

Meetings

Virology

The Gustav Stern symposium on "Perspectives in Virology II" met in New York City on 25 and 26 January 1960 and provided opportunities for probing into many facets of virology. It was attended by 120 invited participants, who reflected the international scope of interest in this field and the diversity of the disciplines aimed at clarification of viral problems.

Basic aspects of virology were presented on the first day. T. M. Sonneborn (Bloomington, Ind.) discussed borderline host-parasite relationships as exemplified by the kappa agents of *Paramecium*. He described the exclusion of lethal kappa agents from the cell by the more efficient benign kappa competitive agents and proposed that similar studies should be undertaken with viral agents. Robley Williams (Berkeley, Calif.) defined the significance of ultramicroscopic particles in cells and the importance of relating them to viral agents through biological assay. He reviewed the electron-microscopic appearance of many of the animal viruses which have been viewed in purified form and in ultrathin sections. He was unable to

detect a distinction in observable structure between cytolytic and oncogenic viruses. He outlined developments which would be needed for further interpretation of the cell-virus relationship.

G. Schramm (Tübingen, Germany) discussed mutation in viruses. He analyzed the kinetics of mutation of tobacco mosaic virus ribonucleic acid through treatment with HNO_2 . W. Wilbur Ackermann (Ann Arbor, Mich.) discussed the biochemistry of vaccinia infection. He described how the mechanism of vaccinia infection conforms to the pattern of the small viruses. In HeLa cells, one particle can initiate a focus of infection, this is followed by an eclipse phase, then virus production occurs as an all-or-none phenomenon. The cytoplasm shows increased accumulation of protein, ribonucleic acid, and deoxyribonucleic acid prior to the appearance of new virus. James E. Darnell (Bethesda, Md.) demonstrated that a cell infected with poliovirus does not make virus-specific precursor molecules for the first $2\frac{1}{2}$ to 3 hours after infection. The protein and ribonucleic acid components are then synthesized and joined as mature virus.

R. Walter Schlesinger (St. Louis, Mo.) discussed vagaries of adenovirus-cell complexes and showed, by exam-

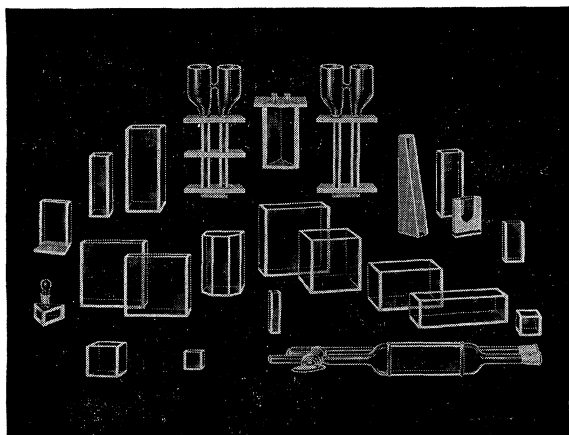
ple, that a single amino acid (arginine) in the nutrient fluid can influence the appearance of cytopathology, as well as the emergence of latent viral agents. A report by Harold S. Ginsberg (Cleveland, Ohio) on biochemical alterations in adenovirus-infected cells indicated that the intranuclear inclusion bodies were deoxyribonucleic acid; that this was newly synthesized as a result of viral infection; that it differed in structure from normal host deoxyribonucleic acid; and that it was probably a "single-stranded" deoxyribonucleic acid. The inclusions were the result of an overproduction of a viral precursor. The cellular protein increase contained three distinct biologically active fractions: (i) infectious viral particles, (ii) toxin, and (iii) common soluble CF antigen.

Selman Waksman (New Brunswick, N.J.) discussed experiences in the search for antiviral agents. He attributed failures to obtain antiviral agents from microbial cultures to searches which were concerned primarily with the properties of growth and metabolism in biological systems; however, viruses possess no intrinsic enzymatic mechanisms. Clarification of the mechanism of viral synthesis and viral activity within the cell may provide leads toward effective treatment.

Papers on the second day of the

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symposium were concerned with applications. Alick Isaacs (London, England) defined "interferon" as a normal cell constituent produced in excess as a defense mechanism in response to virus stimulation. He characterized "interferon" as a protein with molecular weight of 100,000. It is nontoxic and nonantigenic at virustatic doses. He postulated that "interferon" may function as an antagonist to pentose metabolism of virus replication, thereby "starving the virus." Albert Sabin (Cincinnati, Ohio) showed that by the artificial selection of polioviruses with high reproductive capacity at low or high temperatures, the virologist has a tool by which he may be able to alter or detect the biological activity of many viruses. In discussing creative associations in biology, René J. Dubos (New York) pointed out how singular biological phenomena could be altered when one organism shared the environment of another.

Sidney Kibrick (Boston, Mass.) reviewed viral infections of the fetus and newborn. He pointed out that evidence on intrauterine and neonatal viral infections in man may be more significant than has been generally anticipated. He considered the perinatal period as a most hazardous period, when poliovirus, smallpox, vaccinia, salivary gland virus, and chickenpox could pose serious problems. He reviewed 53 cases of Coxsackie virus-induced myocarditis and interpreted the route of infection as transplacental. Françoise Haguénau (Villejuif, France) analyzed tumor virus-infected cells as viewed by electron-microscopy. She stated that ultrastructural lesions could not be considered specific, and that the presence of virus-like particles could be interpreted only as an abnormal sign. It was her opinion that infected and noninfected tissue culture preparations may provide the best media for electron-microscopy. Wallace P. Rowe (Bethesda, Md.) described an epidemiological study of mouse polyoma virus infection in wild mice in the Harlem district of New York City. This study provided thought provoking guidelines for similar studies on human tumors. While serological evidence of polyoma infection was highest in mice from congested areas, there was very low incidence of tumor disease. Polyoma virus was recovered from naturally infected wild mice and from cage contents (bedding). The virus appeared to be present in some commercial colonies. Robert J. Huebner (Bethesda, Md.) discussed viruses in search of cancer. His thought-provoking presentation provided the introduction to an informal seminar (of which H. B. Andervont, Bethesda, Md., was chairman) on criteria to establish viruses as a cause of human cancer. A

panel of 14 tumor-virologists attempted to define guidelines for such a program. A résumé of their discussions is being prepared by Andervont.

Peyton Rous (New York) was honored during the evening banquet, on the occasion of his 80th birthday and of the 50th anniversary of his first publication on the Rous sarcoma virus. An eloquent tribute by Charles Oberling (Villejuif, France) brought into clear perspective the contributions of Peyton Rous to science and to society.

This symposium was a unique meeting. The formal presentation of papers induced lively discussions by the participants. The aim of the symposium was to provide a forum for exchange of information among individuals of diverse interests and a bridge across which such information could be conveyed to those who will apply it in public health. The proceedings of the symposium will be published as a *Festschrift* in honor of Peyton Rous, through the Institute of Microbiology, Rutgers University.

MORRIS POLLARD

Medical Branch,
University of Texas, Galveston

Forthcoming Events

June

1-3. Culture, Society and Health, conf., New York, N.Y. (Miss D. L. Keur, Hunter College, New York)

1-3. Instrumental Methods of Analysis, annual symp., Montreal, Quebec, Canada. (W. H. Kushnick, Instrument Soc. of America, 313 Sixth Ave., Pittsburgh 22)

1-3. Radar Symp., 6th annual, Ann Arbor, Mich. (W. A. Blikken, Willow Run Laboratories, P.O. Box 2008, Ann Arbor)

1-4. American Assoc. of Bioanalysts and California Assoc. of Clinical Laboratories, annual, San Francisco, Calif. (Mrs. M. K. Higgins, 75 Buena Vista Ave., San Francisco 17, Calif.)

1-5. Irrigation and Drainage, 4th intern. cong., Madrid, Spain. (D. Díaz-Ambrona, Comité Nacional Español de la Comisión Internacional de Riegos y Drenajes, Ministerio De Obras Publicas, Agustín De Bethencourt 4, Madrid)

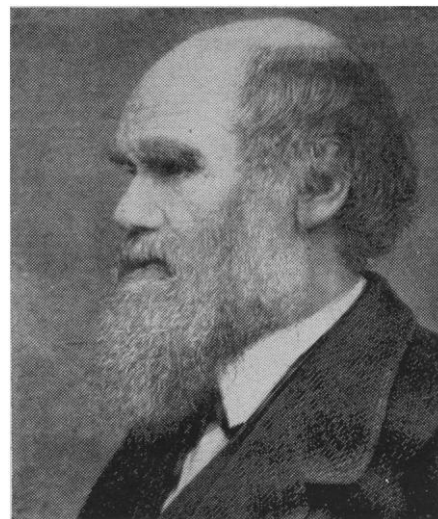
2-4. Drugs Affecting Lipid Metabolism, intern. symp., Milan, Italy. (S. Garattini, c/o Institute of Pharmacology, Via del Sarto 21, Milan, Italy)

3-8. Pan American Medical Women's Alliance, 7th cong., San Juan, Puerto Rico. (Mrs. S. D. Rosekrans, 504 Newett St., Nullsville, Wis.)

5-8. Special Libraries Assoc., 51st annual, Cleveland, Ohio. (B. M. Woods, SLA, 31 E. 10 St., New York 3)

5-9. American Soc. of Mechanical Engineers, summer annual and aviation conf., Dallas, Tex. (L. S. Dennegar, ASME, 29 W. 39 St., New York 18)

5-9. World Power Conf., Madrid, Spain. (D. J. Pérez, Pozualo, Spanish National Committee, General Párdinas, 55, Madrid)



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