mass of evidence in support of the Gelber interpretation—evidence which can hardly be brushed aside. The negative examples (and there are some) I will leave for Jensen or for someone else. In the light of such observations, however, one wonders if there is any logical or biological reason why paramecia should not be capable of forming simple associations. Could it be that the opponents of this view are unwittingly motivated by their own anthropocentrism or by an emotional bias that this "just ought not to be so"?

As for the worms, there is plenty of evidence that they, too, can modify their behavior with practice. If Jensen's allusion to them was meant to imply that they are unable to do so, it was ill-advised. One of the classic experiments in comparative psychology is the demonstration of learning, retention, and negative transfer in the manure worm, *Allolobophora foetida,* by Yerkes in 1912 (*15*). In 1955 Thompson and McConnell (*16*) successfully conditioned the planarian, *Dugesia dorotocephala,* and Schmidt (*17*) has shown that two other species of worms, one of which was the earthworm, *Lumbricus terrestris,* can readily learn a single-unit T-maze. Other studies of learning in earthworms have been published by Robinson (*18*), Bharucha-Reid (*19*), and Arbit (*20*)—the latter in 1957. Of course the earthworm avoids light, heat, and dryness, as Jensen points out. But dogs—and even human beings, I might add—have been known to display avoidance behavior in situations where electric shock, excessive heat, or other noxious or damaging stimuli are present.

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Meetings

Bioanalysts

The American Association of Bioanalysts, recently affiliated with the AAAS, is a scientific society formed in 1956 by a merger of the National Association of Clinical Laboratories and the Council of American Bioanalysts. Its membership is composed of those engaged in the analytical fields of biological sciences, either as bioanalysts or as teachers of the sciences of biochemistry, bacteriology, serology, or parasitology.

For administrative purposes the organization has four regional divisions which take in the whole United States. Each of these conducts scientific meetings and seminars of its own. Over-all national direction is maintained by a board of directors serving in the dual role of national and regional officers.

All scientific activities and projects are under the jurisdiction of the scientific council. These consist of scientific meetings of all types, ranging from

formal papers to seminars and discussions, and active participation in university training programs for technicians and bioanalysts, maintained by apprentice training and workshop demonstration.

The most notable formal meeting of the year is the Margaret Beattie lecture, presented annually. Margaret Beattie lecturers of previous years have been Maxwell Wintrobe, Linus Pauling, and Hans Frankel-Conrat. The lecturer for 1958 will be Edward Teller. Presented on a broad academic plane, the lecture is designed to bring current research knowledge to the analytic field.

A quarterly, *The Abstracts of Bioanalytic Technology,* is published through the professional abstracting service of the John Crerar Library in Chicago, Illinois. The material covered pertains to clinical laboratory testing, both in the research and applicatory phases. The addition of a new section titled "Bioanalysis" has been authorized to expand this journal, and a board of editors has been selected. This group is now accepting original papers for publication.

Major scientific emphasis is placed upon evaluation studies covering methods, primary standards, and laboratories of the members. This is a cooperative enterprise which provides calibrating standards and test materials. A group of pretest laboratories prepares technically standardized reagents and inquiries into causes of variation. Results are returned to member participants and summarized during the national meeting.

A legislative council assembles information on current legislation that affects the professional status of the membership. At present, practicing bioanalysts are licensed in New Jersey, California, Florida, and Pennsylvania. Many other states have voluntary supervision by the respective boards of public health. Cooperation between association members and state enforcement groups has effected an excellent liaison between the licensee and the administrative agency.

The association is a member of the Intersociety Committee on Laboratory Services Related to Health. Its internal organization, particularly the legislative council, is well adapted for assembling and collating material for intersociety discussion. The committee promises to be a forum for active debate of many issues vital to the bioanalyst.

Communication within the association is maintained by a newsletter, *The Bulletin,* published quarterly.

President Chernaik has just announced the appointment of William Reich as delegate to the AAAS council. Reich is eminently qualified to present the position and problems of the bioanalyst. He is a practicing clinical laboratory bioanalyst in California and is presently a candidate for a doctor's degree in public health at the University of California in Berkeley.

The 1958 national meeting is scheduled to be held in the Hotel New Yorker, New York City, 24 to 27 April.

LUCIEN D. HERTERT
American Association of Bioanalysts, San Francisco, California

Eastern Colleges Conference

The twelfth annual Eastern Colleges Science Conference will be held at Wilkes College 17, 18, and 19 April. More than 80 colleges will participate (including Yale, Columbia, Dartmouth, Cornell, Temple, and Georgetown). Among the featured speakers are William C. H. Prentice, dean of Swarthmore College, and Gustav A. Swanson, head of the conservation department at Cornell University. The program will include the presentation of student research papers, exhibits and chemical companies, tours of local industries, and a banquet and dance.

Society of General Physiologists

The Society of General Physiologists will hold its annual meeting at the Marine Biological Laboratory, 9–11 June. Contributed papers and the business meeting are scheduled for the first day. A symposium on "Subcellular Particles and Their Function" has been organized by Teru Hayashi of Columbia University. A foreign participant, Christian DeDuve, University of Louvain, Louvain, Belgium, will present a paper on "The Biochemistry and Physiology of the Lysosomes." Dormitory accommodations may be obtained by writing *before 1 May* to Mrs. Lila S. Meyers, Marine Biological Laboratory, Woods Hole, Mass.

Genetics in Medical Research

World genetics experts will gather on the University of Wisconsin campus 7–10 April for a Symposium on Genetics in Medical Research. The symposium will stress the growing importance and recognition of genetics in medical research in the United States. Financial support is being provided by a grant from the National Heart Institute.

The symposium will bring together an outstanding group of geneticists for informal technical discussions and exchange of ideas. It will also acquaint medical researchers with geneticists and genetic developments of importance to medicine. Specialists from England, Scotland, Sweden, France, Italy, and Japan are scheduled to speak, along with representatives from universities and research centers in the United States.

The conference is co-sponsored by the department of genetics in the university's College of Agriculture and the new department of medical genetics in the Wisconsin Medical School. John Z. Bowers, dean of the Medical School, is chairman and Joshua Lederberg, chairman and professor of medical genetics, is corresponding secretary of the meeting.

Foreign participants include: C. A. Clarke, Liverpool University, Liverpool; Bruce Stocker, Lister Institute, London; R. Ceppelini, of Milan, Italy (at present serving as visiting investigator at Columbia University); L. L. Cavallia-Sforza, University of Pavia, Milan; G. Pontecorvo, University of Glasgow, Scotland; B. Ephrussi, Laboratory of Physiological Genetics, CNRS, Seine-at-Oise, France; George Klein, Karolinska Institutet, Stockholm, Sweden; Ei Matsunaga, Sapporo Medical College, Hokkaido, Japan.

Some 120 to 140 scientists are expected for the symposium. Included in the registration, in addition to countries represented on the program, are delegates from Canada and Australia. Every medical school in the United States has been invited to send representatives, and preliminary registration indicates some two-thirds will be represented.

Chemical Engineering

Jets and rockets, the status of technical education in America, energy sources of tomorrow, atomic energy, and the problem of industrial noise are some of the subjects that will be considered during a Canada-United States Chemical Engineering Conference that will take place 20–23 April at the Sheraton-Mount Royal Hotel in Montreal. The conference is sponsored by the American Institute of Chemical Engineers and the Chemical Institute of Canada. More than 700 people are expected to attend. The program will open with a symposium on chemical engineering education in the United States and Canada, with Walter G. Whitman, Massachusetts Institute of Technology, as moderator. The conference secretary is F. K. Rogers, c/o Shawinigan Chemicals Limited, Box 6072, Montreal, Canada.

Hormones and Atherosclerosis

A conference on Hormones and Atherosclerosis was held on 12, 13, and 14 March in Brighton, Utah, near Salt Lake City, under the auspices of the National Heart Institute's Endocrinology Study Section, for the purpose of evaluating data. Gregory Pincus, director of research at the Worcester Foundation

for Experimental Biology was chairman. About 45 were present, including two delegates from England, two from Scotland, one from South Africa, and one from Sweden.

Society Elections

■ Beta Beta Beta (biological society): pres., George H. Mickey, Louisiana State University; sec.-treas., Frank G. Brooks, Box 336, Madison Square Station, New York 10, N.Y. The vice presidents are H. P. Sturdivant, Western Maryland College; E. C. Cooke, Wake Forest College; Ted F. Andrews, Kansas State Teachers College; Dixie Young, Texas Woman's University; F. Albert Ellis, Department of Natural Sciences, San Jose State College; Boyd B. Palmer, Inter-American University, Puerto Rico. The representatives to the AAAS Council are George H. Mickey of Louisiana State University and Bernal Weimer of Bethany College.

■ Northwest Scientific Association: pres., William K. Ferrell, Department of Forestry, Oregon State College; v. pres., Mark F. Adams, Institute of Technology, State College of Washington; sec.-treas., Willis B. Merriam, Department of Geography, State College of Washington.

■ National Association of Biology Teachers: pres., Irene Hollenbeck, Southern Oregon College; past pres., John Breukelman, State Teachers College, Emporia, Kansas; pres.-elect, Paul Klinge, Indiana University; sec.-treas., Paul Webster, Bryan City Schools, Ohio. The vice presidents are Dorothy Matala, Iowa State Teachers College, Irving C. Kenne, Brookline High School, Brookline, Mass., and Robert Smith, DeKalb High School, Ill. Representatives to the AAAS Council are George W. Jeffers and John Breukelman.

■ American Council on Pharmaceutical Education: pres., George D. Beal, Pittsburgh, Pa.; v. pres., Joseph B. Burt, Lincoln, Neb.: sec.-treas., Patrick H. Costello, 77 West Washington St., Chicago 2, Ill.

■ American Psychological Association: pres., Harry F. Harlow, University of Wisconsin; pres.-elect, Wolfgang Köhler, Swarthmore College; past pres., Lee J. Cronbach, University of Illinois; recording sec., Launor F. Carter, System Development Corporation, Santa Monica, Calif.; treas., Meredith P. Crawford, Human Resources Research Office, Washington, D.C.; executive sec., Roger W. Russell, Washington, D.C. The representatives to the AAAS Council are James J. Gibson, Department of Psychology, Cornell University, and Frank W. Finger, Psychological Laboratory, University of Virginia.

Forthcoming Events

April

25–26. American Assoc. of University Professors, annual, Denver, Colo. (R. K. Carr, 1785 Massachusetts Avenue, NW, Washington 6.)

25–26. Georgia Acad. of Science, annual, Emory Univ., Emory. (M. T. Clark, Chemistry Dept., Emory Univ., Emory, Ga.)

25–26. Kentucky Acad. of Science, Natural Bridge State Park. (G. Levey, Berea College, Berea, Ky.)

25–26. Louisiana Acad. of Sciences, annual, Shreveport. (H. B. Boudreaux, Louisiana State Univ., Baton Rouge 3.)

25–26. South Dakota Acad. of Science, annual, Rapid City. (J. M. Winter, Botany Dept., Univ. of South Dakota, Vermillion.)

27–1. American Ceramic Soc., 60th annual, Pittsburgh, Pa. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio.)

27–1. Electrochemical Soc., spring, New York. (H. B. Linford, ES, 1860 Broadway, New York 23.)

27–1. Society of American Bacteriologists, 59th annual, Chicago, Ill. (E. M. Foster, Univ. of Wisconsin, Madison 6.)

27–1. Southwestern and Rocky Moun-

tain Div., AAAS, annual, Las Vegas, N.M. (M. G. Anderson, New Mexico A.&M. College, Las Cruces.)

28–29. Automatic Control in the Petroleum and Chemical Industries, 3rd annual conf., Norman, Okla. (M. L. Powers, Extension Div., Univ. of Oklahoma, Norman.)

28–3. Engineering Societies of Western Europe and the United States, conf. (closed), New York. (C. E. Davies, American Soc. of Mechanical Engineers, 29 W. 39 St., New York 18.)

May

1–3. American Physical Soc., Washington, D.C. (K. K. Darrow, APS, Columbia Univ., New York 27.)

1–3. Kansas Acad. of Science, annual, Ottawa. (C. T. Rogerson, Dept. of Botany, Kansas State College, Manhatten.)

1–3. Midwestern Psychological Assoc., Detroit, Mich. (D. W. Fiske, Dept. of Psychology, University of Chicago, Chicago 37).

1–8. American Soc. of Tool Engineers, 26th annual, Philadelphia, Pa. (ASTE, 10700 Puritan, Detroit 38, Mich.)

2. Engineers and Architects Conf., 5th annual, Columbus, Ohio. (H. A. Bolz, College of Engineering, Ohio State Univ., Columbus.)

2. Southern California Acad. of Sciences, annual, Los Angeles. (Miss G. Sibley, Los Angeles County Museum, Exposition Park, Los Angeles 7, Calif.)

2–3. Minnesota Acad. of Science, Bemidji. (M. R. Boudrye, 51 University Ave., St. Paul 3, Minn.)

2–3. North Carolina Academy of Science, annual, Durham. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)

2–3. North Dakota Academy of Science, 50th anniversary, Fargo. (B. G. Gustafson, Box 573, University Station, Grand Forks, N.D.)

3–4. Population Assoc. of America, annual, Chicago, Ill. (D. O. Price, Inst. for Research in Social Science, Univ. of North Carolina, Chapel Hill.)

4–7. American Federation for Clinical Research, annual, in conjunction with American Soc. for Clinical Investigation and Assoc. of American Physicians, Atlantic City, N.J. (W. W. Stead, College of Medicine, Univ. of Florida, Gainesville.)

5–6. Secondary Recovery Symp., 3rd biennial, Wichita Falls, Tex. (E. O. Kirkendall, American Inst. of Mining, Metallurgical & Petroleum Engineers, 29 W. 39 St., New York 18.)

5–7. American Geophysical Union, 39th annual, Washington, D.C. (W. E. Smith, AGU, 1515 Massachusetts Ave., NW, Washington 5.)

5–7. Microwave Theory and Techniques Symp., Stanford, Calif. (G. H. Keitel, 601 California Ave., Palo Alto, Calif.)

5–8. American Meteorological Soc., Washington, D.C. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

6–9. Optics in Metrology Colloquium, International Commission of Optics, IUPAP, Brussels, Belgium. (S. S. Ballard, Scripps Institution of Oceanography, San Diego 52, California.)

6–9. Royal Netherlands Acad. of Sciences and Letters, 150th anniversary, Amsterdam, Netherlands. (RNASL, 29 Kloveniersburgwal, Amsterdam.)

6–9 Western Joint Computer Conf., Los Angeles, Calif. (W. H. Ware, Rand Corp., 1700 Main St., Santa Monica, Calif.)

6–9. International Commission of Optics, colloquium, Brussels, Belgium. (W. D. Wright, Imperial College, South Kensington, London, S.W.7.)

7–9. Acoustical Soc. of America, annual, Washington, D.C. (W. Waterfall, 335 E. 45 St., New York 17.)

7–10. Virginia Academy of Science, annual, Roanoke. (P. M. Patterson, Dept. of Science, Hollins College, Hollins, Va.)

7–11. American Psychoanalytic Assoc., San Francisco, Calif. (J. N. McVeigh, APA, 36 W. 44 St., New York 36.)

8. Association of Vitamin Chemists, Chicago, Ill. (A. E. Denton, Research Labs., Swift & Co., Chicago 9.)

8–9. Colorado-Wyoming Acad. of Science, annual, Denver, Colo. (R. G. Beidleman, Zoology Dept., Colorado College, Colorado Springs.)

8–10. Illinois State Academy of Science, 51st annual, Urbana. (R. A. Evers, Illinois Natural History Survey. Urbana.)

11–16. Social Welfare, natl. conf., Chicago, Ill. (National Conf. on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.

12–14. High Polymer Forum, 8th Canadian, Ste. Anne de Bellevue, Quebec. (M. H. Jones, Dept. of Chemistry, Ontario Research Foundation, 43 Queens Park, Toronto 5, Ont.)

12–14. Instrumental Methods of Analysis, internatl. Symp., Houston, Tex. (H. S. Kindler, Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

12–14. Research Methods and Instrumentation Symp., 8th annual, Bethesda, Md. (J. B. Davis, National Institutes of Health, Bethesda 14.)

12–16. American Psychiatric Assoc., annual, San Francisco, Calif. (D. Blain, APA, 1785 Massachusetts Ave., NW, Washington 6.)

14. American Acad. of Arts and Sciences, Brookline, Mass. (R. W. Burhoe, 280 Newton St., Brookline 46.)

14–16. Society for Experimental Stress Analysis, Cleveland, Ohio. (W. M. Murray, P.O. Box 168, Cambridge 39, Mass.)

14–24. European Acad. of Allergy, The Hague, Netherlands. (EAA, 17 Emmalaan, Utrecht, Netherlands.)

15–16. Operations Research Soc. of America, Boston, Mass. (M. L. Ernst, Box 2176, Potomac Station, Alexandria, Va.)

15–17. Basal Ganglia Surgery for Involuntary Movement Disorders, symp., New York. (Miss D. P. Frome, Office of Public Relations, New York University-Bellevue Medical Center, 550 First Ave., New York 16.)

18–24. Sanitary Engineering, 6th Inter-American Cong., San Juan, Puerto Rico. (E. Ortega, Box 218, San Juan.)

19–21. American Trudeau Soc., 53rd annual, Philadelphia, Pa. (K. R. Boucot, Woman's Medical College, Philadelphia.)

19–23. Gas Chromatography, 2nd symp., Amsterdam, Netherlands. (G. Dijkstra, Postbox 114, Vlaardingen, Netherlands.)

(See issue of 21 March 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 itmes listed appears on page 774.

■ AUTOMATIC BURETTES require no lubrication to prevent frozen connections. Both plug and bushing are made of Teflon. In addition, the ground surfaces into which the plug fits are treated during manufacture to produce a bonded bearing surface. Graduated sections are of precision-bore tubing and are graduated to meet National Bureau of Standards specifications. (Scientific Glass Apparatus Co., Dept. S972)

■ PORTABLE COLORIMETER permits measurements in the field of color and luminosity of near or distant objects. Weight, including all accessories, is 47 lb. The instrument employs an additive color-matching process with red, blue and green filters as standards. The comparison field comprises an annular field, representing the color to be measured, surrounding a concentric circular area of adjustable color. (Eastman Kodak Co., Dept. S975)

■ HYDROCARBON DETECTOR, to warn of presence of excessive hydrocarbon in clean compressed gas, consists of a dark-field illumination system built into a windowed pressure vessel. A multiplier phototube detects light scattered from aerosol impurities carried by the gas stream. A relay operated by the phototube current shuts off equipment or actuates an alarm. The equipment can be used at pressures up to 100,000 lb/in^2. (American Instrument Co., Inc., Dept. S977)

■ CHROMATOGRAM SCANNER rotates a drum-mounted radiochromatogram in front of a collimated detector. A rate-meter to which the detector connects drives a pen-writing rectilinear recorder. The scanner and recorder drives are mechanically coupled. Strips up to 56 cm long and 3.5 cm wide can be placed on the drum. (Atomic Accessories, Inc., Dept. S978)

■ VACUUM OVEN, for determination of loss of weight on heating, heats a sample distributed over an aluminum-powder extender in vacuum. A current of air or inert gas, dried to a water content not exceeding 0.0007 mg/lit, is bled over the sample surface. Gas flow may be controlled and measured between 0.5 and 100 ml/min by means of a soap-film flowmeter. Temperature is controlled up to 110° ± 1°C. (Griffin & George Ltd., Dept. S986)