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Even though, in my attempt to discuss the scientific understanding of man in a brief essay, I could refer to only a tiny fraction of the large number of contributors to that vast subject, I do, in retrospect, agree with Gyr and Barash that I really *ought* to have mentioned Piaget's important contributions to the study of cognitive development. Just as Lorenz made the Kantian a priori a part of modern evolutionary biology, so did Piaget bring it into accord with modern ontogenetic biology and the genetic commonplace that the phenotype is the product of a dialectic between genes and environment. I do not agree, however, with Gyr's opinion that Piaget's theory of the connection between thought and sensorimotor processes has brought the central psychological concept of soul or self "well within the range of meaningful scientific study." That theory has indeed "opened the door to a fruitful study of origins and psychological development," but it shares with other structuralist theories the impossibility of validation.

To appreciate the scientific status of Piaget's genetic epistemology, we may consider the example of one of its verifiable empirical consequences offered by Gyr. According to Gyr, the sensorimotor hypothesis provides an argument to show why the human eye is provided with motor systems that cause visual inputs to be transformations imposed by the perceiver on the environment. Whereas it is certainly impressive for a contemporary psychological theory to argue in favor of a fact known to Helmholtz a century ago, it is characteristic of the structuralist nature of the sensorimotor hypothesis that it would not have been falsified by the (conceivably) negative finding that the human eye, like that of the owl, lacks an extraocular musculature. That is to say, Piaget's sensorimotor hypothesis, though couched in quasiphysiological terms, is on an epistemological par with Freud's theory of the Oedipus complex, which also has verifiable empirical consequences, but, nevertheless, cannot be validated by critical experiments or observations. I intend it as no criticism of Piaget when I include him among the structuralists whose theories I categorized as "merely plausible, being, maybe, the best we can do to account for the complex phenomenon of man." On the contrary, I believe that to claim for these theories a status which they do not have is to render their authors a disservice.

GUNTHER S. STENT

Department of Molecular Biology,
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Berkeley 94720

15 AUGUST 1975

Personnel Placement

POSITIONS WANTED

Bioengineer/Physiologist. Ph.D. 1972. Research interests: applications of signal detection theory to neural data; motor control systems; and sensory information processing. Publications. Teaching experience at graduate and undergraduate levels. Experience with digital computers, design of physiological instrumentation, biomedical electrode technology, and electrophysiology. Seeks junior faculty position in basic science department, with possible joint appointment with department of ophthalmology or neurology. Box 356, SCIENCE. X

Experimental Physicist. Ph.D. Extensive academic, research experience. Many publications. Experience in nuclear and atomic physics, Mössbauer spectroscopy, geoscience and medical applications, space program. Producer, host of television science series, consultant. Challenging, responsible senior position sought. Box 357, SCIENCE. X

Immunologist. Ph.D. 1966 in microbiology (immunology). Extensive experience in tumor immunology, cancer cell biology, and tissue culture. Publications. Box 351, SCIENCE. X

Pharmacologist/Physiologist. Research experience, 15 years, in pharmacology and physiology. Desires research unit leader position in area of hypertension or shock, with emphasis on the participation of the renin-angiotensin system. Box 358, SCIENCE. X

Ruminant Nutritionist. Ph.D., 2 years of experience university teaching-research, 6 years of industry feed formulation, management, production. Desires academic or industry position. Available immediately. Box 359, SCIENCE. X

Tumor/Molecular Biologist. Ph.D. Seeks research position. Broad background. Fits into new research project easily. Experienced in growing human tumors in vitro and in vivo, breeding nude mice, evaluation of antitumor agents both in vitro and in vivo, and phage genetics. Also familiar with statistics. Publications. Box 360, SCIENCE. X

Virologist/Immunologist. Ph.D. Over 10 years of university teaching and research experience in virology and immunology. Experienced in infected cell culture studies, radioimmunoassays, clinical virology, and computer modeling of ecosystems and of role of antibody-forming cells in immune responses. Grants, patents, and publications. Seeks academic or industrial position. Box 361, SCIENCE. X

POSITIONS OPEN

ANIMAL AND POULTRY SCIENCE ASSISTANT PROFESSOR— CONTRACTUAL TERMS

The Department of Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada, requires an Assistant Professor under contractual terms with Ph.D. qualifications to conduct research and teach in the area of systems analyses with reference to livestock and poultry production.

Candidates should submit their curriculum vitae before 30 September 1975 to: W. D. Morrison, Professor and Chairman, Department of Animal and Poultry Science, Ontario Agricultural College, University of Guelph, Guelph, Ontario, Canada N1G 2W1.

BOTANIST-ECOLOGIST. A position is available at the rank of Assistant Professor to commence 25 August 1976. Duties include teaching, with another ecologist, an undergraduate course in ecology and evolution to undergraduates for one semester and a course, in the appointee's specialty, for upperclassmen and graduate students in the other semester. Maintaining an active program of research and aiding in the training of graduate students is expected. Some preference will be given to candidates interested in physiological ecology or population dynamics. Good laboratory facilities are available. Apply with complete curriculum vitae, transcripts, and a list of references sent to: Chairman, Department of Botany, University of Iowa, Iowa City, Iowa 52242, by 1 January 1976.

The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT RESEARCH SCIENTIST

Ph.D. to study *Drosophila* differentiation in vitro with molecular biology techniques. Salary about \$14,000, start approximately 1 September 1975. Submit curriculum vitae, bibliography, two letters of reference, and brief statement of career goals to Dr. Robert Seecof, Head, Department of Developmental Biology, City of Hope National Medical Center, Duarte, Calif. 91010.

An Equal Opportunity/Affirmative Action Employer

ASSOCIATE RESEARCH SCIENTIST

Prefer Ph.D. in biophysics or bio-math or master's, plus related experience. Carthogenesis research project related to environmental cancer, utilizing experimental animal research. Send curriculum vitae to: Miss M. Kerans, Personnel Department, New York University Medical Center, 587 First Ave., New York, N.Y. 10016. An Equal Opportunity/Affirmative Action Employer M/F.

BIOCHEMIST Ph.D., or equivalent for the regional service and developmental hemoglobinopathy laboratory associated with the hematology program at McMaster University. The successful candidate would be required to participate actively in the service, educational and developmental aspects of hemoglobinopathies and hemolytic anemias. Experience in these areas would be an asset. Excellent opportunities exist for interaction with the various groups in the hematology program. Funding for this position is through the District Program for Laboratory Medicine and appropriate academic position with McMaster University will be offered. Further inquiries should be sent to M. Ali, M.D., Ph.D., Director of Hematology, St. Joseph's Hospital, 50 Charlton Ave. East, Hamilton, Ontario, Canada.

BIOLOGICAL CONTROL AND PEST MANAGEMENT. Position available for Assistant or Associate Entomologist, depending upon training and experience. Research in biological control and integrated pest management of arthropod pests of grape, deciduous tree fruits, and certain field and forage crops of importance in the San Joaquin Valley. Assignment includes application of concepts and methodology of statistical ecology and systems analysis. Training and experience in biological control or pest management, and in statistics, systems ecology, and systems analysis essential. Send curriculum vitae, official transcripts, copies of publications, manuscripts, and letters of evaluation from three qualified referees to: Dr. Robert van den Bosch, Division of Biological Control, University of California, 1050 San Pablo Avenue, Albany, California 94706. The University is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are urged to apply. Application closing date: 1 September 1975.

The University of Nebraska College of Dentistry is seeking a CHAIRPERSON with teaching responsibilities (pathologist preferred) for its Department of Oral Biology and Basic Sciences. Applicants should have demonstrated competence in dental education and research and possess an aptitude for administration. Salary is negotiable. Please send inquiries and applications containing curriculum vitae, bibliography, and references to: Dr. A. Birk Adams, Chairman, Search Committee, Department of Oral Biology, College of Dentistry, University of Nebraska, Lincoln, Nebraska 68503. The University of Nebraska is an Equal Opportunity Employer.

CHAIRPERSON

Applications are being solicited for the position of Chairperson in the Department of Anatomy, College of Veterinary Medicine and Biomedical Sciences, Colorado State University. The department has a faculty of 12, a graduate program, and a teaching commitment to undergraduate allied health and professional veterinary programs. Departmental and interdisciplinary research activities include neuroendocrinology, neurophysiology, developmental neurobiology, oncology, connective tissue research, and cataractogenesis. The department also houses and administers the University Electron Microscope Training Program. Applicants should have a D.V.M., M.D., or Ph.D., academic experience in a department offering the Ph.D., an accomplished research and teaching record, and a demonstrated interest in promoting quality instruction. The position is available 1 January 1976, but a later starting date is negotiable. Send résumé by 1 November 1975 to Dean William J. Tietz, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colorado 80523. Colorado State is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

CANCER IMMUNOLOGIST

Ph.D. required. Background emphasis on clinical and diagnostic procedures highly desirable. Experience required. Apply with curriculum vitae and references to:

W. E. Maldonado, M.D., Director
Department of Pathology
Edward W. Sparrow Hospital
1215 East Michigan Avenue
Lansing, Mich. 48902

Applications are invited for a **CHAIRPERSON** of the Department of Physiology at **DUKE UNIVERSITY MEDICAL CENTER**.

The University is seeking candidates with a strong academic background and a broad understanding of teaching and research in Physiology. Candidates should also have administrative experience and a demonstrated interest in organizing and developing interdisciplinary teaching and research programs.

Applicants should submit a curriculum vitae, list of publications, and the names of three references to **Dr. Robert L. Hill, Chairman, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710.**

Duke University is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.

JEFFERSON MEDICAL COLLEGE OF THOMAS JEFFERSON UNIVERSITY

Invites nominations and applications for **CHAIRMAN OF THE DEPARTMENT OF PHARMACOLOGY**.

Nominations and applications should be addressed to: **Dr. Russell W. Schaedler, Chairman, Pharmacology Search Committee, Department of Microbiology, Jefferson Medical College, Thomas Jefferson University, 1020 Locust Street, Philadelphia, Pa. 19107.** *An Equal Opportunity/Affirmative Action Employer.*

Applications are invited to fill the position, effective 1 January 1976, of **CHAIRPERSON AND PROFESSOR** of the Department of Entomology at the University of Maryland, College Park. The department is committed to a broad teaching program, cooperative extension service programs, pest management programs, and various basic research areas. Applications must be received by 1 October 1975 and should include curriculum vitae and the names and addresses of at least five references. Send applications to **Dr. D. M. Caron, Department of Entomology, University of Maryland, College Park, Maryland 20742.**

COMPUTERS IN MEDICINE

Faculty position in School of Medicine at rank of Assistant or Associate Professor to participate in teaching and research activities in the application of computer technology in health sciences. Applicant must be able to teach effectively in areas of data base concepts, information systems, or health record systems. Previous experience in medical or health care applications is essential.

Applications are encouraged from recent graduates and established faculty. Please reply to **Dr. Robin Lake, Department of Biometry, University Hospitals, Cleveland, Ohio 44106.**

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

ECOSYSTEMS ANALYSIS SPECIALIST, ENTOMOLOGY

Full-time research in ecosystems analysis and modeling. To develop programs in quantitative population ecology and crop management, forest insect population dynamics, strategies for management of tree fruit pests, consultation on crop management programs. A successful applicant will guide graduate students; future fractional teaching appointment likely with development of courses in applicant's areas of interest. Ph.D. required in the biological sciences, background in entomology desirable, interest in working on entomological problems necessary. Must be demonstrably familiar with computer utilization, analytical mathematics, and statistics with appropriate academic training; experience in ecological modeling, particularly population dynamics, highly desirable. Applications can be received until 31 August 1975 or until a suitable candidate is hired. The position will be filled at the Assistant Entomologist level, commensurate with training. Send résumé or inquiries to: **Robert F. Harwood, Chairman, Department of Entomology, Washington State University, Pullman, Wash. 99163.**

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF ANATOMY

Applications are invited for this position at the Chicago College of Osteopathic Medicine. Send curriculum vitae and a list of references to: **Dr. A. D. Alexander, Chairman, Anatomy Search Committee, Chicago College of Osteopathic Medicine, 1122 East 53 Street, Chicago, Illinois 60615.**

An Equal Opportunity Employer

The University of Colorado at Denver is seeking at the rank of assistant professor a **DEVELOPMENTAL BIOLOGIST** with either genetics or microanatomy as a subspecialty. Excellence in teaching and the ability to implement a research program is considered essential. Curriculum vitae including transcripts and the names, addresses, and telephone numbers of three references should be sent to:

Chairperson, Search Committee for Biology
Division of Natural and Physical Sciences
University of Colorado at Denver
1100 14th St.
Denver, Colo. 80202

Search closes 30 September 1975. Position available January or September 1976, depending upon the availability of the candidate. *The University is an Equal Opportunity/Affirmative Action Employer.*

ELECTRON MICROSCOPE TECHNICIAN wanted. Must be experienced in all routine procedures and preferably Philips 301 microscope. Opportunity for independent or collaborative research. Excellent living and working conditions. Salary open. Write, giving details of background, to: **Dr. S. H. Vernick, Department of Pathology, Eastern Virginia Medical School, Mowbray Arch, Norfolk, Va. 23501.**

OREGON STATE UNIVERSITY

Invites Nominations and Applications for
DEAN OF THE SCHOOL OF PHARMACY

Nominations and applications should be addressed to **Dr. G. H. Constantine, Jr., Chairman, Dean Search Committee, School of Pharmacy, Oregon State University, Corvallis, Ore. 97331.** *An Equal Opportunity/Affirmative Action Employer.*

EMBRYOLOGIST

Position available as instructor or assistant professor, to teach embryology and reproductive biology to medical and dental students. Research interest in developmental biology desirable. **Chairman, Department of Anatomy, Medical University of South Carolina, 80 Barre Street, Charleston, S.C. 29401.** *An Equal Opportunity Employer.*

UNIVERSITY OF COLORADO SCHOOL OF PHARMACY FACULTY POSITION CLINICAL PHARMACIST IN AMBULATORY CARE

The University of Colorado School of Pharmacy announces the full-time faculty position of **Clinical Pharmacist in Ambulatory Care**. This position involves the development of clinical pharmacy services in an ambulatory care area and serving as an educator in a role-model for fifth-year clinical students. Responsibilities will include supervision of ambulatory care rotations, participation in the classroom teaching of clinical pharmacy, and some involvement in the continuing education program.

Applicants having a Ph.D. or Pharm.D. degree and a minimum of 1 year of experience in ambulatory care service are sought. In addition, experience in teaching and institutional pharmacy are most desirable. The position is a full-time (12-month) appointment with salary and academic rank commensurate with experience. *The University of Colorado is an Equal Opportunity Employer complying with all aspects of the Affirmative Action Program. Minority and female candidates are encouraged to apply.*

Applications for the position must be received by 15 September 1975 and should be submitted to:

Dr. Richard J. Kraemer, Assistant Dean
Chairman, Search Committee for Clinical Faculty
University of Colorado Medical Center
School of Pharmacy, Box C-238
4200 East Ninth Avenue
Denver, Colo. 80220

POSITIONS OPEN

ELECTRON MICROSCOPIST

Position open for electron microscopist in the Department of Microbiology. The level of the position and salary are open and depend upon training and experience. Send curriculum vitae to: **Chairman, Department of Microbiology, Vanderbilt University School of Medicine, Nashville, Tenn. 37232.** Telephone: 615-322-2087. *An Equal Opportunity/Affirmative Action Employer.*

In Denver, position of **EXECUTIVE DIRECTOR** to newly formed **Colorado Governor's Energy Policy Council**. Role of the six-member council is to determine the state's policy and functions in energy development, supply and use, interrelations with federal agencies, and state agency activities. Qualifications sought in Executive Director include managerial administrative capability, technical expertise in energy-related field, and policy development experience. Executive Director will recruit small staff. Salary is \$30,000 plus, depending on experience. *Equal Opportunity Employer.* Send complete résumé, including employer references, to: **Energy Policy Council, Governor's Office, State Capitol, Denver, Colorado 80203.**

FACULTY POSITION IN INDUSTRIAL HYGIENE

Faculty position at the Assistant Professor level in the Department of Biomedical and Environmental Health Sciences, School of Public Health. Applicants should possess the Ph.D., Sc.D., or Dr.P.H. degree, demonstrated research and professional competence, and a commitment to teaching in industrial hygiene. Salary negotiable. *The School is committed to a strong affirmative action policy. Women and minorities are especially urged to apply.* Submit curriculum vitae, publications, and letters of reference by 1 November 1975 to **Robert C. Cooper, School of Public Health, University of California, Berkeley, Calif. 94720.**

Applications are invited for a temporary faculty position in **GROSS ANATOMY** at our institution.

We are able to make a commitment for this position only for the school year, 1975-76. We will, however, entertain a wide variety of possibilities, from acting instructor to visiting professor rank, with some latitude in time of employment.

The candidate should have a suitable background in gross anatomy, preferably with additional experience in aspects of human embryology and clinical correlation. Duties will include participation in lectures and laboratory instruction for 100 freshman medical students and anatomy majors during the fall and winter quarters. Facilities are available for various research activities. Please write to: **Webster S. S. Jee, Acting Chairman, Department of Anatomy, College of Medicine, University of Utah, Salt Lake City, Utah 84132.** *The University of Utah is an Equal Opportunity Employer.*

HEAD, DEPARTMENT OF BIOLOGICAL SCIENCES

The Department of Biological Sciences, University of Idaho, seeks a Head effective 1 July 1976. The department has 19 faculty members and responsibilities in teaching, research, and service appropriate to a publically supported university. Candidates must have a publications, manuscripts, and letters of evaluation record, a dedication to excellence in teaching and continuing research, and successful administrative experience. Send qualifications including curriculum vitae and three letters of reference to: **Dr. A. W. Rourke, Department of Biological Sciences, University of Idaho, Moscow, Idaho 83843.**

The closing date is 16 October 1975 and may be extended until suitable applicant applies. *The University of Idaho is an EEO/AA employer.*

HEAD, DEPARTMENT OF BIOCHEMISTRY

The University of Illinois College of Medicine invites applications and nominations for the position of Head, Department of Biochemistry, in the School of Basic Medical Sciences. The Department is presently constituted of 15 faculty with research programs.

Applicants should possess a distinguished record in both research and teaching, as well as administrative ability.

Send nominations and applications to: **Dr. G. di Mayorca, Chairman, Search Committee, Department of Microbiology, 835 South Wolcott Avenue, Chicago, Illinois.** Mailing address: P.O. Box 6998, Chicago, Illinois 60680.

The University of Illinois is an Affirmative Action Employer.