lary columns and applying Golay's equation for the dispersion of a small zone of vapor introduced in an instant at one point in the pipe. Measurement of the dispersion some 30 kilometers away showed the plate height to be smaller by many powers of 10 than would be expected if turbulent flow did not occur. More evidence that columns performed better than would be expected at very fast flow rates came from J. C. Sternberg (Beckman Instruments) and others, but whether this high performance was due to turbulence or to any of many other features of a complicated subject was not really clear.

Gas chromatography is at present less used than many other analytical techniques for the cataloging of reliable numerical data for analytical use. Experience has shown that analysts are reluctant to determine partition coefficients of vapors in various stationary liquids, or to use such determinations, and even reliable tables of relative retention data are rather few in number. A few years ago E. Kovats (Technische Hochschule, Zurich) proposed compilation of a "Retention Index" in which a retention volume for a given vapor in a given solvent is expressed by logarithmic interpolation between the retention volumes of the successive *n*-alkanes which are eluted before and after the vapor of interest. At the meeting Kovats pointed out the advantages of his index, and there are many indications that it will gain wide acceptance as a satisfactory means of presenting data.

A new type of liquid-liquid and liquid-solid chromatography was described by E. Bayer (Tubingen, Germany). This technique, in which surface-activated capillaries are used at ambient temperatures, is suitable for nonvolatile compounds, such as amino acids, carbohydrates, and steroids. The analysis of 22 amino acids was effected in 90 minutes. The improvement of detectors for this system should cause a renaissance of liquid chromatography.

At this conference techniques of gas chromatography, rather than its applications, were emphasized. However, several cases were noted in which solutions to problems, which could be studied by no other method, were obtained by gas chromatography (for example, the analysis of small quantities of complicated mixtures of amines of biochemical origin and the analysis of polluted air). It is important for researchers involved solely with the technique to realize that study of the detailed characteristics of the flow of a gas through an absorptive tube is trivial unless it leads to some useful result.

This symposium, the second international one to be held on this subject, was sponsored by the University of Houston.

A. B. LITTLEWOOD
The University, Newcastle upon Tyne, England

AAAS: Southwestern and Rocky Mountain Division 40th Annual Meeting

The Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science held its 40th annual meeting in Lubbock, Texas, 26–30 April 1964. Texas Technological College served as host institution and provided facilities for the meetings.

Specially featured addresses at general sessions of the meetings included "Antarctica, frontier of international science," by Laurence M. Gould (president, American Association for the Advancement of Science). The annual John Wesley Powell Memorial Lecture was given by Eugene Shoemaker (chief, Branch of Astrogeology, U.S. Geological Survey, and research associate in Astrogeology, California Institute of Technology). Shoemaker spoke on "The history of the moon." The address of the retiring president of the Division, Edwin R. Helwig (University of Colorado) was "Chromosomal polymorphism in various populations of *Trimerotropis suffusa* (Orthoptera)."

Special symposiums consisting of invited papers included a full-day series on "Indian and Spanish American Adjustments to Arid and Semi-arid Environments," under the sponsorship of the Division's Committee on Desert and Arid Zones Research, and a single session presentation on the "Improvement of Science Teaching," sponsored by the Division's committee for that purpose. Programs of the sections of the Division included 102 individual research papers. The sessions for these papers were well attended, and generated a great deal of interest. An innovation in the sessions of the section for the Social Sciences was a series of lecture and audience-participation demonstrations in which the computer is used as a teaching machine in various

decision-making games. These sessions were made possible through the cooperation of the Texas Technological College Computer Center.

Newly elected officers of the Division include president-elect, Earl D. Camp (Texas Technological College) and a member of the Executive Committee, John Lacher (University of Colorado). A. B. Meinel (University of Arizona), having served during the past year as president-elect, becomes the president. Marlowe G. Anderson (New Mexico State University) will continue as executive secretary-treasurer and as council representative.

Flagstaff, Arizona, was duly confirmed as the location for the 1965 meetings, and invitations were accepted to hold the 1966 meetings in Las Cruces, New Mexico, 1967 in Tucson, Arizona, and 1968 in El Paso, Texas.

MARLOWE G. ANDERSON
New Mexico State University, University Park

Forthcoming Events

July

10–11. Rocky Mountain **Cancer** Conf., Denver, Colo. (N. P. Isbell, 1809 E. 18 Ave., Denver 80218)

10–15. **Pleistocene Geomorphology**, symp., Exeter, England. (T. H. Elkins, Royal Geographical Soc., Kensington Gore, London, S.W.7)

12–15. **Solid Propulsion**, NASA meeting, Philadelphia, Pa. (W. H. Hunter, Office of Program Development, Washington, D.C. 10025)

12–16. **Gastroenterology**, 9th Pan American congr., Bogotá, Colombia. (C. A. Estape, Soriano 877, Montevideo, Uruguay)

13–15. Problems of **Capillary Permeability** in Health and Disease, Univ. of Michigan 1964 summer symp., Ann Arbor, Mich. (M. M. Dewey, Dept. of Anatomy, Univ. of Michigan, Ann Arbor)

13–15. **Data Processing and Acquisition in Biology and Medicine**, conf., Rochester, N.Y. (K. Enslein, 42 East Ave., Rochester 14604)

13–17. **Canadian Teachers'** Federation, Lac Beauport, P.Q., Canada. (G. Nason, 444 MacLaren St., Ottawa, Ont., Canada)

13–17. Chemistry of **Carbohydrates**, intern. symp., Münster, Germany. (F. Micheel, Organisch-Chemisches Institut, Universität, Hindenburgplatz 55, Münster)

13–17. International Assoc. for **Child Psychiatry** and Allied Professions, London, England. (F. H. Stone, Royal Hospital for Sick Children, 70 University Ave., Glasgow, W.2 Scotland)

13–18. **Instrumental Analytical Chemistry**, 3rd annual symp., Bethlehem, Pa. (A. J. Diefenderfer, Dept. of Chemistry, Lehigh Univ., Bethlehem)

13–18. Latin Federation of **Medical**