SCIENCE

VOL. LXVIII SEPTEMBER 14, 1928 No. 1759

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal.

Lancaster, Pa. Garrison, N. Y.

Annual Subscription, $6.00. Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE FOURTH INTERNATIONAL CONGRESS OF ENTOMOLOGY

THE First International Congress of Entomology was held in Brussels in 1910, the second congress was held at Oxford in 1912, the third, after a long interval covering the period of the world war, at Zurich in 1925, while the fourth congress just held in Ithaca, at Cornell University, from August 12–18, has also become a matter of history so far as the actual events which took place during that week are concerned.

In point of numbers, the fourth congress was the largest one ever held, a statement dear to the heart of most Americans. The total number registering was 625, among which were representatives of 39 countries. Thus the prophecy made by the writer in the June number of *The Scientific Monthly* has been fulfilled. As we there predicted, large numbers of American and Canadian entomologists came to the congress, while the funds provided by the Carnegie Endowment for International Peace, together with the desire of European entomologists to visit America, brought a surprisingly large number of foreign guests to Ithaca. It was the presence of these latter members that made the congress a truly international one. We believe moreover that this opportunity for the coworkers of different nationalities to become acquainted with each other has contributed much toward more friendly intercourse among the scientists of the various countries represented, and that it will certainly exert its influence toward a more mutual respect between the peoples of the different nations involved. The writer is told by those who have attended the former congresses that in point of enthusiasm and quality of papers read, the fourth congress will compare favorably with any of those held before.

The first contingent of foreign entomologists, headed by Dr. Karl Jordan, secretary of the permanent executive committee, arrived in Ithaca on Saturday, August 11. These delegates, about thirty in number, reached New York on Monday, August 6, where, during the intervening time they were entertained and shown the features of scientific interest in the city by the entomological societies of New York and Brooklyn. Early on Sunday morning, August 12, a second group of Europeans arrived and the activities of the congress began in earnest, as two excursions for those interested in collecting had been arranged to take place on Sunday and several of the visitors after registering took advantage of them and spent a large part of the

day in their favorite recreation of hunting representatives of the special group of insects in which each was interested. Here, in America, these foreign entomologists were sure to find species new to them, a feature which gave great zest to their excursions in the field. In the afternoon the women of the local department of entomology served tea to all of the visiting guests. By this time many American entomologists had arrived, and, taking their cue from the foreigners, entered into the spirit of the tea party and drank as enthusiastically of the harmless beverage as though they had been going to teas every day of their lives. Indeed, the teas given during the afternoons of the week proved to be the most delightful social occasions of the congress. Every one not on a belated collecting excursion came to them and found opportunity in the numerous parlors and on the terraces of Willard Straight Memorial Hall to meet and to become acquainted with each other. It was at the teas that we came to know the foreign entomologists with whom we had perhaps corresponded and with whom we had at one time or another chanced to exchange specimens. In the evening of Sunday an informal gathering was held in Willard Straight Hall and here again we had a further opportunity of becoming acquainted before the more serious work of the congress began the following morning.

MEETING PLACES AND FACILITIES

The headquarters and place of registration were located in Willard Straight Memorial Hall, the social center of the students of the university when it is in session. Williard Straight proved to be almost an ideal building for the purpose. The large lobby furnished ample room for the desks for registration, information, *et al.,* while the large spacious lounging hall adjoining, the library at the left and the three attractive parlors beyond afforded convenient facilities for all social events. In these halls and parlors one could find an easy chair in which to take an afternoon siesta, or a table around which a party could gather to smoke and talk shop or discuss politics, while the attractive parlors gave space for the afternoon teas. The two large stone terraces on the western side of the building overlooking the city, valley, hills and lake proved popular gathering places, especially since the congress was favored with fine, fair weather during the whole week. Perhaps, the most appreciated facilities of Willard Straight were the large cafeteria and the several dining halls and restaurants on the floor below the registration hall. Here in these eating halls, all the visitors were easily accommodated for any or all of their meals at reasonable prices. In addition, one large dining-room was available for the special dinners of different groups.

The meetings for the reading of papers and discussions were held mainly in the Baker Laboratory of Chemistry with an overflow of two sections into the Rockefeller Hall of Physics just across the way. Baker Hall with its main assembly room in which the general sessions were held and its numerous lecture rooms with lanterns proved convenient for bringing the meetings into a compact area.

Another feature which many of the automobilists seemed to enjoy was the fine camping ground on the hilltop behind and beneath the stadium. There one could spread his tent beneath the stadium seats and be dry no matter how hard it rained, or the tent could be set on the greensward behind the stadium, a proceeding which proved to be without danger of the discomfort of getting wet. By taking a few steps in the morning up the stadium seats, one could get a fine view of the valley, hills and lake to the west, north and south, which ought to have put him in a fine fettle for breakfast.

THE OPENING OF THE CONGRESS

On Monday morning the congress opened with a general session in Bailey Hall. By this time over five hundred visiting entomologists had registered who, together with their wives and the local visitors, formed an impressive gathering. Brief and happy addresses of welcome were given by Dean W. A. Hammond, of the university faculty, and Dean A. R. Mann, of the New York State College of Agriculture. These were followed by the address of the president of the congress, Dr. L. O. Howard, who presided in his ever happy and delightful manner. In his address, Dr. Howard stressed the importance of entomology in the economy of human activities and urged that more time be given in the courses of zoology in the universities of this country to the teaching of entomology. He gave a fine tribute to Professor John Henry Comstock, who began the teaching of entomology at Cornell as a distinct subject in 1871 and who developed it to its appropriate rank among other zoological subjects through his continuous labors extending over a period of more than forty years. The address of Dr. Howard appears in full in SCIENCE in the issue of August 17, 1928. Following the address of the president, three papers were read by Dr. René G. Jeannel, of France; Dr. Karl Jordan, of England, and Dr. Ivar Trägårdh, of Sweden. Dr. Jordan then gave a brief report as secretary of the permanent executive committee thus bringing to a close the first session of this memorable congress.

SESSIONS OF THE CONGRESS

Four general sessions were held during the mornings at which papers dealing with the broader aspects of entomology were read by representative men from

foreign countries and from America. During the afternoons the sections on the various divisions of the science held their sessions. In general, four or five papers were scheduled for each of these afternoon sessions. Each speaker had been invited to read a paper of not more than twenty minutes in length which left at least ten minutes for informal discussion. Thus the four or five papers were supposed to occupy from two to two and one half hours and the sessions approximated this period very closely. As each afternoon session began at two o'clock it was over by 4:30 thus giving every one an opportunity to return to Willard Straight Hall for tea and social visiting.

The sessions and sections were as follows:

Monday, August 13

The general morning session held from 9:00 to 12:00 included, in addition to the addresses of welcome and the address of the president, three papers read by Dr. René G. Jeannel, Dr. Karl Jordan, and Dr. Ivar Trägårdh, respectively.

The afternoon sections from 2:00 to 4:30 were as follows: (1) Nomenclature and Bibliography; (2) Ecology; (3) Medical and Veterinary Entomology; (4) Economic Entomology; (5) Apiculture.

Tuesday, August 14

At the general session held from 9:00 to 12:00, five papers were read by Professor E. L. Bouvier, of Paris, France; Dr. Erich Martini, of Hamburg, Germany; Dr. Walther Horn, of Berlin-Dahlem, Germany; Dr. Filippo Silvestri, of Portici, Italy, and Dr. William Morton Wheeler, of Boston, Massachusetts, respectively.

The afternoon sections from 2:00 to 4:30 were as follows: (1) Systematic Entomology and Zoogeography; (2) Nomenclature and Bibliography; (3) Morphology, Physiology, Embryology and Genetics; (4) Medical and Veterinary Entomology; (5) Forest Entomology; (6) Economic Entomology; (7) Apiculture.

Wednesday, August 15

On Wednesday, the congress in a body, made a hegira to the New York Agricultural Experiment Station at Geneva, New York, where the sections on systematic entomology and zoogeography, and economic entomology had their meetings in the afternoon, but no general session was held. Instead, during the forenoon, the New York State Horticultural Society with its hundreds of progressive fruit growers held its meeting, at which Mr. Thomas B. Byrd, of Virginia, gave the principal address. This meeting of the Horticultural Society gave the visiting foreign entomologists an opportunity to see a representative body of fruit-growers and farmers of America. In addition, the U. S. Department of Agriculture, under the direction of L. H. Worthley and R. B. Gray, gave a fine demonstration of the measures in operation for the control of the European corn borer. Burning, plowing, cutting, pulverizing, and all the various devices that have been perfected to combat the corn borer were demonstrated. The equipment included a specially devised low-cutting corn binder, a low-cutting ensilage harvester, a stubble pulverizer, a stalk shaver and side delivery rake used with the shaver, and special plows for turning under stubble and refuse. A burner used in ridding corn fields of the borer was also demonstrated.

Other features were exhibits of improved models of dust and spray machines, screened doors designed to kill stable and house-flies by contact with an electrical current, the fungicidal and insecticidal properties of sulfur, sulphide sulfur and colloidal sulfur, wax models and photographic enlargements showing the more important destructive insects and nature of injuries to the principal agricultural crops of the state.

As a whole, the day at Geneva proved to be a very interesting and profitable one, and many of the guests expressed their enthusiasm over the visit. All returned to Ithaca the same evening.

Thursday, August 16

At the general session held from 9:00 to 12:00, papers were read by Dr. W. J. Holland, of Pittsburgh, Penn.; Professor M. N. Rimsky-Korsakov, of Leningrad, Russia; Dr. Hassan C. Efflatoun Bey, of Gizeh, Egypt; Dr. E. P. Felt, of Stamford, Conn., and Dr. C. L. Marlatt, of Washington, D. C.

The afternoon sections from 2:00 to 4:30 were as follows: (1) Systematic Entomology and Zoogeography; (2) Morphology, Physiology, Embryology and Genetics; (3) Ecology; (4) Medical and Veterinary Entomology; (5) Economic Entomology; (6) Apiculture.

Friday, August 17

On Friday the events were reversed and the sectional meetings were held in the forenoon while the general session, followed with a short business meeting was held in the afternoon.

The sectional meetings in the morning were as follows: (1) Systematic Entomology and Zoogeography; (2) Morphology, Physiology, Embryology and Genetics; (3) Forest Entomology; (4) Economic Entomology; (5) Apiculture.

In the afternoon at the general session five papers were read by Professor J. B. Corporaal, Wageningen, The Netherlands; Dr. Franz Heikertinger, of Vienna, Austria; Dr. R. J. Tillyard, of Canberra, Australia; Dr. A. D. Imms, of Harpenden, Herts, England, and E. B. Poulton, Oxford, England (read by W. A. Riley).

Saturday, August 18

Saturday morning was given over to brief sessions for the presentation of certain papers on systematic entomology and zoogeography, for the reading of which there had not been time during previous sessions. In the afternoon an excursion was made to Watkins Glen.

SOME OF THE FOREIGN DELEGATES AND VISITORS

The congress was notable for the large number of foreign entomologists in attendance. For the first time, we American entomologists had an opportunity of meeting in a body our foreign confrères, of talking over with

them our mutual problems and of getting acquainted with them in a social way. It was a wholesome, delightful and memorable experience. The following partial list of foreign visitors is arranged by countries in alphabetical order.

Argentina: Hon. A. C. Bollini, New York.

Armenia: Professor V. S. Dakessian.

Australia: Dr. R. J. Tillyard, Canberra; Professor W. B. Gurney, Sydney.

Austria: Dr. F. Heikertinger, Vienna.

Belgium: Dr. A. d'Orchymont, Brussels; Dr. Antoine Ball, Brussels.

Bulgaria: Dr. P. Tschorbadjieff, Sofia.

[1]*Canada:* Arthur Gibson, Ottawa; H. G. Crawford, Ottawa; Arthur Kelsall, Ottawa; K. M. King, Saskatoon; L. S. McLaine, Ottawa; W. A. Ross, Vineland Station, Ontario; Professor Georges Maheux, Quebec; Dr. W. H. Brittain, Quebec; Professor G. J. Spencer, Vancouver; Dr. Norma Ford, Toronto; Professor A. W. Baker, Guelph; E. Melville DuPorte, Quebec; S. Hadwen, Saskatoon; Dr. J. D. Detwiler, London.

Chile: Alberto Graf Marin, Santiago.

China: Dr. E. C. Faust, Peking; Chia Chi Wang.

Cuba: The Honorable Augusto Merchán, New York; Professor D. L. Van Dine, Central Baraguá.

Czechoslovakia: Dr. Francis Rambousek, Prague; Dr. Jaromir Šámal, Prague.

Denmark: Dr. Kai L. Henriksen, Copenhagen; Dr. Mathias Thomsen, Copenhagen; Dr. J. P. Kryger, Copenhagen.

England: Dr. J. C. F. Fryer, London; Dr. A. D. Imms, Harpenden, Herts; Professor L. E. S. Eastham, Cambridge; F. W. Edwards, London; N. D. Riley, London; W. H. Tams, London; Dr. James Waterston, London; G. Talbot, Witley, Surrey; Dr. Karl Jordan, Tring, Herts; Dr. Charles Hose, London; James E. Collin, London; G. Fox-Wilson, London; M. Cameron, London; L. B. Prout, Tring; O. W. Richards, London; Miss D. J. Jackson.

Egypt: Dr. Hassan C. Efflatoun Bey, Gizeh.

Finland: Dr. Uunio Salaas, Helsingfors; Dr. Niilo A. Vappula, Tikkurila.

France: Dr. Bernard Trouvelot, Paris; Dr. P. Vayssière, Paris; Dr. René G. Jeannel, Paris; Professor E. L. Bouvier, Paris; Dr. Robert Regnier, Rouen

Germany: Dr. Martin Schwartz, Berlin; Frl. Dr. Elisabeth Skwarra, Königsberg; Professor Dr. Baunacke, Dresden; Dr. F. Stellwaag, Neustadt Hdt.; Professor Dr. Max Dingler, Giessen; Dr. Walther Horn, Berlin-Dahlem; Dr. H. A. Eidmann, München; D. E. Martini, Hamburg.

Guatemala: Señor J. Montano Novella, New York.

Hungary: Dr. R. Streda, Budapest.

India: Y. P. Bhosale.

Ireland: Mr. John Carroll, Dublin.

[1] Technically the Canadians are placed among the foreign visitors. Actually they are quite as well known here and were quite as actively hosts of the congress as the entomologists of the United States.

Italy: Dr. E. Gridelli, Genoa; Professor Filippo Silvestri Portici.

Japan: Professor Shujiro Inomata, Tottori.

Mexico: Dr. Alfons Dampf, San Jacinto.

The Netherlands: The Honorable L. A. H. Peters, Washington, D. C.; Professor W. Roepke, Wageningen; Dr. J. B. Corporaal, Wageningen.

New Zealand: Dr. E. Marsden, Wellington.

Norway: Professor Lief R. Natvig, Oslo.

Poland: Dr. R. Bledowski, Warsaw.

Roumania: Dr. W. Knechtel, Bucharest.

Russia: Professor Paul I. Adrianov, Moscow; Professor W. W. Alpatov, Moscow; Dr. E. Smirnov, Moscow; Dr. A. B. Martynov, Leningrad; Professor M. N. Rimsky-Korsakov, Leningrad; Professor N. N. Bogdanov-Katjkov, Leningrad; Dr. Iv. Nik. Filipjev, Leningrad.

Scotland: G. B. Bisset.

Spain: The Honorable Don Fernando Silvela, Washington, D. C.; Don Demetrio D. de Torres, Madrid; Don Jaime Nonell y Comas, Barcelona; Don Gonzalo Ceballos, Madrid; Dr. C. Bolivar Pieltain, Madrid.

Sweden: Dr. N. A. Kemner, Stockholm; Professor Ivar Trägårdh, Stockholm.

South Africa: Dr. F. W. Pettey, Elsenberg; Professor S. H. Skaife, Capetown.

Venezuela: Hon. P. R. Rincones.

Some Interesting Papers

As a whole, the program included an interesting and in some respects notable list of papers and with a very few exceptions each author was present to give his contribution. It seems rather invidious to pick out any particular papers for special mention when all were of such excellent quality. As is usual, however, among such a diversity of subjects discussed, some of the papers had a greater general appeal than others. For example, Dr. Karl Jordan's paper on "Problems of Distribution and Variation of North American Fleas" was of special interest to American entomologists. Dr. Jordan pointed out that there were 131 species of fleas known in America north of Mexico although almost no species are recorded from the Southern Atlantic and Mississippi states. He estimates the number of species in the United States and Canada to be well over 200 while in the world at large he says there are probably over 800.

Dr. C. L. Marlatt's paper on "Restrictions enforced by the United States on Entry of Foreign Plants and Plant Products for the Purpose of Excluding New and Dangerous Pests" was an excellent and conservative discussion of this rather disturbing question. It seemed to produce a good effect on the European visitors and to give them a broader sympathy with the viewpoint of this country.

Dr. Rimsky-Korsakov's paper on "Fresh Water-living Hymenopterous Parasites in Russia" was a most interesting discussion of these tiny insects and their

habits in frequenting the rather extraordinary medium of water in order to find their hosts. We usually think of all of the allies of the bees, wasps and ants as sun-loving and land-living forms.

The paper on "Termites Modify Building Codes," by Dr. T. E. Snyder, gave an impressive account of the enormous damage these insects often perform in the warmer portions of the United States and of the effective manner in which their ravages may be met by certain methods of construction recommended for use in erecting dwellings and other buildings.

"The Relation of Taxonomy to other Branches of Entomology," by Professor Filippo Silvestri, was an excellent discussion of the interdependence of one scientific observer upon another. He showed that a study of taxonomy was fundamental and underlies all real progress in other phases of the science.

"Arthropods in the Transmission of Tularaemia," by Edward Francis, of the Public Health Service, proved exceedingly interesting and enlightening. Tularaemia is much more prevalent in the United States than most of us imagined, while its source of contagion is to the layman unexpectedly common in rabbits.

Dr. René G. Jeannel gave an interesting discussion of the distribution of the small beetles in the subfamily *Trechinae* under the title "Le Peuplement de l'Amérique du Nord par les Trechinae." The history of this group of beetles in their distribution shows unmistakably an early land connection at the north between the continents of Asia and North America and an apparent connection at the south between Africa and South America.

Dr. W. M. Wheeler in his paper on "Two Interesting Neo-tropical Myremecophytes (*Cordia alliodora* and *C. nodesa*)" pointed out the very interesting relations of ants and other insects to these plants. He showed conclusively that the domatia in these plants are preformed structures due to processes of plant growth and are not galls of insects. He concludes "that the usual plant myrmecophile theories which imply survival and the development of domatia through natural selection are simply 'bunk' and that "the myremecophytes have no more need of their ants than dogs have of their fleas."

Dr. Alfons Dampf, of Mexico, outlined the status of the "Fruit-fly Problem in Mexico." He described the serious injuries of the flies to different fruits of Mexico and gave an account of the collaboration between Mexico and the United States in the study and control of these pests.

In his paper on "Russia's Natural Life-zones and Their Injurious Insects," Professor I. N. Filipjev, of Leningrad, gave an interesting picture of the life-zones of Russia, and the factors governing the delimitation of these zones together with the insect pests inhabiting them. The injurious insect fauna varies in a surprisingly clear manner in these different regions, the variation being due to differences in various factors, particularly climate, soil and the crops produced.

"Some Methods of Analyzing the Fauna of a Dying Tree," by Ivar Trägårdh, was most suggestive as to methods of arriving at some conclusion concerning the effects of insects in killing forest trees.

Dr. H. A. Eidmann also gave a most interesting paper on "Die Forstliche Bedeutung der Ameisen." He showed that certain ants play a most beneficial rôle in the forest by destroying great numbers of injurious insects. His statistical studies showed that about one half of the insects brought back by these ants, especially *Formica rufa* and its allies, were injurious to forest trees.

Dr. R. S. Tillyard's paper on "Biological Control of Noxious Weeds" gave a detailed account of his work in the control of the prickly pear in Australia by the utilization of insects which destroy this plant. He gave an account of the various kinds of insects which had proved effective in destroying the prickly pear. The problem confronting Dr. Tillyard was most difficult but the results of his work are very encouraging.

In a similar way Dr. A. D. Imms, of England, has been working on the control of certain noxious weeds in New Zealand. In his paper "The Biological Control of Noxious Plants," Dr. Imms pointed out the difficulties of importing foreign insects for the destruction of weeds. There is always the danger that the imported forms may attack cultivated crops also and thus become destructive as well as helpful. He indicated clearly the complexities of the problem, but, at the same time, showed the favorable possibilities of such work.

Papers by W. J. Baerg on "Some Poisonous Arthropods of North and Central America"; by James Waterston, of the British Museum on "The Preparation for Description and Preservation of Minute Hymenoptera"; by Armand d'Orchymont, of Brussels, on "Particulars of the Morphology and Geographical Distribution of American *Neohydrophilus*"; by Andreas B. Martynov, of Leningrad, on "The Permian Fossil Entomofauna of North Russia and its Relation to the Kansan"; by E. P. Felt, on "Insect Inhabitants of the Upper Air," and by Alfred Emerson on "Communication between Members of a Termite Colony" were of great scientific as well as of considerable popular interest.

Space does not permit of the mention of the large number of papers dealing with economic problems

connected with the insect pests of fruit, vegetable and cereal crops. In all, nearly 175 papers were presented to the congress, each one dealing with a topic of interest to the entomologist and many of them touching humanity in an intimate way because of the relation these tiny animals bear to the production of food and to the dissemination of human diseases.

EXCURSIONS, PICNICS AND LUNCHEONS

The region about Ithaca presents a great diversity of topography combined with marked variations in climatic features. It therefore provides a wide variety of flora and a consequent diversity of insect fauna. The wide variety of soil conditions, with fresh-water marshes, salt marshes, lake borders, marl springs, peat bogs, ravines, streams of different depths and velocities, upland hills, forest areas, old pastures and other topographical features combine to make of this region a unique collecting ground for all of the orders of insects. In addition, the region is particularly attractive because of its scenic beauty. Consequently a number of excursions were arranged for the visiting entomologists in order that they might collect and, at the same time, enjoy the natural beauties of the region. Every one of these jaunts was patronized from the very beginning and local friends were kind enough to furnish their cars so that all found transportation. The following places of interest were selected as points for collecting, sightseeing and picnics:

Enfield Glen: Each of the gorges of this region has its individuality and Enfield will be found different from any other, the deep, short, canyon at the upper entrance terminates in a waterfall 115 feet in height. From the base of the falls to the lower entrance, paths lead for about two miles through rich forest, affording excellent opportunities for collecting. The glen has become the retreat of several Arctic plants, surviving in the cool recesses since glacial times.

Taughannock Falls and Gorge: The western shore of Cayuga Lake gives no hint of the stupendous canyon of Taughannock. Here are no narrow defiles as at Enfield or Watkins, but the creek has carved for itself since glacial time an ample passage between sheer walls of solid rock that tower hundreds of feet above. At the head of this abyss the waters of Taughannock pour eternally over a leap greater than that of Niagara or any waterfall east of the Rocky Mountains, yet so unusual are the surrounding cliffs that the falls appear dwarfed when viewed from the rim. The gorge was an unconquerable stronghold of Taughannock, an Algonquin chief, who with his followers never gave allegiance to the Iroquois nations. The gorge offers unique opportunities for collecting, since the south rim and cliffs harbor Arctic saxifrage and other northern species of plants.

The land surrounding the falls and gorge together with the large point projecting into Lake Cayuga, have been purchased by the state and transformed into an attractive park. On Tuesday evening all members of the congress were transported to the park, where a picnic supper was served on the shores of the lake. During the visit a group of Onondaga Indians dressed in full Indian regalia appeared on the scene and gave several of their dances which were interspersed by an interesting talk on the American Indian by Dr. E. A. Bates, an authority on the lore and history of these original Americans.

Buttermilk Falls and Gorge: The stream flowing through this gorge abounds in remarkable pot holes and runs through narrow chasms culminating in Buttermilk Falls. On the upper courses of the stream are bottom lands and woodlands which afford excellent collecting grounds.

Watkins Glen: On Saturday afternoon, August 18, nearly all members of the congress made a visit to Watkins Glen. After a trip through the gorge, a basket lunch for supper was enjoyed by those who had come prepared. The others returned to Ithaca in time for supper. Watkins Glen is a noted post-glacial gorge and one of the most renowned beauty spots of the eastern United States. It was the site of the aboriginal fortifications of the Algonquin Indians, lying at the head of Seneca Lake. Its interest lies in its majestic scenery and geological formations but it is less important as a collecting ground for the entomologist than are some of the other glens.

Lloyd-Cornell Reservation at McLean: This is a tract of eighty-one acres donated by the late Curtis G. Lloyd, of Cincinnati, Ohio. It consists of sphagnum, peat and grass (marl) bogs with surrounding second-growth forest and pastured slopes, rimmed by an esker-like morainal ridge. The locality is a rich one for Trichoptera and other aquatic forms. Among butterflies peculiar to the bogs are: *Amblyscirtes samoset, Carterocephalus palaemon mandan, Pieris virginiensis, Heodes epixanthe, Feniseca tarquinius, Thecla augustus, Melitaea harrisii, Satyrodes canthus, Enodia portlandia.* The carabs, *Elaphrus olivaceus, E. Clairvillei* and *E. cicatricosus* also occur here.

Lloyd-Cornell Wild Flower Preserve: This is a tract of 420 acres of second growth hardwood forest, adjoining other extensive forested tracts of the hills near Ithaca, also donated by the late Mr. Lloyd as a wild flower preserve. The tract includes a rock-walled gorge in the upper valley of Six Mile Creek. Colonies of *Formica exsectoides,* the mound-building ant of the Allegheny Mountains made notable by the writings

of the late Dr. Henry C. McCook, are to be seen in the open forest of the hill-top.

Lloyd-Cornell Ringwood Wild Life Preserve: This reservation, also donated by Mr. Lloyd, lies seven miles east of Ithaca. It is a tract of 110 acres in the midst of a rolling wooded country at an average elevation of 1,600 feet. Kettle holes in the moraine afford ponds, one of which is spring-fed and permanent. To the east of the preserve is a sphagum bog.

Lick Brook and Cayuga Lake Inlet: This region offers a varied environment, such as mud flats, gravel and sand banks, a long swiftly flowing stream, some pools of still water, cat-tail marshes, pastured bottom lands with open fields and groves, rank meadow vegetation, upland forest on hillsides and rocky gorge and stream.

Connecticut Hill and Cayuta Lake: A rolling upland region, the highest point being Connecticut Hill (2,100 feet) surrounded by lesser hills in an extensive area of abandoned farm lands. Forests of hardwoods, pines and hemlock struggle over the slopes and along the upland valleys. Representatives of the Canadian and Upper Austral zone floras mingle here. From Connecticut Hill, the land slopes steeply down to Cayuta Lake, about which deep swamps partly timbered offer still other variations in habitat.

Arnot Forest: This is a forest area of 1,850 acres recently donated by heirs of the late Mathias H. Arnot, for forest research to be conducted by the Department of Forestry of the New York State College of Agriculture.

The Sigma Delta Epsilon Luncheon for Women: On Thursday a luncheon was given at Willard Straight Hall in the large private dining-room by Sigma Delta Epsilon, Graduate Women's Scientific Fraternity. Covers were laid for sixty-three. Women from foreign countries and women actively engaged in entomological work were guests of the fraternity.

Following the luncheon some informal talks were given. Mrs. C. C. Murdock, president, spoke of the aims and purposes of the fraternity and then introduced Dr. Grace H. Griswold, who acted as toastmaster. Miss R. Louise Fitch, dean of women, spoke a few words of welcome. Mrs. Anna Botsford Comstock told from memory of the struggle carried on by Cornell in the early days to put the sciences on the same plane as the humanities. Mrs. E. E. Hose, of England, gave an interesting account of her work in bacteriology during the war, and then spoke briefly of some of her experiences in Borneo. Mrs. Uunio Salaas, of Finland, told of the interests and activities of the women of her country. Dr. Norma Ford, of Canada, gave some interesting facts concerning the University of Toronto which she represented as an official delegate to the congress. Mrs. I. Trägårdh, of Sweden, gracefully expressed thanks to the American women for their kind hospitality.

The Luncheon for Foreign Women Visitors: A delightful luncheon was given on Tuesday by the local women of the university to the foreign women visitors. The luncheon was held at the Forest Home Inn in the attractive little village of Forest Home near the campus. Tables were set for twenty-eight, of whom fourteen were foreign women visitors.

TWO "HONORARY EVENTS"

Each of the previous congresses at some time during its meeting has been in the habit of conferring distinction upon certain eminent entomologists by electing them "Honorary members of the congresses." At the first congress held at Brussels in 1910, this distinction was conferred upon ten men, of whom one was an American, Samuel Hubbard Scudder, of Cambridge, Mass., since deceased. At the second congress three more honorary members were elected, while at the third congress additional individuals were thus honored, making a total of fourteen persons sharing this distinction. Of these, Professor John Henry Comstock, of Ithaca, is the only living American representative. It was, therefore, fitting that the fourth congress, meeting in America, should exercise its prerogative and follow the example of the previous congresses, which it did by electing two men, Dr. W. J. Holland, of Pittsburgh, Pa., and Dr. Stephen A. Forbes, of Urbana, Ill., "Honorary Members of the Congresses."

At the general session on Thursday morning this distinction was conferred upon Dr. W. J. Holland. The time of conferring the honor on Dr. Holland was particularly propitious because Thursday, August 16, was the occasion of his eightieth birthday. His broad work as a scientist, his specific contributions to the science of entomology, and his success in obtaining funds to pay the traveling expenses of visiting European entomologists make this honor a well-deserved one.

At the general session on Friday afternoon a like distinction was conferred by the congress on that veteran of American economic entomologists, Dr. Stephen A. Forbes. Dr. Forbes, now eighty-four years old, was a conspicuous and active member of the congress, but had been obliged to return home on Thursday and was not, therefore, present to receive the distinction in person. Dr. Forbes's contributions to the field of general and economic entomology, extending over a period of many years, marked him as a fitting recipient of this honor. His younger colleagues in the field of economic entomology feel particularly gratified by this mark of distinction.

THE BANQUET

The banquet, which was the concluding social event of the congress, was held on Friday evening, August 17, in the large hall of Willard Straight. The hall had been cleared of its lounging furniture, and tables with places for three hundred and fifty had been installed instead. Every place was taken and a few who waited too long before purchasing tickets were accommodated by some of the local people giving up their places.

Dr. Howard, in the capacity of toastmaster, called upon representatives from thirty-one countries, each of whom arose and spoke a few words in his native tongue. At least fifteen languages were spoken in the responses by the different members. In this respect the banquet was unique.

CONCLUSION

In conclusion it may said with a reasonable degree of modesty that the congress was the most notable meeting of entomologists ever held in this country. It was truly an international gathering of the workers in the field of entomology and the spirit of good fellowship among the investigators in this science has been promoted and increased to a marked degree. The effects of the human contacts made during the week, of the intellectual stimulus produced by the exchange of ideas and of the renewed realization that investigators of other countries possess the same human sympathies, desires, wholesome ambitions and sincere devotion to truth as oneself, live on in the mind of every one of us and will continue to exert a widening influence toward a broader respect, tolerance and charity for each other's personality, work and aims.

Whenever the jingoes of this country talk of war hereafter, we shall remember the men we met and recalling that they were undoubtedly representative of their countrymen we shall be loath to be led into a quarrel with their country. Unquestionably every such international meeting of men from different countries, whereby they come to know each other as human beings, tends away from war and toward peace.

G. W. HERRICK

CORNELL UNIVERSITY

STRATEGICAL PERIODS FOR THE ENCOURAGEMENT OF RESEARCH STUDENTS

THE wise choice of a life work will insist on attention being paid to the personal joy of living which the vocation is expected to give. It is doubtful if any one is doing his best while trying to fill a profession in which he is unhappy. The day's work must bring a sense of joy in having contributed a little toward the ongoing of civilization. It is from this point of view that students may be enthusiastically advised to consider the fields of creative scholarship. The joy which comes from creative power was recognized very early in the history of man, for we read from a very ancient book that the Creator of all the universe contemplated his work and pronounced it good.

The advancement of knowledge requires that a fresh quota of research students should volunteer for service each year and in ever-increasing numbers. To make these students real service men they must enter the work with a sense of the joy in it all. Research students are the shock troops against ignorance. How may individuals be stimulated to join enthusiastically the ranks of those who advance knowledge?

It has been observed that out of a group of over sixty students who took up postgraduate work in physics, not over four of them had financial backing to go ahead with their graduate work. They had to depend upon assistantships in the universities where they wished to work for their Ph.D. That these assistantships have served admirably in promoting advanced work needs no argument.

However, many of these boys finished their college career in debt. It takes courage to plan graduate work with an old debt and possibly new ones staring one in the face. Couple with this assisting in a laboratory where large groups of non-inspiring students have to be dealt with and it must be evident to all that the conditions and environment for enthusing men to desire a life of creative scholarship are far from ideal.

If funds were available to finance a group of fellowships for this class of men, as has been done by the National Research Council for the men who have just taken their doctorate, I believe help in fostering research work would be applied at the most strategical period in the career of a young researcher. At present there are not enough graduate assistantships to take care of all those who desire to do graduate work. These additional fellowships would add greatly to the opportunities for advanced work which the assistantships now partially supply.

It would be most stimulating if every department in a college could offer to the best student majoring in that department a fellowship, of say $600, to be used in some research center. This would make the first year in the graduate school much easier and give the recipient an opportunity for orienting himself for the following years.