virus was found to be present in high concentration in the circulating blood of some experimental animals, the possibility of an insect vector was considered. Experiments completed have demonstrated the ability of *Aedes aegypti* mosquitoes to transmit the disease to guinea pigs by bite.

In the initial experiment a guinea pig was inoculated subcutaneously with 1.0 cc of a 1–10 dilution of frozen and desiccated blood from one of the monkeys which had died 6 months previously. On the seventh day following inoculation, when the guinea pig was obviously ill, a lot of normal *Aedes aegypti* was allowed to feed upon it. Five days later seven of these mosquitoes were first allowed to bite a normal guinea pig, then were ground finely in a mortar with normal saline and injected into another normal guinea pig. The guinea pig which received the injection of killed mosquitoes died on the seventh day, and the one which was bitten by the same insects died on the eighth day. Before death another lot of normal *Aedes aegypti* was allowed to feed upon the latter animal. These mosquitoes also produced a fatal infection when six days later fifteen of the insects were permitted to bite a normal guinea pig, thus establishing two serial consecutive guinea pig-mosquito-guinea pig passages.

Other experiments have shown that the mosquitoes are capable of transmitting the virus as early as the fourth day and at least as late as the fifteenth day after feeding on an infected animal. Death has occurred between the eighth and eighteenth day following the bite of infected mosquitoes, while duplicate guinea pigs which were inoculated with an emulsion of the same mosquitoes usually died twenty-four to forty-eight hours earlier. In one experiment the bite of sixteen mosquitoes caused death on the eleventh day, while the bite of four mosquitoes from the same lot produced no obvious signs of illness. However, the surviving animal was later shown to be immune when inoculated with a large dose of known living virus. The study is being extended to include other hosts and vectors.

The virus of lymphocytic choriomeningitis in guinea pigs dying following the bite of infected mosquitoes was identified by means of a specific immunity test. The virus was neutralized by known immune guinea pig and immune monkey serum. The latter was from a monkey which survived the epizootic mentioned above and was found by Dr. J. E. Smadel, of the Rockefeller Institute, to contain both complement-fixing and neutralizing antibodies against a known strain of lymphocytic choriomeningitis virus.

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INCREASED GLYCURONATE EXCRETION FOLLOWING ADMINISTRATION OF SULFAPYRIDINE[1]

IN the course of the isolation of urinary excretion products of sulfapyridine,[2] a urine concentrate containing a diazotizable substance in concentrations considerably above the solubility of sulfapyridine or its acetyl derivative was obtained. This suggested, among other things, that the drug might be excreted in part as a sulfate or a glycuronate. Concurrent with isolation studies, we have followed the glycuronate[3] excretion in two normal males on a carefully controlled diet after the administration of a single dose of five (5) grams of sulfapyridine. A pneumonia patient was similarly studied. In each case, the glycuronate output was markedly increased during the first twenty-four hours and fell to normal within two to four days. The glycuronate concentrations paralleled the urine levels of sulfapyridine.

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[2] H. D. Ratish, J. G. M. Bullowa, J. B. Ames and J. V. Scudi, *Jour. Biol. Chem.*, 128: 279, 1939.

[3] G. B. Maughan, K. A. Evelyn and J. S. L. Browne, *ibid.*, 126: 567, 1938.

BOOKS RECEIVED

BAER, F. I. and others, Editors. *Magnes Anniversary Book; Contributions by Members of the Academic Staff of the Hebrew University.* About 500 pages. Illustrated. Hebrew University Press, Jerusalem.

CLARK, WALTER. *Photography by Infrared; Its Principles and Applications.* Pp. xi + 397. 103 figures. Wiley. $5.00.

CLYNE, R. W., Editor. *Engineering Opportunities.* Pp. xxv + 397. Illustrated. Appleton-Century. $3.00.

HASKINS, CARYL P. *Of Ants and Men.* Pp. vii + 244. Illustrated. Prentice-Hall. $2.75.

The Hebrew University, Jerusalem; Its History and Development. Pp. ix + 135. Illustrated. American Friends of the Hebrew University, New York.

KARELITZ, G. B., J. ORMONDROYD and J. M. GARRELTS. *Problems in Mechanics; Based on the Original Collection of I. V. Mestchersky.* Pp. ix + 271. Illustrated. Macmillan. $2.50.

MORRISON, A. CRESSY. *Man in a Chemical World; the Service of Chemical Industry.* Pp. xi + 292. Illustrated. Scribner's. $3.00.

SKILLING, WILLIAM T. and ROBERT S. RICHARDSON. *Astronomy.* Pp. xi + 579. 248 figures. Holt. $3.00.

VERRILL, A. HYATT. *Wonder Plants and Plant Wonders.* Pp. xiii + 296. Illustrated. Appleton-Century. $3.00.