more and more to the study of insect transmission as the most promising field for study.

Studies recently carried on jointly by the writers have shown that the overwintered adults of the flea-beetle, *Chaetocnema pulicaria* Melsh.,[1] which commonly feed upon young corn on emerging from hibernation, harbor *Aplanobacter stewarti*. Adults of *C. pulicaria* were collected from orchard grass and alfalfa at Arlington Experiment Farm near Rosslyn, Va., during April, 1934. Four lots of these adults were sterilized externally in a solution of 4 per cent. sodium hydroxide and then rinsed in a solution of 0.1 of 1 per cent. hydrochloric acid before being macerated in sterile beef broth for plating. Large numbers of *A. stewarti* in practically pure culture were obtained from all four isolations. Healthy corn plants in the greenhouse were inoculated with transfers from these isolations, all developed typical symptoms of bacterial wilt and the organism was reisolated. These organisms appeared to be particularly virulent, as the symptoms developed in three to four days and the plants died soon afterward.

Other adult beetles from the same collection referred to above were permitted to feed for several days on healthy corn plants in the greenhouse. Typical symptoms of bacterial wilt developed in these plants and *Aplanobacter stewarti* was isolated from them in pure culture. Preliminary isolations from 175 single individuals of overwintered adults of *Chaetocnema pulicaria* collected from several different species of host plants indicated that the organism occurred in abundance in approximately 19 per cent. of these beetles.

It has been known for a considerable time that *Aplanobacter stewarti* may overwinter in infected seed to a limited extent, but there is no direct evidence of overwintering in naturally infested soil in the field. Since *A. stewarti* has been found to overwinter in a common fleabeetle under natural conditions, and since infection in healthy corn plants has resulted from the feeding injuries of these beetles, it appears probable that *Chaetocnema pulicaria,* and possibly other insects, may be largely responsible for overwintering as well as dissemination of bacterial wilt of corn.

CHARLOTTE ELLIOTT
BUREAU OF PLANT INDUSTRY
F. W. POOS
BUREAU OF ENTOMOLOGY
U. S. DEPARTMENT OF AGRICULTURE

[1] Identification verified by Mr. H. S. Barber, Division of Identification and Classification of Insects, Bureau of Entomology, U. S. Department of Agriculture.

INTERNAL PRESSURE IN LATEX SYSTEM

SOON after a sudden shower on a recent afternoon I was removing some almost fully grown fruits from a *Cryptostagia grandiflora* shrub in my garden. I pierced the bark of the fruit stalk near the base of one fruit and a stream of latex spurted from the wound with unusual force. The stream continued, I estimated, from two to three seconds and reached the foliage of a row of Arundina orchids which were about three and a half feet away from and about one foot below the source of the latex stream.

This same phenomenon is often noticed, but in a smaller degree when one pricks the bark of a tree of *Hevea brasiliensis* in the early morning or soon after a shower, when turgidity is high within the tree. The emission in such a case is, however, usually only a sudden spurt of latex and I have not heretofore witnessed such a long-continued flow.

W. N. BANGHAM
DOLOK MERANGIR
E. C. SUMATRA

SCIENTIFIC BOOKS

CRYSTAL STRUCTURE

The Crystalline State. Edited by Sir W. H. BRAGG and W. L. BRAGG. Vol. I. A General Survey, by W. L. BRAGG, xiv + 352 pages, 23 × 14.5 cm, with 186 figures and 6 appendices. Published by Macmillan and Company, 60 Fifth Ave., New York City, 1934, $5.50.

THIS is the first of a projected set of three volumes dealing with all aspects of the application of x-rays to the determination of crystal structure and with many of the physical properties of crystals which can be explained in terms of the structure thus determined. It is in some respects a revision and amplification of the "X-Rays and Crystal Structure" of the same authors, first written in 1914 and revised in 1924. The title is thus to a certain extent misleading, because certain groups of crystalline phenomena, such as those which can be treated formally and which have been so exhaustively treated in Voigt's monumental "Krystallphysik" are not included, and in fact Voigt's name is not even mentioned.

It is intended that the two remaining volumes of the series shall be technically complete expositions of the detailed topics; the articles in these volumes are to be written by a number of collaborating experts. This first volume gives a general survey of the whole field and is complete in itself. The sections in this first volume serve as introductions to the more detailed treatment in the later volumes. The endeavor is to so arrange the material that consecutive reading is not