Junior College on April 14, under the chairmanship of Dr. W. Armstrong Price, of Corpus Christi. Fifty-five persons registered for the meeting. Twenty papers were presented, covering a wide variety of scientific subjects from astronomy to zoology. In addition to Dr. Price, those who were active in organizing the meeting included Dr. Gordon Gunter, Institute of Marine Science, University of Texas, Rockport, and Dr. J. C. Cross, Texas College of Arts and Industries, Kingsville, who worked with the following committee on local arrangements: Professor John S. Kelley, of the department of chemistry, and Professor S. S. Wilks, of the department of biology, both of Corpus Christi Junior College; and Professor B. E. Schulze, of the department of science of the Senior High School.

The executive council of the academy was represented at the meeting by Dean W. R. Woolrich, of the School of Engineering of the University of Texas, and past president of the academy. The principal address was given by Dr. E. J. Lund, of the university, who spoke on a proposed new "Institute of Marine Science" on the Texas Gulf Coast.

The Program Committee was made up of Dr. J. C. Cross, chairman of the department of biology of the Texas College of Arts and Industries, Kingsville; Dr. W. Armstrong Price, of Corpus Christi; J. Sutton Myers, of the Soil Conservation Service, Raymondville; Mrs. L. Irby Davis, of the department of science, Senior High School, Harlingen; and Miss Velma Wilson, of the department of science, Junior College, Brownsville.

Officers elected for the coming year are, *President,* Professor S. W. Bass, Texas College of Arts and Industries, Kingsville; *Vice-president,* Professor J. S. Kelley, Corpus Christi Junior College; *Secretary-Treasurer,* Dr. Otto R. Nielsen, dean of the faculty of the Texas College of Arts and Industries.

THE VIRGINIA ACADEMY OF SCIENCE

FOR the first time since its organization twenty-three years ago, the Virginia Academy of Science held this year on May 11 a "skeleton" meeting attended primarily by officers, members of the council, chairmen of committees and sections, and those living close to the place of meeting, Richmond. In the morning, a joint meeting of the executive committee of the Virginia Social Science Association and council members of the academy was held to consider ways and means by which both organizations might work together for the welfare of the state. At the academy meeting in the afternoon, progress reports were made concerning the eighty active science clubs, the cooperation between the academy and the State Department of Education in eventually making it possible for pupils in the public-school system of Virginia to know more about local natural resources, the "machinery" set-up to make an inventory of the research facilities in state institutions and industrial laboratories, the plan to enroll in the academy more scientists from industry, the proposed Virginia Research Institute, the scholarships set aside by all the colleges of Virginia as awards in a Science Talent Search on a state level, the investigative work on local flora, the James River Monograph, the proposed State Science Museum and the endowment fund which now amounts to approximately $14,000. A resolution was adopted favoring the "Scientific and Technological Manpower Bill," H.R. 2827.

Dr. Robert F. Smart, in retiring as president, pointed out how effectively members of the academy had contributed to the welfare of Virginia during the past year by cooperating fully with various agencies of the State and Federal governments, the State Chamber of Commerce, the American Association for the Advancement of Science, the National Science Talent Search directors and educational institutions. H. R. Hanmer, director of research for the American Tobacco Company, was installed as president for the coming year. The following officers were elected by ballot: Dr. Arthur Bevan, State Geologist, *President-elect;* Dr. E. C. L. Miller, directing librarian at the Medical College of Virginia, *Secretary-Treasurer;* Dr. Sidney S. Negus, professor of chemistry at the Medical College of Virginia, *Assistant Secretary;* Dr. Gillie A. Larew, professor of mathematics, Randolph-Macon Woman's College, and Dr. Pearl M. Patterson, professor of biology, Hollins College, as new members of the council.

SCIENTIFIC NOTES AND NEWS

THE Huxley Medal for 1945 has been conferred on Dr. A. L. Kroeber, professor of anthropology at the University of California at Berkeley, by the Council of the Royal Anthropological Institute of Great Britain and Ireland. Dr. Kroeber will deliver a lecture before the institute some time in November.

THE Lister Medal for 1945, awarded in recognition of distinguished contributions to surgical science, has been presented to Professor Sir Howard W. Florey, F.R.S., of the University of Oxford, for his work on penicillin and its application. He will deliver the Lister Memorial Lecture, the date of which has not yet been announced.

THE Patron's Medal of the Royal Geographical

Society, London, has been awarded to Sir Halford J. Mackinder, who was for twenty-five years professor of geography at the University of London, in recognition of "his eminent contributions to geography, including the first ascent of Mount Kenya in 1899, and his long and distinguished service in the advancement of the science."

IT is reported in the *Information Bulletin* of the Embassy of the U.S.S.R. that the Presidium of the Supreme Soviet of the U.S.S.R. has conferred upon Professor Peter Kapitza, member of the Academy of Sciences, the title of Hero of Socialist Labor, for his researches into the turbine methods of producing oxygen in his design of a turbine for the large-scale production of liquid oxygen. Another decree awards the Order of the Red Banner of Labor to the Institute of Physical Problems of the Academy of Sciences, of which Professor Kapitza is director.

ON the occasion of the tenth annual Hughlings Jackson Memorial Lecture of the Montreal Neurological Institute, delivered by Dr. Stanley Cobb, of the Harvard Medical School, a specially bound volume of the "Selected Writings of John Hughlings Jackson," edited by James Taylor, was presented to the lecturer. The subject of the lecture was "Neurocirculatory Asthenia."

DR. JOSEPH ERLANGER, professor of physiology at the School of Medicine of Washington University, St. Louis, has been awarded the certificate of merit and medal for distinguished service of the St. Louis Medical Society in recognition of "his contributions to fundamental knowledge of the cardiovascular and nervous system and to methods of physiological investigation, his excellence as a teacher and his devotion to the furtherance of medical research which have strengthened the hand and augmented the skill and discernment of present and future practitioners of medicine."

THE 1945 Eli Lilly and Company award in biological chemistry by the American Chemical Society to a chemist under thirty-five years was conferred on Dr. Max A. Lauffer, of the University of Pittsburgh.

THE Borden Company prize of $1,000 for research in the chemistry of milk of the American Chemical Society for 1945 has been awarded to Dr. Ben H. Nicolet, of the Bureau of Dairy Industry, U. S. Department of Agriculture, Beltsville, Md.

THE Philadelphia County Medical Society has conferred the 1944 annual Strittmatter award on Dr. J. Parsons Schaeffer, professor of anatomy at Jefferson Medical College. Dr. Schaeffer was the twenty-second recipient of the award, a gold medal and a scroll, presented in recognition of "his long and distinguished career as a teacher, author and scientist in the field of anatomy, and his sincere and untiring devotion and constructive efforts to safeguard high standards of medical research."

ON the occasion of its seventy-fifth commencement exercises on May 28, the Massachusetts State College, from which he was graduated forty years ago, conferred the honorary degree of doctor of science on Profesor Richard L. Adams, of the department of farm management of the University of California.

DR. WILLIAM REED VEAZEY, of the Dow Chemical Company, has been elected president of the Electrochemical Society, Inc.

THE American Institute of Chemists, by mail ballot, has elected the following new councilors for three years with terms expiring in May, 1948: Dr. Norman A. Shepard, chemical director of the American Cyanamid Company, New York; Dr. W. D. Turner, assistant professor of chemical engineering at Columbia University, reelected, and Dr. James R. Withrow, professor and chairman of the department of chemical engineering of the Ohio State University.

AT the annual meeting on May 1 of the Royal Institution, London, Lord Rayleigh was elected *President;* Sir Robert Robertson, *Treasurer,* and Dr. A. O. Rankine, *Secretary.*

OFFICERS of the Chapter of Sigma Xi at Western Reserve University were elected on May 28 as follows: Dr. Helen A. Huncher, professor of home economics, *President;* Dr. Harry Goldblatt, professor of experimental pathology and associate director of the Institute of Pathology, *Vice-president;* Dr. Moffatt G. Boyce, associate professor of mathematics, *Secretary,* and Dr. A. Sidney Harris, assistant professor of physiology, *Treasurer.* At this meeting Dr. Robley C. Williams, professor of physics and astronomy at the University of Michigan, gave an address entitled "Three-Dimensional Electron Microscopy."

DR. GUSTAV A. L. MEHLQUIST, of the University of California at Los Angeles, has been appointed associate professor at Washington University, St. Louis, and a member of the horticultural staff of the Missouri Botanical Garden. He will continue his breeding work with carnations and delphiniums, representing an appreciable expansion in experimental horticulture at the garden. The appointment becomes effective on October 1. The experimental culture of orchids from seed carried out in the past few years by Dr. David C. Fairburn has necessitated the transfer of this branch of work to the arboretum ranges at Gray Summit, Mo., where large-scale techniques are more feasible. When Dr. Mehlquist takes up his work at the garden, Dr. Fairburn will become orchidologist in charge of the more than 20,000 plants at Gray Summit.

DR. WILLIAM W. PETER, associate professor of public health and chief of sanitary inspection in the department of health, Yale University School of Medicine, has become director of the training division of the Institute of Inter-American Affairs, Washington, D. C.

DR. C. M. CHILD, professor emeritus of zoology at the University of Chicago, now in the School of Biological Sciences of Stanford University, has been invited to take part in the celebration of the two hundred and twentieth anniversary of the Academy of Sciences of the U.S.S.R. in Moscow and Leningrad from June 15 to 28, as guest of the academy.

RAYMOND E. BIRCH has been appointed director of research of the Harbison-Walker Refractories Company, with which he has been associated since 1930, to succeed the late Fred A. Harvey.

DR. A. C. THAYSEN, of the Chemical Research Laboratory of the Department of Scientific and Industrial Research of Great Britain, has been appointed director of the newly established Colonial Microbiological Research Institute in Trinidad for the general study of microbiological problems under tropical conditions. Dr. Thaysen has left for Trinidad to discuss there the problems of the institute. It is hoped that it will be possible to afford facilities for postgraduate work by visiting men of science in addition to the work of the staff.

DR. GEORGE CALINGAERT, director of chemical research of the Ethyl Corporation, is at the request of the U. S. Army Air Corps now in Europe as an operations analyst for the United States Strategic Bombing Survey.

THE resignation as of July 1 is announced of Dr. Marvin R. Thompson, president and director of the Warner Institute of Therapeutic Research, New York City.

CLIFFORD E. JURGENSEN, formerly chief psychologist of the Kimberley-Clark Corporation, has been appointed personnel director of the Minneapolis Gas Light Company. He took up this work on May 15.

THE National Research Council has made a grant to Dr. Thurlo B. Thomas, of the laboratory of anatomy of the Medical Branch at Galveston of the University of Texas, for research on the action of alloxan.

DR. ALEXANDER FLEMING, professor of bacteriology at the University of London and the St. Mary's Hospital Medical School, arrived in New York City on May 28, and left the following day for Washington. He plans to make a tour of hospitals and laboratories in the United States. On May 29 he gave a lecture on penicillin before the staff and students of the College of Physicians and Surgeons of Columbia University.

DR. WILLIAM J. ROBBINS, director of the New York Botanical Garden, writes to SCIENCE: "I have just received word that Professor Pierre Nobécourt, of the University of Grenoble, is in good health, that Grenoble suffered only minor war damage and that the University and Technical School are both intact."

B. J. BRENT, of Roche Organon, Inc., writes to SCIENCE that he has "received news that Professor Ernst Laquer is all right and is living in Amsterdam as before the Nazi invasion. This is the first authentic information received about him in approximately five years. Professor S. E. De Jong and Dr. J. Freud are also well in Amsterdam, Holland."

THE Kober Foundation lecture of the School of Medicine of Georgetown University was delivered on March 28 by Captain Lloyd R. Newhouser, M.C., on "The Role of Whole Blood Plasma and Plasma Fractions in War Medicine." Captain Newhouser was presented with an honorarium of $500 by Lawrence C. Gorman, S.J., president of Georgetown University. The selection of a lecturer was made this year by the Association of Military Surgeons of the United States.

AT the May meeting sponsored jointly by the sections of the Electrochemical Society and of the American Chemical Society at Midland, Mich., Dr. Colin G. Fink, of Columbia University, spoke on "The Electrochemistry of the Rare Metals," referring in particular to his own researches.

DR. JOHN R. MURLIN, Ross professor of physiology and director emeritus of the department of vital economics of the University of Rochester, delivered on May 16 the twenty-eighth Mellon Lecture of the Society for Biological Research of the School of Medicine of the University of Pittsburgh. His subject was "The Biological Value of Proteins in Relation to the Essential Amino Acids."

SPEAKERS at the recent postgraduate session of the Army Air Force Regional Hospital, San Antonio Aviation Cadet Center, included Dr. René DuBos, of the Rockefeller Institute; Dean Tinsley Harrison, of the Southwestern Medical College, Dallas; Dean Chauncey D. Leake, of the Medical Branch at Galveston of the University of Texas, and Lieutenant Colonel Roy G. Grinker.

AN address on "X-ray Analysis: Past, Present and Future" was given before the Royal Institution on May 11 by Sir Lawrence Bragg, F.R.S.

THE American Society of Mechanical Engineers will hold an Aviation War Conference on June 11 to 14 at the University of California at Los Angeles. Speakers

in the four evening sessions will include well-known technical men in the aircraft industry. New aircraft techniques and a projection of post-war plans will be discussed in thirty-eight papers to be read at sixteen separate meetings. The conference is under the auspices of the Southern California Section of the society. Dr. Clarence A. Dykstra, provost of the University of California at Los Angeles, will address the opening session on Monday evening, June 11.

THE "Oliver Lodge Scholarship," with a basic annual value of £250 and tenable for one year, has been founded to commemorate the twenty-fifth jubilee of the radio section of the British Institution of Electrical Engineers.

IT is reported in *The Times*, London, that the University of Bristol, which already has chairs of mechanical, civil and electrical engineering, will establish a department of aeronautics in the faculty of engineering. This development is made possible by a gift of £60,000 by the Bristol Aeroplane Company for the establishment of the Sir George White Chair of Aeronautical Engineering, named in memory of the founder and first chairman of the company, who was one of the pioneers of British aviation.

DISCUSSION

A NOTE ON DR. NOVIKOFF'S ARTICLE

HAVING myself been for a long time deeply interested in the philosophy of organism and the theory of integrative levels in its application to the sciences, the appearance of Dr. Novikoff's article in SCIENCE for March 2, 1945, during the few weeks when I happen to be in the United States on my way back to Chungking, where I direct the Sino-British Science Cooperation Office, was for me a happy coincidence. It is a great pleasure to see this philosophy gaining ground, nearly twenty years after the pioneer work of J. H. Woodger, which found its expression in his "Biological Principles" (Kegan Paul, London, 1929).

Once we adopt the general picture of the universe as a series of levels of organization and complexity, each level having unique properties of structure and behavior, which, though depending on the properties of the constituent elements, appear only when these are combined into the higher whole, we see that there are qualitatively different laws holding good at each level. The phenomena of a higher level can not be understood without knowledge of the behavior of its constituents at the lower levels. Exactly how much light the lower-level phenomena throw on the higher-level phenomena at each stage, however, will probably long remain a matter involving differences of opinion. Thus Dr. Novikoff seems to take the view (p. 213) that the behavior of the lower animals, whether solitary or in primitive association (societies?) has little relevance to the phenomena of human society, while Gerard, as well as Emerson, on the contrary, have argued that the lower animals have much to teach us about the higher human level. On this point I should be inclined to agree with Dr. Gerard, who is, I am sure, not likely to fall into what I have elsewhere called "the heresy of biologism" ("Time, the Refreshing River," Macmillan, 1944), the fascist doctrine that unending internecine strife is as much the law of human society as it is of the wild forms of animal life. It would be a pity if, in the interests of maintaining the uniqueness of the human sociological level, we were to return to an almost ecclesiastical separation of man from the rest of the living world, without the consolation of an angelic world with which he might ally himself. This would hardly be in accord with the idea of scientific socialism.

Novikoff also takes Gerard to task for speaking of a "mysteriously operating 'organizing trend'" in the universe. Mysterious it may still be to us, as it was to Anaximander or to Lucretius, but it is undoubtedly there. For me it has never been possible to describe it otherwise than as an overall continuous rise in level of organization through cosmic, biological and social evolution. Perhaps Dr. Novikoff fears that a belief in this trend might lead to inaction in the social field. The United Nations, he says, do not rely on any evolutionary fatalism, but rather on armed might, actively applied, to defeat fascism and keep humanity on the road of progress. I have always felt that a helpful reflection here is that, although the general direction of process is known, the speed at which it goes on is not known, and depends directly on the activities of each one of us, thinking willing monads of the highest level. If a thousand years of human suffering more or less depend upon our actions here and now, we need hardly fear succumbing to fatalism when we recognize a universal trend in the world process.

I would like to add once again my appreciation of Dr. Novikoff's stimulating contribution to the discussion of this fundamental subject.

JOSEPH NEEDHAM
BRITISH SCIENTIFIC MISSION, CHUNGKING

EXTRAPOLATION FROM THE BIOLOGICAL TO THE SOCIAL

IN his article in SCIENCE,[1] Novikoff cuts a wide

[1] Alex B. Novikoff, SCIENCE, 101: 2618, 209–215, 1945.