Two Strains of Corn Stunt Virus in an Insect Vector" that appeared last October in *Virology*. This report, however, simply happens to be the most recent from Maramorosch's series of studies on viruses, virus diseases, and virus transmission. In fact, he has written 56 other papers on these interrelated problems.

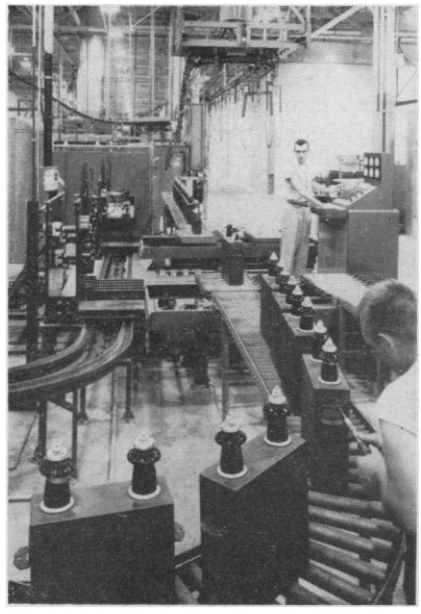
Corn stunt disease was described for the first time in 1945, when it appeared in California and Texas. A leafhopper is a vector of the causative virus. The corn stunt virus requires a very long incubation period in the maize plant and in the insect vector. It can be transmitted mechanically from insect to insect but not from plant to plant. It can be maintained in serial passages in the leafhopper. The disease is of greater economic importance in Mexico than in the United States. In a field investigation carried out in 1955, the occurrence of two strains of corn stunt virus was noticed in Mexico. Subsequent tests were carried out to investigate the interrelationships between the two causative strains of stunt virus.

For many years cross-protection tests have been used as a routine method for determining strain interrelationships of plant viruses. Two strains of corn stunt virus, designated as Rio Grande (R.G.) and Mesa Central (M.C.) are easily distinguishable in infected sweet corn plants on the basis of differences in leaf discoloration. They were therefore chosen for a study of possible strain interference in vectors. Maramorosch had previously shown that in the case of aster yellows, plant viruses multiply in their insect vectors. He established this for sweet corn stunt viruses also.

The experiments for his prize-winning work demonstrated that interrelationships between strains of viruses in arthropod transmitters may not become apparent unless the acquisition feeding periods are adequately long or adequately spaced. Protection by R.G. virus against the M.G. strain was rendered detectable only after R.G. virus was given adequate time to become well established in the insect host.

These results confirm Kunkel's original discovery that a plant virus that multiplies in its insect vector may protect this vector against infection by a related strain of virus. Whenever the strains of aster yellows virus had adequate opportunity to become established in the vector, cross-protection was complete. The relationships of R.G. and M.C. strains of corn virus, revealed by the present tests, seem to represent the first instance of a unilateral protection by a plant virus in an insect vector.

Industrial Science Award. The Westinghouse Electric Corporation won the AAAS Industrial Science Achievement Award, which is administered by Section P—Industrial Science. The company was honored for developing a machine called



An early version of Opcon "mans" one of the test stations on the capacitor production line at the Westinghouse switchgear plant in Bloomington, Ind.

Opcon (for "optimizing control") that is based upon a new concept in control systems; it replaces the pre-set, routine functions performed by a conventional system with the humanlike process of reaching a logical conclusion through experiment. The machine discovers for itself the difference between right and wrong decisions and makes impartial judgments based upon its own experience.

The idea of replacing the human function in control was first undertaken as a theoretical study at the Westinghouse Research Laboratories. About 2 years ago research mathematician, Robert Hooke, developed the required mathematical logic, which was demonstrated experimentally in a device called Automex (for "automatic experimenter"). The logic first was translated into functional apparatus under the guidance of R. E. Wendt of the Westinghouse Headquarters Manufacturing Laboratory. Then, under the direction of W. G. Evans, improved full-scale systems were developed by the company's New Products Engineering Department.

An Opcon optimizing control now is automatically performing a test on the entire output of capacitors in a new Westinghouse plant in Bloomington, Ind. For the past several months, a more-advanced version has been installed on a dehydrogenation miniplant of the Dow Chemical Company in Midland, Mich. This Opcon unit has successfully performed the difficult task of experimentally operating the miniplant at chosen optimum conditions and has good potential for full-scale plant operation. Another Opcon system is being built to run a complete distillation column in a refinery of the Sun Oil Company in Marcus Hook, Pa.

Other Prizes. Other prizes, not under AAAS sponsorship, were awarded during the Association's annual meeting.

Guy Suits, vice president and director of research, General Electric Company, received the William Proctor Prize for Scientific Achievement, which is awarded annually by the Scientific Research Society of America. It was presented at a luncheon meeting of Section X—Science in General.

John F. Fulton, Sterling professor of the history of medicine at Yale University, and for many years chairman of Yale's physiology department, received the Sarton Medal of the History of Science Society. The award, which is supported by Chas. Pfizer and Company, was presented at a joint dinner meeting of Section L—History and Philosophy of Science and of the History of Science Society.

Renalto Dulbecco, professor of biochemistry at California Institute of Technology, received the John Scott Award of the Board of City Trusts of Philadelphia, for his development of a method for demonstrating the presence of viruses in tissues. His method provided a technique for the production of plaques with animal cells. The award was presented during a dinner meeting of Section F—Zoological Sciences.

AEC and Euratom Invite Joint Research Proposals

The United States Atomic Energy Commission and the Commission of the European Atomic Energy Community have announced that they are prepared to receive proposals for research and development centered on nuclear power reactors to be built under the joint U.S.–Euratom program. This research and development program is an integral part of the joint program contemplated by the Agreement for Cooperation between the U.S. and Euratom signed in Brussels in November 1958. The over-all industrial objective is the installation within the next 5 to 7 years in the Euratom Community of U.S.-type power reactors that will have a total electrical generating capacity of approximately 1 million kilowatts.

While the agreement will enter into force only upon completion of statutory requirements in the United States and Euratom, proposals are being solicited at this time in order to expedite the process of review and evaluation so that the research and development program can be initiated promptly upon the effective date of the agreement. It is hoped that the agreement will become effective early in 1959.

Proposals may be submitted by any person, institution, corporation, or group in the United States or in the Euratom countries, or by groups including both U.S. and Euratom representation. The association of European and American personnel in the research and development projects is encouraged. Proposals may cover work in any field which the proposer considers relevant to the objectives of the joint program.

To implement the research and development program, the AEC and Euratom have created a Joint Research and Development Board. Among the functions of the Joint Board are the receipt, evaluation, and selection of proposals and over-all technical guidance of the work contracted for. Proposals may be submitted at any time and will be evaluated upon receipt. Further details concerning the joint research and development program may be obtained by writing to: Euratom-U.S. Joint Research and Development Board, 51 Rue Belliard, Brussels, Belgium, or Director, Division of International Affairs, U.S. Atomic Energy Commission, Washington 25, D.C., U.S.A.

Geophysics Journal

The American Geophysical Union has announced the establishment of a monthly *Journal of Geophysical Research,* with the first issue scheduled to appear this month. The publication, which will be partly supported by the National Science Foundation, will carry original scientific contributions on the physics of the earth and its environment and is specially designed to meet the challenge of the expansion in research activities brought about by the International Geophysical Year.

The new journal arises out of a combination of two periodicals—the bimonthly, *Transactions of the American Geophysical Union,* and the quarterly, *Journal of Geophysical Research.* Editors of the monthly are Philip H. Abelson, director of the Geophysical Laboratory, Carnegie Institution of Washington, and James A. Peoples, Jr., of the geology department, University of Kansas. Editorial offices are at Lawrence, Kan.

Soviet Research Information Wanted

The Center for International Studies of the Massachusetts Institute of Technology is conducting a study of scientific research and development expenditures and manpower in the U.S.S.R. for the National Science Foundation. Alexander Korol, author of *Soviet Education for Science and Technology,* is serving as principal investigator. Concerned primarily with selected fields of the natural sciences, the study will include an analysis of how the Soviets allocate economic and manpower resources to various fields or research and development. Data will be compiled on a basis as comparable as possible with similar data for the United States.

To make the study as accurate and complete as possible, the foundation invites communications from scientists who have visited Soviet laboratories and from specialists in the Soviet field interested in this problem. Reference to significant published studies and those now in progress in the United States or elsewhere will be appreciated. Also desired are unpublished memoranda and reports, which will be returned if requested. Communications should be addressed to Dr. Jacob Perlman, Head, Office of Special Studies, National Science Foundation, Washington 25, D.C.

News Briefs

Seven Norwegian scientists from the Norwegian Defense Research Establishment spent 7 weeks at the Navy base in Key West, Fla., testing a new antisubmarine weapon system called the *Terne* (Tern). The Norwegian frigate in which *Terne* is mounted was sent to Key West for the extensive trials which could not be made in Norway. After completing their work at Key West, the group toured naval laboratories. Part of the exchange of information between NATO countries, the tour enabled the scientists to learn more about the underwater ordnance program.

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The National Aeronautics and Space Administration has selected Rocketdyne, a division of North American Aviation, Inc., Canoga Park, Calif., as the source for design and development of a rocket engine in the 1 to 1½ million-pound thrust class.

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A gift of 25,000 reprints of scientific articles has been given to the Howard College library at Birmingham, Ala., by Emmett B. Carmichael, professor of biochemistry at the University of Alabama Medical Center. Representing his 40-year collection on experimental medicine, including bio- and general chemistry, physiology, and pharmacology, it has more than 600 reprints on cancer research alone. One of the chief values of the collection is that approximately 13,000 of the pamphlets are already cross-indexed.

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A new sheep disease, enterotoxemia type A, has been found in California. Blaine McGowan of the University of California's School of Veterinary Medicine, Davis, has so identified a disease that caused the death of about 100 suckling lambs on six California ranches during the spring of 1958. Five of the ranches were in the Sacramento Valley and one was in the Coast Range. The same bacterial disease was found in Australia in 1936 but has not been reported in the United States until now.

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Misericordia Hospital, Philadelphia, Pa., recently opened a new animal research laboratory in a separate building on the hospital grounds. A research program has been started, with the aid of various grants, by Ward D. O'Sullivan, director of the department of surgery; William C. Foster, director of the laboratory of clinical chemistry; and Jules Rominger, associate radiologist.

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The Pergamon Press will publish, in 14 volumes, the transactions of the fourth International Biochemistry Congress, Vienna, September 1958. These transactions, which are to appear early next year, represent all the symposia and colloquia contributions, with the discussion and the proceedings of the plenary sessions. The papers presented at the Vienna conference provide a cross-section of the present state of knowledge throughout the broad field of biochemistry.

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A prefabricated atomic reactor has been assembled at the California Institute of Technology. It is to be used in a nuclear engineering laboratory to train mechanical engineers. The new student reactor, built and designed by Nuclear-Chicago Corporation, requires only about 3 days to assemble and load with fuel. The assembly is designed so that it cannot reach criticality; this makes a nuclear accident impossible.

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North Rhine–Westphalia is the first province in the Federal Republic of Germany to inaugurate free treatment of cancer for everyone. There are already 180 municipal-examination centers in North Rhine–Westphalia. The expense to the state of each case treated, including care of the person's family where necessary, is estimated to be about DM30,000.

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The Air Force has selected Sundance, Wyo., as the site for the installation and test operation of a factory-assembled, modular nuclear power plant for use in remote military installations.

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A metallurgical research center for Olin Mathieson Chemical Corporation which combines laboratories and pilot production plant will be completed in New Haven, Conn., by mid-1959. The new $4-million center will be organized into two primary units—the Metals Research Laboratories, and the Nuclear