Electric Company; 29 Dec.; George H. Boyd, presiding.

Sigma Delta Epsilon Graduate Women's Science Fraternity. Address: "The Status of American Women Scientists," by Ethaline Cortelyou, Illinois Institute of Technology; 30 Dec.; Mary Louise Robbins, George Washington University, presiding.

Society of the Sigma Xi. Annual address, jointly with the United Chapters of Phi Beta Kappa: "Science and Public Policy," by James R. Killian, Jr., science adviser to the President of the United States; 29 Dec.; Wallace R. Brode, U.S. Department of State, presiding.

Meetings

High-Energy Physics

The 1958 annual International Conference on High Energy Physics was held in Geneva, Switzerland, from 27 June to 5 July, under the sponsorship of CERN (Organisation Européenne pour la Recherche Nucléaire) and of the International Union of Pure and Applied Physics. The chairman of the conference was C. J. Bakker, director of CERN. This conference was the eighth of a series of annual conferences on high-energy physics, of which the first seven were held at the University of Rochester (United States). The more than 300 participants at the 1958 conference included about 100 Americans, 30 British 20 French, 20 Italians, 20 Russians, and an excellent representation from 25 other countries. A record was probably set in the number of Nobel laureates attending; Anderson, Blackett, Cockcroft, Heisenberg, Lawrence, Lee, McMillan, Pauli, Powell, Yang, and Yukawa were all present.

Various novel organizational procedures were tried at this conference, including two days of organizing sessions (to bring together the contributors and rapporteurs) and a thoroughgoing adoption of the rapporteur system during the plenary sessions. On the whole, these innovations were very successful, and a much more unified picture of the latest theoretical and experimental developments in the high-energy field emerged for most of the participants. The proceedings of the conference (under the editorship of B. Ferretti of CERN) have been published by CERN, Geneva.

There were nine plenary sessions at the 1958 conference, as follows: session 1, on "Nucleon structure" [I. E. Tamm (U.S.S.R.), chairman; W. K. H. Panofsky (Stanford), experimental rapporteur; and S. Drell (Stanford), theoretical rapporteur]; session 2, on the "Nucleon and its interaction with pions, photons, nucleons and antinucleons" [S. I. Nikitin (Dubna), chairman; G. Puppi (Bologna) and O. Piccioni (Berkeley), experimental rapporteurs]; session 3, on the "Nucleon and its interaction with pions, photons, nucleons and antinucleons" [R. E. Peierls (Birmingham), chairman, and G. F. Chew (Berkeley), theoretical rapporteur]; session 4, on "Fundamental theoretical ideas" [W. Pauli (Zurich), chairman]; session 5, on "Strange particle production" [C. C. Butler (London), chairman; J. Steinberger (Columbia), experimental rapporteur, and M. Gell-Mann (California Institute of Technology), theoretical rapporteur]; session 6, on "Strange particle interaction" [D. I. Blokhintsev (Dubna), chairman, M. F. Kaplon (Rochester), experimental rapporteur, and R. H. Dalitz (Chicago), theoretical rapporteur]; session 7, on "Special topics" [T. D. Lee (Columbia), chairman]; session 8, on "Weak interactions: Leptonic modes" [A. Salam (London), chairman, M. Goldhaber (Brookhaven), experimental rapporteur, and L. Michel (Lille), theoretical rapporteur]; session 9, on "Weak interactions: Other modes" [R. E. Marshak (Rochester), chairman, D. A. Glaser (Michigan), experimental rapporteur, and S. B. Treiman (Princeton), theoretical rapporteur]. Sessions 4 and 7 were "classical" theoretical sessions in the sense that original contributions were presented by quite a number of partici-

pants; these included W. Heisenberg (Gottingen), A. Bohr (Copenhagen), and S. B. Okun (Dubna). J. R. Oppenheimer (Institute for Advanced Study, Princeton) gave a summary talk at the end of session 9, assessing the accomplishments of the 1958 conference.

The 1958 high-energy physics conference labored under a handicap in that the three existing multi-Bev machines (the 10-Bev machine in the U.S.S.R. and the cosmotron and bevatron in the United States) had been inoperative for either part or all of the past year. Partly as a result of this, the 1958 conference turned out to be a conservative and reassuring one. There was no report of failure of a well-known conservation law, such as the report of parity breakdown, which highlighted the 1957 conference. There were no new particles reported, such as the hyperons and K mesons which had stolen the show at earlier conferences. Indeed, some of the conservation laws which had shown signs of running into trouble at the 1957 conference seem to be back in operation, and some new particles which had established some faint claims to existence have receded into the "unphysical" region.

Thus, new Berkeley experiments on the production of strange particles in pion-nucleon collisions, when combined with the earlier work of the Michigan group, do not indicate a violation of the law of conservation of isotopic spin (charge independence) (session 5). New Berkeley experiments on the absorption of K^- mesons by deuterons are also consistent with charge independence (session 6). Charge independence has been confirmed in pion-nucleon scattering up to 300 Mev, and in the production of pions in nucleon-nucleon collisions up to 660 Mev, at the Dubna Laboratory in the U.S.S.R. (session 2). Recent experiments at Liverpool and Rochester on pion-proton scattering below 100 Mev have helped to straighten out a contradiction with dispersion theory which Puppi and Stanghellini advanced last year (session 2). All attempts to detect parity nonconservation or violation of time-reversal invariance in strong interactions have been negative (session 7).

As far as new particles are concerned, evidence for the 500-electron-mass particle which Alikanyan had reported 2 years ago seems to be disappearing. Alikanyan had claimed that the frequency of the 500-mass particle in the cosmic radiation was about 1 in 200 muons. American and Italian work over the past year has placed an upper limit on the frequency of the 500-mass particle of 1 in 5000 muons (session 5). There also appears to be no evidence for a neutral (isotopic singlet) particle, which is desired by so many theorists (session 2). It is true that the first definite observation of an anti-Λ hyperon

(in nuclear emulsion exposed to the 4.9 Bev π^- beam at Berkeley), via the $p + \pi^+$ decay mode, was reported, but it would be surprising if $\bar{\Lambda}$ did not exist.

Some other reassuring results were reported to the conference. (i) Quantum electrodynamics holds down to a distance of 0.3×10^{-13} cm, according to the electron-scattering experiments at Stanford (session 1). (ii) New bubble-chamber experiments at Berkeley on the interaction of antiprotons with protons in the energy region from 133 to 333 Mev indicate that the elastic scattering and annihilation parts of the cross section are comparable; this eases the problem of achieving a theoretical understanding of the interaction in question (sessions 2 and 3). (iii) If care is exercised in the application of dispersion theory to various pion-nucleon processes, the renormalized coupling constant always comes out to be about 0.08 (session 3). (iv) The Cornell group has measured the excitation function as well as the angular distribution of the K^+ mesons photo-produced in hydrogen; the linear dependence on the momentum and the isotropic angular distribution probably imply a pseudoscalar K meson (session V).

The conference was conservative in its reaction to various new theoretical ideas which were presented. Thus, Heisenberg's attempt to develop a unified theory of elementary particles on the basis of a nonlinear equation for one spinor particle was subjected to a barrage of criticism. His commutation relations were considered to be too pathological; his indefinite metric was seen as leading, probably, to a violation of microcausality; his degenerate vacuum was thought to be in conflict with present-day field theory; and his use of the Tamm-Dancoff method for computing the masses of the particles was considered too crude. Pauli, who only 6 months ago had associated himself with Heisenberg's theory, turned out to be his most vehement critic. Despite the hostile reception accorded the specifics of Heisenberg's theory, it was generally agreed that his objective was very worth while.

A. Bohr's attempt to present a simple derivation of the dispersion relations on the basis of macroscopic causality also met with an unsympathetic response, particularly because of his failure to give adequate recognition to the nonphysical region in the finite-mass case. The most novel theory presented at the conference, and one which did not meet an immediately negative reception, was that of Okun, who sketched an attempt to deduce the existence of all the baryons and mesons from strong four-fermion interactions among the three baryons: neutron, proton, and Λ hyperon. He showed how certain conservation laws (for example, strangeness-conservation) can be deduced from certain conditions (such as chirality invariance) imposed on the

original four-fermion interaction. In a general way, Okun's program is similar to that of Heisenberg, except that Okun recognizes that it is probably necessary to start with a minimum of three spinor fields in order to deduce the wealth of conservation laws which seem to hold for the strong interactions.

Probably the greatest progress during the past year in elementary particle physics was registered in the domain of weak interactions (sessions 8 and 9). The last obstacle to the V-A (V, vector; A, axial vector) interaction in beta decay was overcome with a remeasurement of the electron-neutrino correlation from He^6 (by the Illinois group). All the other new beta-decay experiments definitely favor the V-A interaction, and the latest Russian measurement of the neutron lifetime fixes the ratio $A/V = -1.25 \pm .04$. The work at Chalk River and at Argonne National Laboratory on the neutron decay gives no evidence for time-reversal breakdown in weak interactions. It is thus established that the helicity of the neutrino is negative (left-handed neutrino) and that Landau's argument for the invariance of weak interactions under "combined inversion" is probably correct. The extension of the V-A theory to other weak interactions has met with a considerable amount of success, and, in particular, the parity breakdown involved in the decay of the Λ hyperon can be understood on the basis of this extension. These successes have given support to a universal V-A theory of weak interactions, first put forward by E. C. G. Sudarshan and R. E. Marshak (on the basis of the "chirality" invariance of the weak four-fermion interaction for each field separately) and, independently, by R. P. Feynman and M. Gell-Mann (on the basis of a two-component theory of the spin ½ particle). Many experiments still remain to be done, particularly in connection with the strange-particle decays, in order to decide whether a universal theory of weak interactions holds.

The time and place of the annual International Conference on High Energy Physics is now regulated by a Commission on High Energy Physics established in 1957 by the International Union of Pure and Applied Physics. Members of this commission [C. J. Bakker (chairman), R. E. Marshak (secretary), W. K. H. Panofsky, R. E. Peierls, I. E. Tamm, and V. Veksler] met in Geneva on 26 June and decided that the next three conferences will be held in Moscow, Rochester, and Geneva, in 1959, 1960, and 1961, respectively, in July of each year. This commission also decided that a biennial international conference on high-energy accelerators and instrumentation will be held in Geneva in 1959, at Brookhaven National Laboratory in 1961, and in Moscow in 1963. Finally, it was decided that, commencing 1 January 1959, a monthly newsletter on high-energy physics (containing abstracts of articles, calendar of meetings, items of general interest, and so on) would be published by CERN under the auspices of the International Union of Pure and Applied Physics.

R. E. MARSHAK
University of Rochester, Rochester, New York

International Conference on Epidemiology in Mental Disease

An international work-conference on problems in field studies in mental disorders will be held 16–19 February 1959 under the auspices of the American Psychopathological Association, financed by a grant from the National Institute of Mental Health. Meetings will be held at the Park Sheraton Hotel in New York.

The general purpose of this conference is to bring together a group of international authorities in this field to discuss definitions, assumptions, conceptual frameworks, and techniques of data collection and analysis used in working with problems related to the incidence, preva-

lence, and outcome of mental disorders. The first day's session will be devoted to problems of taxonomy, the second day's to problems of defining units of study, and the third day's to problems of comparability of field investigations; a summary session will be held on the final day.

Fifteen American and fifteen foreign participants have been invited. Among the foreign participants will be professors Jan Boök of Sweden, Erik-Essen–Möller of Sweden, Aubrey Lewis of England, J. E. Meyer of Germany, Ø. Ødegaard of Norway, Pierre Pichot of France, H. C. Rümke of the Netherlands, E. Stengel of England, Erik Strömgren of Denmark, E. E. Krapf of Switzerland, and D. Reid of England.

At the end of the work-conference, the annual meeting of the American Psychopathological Association will take place. The symposium for this year's meeting (20–21 February) will be on the epidemiology of mental disorders; and some of the findings of this work conference will be reported, including contributions by both foreign and American guests. Topics for the symposium will include current field studies in the mental disorders, current studies of the incidence and prevalence of hospitalized mental patients, current studies of the prognosis and outcome of therapy, and field studies in the etiology of mental disorders. Requests for further information should be addressed to Dr. Joseph Zubin, American Psychopathological Association, 722 W. 168 St., New York 32, N.Y.

International Planned Parenthood

The International Planned Parenthood Federation's sixth international conference will be opened in New Delhi, India, by Prime Minister Nehru on 14 February and will remain in session until 21 February. In addition, the President of India, Rajendra Prasad, will receive those attending the conference at a reception.

"Family Planning—Motivations and Methods" will be the theme of the conference, which will be held under the auspices of the FPA of India. Subjects to be discussed include population in an atomic age, cultural patterns and motivations, biological aspects of fertility control and evaluation of oral methods, laboratory and clinical testing, sterilization, and infertility problems and education for family life.

Visits will be arranged to Ludhiana where a 10-year population study is being conducted under the auspices of the Indian Government, and to the government institutes (demographic, family planning training, and contraceptive testing) in Bombay.

During the month of February cool,

bright weather is to be expected in Delhi. Visitors are advised to bring warm wraps or coats and medium weight clothing. Registration forms are now available and should be returned *not later than 31 December* to Conference Secretary, FPA India, 1 Metropolitan House, Dadabhai Naoroji Road, Bombay, 1. The official travel agents for the conference are Messrs. Trade Wings Ltd., 30/32 Rampart Row, Bombay, 1. All requests for hotel accommodations should be made through them, also not later than 31 December.

Forthcoming Events

December

26–31. American Assoc. for the Advancement of Science, annual, Washington, D.C. (R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington 5, D.C.)

The following 47 meetings are being held in conjunction with the AAAS annual meeting.

AAAS Committee on the Social Aspects of Science (C. D. Leake, Ohio State Univ. College of Medicine, Columbus, Ohio). 27 Dec.

AAAS Cooperative Committee on the Teaching of Science and Mathematics (J. W. Buchta, Univ. of Minnesota, Minneapolis, Minn.). 28 Dec.

Academy Conf. (J. A. Yarbrough, Meredith College, Raleigh, N.C.). 27–28 Dec.

Alpha Epsilon Delta (M. L. Moore, 7 Brookside Circle, Bronxville, N.Y.). 27 Dec.

American Assoc. of Clinical Chemists (Miss E. G. Frame, Clinical Center, Natl. Institutes of Health, Bethesda 14, Md.). 29–30 Dec.

American Assoc. of Scientific Workers (R. J. Rutman, 6331 Ross St., Philadelphia 44, Pa.).

American Astronautical Soc. (R. Fleisig, 58 Kilburn Rd., Garden City, N.Y.). 27–30 Dec.

American Geophysical Union (W. E. Smith, AGU, 1515 Massachusetts Ave., NW, Washington 5).

American Meteorological Soc. (K. Spengler, 3 Joy St., Boston, Mass.).

American Nature Soc. (S. Mulaik, Biology Dept., Univ. of Utah, Salt Lake City). 26–30 Dec.

American Physiological Soc. (F. A. Hitchcock, Ohio State Univ., Columbus).

American Political Science Assoc. (E. M. Kirkpatrick, APSA, 1726 Massachusetts Ave., NW, Washington, D.C.). 27 Dec.

American Psychiatric Assoc. (L. J. West, Univ. of Oklahoma School of Medicine, Oklahoma City 4). 27–28 Dec.

American Soc. of Criminology (D. E. J. MacNamara, Dean, New York Inst. of Criminology, Inc., 40 E. 40 St., New York 16). 27–28 Dec.

American Soc. of Naturalists (J. Schultz, Inst. for Cancer Research, Philadelphia, Pa.).

American Soc. of Photogrammetry (R.

G. Ray, U.S. Geological Survey, Washington 25). 29 Dec.

American Soc. of Zoologists (G. Moment, Dept. of Biology, Goucher College, Towson, Baltimore 4, Md.). 27–29 Dec.

American Sociological Soc. (K. Davis, Inst. of International Studies, Univ. of California, Berkeley 4). 29 Dec.

American Statistical Assoc. (E. Glazer, 305 George Mason Dr., Falls Church, Va.). 30 Dec.

Association of American Geographers, Middle Atlantic Div. (J. E. Guernsey, 9707 Parkwood Dr., Bethesda, Md.). 29 Dec.

Association for Computing Machinery (J. Douglas, Mathematics Dept., Rice Inst., Houston, Tex.).

Astronomical League (Miss G. C. Scholz, 410 Mason Hall Apts., Alexandria, Va.). 26 Dec.

Biometric Soc. (J. Cornfield, Johns Hopkins Univ., Baltimore, Md.). 30 Dec.

Conference on Scientific Communication Problems (G. L. Seielstad, Applied Physics Lab., Johns Hopkins Univ., Silver Spring, Md.) 28–30 Dec.

Conference on Scientific Manpower (T. J. Mills, National Science Foundation, Washington 25). 30 Dec.

Ecological Soc. of America (D. E. Davis, Johns Hopkins Univ., School of Hygiene, Baltimore, Md.).

History of Science Soc. (M. C. Leikind, 1334 Aspen St., NW, Washington 12). 29 Dec.

Instrument Soc. of America (O. L. Linebrink, Battelle Memorial Inst., Columbus, Ohio). 30 Dec.

International Geophysical Year (H. Odishaw, National Acad. of Sciences, Washington 25). 29–30 Dec.

Junior Scientists Assembly (K. C. Johnson, Supervising Director of Science, District of Columbia Public Schools, Woodrow Wilson High School, Washington 16). 27–28 Dec.

Metric Assoc. (J. T. Johnson, 694 W. 11 St., Claremont, Calif.).

National Acad. of Economics and Political Science (D. P. Ray, Hall of Government, George Washington Univ., Washington, D.C.). 27 Dec.

National Assoc. of Biology Teachers (P. Klinge, Jordan Bldg., Indiana Univ., Bloomington). 26–30 Dec.

National Assoc. for Research in Science Teaching (E. S. Obourn, U.S. Office of Education, Washington 25). 26–30 Dec.

National Assoc. of Science Writers (J. Billard, U.S. News and World Report, Washington, D.C.).

National Geographic Soc. (W. R. Gray, NGS, 16 and M Sts., NW, Washington 6). 30 Dec.

National Science Teachers Assoc. (W. A. Kilgore, District of Columbia Teachers College, Washington 9). 26–30 Dec.

National Speleological Soc. (W. E. Davies, 125 Greenway Blvd., Falls Church, Va.). 28–29 Dec.

Philosophy of Science Assoc. (C. W. Churchman, Case Inst. of Technology, Cleveland, Ohio).

Pi Gamma Mu (Mrs. Effie B. Urqhart, Winfield, Kan.).

Scientific Research Soc. of America (D. B. Prentice, 56 Hillhouse Ave., New Haven 11, Conn.).

Sigma Delta Epsilon (Mrs. V. L. Blackford, 2630 Adams Mill Rd., NW, Washington 10). 26–30 Dec.

Society for General Systems Research (R. L. Meier, Mental Health Research Inst., Univ. of Michigan, Ann Arbor). 29 Dec.

Society for Industrial Microbiology, Washington section (W. N. Ezekiel, Bur. of Mines, Washington 25). 27–28 Dec.

Society of the Sigma Xi (T. T. Holme, 56 Hillhouse Ave., New Haven 11, Conn.). 29 Dec.

Society of Systematic Zoology (G. W. Wharton, Dept. of Zoology, Univ. of Maryland, College Park). 26–30 Dec.

United Chapters of Phi Beta Kappa (C. Billman, 1811 Q St., NW, Washington, D.C.). 27 Dec.

Washington Acad. of Sciences (G. W. Irving, ARS, U.S. Dept. of Agriculture, Washington 25).

27–29. American Economic Assoc., Chicago, Ill. (J. W. Bell, AEA, Northwestern Univ., Evanston, Ill.)

27–29. Econometric Soc., Chicago, Ill. (R. Ruggles, Box 1264 Yale Station, Yale Univ., New Haven, Conn.)

27–30. American Folklore Soc., New York, N.Y. (MacE. Leach, AFS, Univ. of Pennsylvania, Philadelphia, Pa.)

28–30. Archaeological Inst. of America, Cincinnati, Ohio. (L. A. Campbell, AIA, Dept. of Classics, Brooklyn College, Brooklyn, N.Y.)

29–30. National Council of Teachers of Mathematics, New York, N.Y. (M. H. Ahrendt, NCTM, 1201 16 St., NW, Washington 6.)

28–30. Western Soc. of Naturalists, Seattle, Wash. (J. P. Harville, San Jose State College, San Jose 14.)

January

6. Society for Applied Spectroscopy, New York, N.Y. (P. Lublin, Sylvania Research Laboratories, Bayside, N.Y.)

7–9. Northeastern Weed Control Conf., 13th annual, New York, N.Y. (E. R. Marshall, Carbide & Carbon Chemical Co., New York, N.Y.)

12–14. Reliability and Quality Control, 5th natl. symp., Philadelphia, Pa. (W. T. Sumerlin, Philco Corp., 4700 Wissahickon Ave., Philadelphia 44.)

20–22. American Mathematical Soc., annual winter, Philadelphia, Pa. (E. G. Begle, Leet Oliver Hall, Yale Univ., New Haven, Conn.)

21–22. American Group Psychotherapy Assoc., 3rd annual institute, New York, N.Y. (C. Beukenkamp, Public Relations Chairman, 993 Park Ave., New York 28.)

22–23. Mathematical Assoc. of America, 42nd annual, Philadelphia, Pa. (H. M. Gehman, MAA, Univ. of Buffalo, Buffalo 14, N.Y.)

23–24. American Group Psychotherapy Assoc., 16th annual conf., New York, N.Y. (C. Beukenkamp, Public Relations Chairman, 993 Park Ave., New York 28.)

24–29. American Acad. of Orthopedic Surgeons, Chicago, Ill. (C. L. Compere, 720 N. Michigan Ave., Chicago Ill.)

26–29. American Meteorological Soc., New York, N.Y. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

26–29. American Soc. of Heating and Air Conditioning Engineers, 65th annual, Philadelphia, Pa. (W. M. Vidulich, ASHACE, 62 Worth St., New York 13.)

26–29. Institute of the Aeronautical Sciences, 27th annual, New York, N.Y. (IAS, 2 E. 64 St., New York 21.)

27–30. Society of Plastics Engineers, Inc., 15th annual tech. conf., New York, N.Y. (L. A. Bernhard, SPE, 65 Prospect St., Stamford, Conn.)

28–29. Nuclear Fuel Elements, 1st intern. symp., New York, N.Y. (H. H. Hausner, 1st Intern. Symp. on Nuclear Fuel Elements, 730 Fifth Ave., New York 19.)

28–31. American Physical Soc., annual, New York, N.Y. (E. R. Fitzgerald, Dept. of Physics, Pennsylvania State Univ., University Park.)

29–31. Western Soc. for Clinical Research, 12th annual, Carmel-by-the-Sea, Calif. (W. N. Valentine, Office of the Secretary, Univ. of California Medical Center, Department of Medicine, Los Angeles 24.)

February

1–6. American Inst. of Electrical Engineers, winter general, New York N.Y. (N. S. Hibshman, 33 W. 39 St., New York 18.)

6–7. American College of Radiology, Chicago, Ill. (W. C. Stronach, 20 N. Wacker Dr., Chicago 6.)

9–11. American Acad. of Allergy, Chicago, Ill. (B. Rose, Royal Victoria Hospital, Montreal, P.Q., Canada.)

9–11. Nature of Coal, symp., Bihar, India. (Director, Central Fuel Research Inst., P. O. Fuel Research Inst., Dhanbad District, Bihar.)

11–13. American Acad. of Occupational Medicine, Boston, Mass. (L. Blaney, 1608 Walnut St., Philadelphia, Pa.)

12–13. Solid State Circuits Conf., Philadelphia, Pa. (A. B. Stern, General Electric Co., Bldg. 3, Syracuse, N.Y.)

14. Short Range Navigation Aids., Montreal, Canada. (Intern. Civil Aviation Organization, Maison de l'Aviation Internationale, Montreal.)

15–19. American Inst. of Mining, Metallurgical, and Petroleum Engineers, annual, San Francisco, Calif. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 18.)

16–19. Problems in Field Studies in Mental Disorders, intern. work conf., New York, N.Y. (J. Zubin, American Psychopathological Assoc., 722 W. 168 St., New York 32.)

20–21. Epidemiology in Mental Disorders, annual meeting of the American Psychopathological Assoc., New York, N.Y. (J. Zubin, APA, 722 W. 168 St., New York 32.)

25–26. Midwest Industrial Radioisotopes Conf., Manhattan, Kan. (J. Kitchens, Dept. of Continuing Education, Kansas State College, Manhattan.)

26–28. Genetics and Cancer, 13th annual symp. on fundamental cancer research, Houston, Tex. (Editorial Office, Univ. of Texas, M. D. Anderson Hospital and Tumor Inst. Texas Medical Center, Houston 25.)

(See issue of 21 November for comprehensive list)

Equipment

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science *does not assume responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 1470.*

■ ACCELEROMETER of piezoelectric type may be fed directly to read-out devices such as oscilloscopes or vacuum-tube voltmeters with input impedance of 1 to 10 megohm. Up to 1000 ft of cable will still provide an output greater than 1 mv/*g*. Response is constant from 2 cy to 10 kcy/sec. Sensitivity is 5 mv/*g*. Useful temperature range is −300° to +200°F. (Endevco Corp., Dept. 499)

■ THERMISTOR KIT includes 12 representative thermistors in the form of probes, beads, rods, discs, and washers. Data for each transistor include resistance values at various temperatures, maximum safe continuous temperature, maximum current for no self-heating, peak voltage, maximum safe continuous current, dissipation constant, and time constant. (Fenwal Electronics, Inc., Dept. 503)

■ CRUCIBLES for metal melting are described in 16-page catalog. Information on physical and chemical characteristics, recommended uses, and availability is presented. Included are crucibles of fused alumina, oxide-bonded silicon carbide, nitride-bonded silicon carbide, recrystallized silicon carbide, fused magnesia, fused zirconia, thoria, and urania. (Norton Co., Dept. 504)

■ SUBMICRON FILTER is designed to remove particulate matter from distilled or demineralized water. Particles as small as 0.45 μ are removed. The filter medium is a cellulose ester membrane. Standard units are constructed of bronze lined with pure block tin. The filter can also be supplied with Teflon or Kel-F interior coating. Rate of flow is 25 to 100 gal/hr. (Barnstead Still and Sterilizer Co., Dept. 505)

■ HEMATOCRIT CENTRIFUGE accommodates two alternative heads, one holding 36 tubes, the other holding eight hematocrit tubes and eight 75 by 1.75 mm tubes. Speeds up to 12,000 rev/min are obtainable. Stopping time is 1½ min. (Labline Inc., Dept. 506)

■ RUBBER-STRETCHING APPARATUS is used to determine deterioration caused by ozone on constantly flexing rubber. Up to 12 samples can be individually mounted, stretched 25 percent and returned to the original unstretched state at 30 cy/min. Minimum stretch length is 2.0 in. The instrument operates on 110 to 115 v a-c. (Mast Development Co., Inc., Dept. 512)