WASHINGTON WOMAN MAKES MODELS of BUGS for UNCLE SAM

MRS HEIDEMANN AT WORK ON HER INSECT MODELS

MRS OTTO HEIDEMANN

WASHINGTON Woman Models Insects on a Large Scale—Is in Employment of Department of Agriculture—Detail Obtained Through Powerful Microscopes, and Models Are Often Enlarged Hundreds of Times—Models Show Exact Colorings of the Original Insects—Mrs. Otto Heidemann Well Known in Washington Art Circles.

FROM elegant statues and busts, in bronze and marble, of distinguished personages to enlarged representations of bugs of various sorts seems, perhaps, a long step for an artist. Yet Mrs. Otto Heidemann of Washington affirms that she takes as much pains with and is, in a way, quite as much interested in the models of insects which she executes for the Department of Agriculture as she bestows upon her portraits of celebrities.

Indeed, these insect models of Mrs. Heidemann's, of which she has already made a considerable number for the bureau of entomology of the department, are works of art as well as extraordinary exemplifications of scientific skill and accuracy. The models which are upon a gigantic scale—the common house fly, as depicted, is an appalling-looking monster, with claws that might tear and rend the flesh of his human victim—exhibit the amazing variety of nature displayed in the insect world. Some of the weird creatures are truly hideous, veritable nightmare creations, while others, fantastic of form, yet are not devoid of an eerie beauty in their varied and delicate tints and gossamer-like structure. Some of the processes which Mrs. Heidemann employs to secure her remarkable fidelity to nature in these models are her own secrets, and the results which she achieves, after years of experimentation, give a distinctive value to her work.

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Mrs. Heidemann's insect models are, at present, serving an educational need of farmers and students of agriculture throughout the country, for they are used in the various agricultural colleges to impress upon students the characteristics of bugs which work for the preservation or destruction of crops, being loaned by the Department of Agriculture for this purpose. The comparatively limited number of models available for this useful employment has led to an increased appropriation being asked for, and this will mean for the gifted woman artist a considerable increase of activity in the field which she has made her own in the scientific service of the government.

A typical collection of Mrs. Heidemann's insect work is to be seen at the bureau of entomology. Most of the subjects in this collection are harmful bugs which, in some cases, are among the most formidable enemies of the farmer. Others, again, are useful types, which combat the pests. So large are all the models that the tiniest insect represented is seen in as much microscopic detail as through the highest-power magnifying lens which would tax the eye for a lengthy observation. Such an instrument Mrs. Heidemann is obliged to use in fashioning her models, for she is compelled first to dissect her tiny subject and study each portion under the microscope. She then makes a working drawing, showing the entire bug magnified to the degree that it is to be represented in the model, and, by an ingenious system, she insures that absolutely true proportion of all the parts shall be maintained, as well as the anatomical details of each. Long before commencing her modeling Mrs. Heidemann was a practical entomologist, accompanying her husband, a well known expert in this science, upon collecting tours in various parts of this country, and assisting him in classifying and describing the specimens. It may be remarked that Mr. Heidemann's original investigations have led to discoveries by him of several new species which have been named after him in entomological nomenclature.

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In her insect models Mrs. Heidemann utilizes wire, thread, wax, celluloid, papier-mache, rubber and special kinds of gauze, made by herself, as well as compositions which she has devised and the secret manufacture of which she carefully guards. In commencing her model her first care is the skeleton, which she makes of steel wire sufficiently rigid to insure permanency of form and yet pliable enough to meet the purpose to which it is put. The question of permanency troubled Mrs. Heidemann not a little at first, and when her initial work was exhibited at the Chicago exposition in 1893 she trembled lest the fragile-looking creations should not last their journey to the railway station. Time, however, has shown that the models can withstand any ordinary wear and tear to which they may be subjected, and even the first models exhibited show no traces of their extensive travels and various handling.

It is Mrs. Heidemann's genius as a sculptor that enables her to fix the wire skeleton so accurately that no subsequent alterations, when the other substances have been added, are necessitated, for even when commencing the framework she sees the completed model with its lines harmoniously in place. The bones of some insects would, enlarged to the extent of the models, be thicker than the wire, and, in such cases, Mrs. Heidemann employs one of her secret compounds to stiffen the skeleton. Wings offer, in some instances, very difficult problems, both in structure and coloration, but very often celluloid suffices as a basis, and fine wire is used for the framework. Extremely fine silken threads are employed to portray the microscopic hairs on the wings and bodies of some insects. The silvery iridescent powdery substances seen on the wings and bodies of some moths have been exquisitely imitated by the secret processes known only to Mrs. Heidemann.

Judging by the models in the bureau's collection, nature has made some of the insects most injurious to mankind in the more attractive forms, while others which are marvels of ugliness are known to be harmless or even beneficial. The representation of the coddling moth, one of Mrs. Heidemann's most notable artistic achievements, displays opalesque tints in the wings of striking beauty. Yet, as is well known, this creature is a veritable scourge to the fruit grower, its worms proving cankers especially destructive to the apple crops of the country. The part played by the moth in this wise is illustrated in the collection by a huge model of an apple, or rather of half the fruit, showing the larva of the insect engaged in its work of devastation therein. The apple model is of papier mache, and the worm is fashioned of plaster of paris.

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Next to this model one notices that of the cotton boll weevil, the depredations of which have wrought such havoc to the cotton crops of the south, and to the eradicating of which the experts of the bureau of entomology have devoted such untiring study and effort. In the greatly enlarged model the weevil, which resembles a mammoth spider, is seen to be provided with a formidable boring apparatus projecting from its head like the pictured horn upon the fabulous unicorn. It is with this appendage that the creature attacks the cotton, boring its way into the boll and preying upon the fluffy mass inside.

The average person bitten by a mosquito would, even if he got an unusually good view of his tiny assailant, probably be unable to determine whether the latter was an anopholes, and therefore a malignant disease carrier, or merely a festive singing insect of purely playful proclivities. But, portrayed by the models of Mrs. Heidemann, the three varieties of mosquitoes are seen to possess quite distinctive anatomical characteristics. There is the so-called "singing mosquito," whose nocturnal music is probably one of the most anathematized bits of music in all creation. This bug, whose general "peskiness" is the worst that has been urged against it by the scientist, is observed to be the ugliest of the mosquito family, with its unsightly body and horribly spotted legs. By its side the dread anopholes, which has been credited with the spread of fever, is a spruce-looking insect. Any insect of the size of these mosquito models might well carry consternation into the stoutest heart, for the smallest of them is more than twice the length of an ordinary hat of the male persuasion, while it would be calculated to make quite a noticeable addition to the garniture of the giddiest "merry widow."

Even the modest but at present dreaded chinch bug swells to striking proportions in its model, in which it is depicted about the size of a foot ball, while a couple of its eggs are represented of about the dimensions of the smallest steel shell used in modern naval ordnance. It is a decidedly repellant-looking insect, is the chinch bug as seen in its enlarged representation, and the impression which it produces on the beholder is intensified when it is remarked by a government entomologist that few insects, and certainly no other species of the natural order to which it belongs, have caused such enormous pecuniary losses. It therefore takes a prominent place in the insect "rogues' gallery" of the collection.

Unlike the chinch, the lady bug, or bird as it is sometimes called, takes an honorable place in the aggregation of bug portraits. The entomologists of the department have taken the lady bug under their protection, as it were, and are explaining to the agriculturists throughout the country how it is perhaps the most effective enemy to the depredations of the San Jose scale. Indeed, the saving of the peach orchards in different parts of the country is now attributed to the machinations of this modest little beetle, which goes for the scale and exterminates it without mercy. It is gratifying to reflect that the small boy, as though anticipating the dictum of the scientists, has long been inclined to deal leniently with the lady bird when caught, merely importuning it to return hurriedly to its domicile and protect its offspring from conflagration, in the couplet:

"Lady bird, lady bird, fly away home.
Your house is on fire, and your children will burn."

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The extreme simplicity of form of this beetle gives it, in its enlarged representation, the appearance of a land turtle, with a highly colored and curved shell. The mouth which, in the insect itself, can scarcely be seen without the assistance of a microscope, is so large that it could, did it belong to a living creature, conceivably bite off a man's finger like that of a snapping turtle. The scale, of which this bug is the inveterate enemy, is also depicted in the collection, and is quite a complicated looking creature by comparison, with gossamerlike wings, of beautifully delicate and iridescent hues. Wonderful as is the reproduction of these fairy tints in the wings of the San Jose scale, Mrs. Heidemann avers that she experienced quite as much difficulty in reproducing the strangely formed spines on the larva of the lady bug, a formation, however, which is devoid of attraction from an esthetic standpoint.

That singular little bug, seen so often in such numbers on the insides of leaves and known as the plant louse, is observed in its enlarged portrait to be of very simple form. Indeed, on this account, it was one of Mrs. Heidemann's easiest subjects. However, considerable importance is attached to this model at agricultural college lectures, for the insect reproduced is one of the farmers' most pernicious enemies. Its minute size, and the special apparatus with which it is provided and which is seen very plainly in the model, enables it to force its way into the kernels of the most valuable grains, arresting the moisture and nourishment of the growing cereals and causing their destruction. It is estimated by the bureau of entomology that the depredations of this minute creature have resulted in a loss to the cereal crop of one season of more than $10,000,000.

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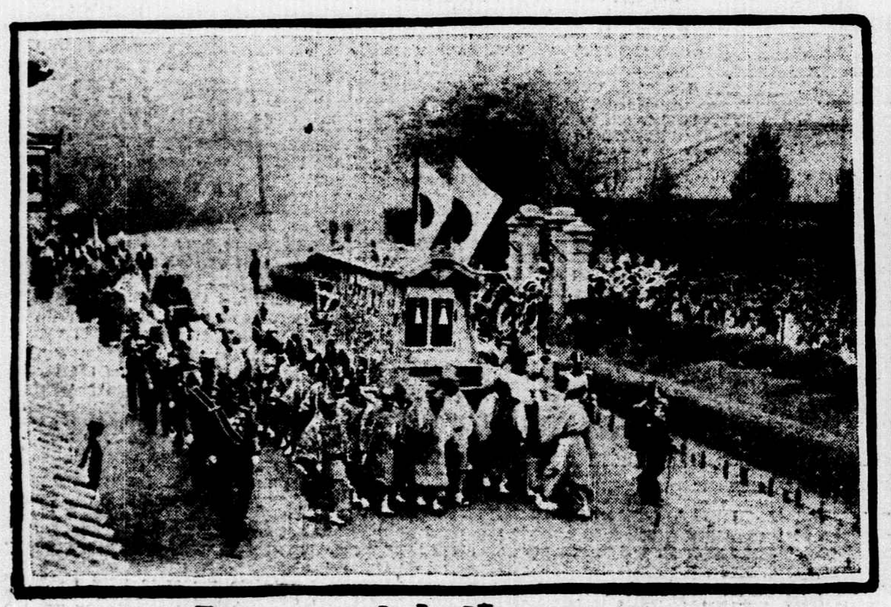
As new varieties of insects are constantly assuming importance as they are found to be inimical or friendly to the agricultural interests of the country, the work of Mrs. Heidemann, like that of the proverbial woman, is never ended. To secure her results she combines scientific enthusiasm with marked artistic ability. For several years she studied sculpture under the ablest masters in Munich, Germany, and has portrayed a number of eminent persons both abroad and in this country. In her apartments are seen busts of Prof. Fuerbach and "Father" Jahn, the former the eminent scientist, and the latter the founder of the Turnverein. Mrs. Heidemann has just completed a bust of Mrs. Clara Barton, who is an intimate personal friend of hers. This is the first occasion of Mrs Barton's sitting to an artist, and Mrs. Heidemann feels especially proud of having the honor of modeling the bust of one of the most celebrated philanthropic women of America. Mrs. Heidemann is endeavoring to introduce a style of portraiture in low relief carved upon porcelain, an artistic achievement for which she received the enthusiastic praise of the late Augustus Saint Gaudens. Many of the beautiful and artistic fabrics to be seen in the home of Mrs. Heidemann in the shape of draperies and hangings she designed and executed herself. Indeed, her artistic achievements are varied to an extraordinary extent, and it is difficult to emphasize one at the expense of another. That the government has secured her services in the interests of entomology is counted, by those best acquainted with her work, as a fortunate circumstance for national science.

PHOTOGRAPHS OF PRINCE ITO'S FUNERAL SHOW ALL JAPAN IN MOURNING



THE CASKET IN ITS NORIMON

CARRYING ON CUSHIONS THE INSIGNIA OF PRINCE ITO'S ORDERS

SAKAKI TREES SENT BY EMPEROR

THE above photographs are the first published here of the funeral of Prince Ito, who was buried at Tokio November 4. Prince Ito, the Japanese statesman, was assassinated October 25 by a Korean at Harbin, Manchuria.

The remains were not received at Tokio until November 1. With honors consistent with the career of the distinguished Japanese, the party of escort arrived at Yokosuka on board the warship Iwate, and they were met there by the family of the prince and a few of the most intimate friends. The scene at the railroad station at Tokio was a remarkable one. The station platform was filled with distinguished representatives of public and private life.

At Yokosuka the privilege of guarding the casket was relinquished by the navy and assumed by the army, and there it was placed on a carriage and drawn by troopers through the streets to the Ito home. The latter residence adjoins at the rear the grounds of the American embassy. The route to the home was lined with thousands of mourners and from every house passed were displayed flags and crepe, the latter being of very bright colors, as is the custom in Japan.

The funeral was held at the Ito home, and the thousands who were unable to gain entrance stood about the residence for hours. In the funeral procession, after the first military body, came the Shinto priests carrying green sakaki trees hung with symbolic prayer papers. After the priests came twenty-four soldiers carrying before them on cushions the insignia of the orders with which Prince Ito had been decorated by the Emperor of Japan and by other foreign sovereigns. The sakaki trees are considered sacred. Four of these were presented by the emperor, four by the empress and the remainder came singly from other princes and friends of the deceased.

Following the sakaki trees came a wreath of flowers sent by King Edward of England and others from Emperor William of Germany, Czar Nicholas of Russia, President Taft and the French republic. These wreaths were large affairs and each was carried by six soldiers. The wreaths were placed on poles and carried from the shoulders of the soldiers. The procession of flowers was quite long.

Then the high officials fell in line, among them being Prince Yamagata, Prince Oyama and Admiral Ito. They were followed by other officials of the empire wearing all their decorations. This line closed with detachments of the Japanese cavalry, artillery, infantry and marines. The route was lined with troops on one side and soldierly bodies of school boys on the other all the way to Hibiya Park, where the burial took place.

The most unique feature of the procession was the casket and hearse for the remains of Prince Ito. The hearse is very different from the ones used in other countries, being a sort of small house erected on two long poles and carried on the shoulders of the soldiers. Inside this was the casket, which was bound with brass. Everything was decorated in the brightest of colors. At the left of the casket walked Admiral Togo with Admirals Saito, Kanannra, Uriu and Schinamura. On the right of the casket walked Gen. Terauchi, and after him Gen. Nogi and Gen. Kuroki. The son of the prince was garbed in white and walked directly behind the casket, representing the chief mourner for the family. The hearse containing the casket is called a "norimon" by the Japanese.

An Ex-Convict Can Be Appointed a Magistrate

From a Staff Correspondent.

LONDON, November 19, 1909.

SOME wise man once said that it took a hundred years of complaint and agitation to bring about the reform of any old established institution in England, no matter how antiquated and unsuitable for the conditions of the day it might be. It has taken more than a hundred years of complaint to bring about a reform of the method of appointing justices of the peace, but at last the authorities seem to be awake to the anomalies and absurdities of the present method and they have appointed a royal commission to find out what is the matter with it and suggest a remedy.

Now the justices of the peace—they are known as J. P.'s—are about the most important men in the rural community. Hardly a man in England, whether he be peer or commoner, but is anxious to write J. P. after his name, notwithstanding the fact that if he is conscientious he must do a great deal of work for no pay. This accounts for another popular nickname for the J. P.'s, who are called somewhat sneeringly "the great unpaid." In spite of all this, it is the ambition of every man who has attained a position of any prominence in his community to sit in judgment on his fellows.

In the old days, when conditions were more pastoral than now, and all that the country J. P. was called on to deal with was an occasional poacher or a Saturday night drunk, the system was all right. In fact, it was probably the best that could be devised, for the local squire who sat on the petit sessions bench knew all the delinquents. He knew that Hodge had been driven to the village "pub" by a scolding wife; he knew that Bill Jones, the poacher, had a big family at home and that the hare he snared went into the family pot. On the other hand, he knew that Jim Stubbs, who despised hares and snared pheasants, was selling them for gain to a dealer in the town, and that Bob Smith was the village drunkard, and he imposed his penalties with all this knowledge in mind. Things are more complicated now, however, and it might be thought desirable that an elementary knowledge at least of the law would be useful, but this is the last thing which an applicant for appointment to the bench is likely to be possessed of.

In London and one or two other large towns the scandal of the "great unpaid" became so great some years ago that the office of stipendiary magistrate, which corresponds to that of the American police justice, was created, and trained lawyers were appointed. In the country, however, things are as bad as ever.

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Theoretically every J. P. gets his appointment from the lord chancellor, who is the leading legal officer in the English system. In practice, of course, the lord chancellor can have no knowledge of the aspirants for this honor, and in fact the J. P.'s are usually appointed as a reward for political services to the party in power. When the tories are in power the lord chancellor usually makes his appointments on the recommendation of the lords lieutenants of the counties, but when the liberals are in power the party workers dictate the nominations. In the greater part of Ireland no man can sit on the bench without the favor of the United Irish League, and the result of this is that a man may commit almost any breach of the law with impunity, provided only that it is political in its intention and on the right side in politics.

Some of the appointments which have been made by the present lord chancellor, who, before his elevation to the woolsack, was known as "Bob" Reid, one of the shrewdest lawyers in England, illustrate the absurdity of the whole system. One was a man who had been excused for years from doing jury duty because of his complete and incurable deafness. Yet he is expected to sit in judgment without a jury. Another is a very irascible officer just retired from the army whose pet fad is the restoration of corporal punishment in the army and the imprisonment as traitors of all who don't agree with him politically. A third is a prosperous retail grocer, who can barely sign his own name, and who knows no more about law than he does about the binomial theorem, while a fourth is an ex-convict, who no doubt has rather unpleasant recollections when he looks down on the dock.

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All told there are about 21,000 J. P.'s in the United Kingdom and nearly 2,000 of them have been appointed by the present lord chancellor in his four years of office. This works out at about one J. P. and a half every day, counting Sundays and holidays. Surely no one can blame the lord chancellor, who has other important work to do, for letting through a few unsuitable men.

The greatest scandal is not in the appointment of men like those mentioned, however, but in the selection of men who have no knowledge of the law and who are unfitted by temperament for the delicate duty of a magistrate. All sorts of conflicting decisions are the result. As a rule only one or two out of the dozen or more magistrates in a district sit on the bench at once, and every man has a different idea of what constitutes the proper punishment for the common offenses. The police and old offenders know exactly what will happen when they know who is on the bench. One magistrate who has rigorous ideas on temperance will send the hard-working father of a family to jail for ten days for a Saturday night spree, while another, a fox-hunting squire, will let a confirmed drunkard off with a fine of 25 cents and a half humorous admonition that he must not imitate the pet vices of his betters. A rigid Puritan today may send a poor woman to jail for stealing a loaf of bread, while his successor on the bench tomorrow may let a professional thief off with a warning.

So far no one has suggested anything better than the J. P. Paid magistrates would be too expensive, and trained lawyers could hardly be expected to act for nothing. Besides that they might be called on sometimes to pronounce judgment on their clients.

Screens.

THE late Paul Laurence Dunbar used to tell of a colored man's dream that had, he claimed, a lesson for the white man in it.

"I had," the colored man said, "a dreadful dream last night. I dreamed I'd died and gone below—gone to the bad place."

"Any white men there?" a friend inquired.

"Yes, indeed; heaps of them."

"Any colored men there?"

"Heaps and heaps; but, gents, guess what! Every single white man had hold of a black man, holdin' him between himself and the fire!"

Agreed for Once.

From the Boston Transcript.

Figg—Do you and your wife ever think alike?

Fogg—When I'm out late at the club we do. She keeps thinking what she'll say and so do I.