the nucleus but even knots in the tails were centers of separate activity and repulsive forces, and finally that the assumption that a mass in the tail moves in a hyperbola is only a first approximation; its actual motions seem to be along a series of short paths, under varying repulsive forces.

Only a few trifling typographical errors were detected. The printing is exceptionally good and, for a technical paper, the style is easy and the statements and conclusions clearly made. As a masterly summary of everything that was learned or inferred from the last visit of Halley's Comet the memoir can be highly recommended to every one. It leaves us, however, realizing more than ever how incomplete is our knowledge of the forces acting within a comet and of how evolution ever formed bodies of this type.

CHAS. P. OLIVIER

FLOWER OBSERVATORY,
UNIVERSITY OF PENNSYLVANIA

*The Insect Menace.* By L. O. HOWARD. Pages i–xv, 1–347, numerous text illustrations. The Century Company, New York, London, 1931.

THIS is a very readable, interesting account addressed primarily to the thoughtful general public, in spite of the apparently sensational title. The latter is justified by the facts, though comparatively few realize this. There surely is a menace in a group of animals indirectly causing deaths of millions of human beings by disease and starvation. Insects have depopulated considerable sections of the earth and are still maintaining supremacy in certain areas. They certainly can be considered menaces to human welfare.

The author has made a serious effort to interpret to mankind the insect world from the historical or geological, biological and economic aspects, using these terms in a broad sense. This is not a mere discussion of man's history of insects. It outlines the development of this enormous group over a period of forty million years or more and possibly through three hundred million generations, and compares this with the existence of man, extending over some four hundred thousand years and comprising possibly twenty-four thousand generations. It is said that blood tells. Here is a breeding record which shows man as an egotistical upstart, as compared with the earlier, the much more numerous insect dwellers of the earth. In other words, millions of years of existence, the myriad adaptations and the tremendous number of species in all parts of the earth in almost all types of matter clearly demonstrate the ancestral and biological superiority of insects which we, as humans, affect to despise. The evidence forces us to concede biological supremacy to the supposedly lowly insects. The author dwells upon the advantages of the resistant, somewhat elastic, outer walls, known as the exoskeleton to the scientist, calls attention to the great adaptability of insects and also to the extreme prolificacy of these numerous friends and enemies of mankind. In this portion of the book we find many extremely interesting records, not a few of which are relatively new, even to professional entomologists. The book is a remarkable contribution to popular literature on the status of insects and by an outstanding authority in his chosen field. The touch of a master hand and the influence of a broad general knowledge are evident throughout the work.

The problem confronting man, or practical control, is discussed in a comprehensive and extremely interesting manner. Occasional pictures of the experiences of early inhabitants of this country with insects are illuminating and add much to the text. The writer's fifty odd years' experience as a leading economic entomologist in America, in fact in the world, enables him to select the most striking examples of wide-spread depredations, and even death caused by insects. He is better equipped than many another to discuss the basic principles which should be observed in the selection of means for controlling these nefarious and, in some cases, omnipresent pests. There is an interesting and intimate account of the development of quarantine restrictions, with striking sidelights upon the difficulties of enforcing such regulations. There is a discussion of the possibilities and limitations of spraying and the potentialities of biological control. This last appeals greatly to the popular imagination, since it means using insects to kill insects, a subject which is deservedly receiving a great amount of attention at the present time. A distinctly human interest story is related in the account of a search for parasites of the notorious gipsy moth. We find romance in science as well as unselfish devotion to investigation.

There are suggestive accounts of three outstanding efforts to control insects in this country. These deal respectively with the Rocky Mountain locust or Western grasshopper, one of the most terrible pests of the earlier days and even now extremely destructive occasionally, the cotton boll weevil, an outstanding pest in the South in spite of the monument which has been erected to its honor, and the more recent Mediterranean fruit-fly, an introduced insect generally brought to public attention by the press in the last few years on account of its having been discovered in Florida. The excellent series of well-selected illustrations add greatly to the value of the text.

The writer's long experience as a leading economic entomologist and his intimate contacts with leaders in all branches of natural history have enabled him to effectively levy on much general literature usually ignored by specialists, and to cull from such works

many extremely interesting details. He has produced a very readable volume, which deals with the broader phase of our relations to insects in such a way as to command the attention of thoughtful people throughout the world. It is not a volume limited to the entomology of the United States or the entomology of the present day. It is world-wide in scope; it contains gems from the writers of earlier days and much attractive to the general reader interested in an authoritative and entertaining discussion of progress in different lines of science.

E. P. Felt

# AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

## THE HOST INSTITUTION AND HOTEL ACCOMMODATIONS FOR THE SYRACUSE MEETING

The Syracuse meeting of the American Association for the Advancement of Science from June 20 to June 25, the ninetieth of the American Association, and the second annual summer meeting of the new series, will be held under the presidency of Dr. John J. Abel. Syracuse University will be the host institution. Dean Hugh P. Baker, the chairman of the local committee for the Syracuse meeting, has supplied the following information regarding the host institution.

Syracuse University occupies approximately one hundred acres of campus on a hill in the southern section of the city of Syracuse. Its buildings overlook the city's business section, and beyond that Onondaga Lake and the rolling country toward Seneca Lake and Lake Ontario. The elevation is 600 feet above sea level, the prevailing summer breezes are cool, and the climate is healthful.

The university was established in 1871 when Genesee College was moved from Lima, New York, and the city of Syracuse bonded itself in support of a larger institution. The university is not under control of any church denomination; among its important extensions are numbered the Medical College, one of the oldest medical foundations in the state, transferred from Geneva, New York; also a university hospital founded by Bishop Huntington, of the Episcopal Church; and the State College of Forestry, affiliated after the non-denominational character of the university was confirmed. Seventeen separate colleges or educational divisions now make up the institution: they are the Colleges of Agriculture, Applied Science, Business Administration, Fine Arts, Medicine, Law, and Teachers College; and the Schools of Citizenship and Public Affairs, Extension Teaching, Graduate School, Library Science, Nursing, Public Speech and Dramatic Art, and the Summer Session. In all these divisions women share equal privileges with men, though the men outnumber the women by about one thousand.

There are thirty buildings on the campus, several of which have been erected in recent years. Among these are the Hendricks Memorial Chapel; Sims Hall dormitory for men; Slocum Hall, which houses the Colleges of Business Administration, Home Economics, Agriculture, and the School of Citizenship and Public Affairs. The New York State College of Forestry has just completed the Louis Marshall Memorial building and the School of Citizenship expects to be housed in the near future in a building which will be started this spring. The departments of zoology, botany, geology and geography and bacteriology are located in Lyman Hall; Bowne Hall houses the department of chemistry. The third and fourth year medical students, as well as the students who graduated from medicine, are taught in the College of Medicine building. The Good Shepherd Hospital is operated in connection with the College of Medicine. These two units provide the necessary class rooms and laboratories and, in conjunction with the many city hospitals, make for a well-rounded medical unit.

The College of Law holds its courses in Hackett Hall, situated across the street from the county courthouse in the down-town district. The other departments of the university, with the exception of the College of Medicine which is located in the down-town district, are conducted in buildings on the campus between University Place and College Place.

Nearly all the freshmen are housed in dormitories either owned or operated by the university. Sims Hall, dormitory for men, is located on the campus and houses 144 students. Opposite the campus on University Place are Reid Hall, Haven Hall and Winchell Hall, and several smaller dormitories for women.

Although the university has a small endowment, the pressure for admittance continues, despite rigid maintenance of academic standards and increase of tuition charges. This fact is explained by the several currents of student life flowing steadily toward the university, including the original stream of Methodist young people from the towns, villages and farms of central New York, and the added stream of students from the high schools of manufacturing cities, many of them choosing Syracuse because of the opportunities for self help in a city of 210,000 people. The