (Civil and Nuclear Engineering). Olson is fabricating an in situ shear-vane tester for deep-sea clays that will measure to 3 meters of sediment depth. Preiss has developed a gamma ray transmission device for the nondestructive laboratory determination of bulk density of sediment within its core barrel; an in situ probe has been designed for deep-sea investigations.

The conference was jointly sponsored by the Departments of Geology and Civil Engineering of the University of Illinois and the Institute for Oceanography, Environmental Science Services Administration. Many of the papers presented at the conference, together with others relating to marine soil mechanics and foundation engineering, will be published early in 1967 by the University of Illinois Press as a volume entitled *Marine Geotechnique*.

W. HARRISON
Land and Sea Interaction Laboratory, Institute for Oceanography, Environmental Science Services Administration, Norfolk, Virginia 23510

Forthcoming Events

August

15–19. American **Statistical** Assoc., Los Angeles, Calif. (D. C. Riley, ASA, 810 18th St., NW, Washington, D.C. 20006)

16. International Assoc. for the **Prevention of Blindness**, general assembly, Munich, West Germany. (J. P. Baillart, 47, rue de Bellechasse, Paris 7, France)

16–17. Central Nervous System Effects of **Analgesic Drugs**, symp., Santiago, Chile. (J. Mardones, Inst. of Pharmacology, Univ. of Chile, Casilla 12967, Santiago)

16–19. International Assoc. of **Milk, Food, and Environmental Sanitarians**, Minneapolis, Minn. (H. L. Thomasson, P.O. Box 437, Shelbyville, Ind. 46176)

16–26. **Mathematicians**, intern. congr., Moscow, U.S.S.R. (V. G. Karamanov, Acad. of Sciences of the U.S.S.R., Lenin Prospekt, Moscow)

17–19. Joint **Automatic Control** Conf., 7th annual, Univ. of Washington, Seattle. (G. Kovatch, NASA, Electronics Research Center, 575 Technology Sq., Cambridge, Mass. 02139)

19–26. Applied **Geography**, symp., Intern. Geographical Union Commission on Applied Geography, West Greenwich, R.I. (P. H. Nash, Graduate School, Univ. of Rhode Island, Kingston 02881)

19–28. **Geology**, 23rd intern. congr., Prague, Czechoslovakia. (Organizing Committee, Ústredni ústav geologicky, Malostranské náměstí 19, Prague 1)

20–24. American **Phytopathological** Soc., Denver, Colo. (C. J. R. Shay, Dept. of Botany and Plant Pathology, Purdue Univ., Lafayette, Ind. 47907)

20–25. **Diseases of the Chest**, 9th intern. congr., Copenhagen, Denmark. (M. Kornfeld, American College of Chest Physicians, 112 E. Chestnut St., Chicago, Ill. 60611)

21–24. **Free Radicals in Solution**, intern. symp. Ann Arbor, Mich. (R. C. Elderfield, Dept. of Chemistry, Univ. of Michigan, Ann Arbor 48104)

21–25. American Soc. of **Agronomy**, Oklahoma State Univ., Stillwater. (M. Stelly, The Society, 677 S. Segoe Rd., Madison, Wis. 53711)

21–25. **Electron Microscopy** Soc. of

America, San Francisco, Calif. (G. Thomas, Dept. of Mineral Technology, Univ. of California, Berkeley)

21–26. **Hematology**, 11th intern. congr., Sydney, Australia. (F. P. Walsh, 1 York St., Sydney)

21–26. **Illuminating Engineering** Soc., natl. technical conf., Minneapolis, Minn. (A. D. Hinckley, The Society, 345 E. 47 St., New York 10017)

21–7. British Assoc. for the **Advancement of Science**, 128th annual mtg., Nottingham, England. (Secretary, 20 Great Smith St., 3 Sanctuary Bldg., London S.W.1)

22–24. **Computer and Information Sciences**, symp., Columbus, Ohio. (J. T. Tou, Communication Science Research Center, Columbus Laboratories, Battelle Memorial Inst., 505 King Ave., Columbus, Ohio 43201)

22–24. **Physiology**, 12th Scandinavian congr., Turku, Finland. (K. Hartiala, Dept. of Physiology, Turku Univ., Turku)

22–26. Society of **Photo-Optical Instrumentation** Engineers, 11th annual technical symp., St. Louis, Mo. (R. T. Hedden, 16 Harneywold Dr., St. Louis 63136)

22–26. **Poultry Science** Assoc., Utah State Univ., Logan. (C. B. Ryan, Dept. of Poultry Science, Texas A&M Univ., College Station 77843)

22–27. **Food Science and Technology**, 2nd intern. congr., Warsaw, Poland. (A. Borys, Inst. Przemyslu Miesnego, Rakowiecka 36, Warsaw 12)

22–27. **History of Medicine**, 20th intern. congr., Berlin, Germany. (Secretariat, Augustastr. 37, 1 Berlin 45)

22–27. Pan American Federation of Associations of **Medical Schools**, 1st general assembly, Bogota, Colombia. (E. Braga, Caixa Postal 26-ZC-39, Rio de Janeiro, GB, Brazil)

22–10. **Science**, 11th Pacific congr., Tokyo, Japan. (Pacific Science Assoc., Bishop Museum, Honolulu, Hawaii 96819)

23–25. **Biological Photographic** Assoc., 36th annual mtg., Lexington, Ky. (P. Brook, The Association, Cornell Univ. Medical College, 1300 York Ave., New York, N.Y.)

23–26. **Electronics**, western show and conv., Los Angeles, Calif. (S. Sensiper, WESCON, 3600 Wilshire Blvd., Suite 1920A, Los Angeles 99005)

23–30. **Luminescence**, intern. congr., Budapest, Hungary. (G. Szigeti, Research Inst. for Technical Physics, Hungarian Acad. of Sciences, P.O. Box Ujpest 1, No. 76, Budapest)

23–1. **Radio Astronomy** and the Galactic System, symp., Noordwijk, Netherlands. (J. H. Oort, University Observatory, Leiden, Netherlands)

24–26. Principles of **Radiation Protection**, conf., Oak Ridge, Tenn. (Special Projects Office, Oak Ridge Associated Univs., P.O. Box 117, Oak Ridge, Tenn. 37830)

24–29. International Soc. of **Blood Transfusion**, 11th biennial congr., Sydney, Australia. (G. T. Archer, 1 York St., Sydney)

24–29. **Prehistoric and Protohistoric Sciences**, 7th intern. congr., Prague, Czechoslovakia. (S. J. De Laet, Seminaire d'Archéologie de l'Université, 2 Blandijnberg, Ghent, Belgium)

25. Scandinavian **Pharmacologists**, mtg., Turku, Finland. (K. Hartiala, Dept. of Physiology, Turku Univ., Turku)

25–27. Inter-Union Commission on **Solar and Terrestrial Relationships**, mtg., Belgrade, Yugoslavia. (C. W. Allen, Univ. of London Observatory, Mill Hill Park, London N.W.7, England)

26–29. **Low Temperature Calorimetry**, conf., Otaniemi, Finland. (O. V. Lounasmaa, Dept. of Technical Physics, Inst. of Technology, Otaniemi)

26–29. Rural **Sociological** Soc., annual mtg., Miami, Fla. (J. A. Beegle, Dept. of Sociology and Anthropology, Michigan State Univ., East Lansing)

26–2. **Biometeorology**, 4th intern. congr., Rutgers Univ., New Brunswick, N.J. (F. Sargent, II, 524 Burrill Hall, Univ. of Illinois, Urbana 61801)

27. American Assoc. of **Electromyography and Electrodiagnosis**, San Francisco, Calif. (M. K. Newman, 16861 Wyoming Ave., Detroit 21, Mich.)

27–28. Society for the Study of **Social Problems**, annual mtg., Miami Beach, Fla. (F. F. Lee, Dept. of Sociology and Anthropology, Northeastern Univ., Boston, Mass. 02115)

28-1. Association of American **Geographers**, Toronto, Ont., Canada. (J. K. Hart, 1146 16th St., NW, Washington, D.C. 20036)

28–2. **Hormones**, Laurentian conf., Mont Tremblant, P.Q., Canada. (J. Sanford, 222 Maple Ave., Shrewsbury, Mass. 01545)

28–4. **Electron Microscopy**, 6th intern. congr., Kyoto, Japan. (Chairman of the Organizing Committee, Inst. for Virus Research, Kyoto Univ., Kyoto)

29–1. **Technical Information Center Administration**, 3rd annual conf., Philadelphia, Pa. (M. Warrington, Graduate School of Library Science, Drexel Inst. of Technology, Philadelphia 19104)

29–31. Preparation and Properties of Electronic Materials for **Control of Radiative Processes**, conf., Boston, Mass. (E. P. Warekois, MIT Lincoln Laboratory, Lexington, Mass. 02173)

29–31. **Electronic Materials**, conf., Boston, Mass. (American Inst. of Mining, Metallurgical and Petroleum Engineers, 345 E. 47 St., New York 10017)

29–31. **Instrumentation in Aerospace Simulation Facilities**, 2nd intern. congr., Stanford Univ., Stanford, Calif. (P. L. Clemens, VKF/AP, Arnold Air Force Base Station, Tenn.)

29–31. **Mathematical** Assoc. of America, Rutgers Univ., New Brunswick, N.J. (H. M. Gehman, State Univ. of New York at Buffalo, Buffalo 14214)

29–31. **Metallurgists**, 5th annual conf., Toronto, Ont., Canada. (Canadian Inst. of Mining and Metallurgy, 906 Drummond Bldg., 117 St. Catherine St., W., Montreal 2, P.Q.)

29–31. **Physical Chemistry of Solids**, symp., Univ. of Montreal, Montreal, P. Q., Canada. (W. C. Cooper, Noranda Research Centre, 240 Hymus Blvd., Pointe Claire, P.Q., Canada)

29–31. **Solvent Extraction Chemistry**, intern. conf., Göteborg, Sweden. (The Conference, Dept. of Chemistry, Gibraltargatan 5 H, Göteborg S)

29–31. **Textiles**, Canadian seminar,

Queens Univ., Kingston, Ont. (Textile Technical Federation of Canada, 4795 St. Catherine St., W. Westmount, Montreal, P.Q.)

29–1. American **Sociological** Assoc., Miami Beach, Fla. (E. H. Volkart, 1001 Connecticut Ave., NW, Washington, D.C.)

29–2. **Internal Medicine**, Czechoslovak congr., Prague, Czechoslovakia. (O. Riedl, 4th Medical Clinic, Faculty of General Medicine, Charles Univ., U Nemocnice 2n, Prague 2)

29–2. American **Mathematical** Soc., Rutgers Univ., New Brunswick, N.J. (G. L. Walker, The Society, P.O. Box 6248, Providence, R.I.)

29–2. **Neutron Monitoring** for Radiological Protection, symp., Vienna, Austria. (S. Somasundaram, Div. of Health, Safety, and Waste Disposal, Intern. Atomic Energy Agency, Vienna)

29–2. **Operations Research**, 4th intern. conf., MIT, Cambridge, Mass. (K. D. Tocher, United Steel Co., Cybor House, 1–5 Tapton Hall Rd., Sheffield, England)

29–2. American **Physiological** Soc., fall mtg., Baylor Univ., Houston, Tex. (The Society, 9650 Wisconsin Ave., Washington, D.C. 20014)

29–2. **Solar-Terrestrial Physics**, inter-Union symp., Belgrade, Yugoslavia. (E. Herbays, Intern. Scientific Radio Union, 7, pl. Emile Danco, Brussels 18, Belgium)

29–3. Problems of **Animal Nutrition and Feed Production**, symp., Brno, Czechoslovakia. (Vlad. Sevcik, Research Inst. for Animal Nutrition, Feed Science and Technology, Ministry of Agriculture, Pohorelice, Czechoslovakia)

29–3. **Palynology**, 2nd intern. conf., Utrecht, Netherlands. (F. P. Jonker, State Univ., Botanical Museum and Herbarium, Lange Niewatraat 106, Utrecht)

29–23. **Photogrammetry in the Measurement of the Earth's Surface**, symp., Prague, Czechoslovakia. (L. Skladal, Intern. Soc. for Photogrammetry, Hybernska 2, Prague 1)

30–1. Association for **Computing Machinery**, 21st natl. conf., Los Angeles, Calif. (B. R. Parker, P.O. Box 4233, Panorama City, Calif. 91412)

30–1. Society of **General Physiologists**, Marine Biological Laboratory, Woods Hole, Mass. (E. E. Clark, Box 43 Pupin, Columbia Univ., New York 10027)

30–2. **Collection and Processing of Field Data**, symp., Canberra, Australia. (E. F. Bradley, Div. of Plant Industry, P.O. Box 109, Canberra)

30–2. Institute of **Mathematical Statistics**, annual mtg., Rutgers Univ., New Brunswick, N.J. (J. R. Rosenblatt, A337 Admin., Gaithersburg, Natl. Bureau of Standards, Washington, D.C. 20234)

30–3. International **Mineralogical** Assoc., 5th general mtg., Cambridge, England. (C. E. Tilley, Dept. of Mineralogy and Petrology, Downing Pl., Cambridge)

31–2. **Synthesis**, symp., Chemical Inst. of Canada, organic div., Banff, Alta. (R. W. Bachelor, Dept. of Chemistry, Univ. of Alberta, Calgary)

31–3. German Soc. for the History of **Medicine, Physical Science, and Technology**, 49th annual mtg., Braunschweig, West Germany. (A. Hermann, The Society, Deutsches Museum, 8 Munich 26, West Germany)

31–3. Society of **General Physiologists**, annual mtg., Marine Biological Laboratory, Woods Hole, Mass. (Miss E. E. Clark, The Society, Marine Biological Lab., Woods Hole 02543)

31–6. **Low Temperature Physics**, 10th intern. conf., Moscow, U.S.S.R. (V. P. Peshkov, Inst. for Physical Problems, Acad. of Sciences of the U.S.S.R., Lenin Prospekt, Moscow)

31–7. **High Energy Physics**, 13th intern. conf., Univ. of California, Berkeley. (T. H. Chenoweth, Lawrence Radiation Laboratory, Univ. of California, Berkeley 94720)

September

1–3. **Genetics** Soc. of America, Chicago, Ill. (R. P. Wagner, Dept. of Zoology, Univ. of Texas, Austin)

1–5. International College of **Angiology**, 8th annual mtg., Madrid, Spain. (H. E. Shaftel, 50 Broadway, New York, N.Y. 10004)

2–4. **Czechoslovak Soc. of Arts and Sciences in America**, 3rd congr., New York, N.Y. (R. Sturm, Skidmore College, Saratoga Springs, N.Y. 12866)

2–6. American **Psychological** Assoc., 74th annual mtg., New York, N.Y. (A. H. Brayfield, 1200 17th St., NW, Washington, D.C. 20036)

2–6. **Psychometric** Soc., mtg., New York, N.Y. (W. G. Mollenkopf, Procter and Gamble Co., Box 599, Cincinnati, Ohio 45201)

3–5. International Soc. for the **History of Pharmacy**, 40th conf., Heidelberg, Germany. (W. Luckenbach, Friederich-Ebert-Anlage 23a, Postfach 1109, 69 Heidelberg 1 West Germany)

3–7. **Solid State Science**, intern. conf., American Univ., Cairo, Egypt. (A. Bishay, Dept. of Physical Sciences, American Univ. in Cairo, 113 Kasr El Aini St., Cairo, UAR)

4–9. American **Phytopathological** Soc., Caribbean Div., 6th annual mtg., Maracay, Venezuela. (G. Malaguti, Centro de Investigaciones Agronomicas Apartado Postal 4690, Maracay)

4–11. **Sociology**, 6th world congr., Evian, France. (G. G. Reader, Dept. of Medicine, Cornell Univ. Medical College, 1300 York Ave., New York 10021)

5–7. **Rare Earths**, conf., Inst. of Physics and the Physical Soc., Univ. of Durham, Durham, England. (Meetings Officer, Inst. of Physics and the Physical Soc., 47 Belgrave Sq., London S.W.1)

5–8. American **Ornithologists'** Union, mtg., Univ. of Minnesota, Duluth. (L. R. Mewaldt, Dept. of Biological Sciences, San Jose College, San Jose, Calif. 95114)

5–9. **Biophysics**, 2nd intern. congr., Vienna, Austria. (A. K. Solomon, Biophysical Laboratory, Harvard Medical School, Boston, Mass. 02115)

5–9. **Coordination Chemistry**, intern. conf., St. Moritz, Switzerland. (G. Schwarzenbach, Eidg. Technical High School, Zurich)

5–9. Use of **Isotopes in Plant Nutrition and Physiology** Studies, symp., Vienna, Austria. (J. H. Kane, Conferences Branch, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)