

by multiplying the tissue activities with estimated tissue and organ weights.

The investigations based on particle counting and particle ionization measuring methods will give values close to the upper limits of the radioactivity of the body. These methods record especially all alpha-particle emitting elements accumulated in the body under the individually given conditions. They include the main radioactive elements and their decay products, the uranium, thorium, and actinium families. These values should contribute decisively to the picture of the internal irradiation burden to which man is subjected.

There is a definite difference between the amount of radium and the amount of radioactive substances to be found in tissue, as may be seen from the values obtained by Behounek and Fort (7), when measuring one and the same tissue with two different methods (Table 1). There is however, no consistency in the ratio of these two values. The ratio of radium content to radioactive-material content changes from case to case, depending on the history of the case and on the physiological state of the individual as well as on the rate of accumulation and excretion for the individual radioactive element in the body.

It should be kept in mind, therefore, in any discussion of the problem that the emanation method gives the amount of radium element present in the body; the gamma-ray sensitive methods measure the activity in gamma radium equivalent; and the alpha sensitive methods preferentially record the radioactivity of the body in alpha radium equivalent. In the earlier publications on the radioactivity of normal and abnormal tissue, this was clearly stated and emphasized; later and even in recent publications this distinction was lost in the discussion of details.

Application of these criteria to the radioactivity values presented in Table 2 leads, therefore, to the following conclusions. Measurements of the radioactivity of the human body with methods that record radium element *per se* show, in general, the lowest values. Measurements with particle-counting devices and/or with alpha and gamma radiation sensitive ionization setups give higher values, since these methods record, besides radium element, other radioactive substances that are accumulated and deposited in the body from its environment during the years.

There is no definite, discrete value of the radioactivity of the human being. Like all other biological values, this value also covers a range rather than showing one proper figure (9). The amounts of radium element to be found in the body seem to be well below the accepted permissible radium content of 1×10^{-7} g per body. The amounts of radioactive substances deposited in the body, however, exercise an irradiation burden on the body close to the accepted tolerance figures. They are, nevertheless, much lower than the toxic amounts found so far in radium-poisoning cases. The question, insofar as these findings and the knowledge gained in radium-poisoning cases can be extended to total body irradiation studies on man, by applying the time-intensity law, requires special considerations.

References

1. A. Krebs. *Fundamenta Radiol.* 5, 89 (1939).
2. ———. *Z. Altersforschung* 4, 53 (1942).
3. ———. AMRL-Report #109. Fort Knox, 1953.
4. J. B. Hursh and A. A. Gates. *Nucleonics* 7, 46 (1950).
5. R. M. Sievert. *Arkiv Fysik* 3, 337 (1951).
6. F. C. McLean, J. H. Rust, and A. M. Budy. *Military Surgeon*, 112, 174 (1953).
7. F. Behounek and M. Fort. *Strahlentherapie* 70, 487 (1941).
8. A. V. Grosse and W. F. Libby. *Science* 106, 88 (1947).
9. F. W. Spiers and P. R. J. Burch. *Biological Hazards of Atomic Energy*, A. Haddow, Ed. (Oxford Univ. Press, New York, 1952), p. 203.

News and Notes

Entomologists Meet

THE 1953 Annual Meeting of the Entomological Society of America was held at the Hotel Biltmore, Los Angeles, Calif., Dec. 7–10, 1953, with nearly 700 entomologists registered. The president for 1954, Dr. H. H. Ross of the Illinois Natural History Survey, was installed, and the election of Dr. George C. Decker, of the same organization, as president-elect was announced. The next Annual Meeting will be held at Houston, Tex., Dec. 6–9, 1954.

The recent meeting was the first since the Society's reorganization resulting from the consolidation of the American Association of Economic Entomologists (1889–1952) and the former Entomological Society of America (1906–1952). Dr. E. G. Linsley, of the University of California, Berkeley, spoke on the role of taxonomy in the new Society and predicted that increased encouragement for taxonomic studies could be expected. The great value of taxonomic work was

one of the views also stressed by Dr. C. E. Palm, of Cornell University, the retiring president, in his address, "The growing responsibility of entomology to human welfare." A concluding thought of his address was expressed in his appraisal of the future progress of entomology as a profession: "The key to future gains, and our ability to serve, lie in the support and conduct of basic research in broadest terms for all aspects of entomology. The entomologist can no longer withdraw from his obligation to share his knowledge about insects with the public who must be informed if it is to support him adequately."

The resistance of insects to insecticides was discussed by several speakers, including Dr. Palm, who in his address suggested that the occurrence of resistant strains of insects may well be responsible for the growing support of basic physiological research, which despite its importance has been neglected too often in the past. Drs. R. B. March, R. L. Metcalf, and L. L. Lewallen, of the University of California

Citrus Experiment Station, Riverside, presented their opinions of resistance, based on the lessons of five years experience with house flies. They pointed out the limits of resistance and reasons for a moderate feeling of optimism regarding this baffling problem.

The Annual Invitational Public Address was given by Dr. Herman T. Speith, head of the Department of Biology, University of California at Riverside. His topic was "Relation of Drosophilid mating behavior to population structure." He described the quite different mating habits of various closely related fruit flies and explained their significance in contributing to the distinctness of species. One of the most thought-provoking talks, among the more than 175 presented, was that of Dr. G. C. Decker, "The role of insects in the economic future of men." His remarks left no doubt that insect problems will continue to be with us, regardless of present synthetic insecticides.

One of the newer approaches to the control of insects parasites of livestock was outlined by Drs. W. S. McGregor and R. D. Radeleff, of the U.S. Department of Agriculture, Kerrville, Tex. They described tests made by giving subcutaneous injections of insecticides dissolved in peanut oil to guinea pigs, which later demonstrated that some protection was afforded by certain of the chemicals when the animals were artificially infested with screw-worm larvae. This method of injecting host animals with insecticides is being tested experimentally with cattle, in relation to such pests as cattle grubs, ticks, stable flies, and horn flies.

There was a special seminar on "The use of photography in entomology," in which five California entomologists participated. Both equipment and outstanding results were demonstrated.

The new business office of the Society is located at 1530 P St., NW, Washington 5, D.C.

ASHLEY B. GURNEY

Executive Secretary

Science News

On Mar. 17 the President of the United States issued an Executive Order designed to strengthen the conduct and administration of the scientific research and development programs of the various departments and agencies of the Federal Government. The order directs the National Science Foundation to make studies of the scientific activities of the Nation and to recommend to the President policies to strengthen the research effort and define the Federal Government's role in it. The Foundation, over a period of time, is expected to become increasingly responsible for providing Federal support for basic research carried on in universities and other nonprofit institutions. Other Federal agencies, however, will continue to carry on basic research which is closely related to their statutory missions. The Foundation will also study the ef-

fects of Federal research support on the Nation's educational institutions and recommend policies and procedures to promote the attainment of the Federal research objectives while safeguarding the strength and independence of the educational institutions.

The order also directs the head of each agency engaged in research to make sure that such programs reflect urgent needs and are carried on economically and with regard to the efficient use of scientific manpower. In this connection the order provides a new method to facilitate the exchange of scientific equipment and facilities among the Federal agencies so as to avoid buying new equipment or building new facilities when another agency has unused equipment or facilities available. In connection with his approval of the order, the President made the following statement:

Science has a vital role in our Nation's security and growth. During the past half-century, it has brought about a vast transformation in industry, in agriculture, in medicine, in transportation, and in communications. Military science has been revolutionized by technological development. The impact of science is increasingly felt in every field of public policy including foreign affairs. All this has been brought about through a combination of vision, initiative, business enterprise, a strong educational system, and the dedicated enthusiasm of the scientific community.

The responsibilities of the Federal Government toward science have likewise changed greatly. In 1940, the Federal Government spent about one hundred million dollars in supporting research and development. The budget which I have just transmitted to the Congress calls for expenditures for these purposes in the next fiscal year of over two billion dollars. This is convincing evidence of the important role of science and technology in our national affairs.

This rapid expansion of Federal responsibility requires prudent administration. More than half of all the investment in the Nation today for scientific research and development is being made by the Federal Government. In large measure, these Federal funds are paid to industry and educational institutions for the conduct of research and development projects. Thus our Federal policies and practices regarding research and development are felt immediately and substantially by industry and our educational institutions.

More than 90 percent of this Federal support is presently going into applied research and development. This is the practical application of basic knowledge to a variety of products and devices. However, only a small fraction of the Federal funds is being used to stimulate and support the vital basic research which makes possible our practical scientific progress. I believe strongly that this Nation must extend its support of research in basic science.

While the Executive Order which I have signed today calls upon the National Science Foundation to carry out important responsibilities in regard to scientific research, it is also designed to strengthen the conduct and support of vital research and development in the several agencies where science is important in achieving their assigned missions.

This order will, for the first time, set in motion important steps leading to a thorough and continuing review of the status of the Federal Government's activities in science, and thus enable the Government, together with industry, higher education, and the scientific community to move forward with assurance toward the achievement of the Nation's goals.

I expect and believe that this order will clarify the position of the Government toward the support and advancement of science in the Nation, and that it will contribute in a constructive sense to the development of our national policy in this important and critical area.

Britain's Ministry of Supply has revealed the existence of a new industry in the United Kingdom, an industry developed on schedule in face of formidable technical and economic difficulties. In a foreword to **"Britain's Atomic Factories,"** a government publication, Mr. Duncan Sandys, British Supply Minister, says "It is right that the world should be told how fissile material is today being produced in Britain and of the remarkable factories and plant which have been designed and erected to carry out these strange processes." Center of this enterprise is Risley, Lancashire. Here were evolved blueprints for three large factories at Springfields, Windscale, and Capenhurst in the British North West. What Britain's Harwell center is to atomic research, Risley has become to atomic production. Risley began operations in February 1946 with a total strength of 12 men and women, and "of this group only one man knew anything at all about atomic energy."

Windscale, the plutonium plant, is now producing in quantity from its two piles material equally vital for power in war or peace. The chimneys of the pile tower over 400 ft above the landscape, and the factory space occupies some 300 acres and is staffed by nearly 5000 men, including over 300 architects, engineers and surveyors. Special traps and filters render the cooling air harmless before it passes out of the stacks; press-button operated shut-down rods, steel-lined concrete walls several feet thick, and warning devices make work on the piles safer than in a toy factory. So good are safety precautions that a worker who obeys the rules including wearing of special clothing, "has no chance of coming to harm in 30 or 40 years of work." That atomic production has become one of the safest of trades is largely due to emphasis on health measures by the British and development of super-sensitive instruments to "smell-out" radioactive contamination. Eating and smoking are prohibited in active areas, and all personnel must wash before leaving the job.

Typical of the immense difficulties overcome by the Risley organization is the disposal of radioactive effluents in cooling water from the Windscale plant. To achieve this safety two pipes, each 1 ft in diameter and 2 mi long, had to be laid on the sea bed within a strict time limit imposed by the tide; this operation was accomplished by welding the pipes into $\frac{1}{2}$ -mi lengths and towing them out to sea.

Driving force in the British atomic energy production program is Sir Christopher Hinton, a distinguished engineer loaned from industry to arms production in the war.

No country needs this development more than Britain, whose coal requirements for electricity production are likely to increase by 63 million tons in the next 15 yr. And Britain is struggling to maintain coal output, even at existing inadequate levels. If and when the heat from the Windscale plutonium piles can be used economically to generate electric power, Britain's economic position could be transformed. What "might possibly be realized within 20 years," says Mr. Jay, "would be to set up a reactor system which would generate enough electricity to produce a saving of 20 million tons of coal a year, the amount by which estimated production will fall short of estimated consumption during the next 15-20 years." As a start, recalls Mr. Jay in his report, "Minister of Supply Duncan Sandys announced to the House of Commons on April 30 this year that work would start on an experimental atomic power station adjoining the Windscale plant 'in a few days' time." This station, when completed, will probably be "the first of its kind in the world."

World Health Day is the anniversary of the coming into force, on Apr. 7, 1948, of the Constitution of the World Health Organization. The observance of this date affords an opportunity to help arouse throughout the world popular interest in health needs and to stimulate the people's participation in the task of improving health.

Scientists in the News

Roland H. Berg, for the past 10 yr director of scientific information for the National Foundation for Infantile Paralysis, has joined the editorial staff of *Look* magazine as medical editor.

Elmer K. Bolton of Wilmington, Del., a leader in the development of nylon and in the synthesis of neoprene, first general purpose synthetic rubber, has been named 1954 winner of the Willard Gibbs Medal of the American Chemical Society's Chicago Section. Dr. Bolton retired in 1951 as chemical director of the Du Pont Company. The Gibbs award is one of the highest honors in American chemistry and is conferred annually on an outstanding chemist selected by a national jury.

Gordon B. Carson has assumed the deanship of the College of Engineering at Ohio State University. This position was formerly held by the late Charles E. MacQuigg.

G. Robert Coatney, head of the Chemotherapy Section of the Laboratory of Tropical Diseases at the National Institutes of Health, has been named the winner of the Darling Foundation prize for his out-

standing work on malaria research. Announcement of the award was by the Geneva office of the World Health Organization.

Donald E. Coles, a research fellow in aeronautics at the California Institute of Technology, has been named winner of the annual Lawrence Sperry Award by the Institute of the Aeronautical Sciences. Dr. Coles was cited for his experimental and theoretical contributions to the basic knowledge of turbulent skin friction and heat transfer at supersonic speeds.

In March friends of **Prof. Peter Debye** of the Cornell University Chemistry Department gathered for the Debye 70th Anniversary Symposium. Prof. Debye, who has continued in research since his retirement from teaching, was 70 on Mar. 24. He received a presentation copy of his collected works, which are being published this spring by Interscience Publishers.

James G. Horsfall, director of The Connecticut Agricultural Experiment Station, New Haven, has been granted a sabbatical leave which he will devote to research, teaching, and writing at the University of California, Berkeley. He will return to New Haven in July.

Lawrence C. Kolb, consultant in psychiatry at the Mayo Clinic and associate professor in psychiatry of the Mayo Foundation, Graduate School of Medicine, University of Minnesota, has been appointed director of the New York State Psychiatric Institute and professor of psychiatry and executive officer of the Department of Psychiatry, Columbia University College of Physicians and Surgeons. Dr. Kolb will also be director of psychiatry service at Presbyterian Hospital. All appointments become effective July 1. He succeeds Nolan D. C. Lewis, who retired from state service last September.

Frederick A. Mettler, professor of anatomy in the Department of Neurology, College of Physicians and Surgeons, delivered the annual Murray B. Gordon Memorial Lecture at the State University College of Medicine at New York City. The lectures have been given each year by original investigators who have made outstanding contributions to the advancement of medicine and its allied sciences. Dr. Mettler's special field of interest is diseases of the nervous system.

Seth Minot Milliken, surgeon and for 18 yr treasurer of the New York Academy of Medicine, received the Academy Plaque in recognition of his outstanding service to the Academy.

Charles C. Price has been appointed head of the Chemistry Department at the University of Notre Dame. Dr. Price served as head of the Chemistry Department from 1946 to 1952, but resigned the post to campaign as the Democratic nominee for U.S. Representative from Indiana's 3rd Congressional District. However, he continued to teach in the department.

Isadore S. Ravdin, professor of surgery at the University of Pennsylvania and surgeon-in-chief at the University's hospital, has received the Buffalo Surgical Society's Roswell Park Memorial Medal for "outstanding surgical achievement."

The Office of International Relations, National Academy of Sciences—National Research Council, has provided the following information concerning the travel plans of scientific visitors to the United States:

D. J. Griffiths, Welsh Plant Breeding Station, University College of Wales. Arrived in March for a 4-mo stay to study breeding techniques and their application to the breeding of oats in particular, on a Kellogg Foundation Scholarship. Will visit Iowa State College, University of Missouri, University of Wisconsin and other institutions.

D. M. Jackson, surgeon-in-charge of Medical Research Council's Industrial Injuries and Burns Research Unit, 38 Old Queen St., London. Here from Apr. 27 until mid-October for research work at the Massachusetts General Hospital in Boston (Dr. Oliver Cope).

Alexander King of the Department of Scientific and Industrial Research London, commenced 4-wk stay on Mar. 10. Is visiting research laboratories and government agencies to discuss problems relevant to work of the D.S.I.R. (United Kingdom Scientific Mission, Washington, D.C.)

W. C. Moore, director of the Plant Pathology Laboratory at Milton Road, Harpenden, Eng. (Ministry of Agriculture and Fisheries). Here Mar. 23–May 3 to discuss legislation, regulations, and quarantine concerning import and export of plants.

Rosalind Pitt-Rivers, National Institute for Medical Research, London. Arrived Sept. 1, 1953 for 1 yr of research in biochemistry at the Massachusetts General Hospital in Boston (Dr. R. L. Berg).

G. J. Popjack, Director, Medical Research Council's Experimental Radiopathology Research Unit, 38 Old Queen St., London. Here June 1–July 12.

Jarl Cecil Sarvas, Department Engineer, Electrical Inspectorate, Helsinki, Finland. Under auspices of the International Educational Exchange Service. Arrived Feb. 3 for 90 days. (Miss Elizabeth Jorziak, Programs Branch, Leaders Division, Department of State, Washington 25, D.C.)

A. W. Skempton of the Department of Civil Engineering at the City and Guilds College, South Kensington, Eng. Arrives in May. Will give lectures at the University of Colorado and elsewhere.

Maedonald Tow, Department of the Nuffield Professor of Surgery, University of Oxford, England. Arrived in January for several months. Fields of specialization are: functions of the frontal lobes; functions of cingulate gyri and orbital gyri in man; anatomical basis of intelligence, personality and emotions; long-term results of cingulate cortex and orbital cortex operations for psychoneuroses; long-term results of frontal lobe operations on social, spiritual and ethical

behavior in man. (Prof. Stanley Cobb, Massachusetts General Hospital, Boston 14.)

Peter Trench, Bovis Ltd., London. Here for about 4 wk from early April to May. Unofficial visit to study building methods and organization with a view to introducing in the United Kingdom such methods or organization that could help increase productivity and reduce building costs. (United Kingdom Scientific Mission, Washington, D.C.)

O. A. Trowell, Member of Medical Research Council's Radiobiological Research Unit, 38 Old Queen St., London. Here May 25-June 9 to attend conference New York on leukocytic functions. Various other visits.

Education

A new course for secondary-school science teachers, "Current Developments in Science," will be offered by the Harvard Summer School this year. A number of special fellowships are available for the course, which continues the series in Science Education initiated by James B. Conant, former president of Harvard. The course will last from July 6 to Aug. 18 and will carry 8 semester-hours' credit. It will be taught by Eugene G. Rochow, a professor in the Harvard Chemistry Department and a pioneer in silicone chemistry.

The course is designed to help teachers expand and strengthen their knowledge of basic concepts in the physical sciences, interpret new developments in these fields, and relate these developments and concepts to their own teaching. Current and recent work in chemistry, biochemistry, and physics will be discussed, and field trips will be made to nearby industrial and university laboratories. To make the course as valuable to teachers as possible, ways in which some of these topics can be used in high-school classes will be demonstrated.

Some of the fellowships will cover registration and tuition fees for the course; others will include the fees plus allowances toward room, board, and travel expenses. Awards will be based on qualifications, need, and geographic location of applicants. The course can be counted for credit toward the Ed.M. or the A.M. in teaching by those who are admitted to one of these degree programs in the Harvard Graduate School of Education.

Also of interest to teachers will be a number of courses in the sciences, including astronomy, biology, chemistry, physics, and mathematics, and a course on "The Philosophy of Science" by Max Black of Cornell University. Further information about these courses and the fellowships can be obtained from the Harvard Summer School, 2-N Weld Hall, Cambridge 38, Mass.

The Department of Neurosurgery, in conjunction with the Department of Physical Medicine and Rehabilitation, of New York University-Bellevue Medical Center has recently established a **peripheral nerve injury unit**. Thomas I. Hoen, professor and chairman of

the Department of Neurosurgery, NYU Post-Graduate Medical School, and Howard A. Rusk, professor and chairman of the Department of Physical Medicine and Rehabilitation, NYU College of Medicine, are jointly directing the unit, which is in operation at the Institute of Physical Medicine and Rehabilitation, N.Y.

The Future Scientists of America Foundation has received a grant from the Crown Zellerbach Foundation to hold a **science teacher's summer conference** on Aug. 13-27. This venture in industry-education co-operation will bring a group of selected science teachers to Oregon State College to compare their high school science laboratory programs with the activities that are current in industrial, university, and governmental research laboratories. They will divide their time between using the facilities of the college and visiting research laboratories in Oregon and neighboring states. *Applications are being accepted any time before June 1* from all certified general science, physics, chemistry, and biology teachers in Arizona, California, Idaho, Nevada, Utah, and Washington. Each teacher will receive \$200 toward the expenses of attending the conference.

Grants and Fellowships

The Philadelphia College of Pharmacy and Science is now offering to properly qualified students a number of **graduate assistantships in pharmacy** for the year 1954-55. These assistantships require 9 mo of service with a maximum teaching load of twelve student-contact hours weekly. Each assistant receives a stipend of \$1000; tuition and all other fees are remitted.

Graduate assistants may enroll in curricula leading to the Master's or Doctor's degree in pharmacy, and may major in pharmacy, pharmacology, pharmaceutical chemistry, or biological sciences. A partial schedule of studies, approximating two-thirds the full-time assignment, may be carried. The assistant will require 2 yr to qualify for the Master's degree. For application forms and further information, write to the Secretary of the Graduate Committee at the College, 43rd Street, Kingsessing and Woodland Avenues, Philadelphia 4, Pa.

The **John and Mary R. Markle Foundation** has announced the appointment of the following 25 **Scholars in Medical Science**, all faculty members of medical schools in the United States and Canada, and the largest number to be appointed in any year since the Scholar program began in 1948. The fund has appropriated \$750,000 toward the support of these doctors, to be granted at the rate of \$6000 annually to the medical schools where they will teach and carry on research.

McGill University. J. C. Beck, Faculty of Medicine. Endocrinology and metabolism.

State University of New York. W. H. Bergstrom, Syracuse College of Medicine. Pediatrics and biochemistry.

University of Minnesota. G. S. Campbell, Medical School. Surgery and physiology

University of Manitoba. R. M. Cherniack, Faculty of Medicine. Internal medicine and pulmonary physiology.

Tulane University. W. H. Clark, Jr., School of Medicine. Pathology.

University of Washington. E. L. Foltz, School of Medicine. Neurosurgery and neurology.

University of Toronto. D. Fraser, Faculty of Medicine. Clinical pediatrics and physiology.

Duke University. W. E. Hull, School of Medicine. Physiology and pharmacology.

Johns Hopkins University. D. P. Jackson, School of Medicine. Clinical microscopy, especially hematology.

University of Cincinnati. J. B. Kahn, Jr., College of Medicine. Pharmacology and physiology.

Medical College of Virginia. R. Q. Marston. Internal medicine.

University of Oklahoma. W. T. Newsom, School of Medicine. Pediatrics and newborn and premature infants.

Queen's University. D. A. Rosen, Faculty of Medicine. Ophthalmology.

University of Vermont. R. H. Saunders, Jr., College of Medicine. Hematology and clinical pathology.

Howard University. M. W. Spellman, College of Medicine. General and cardiovascular surgery.

University of Missouri. H. E. Stephenson, Jr., School of Medicine. General and cardiovascular surgery.

Washington University. J. L. Strominger, School of Medicine. Pharmacology and biochemistry.

Harvard University. E. Suter, Medical School. Bacterial physiology, immunology, and infectious diseases.

Cornell University. R. C. Swan, Jr., Medical College. Physiology and internal medicine.

University of North Carolina. I. M. Taylor, School of Medicine. Internal medicine and physical diagnosis.

University of Rochester. S. M. Tenney, School of Medicine and Dentistry. Internal medicine and physiology.

University of Virginia. O. A. Thorup, Jr., Department of Medicine. Hematology and cardiology.

University of California. R. A. Ulstrom, School of Medicine. General pediatrics, pediatric endocrinology and metabolism.

Ohio State University. R. N. Watman, College of Medicine. General surgery and physiology.

Tufts College. C. W. Watson, Medical School. Neurology and neurophysiology.

The University of Washington School of Fisheries offers financial assistance to outstanding graduate students, undergraduate students, and high school seniors in the form of scholarships with awards from \$250 to \$500 per school year, and by assistantships and part-time employment with stipends ranging from \$600 to \$2000 per year. For further information address Dr. Richard Van Cleve, Director, School of Fisheries, University of Washington, Seattle 5, Washington.

Meetings and Elections

L'Aluminium Français and La Société Chimique de France will hold a scientific congress and exhibition in Paris, June 14-19, to celebrate the centenary of the first production of industrial aluminum in France by Henry Sainte-Claire Deville. The program of the congress will include an official meeting at the Sorbonne in memory of Sainte-Claire Deville; a debate on papers dealing with aluminum metallurgy, the chemistry and physicochemistry of aluminum compounds, and the technology and uses of aluminum and aluminum alloys; and visits to plants and laboratories in Paris and vicinity. The exhibition will consist of displays of aluminum and aluminum products prepared by L'Aluminium Français. Final programs and other relevant information may be obtained by writing the

secretary, R. Gadeau, L'Aluminium Français, 34 rue Balzac, Paris 8, France.

The **Electrochemical Society** will hold its 105th meeting at the LaSalle Hotel in Chicago, May 2-6. There will be sessions on: electric insulation; electronics—instrumentation, luminescence, phosphor screen application, rare metals, and semiconductors; electrothermics; industrial electrolytics; and theoretical electrochemistry. There will be 145 papers presented. The program booklet, which includes abstracts, will be available Apr. 1 from the secretary of the Society, Henry B. Linford, 216 W. 102 St., New York 25.

The **Xth International Congress of Agricultural and Food Industries** will be held in Madrid, Spain, from May 30 to June 6. All correspondence should be addressed to the General Secretaryship of the Congress, Zurbano 3, Madrid.

The **19th International Neurologic Reunion**, organized by the French Neurological Society, will be held in Paris, June 1-2. On June 3 the French Neurological Society will hold its usual monthly meeting. The neurologic sequelae of treated tuberculous meningitis is the central problem to be discussed at the International Reunion. Members and associate members of the French Neurological Society are invited to attend and participate in the program. All neurologists who are not members of the French Society but wish to participate in the program of the Reunion should apply *before May 1* to the Secretary-General, Dr. Jean Sigwald, 68, boulevard de Courcelles, Paris (XVII^e).

The 63rd annual meeting of the **Ohio Academy of Science** will be held on the campus of Ohio University as a part of the university's sesquicentennial program, Apr. 15-17. Eleven sectional programs will be presented on Apr. 16 and 17, and the annual Science Day of the Junior Academy will be held on Apr. 16. R. A. Hefner of the Department of Zoology, Miami University, will deliver the presidential address under the title "Selective factors in human survival." Other principal officers of the Academy are: sec., Rush Elliott of Ohio University; treas., R. M. Geist of Capital University.

The **Symposium on Molecular Structure and Spectroscopy**, sponsored jointly by the Graduate School and the Department of Physics and Astronomy of The Ohio State University, will be held June 14-18. This year the Division of Chemical Physics of the American Physical Society will act as cosponsors of the first three days of the symposium. A program of the meeting, which will include abstracts, will be published through the cooperation of the Office of Naval Research. Contributors must submit abstracts *not later than Apr. 29*. For further information write Harald H. Nielsen, Dept. of Physics and Astronomy, The Ohio State University, Columbus, Ohio.