# The Bee's Home Magazine Page

## Bringing Up Father

Drawn for The Bee by George McManus


## *Save the Birds-- Kill the Bugs*

By ELLA WHEELER WILCOX

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That is great and good work which is being done by the widow of one of America's multi-millionaires, Mrs. Russell Sage.

By a special contribution to the Audubon society in one year she gave systematic instruction to 10,500 children in bird lore.

Here are some facts about birds, and their value to the world, which these children learn; but which older people do not know or else there could be no such wanton destruction of our beautiful birds as now exists.

Ninety per cent of the normal bird life of this country already has been destroyed, and the other 10 per cent will go in the next five years unless drastic measures are employed to stop the slaughter. The farmers and fruit growers of this country are losing over $1,000,000,000 a year by reason of the ravages of insects. Here are a few items in this appalling expense account:

The cotton growers of Texas are losing $40,000,000 to $50,000,000 a year by reason of the ravages of the boll weevil, and all because the quail and the prairie chicken, the natural enemies of that bug, have been practically exterminated in that great state. The cotton boll weevil is moving like a great army to the eastward and to the northward, and scientists sent down there to study the situation tell us it will go to the Atlantic ocean before it stops, and as far north as cotton is grown, unless all killing of birds is prohibited. The wheat growers of the United States are losing over $100,000,000 a year by reason of the ravages of the chinch bug. Why?

Because the quail, the natural enemy of that bug, has been almost exterminated. The farmers of the middle and eastern states are paying out $15,000,000 a year for paris green to put on their potato vines. Why? Because the quail, the natural enemy of that bug, has been killed off.

Each of the great apple producing states is paying $1,000,000 to $3,000,000 a year for spraying apple trees to keep down the codling moth. Why? Because the woodpeckers, the sapsuckers, the robins, the bluejays, the bluebirds, the orioles, the tanagers and other birds that formerly preyed on that insect have been killed off. And every man, woman and child who eats an apple or a potato helps to pay for this poison. Here are a few records as to the value of certain bug eaters. A quail killed in a cotton field in Texas had in his craw the remains of 127 cotton boll weevils. Another killed in a potato field in Pennsylvania had in his craw the remains of 101 potato bugs. Another killed in a Kansas wheat field had in its crop the remains of over 1,200 chinch bugs.

House martins, swallows and swifts eat rose beetles, May beetles, cucumber beetles and house flies, practically all of which are caught on the wing. Otto Widman says thirty-two parent martins made 3,277 visits to their young with insects in one day. C. C. Musselman saw martins feed their young 312 times in sixteen hours. Mr. Mosher made a record of a pair of yellow throat warblers eating plant lice in a birch tree at a rate of sixty-eight a minute for forty minutes. At this rate, this one pair of birds would destroy 73,000 of these insects in a week.

Harvey found 500 mosquitoes in the stomach of a nighthawk and sixty grasshoppers in that of another bird of the same species. A scarlet tanager ate thirty-five gypsy moth caterpillars a minute for eighteen minutes, a warbler ate ninety plant lice in a minute, and a pair fed at this rate for forty minutes. A red-winged blackbird had twenty-eight cutworms in its stomach.

Fifty-one species of birds are known to eat hairy caterpillars, and thirty-eight species feed on plant lice. It is estimated that during the stay of the birds in New York state each season they destroy more than 3,000,000 bushels of noxious insects. Think of the consequences if the birds were all exterminated. And yet the slaughter of the birds goes on.

In a single season 40,000 terns were killed at Cape Cod, Massachusetts, in order that their skins might adorn the headgear of fashionable women. The swamps in Florida have been totally depopulated of their egrets and herons. In one month over 1,000,000 bobolinks were killed on the marshes near Philadelphia by so-called sportsmen, who call these feathered songsters reed birds. And besides being one of our sweetest singers, the bobolink is one of the most industrious bug eaters we have. In the southern states both the robin and the bobolink are classed as game birds, and slaughtered by thousands all through the winter.

Mrs. Margaret M. Nice of Cambridge, Mass., has made an exhaustive study of the food of the Bob White. Instead of killing the birds and analyzing the contents of the crop, she has worked by the living feeding test method. That is, she has offered different foods to the birds and has counted and weighed the amount eaten. The total food for a day forms a natural unit in this work, and a great many of these daily dietaries have been studied.

Among them we may quote a few: One thousand three hundred and fifty house flies eaten in one day by a laying hen, along with weed seeds and green food; also another time 5,600 aphids and 1,285 rose slugs, thirty-seven grasshoppers and 2,400 seeds of pigeon grass, by a 6-week-old chick; also sixty-five large black crickets.

Fitch once computed the number of plant lice on a single cherry tree to be 12,000,000. Chinch bugs have been found in a small clump of bunch grass eight inches in diameter to the number of 20,000. J. F. Parker of Manhattan, Kan., says he counted 6,000 under similar conditions, but had to desist on account of more pressing duties. Riley once computed that the hop aphis, developing thirteen generations in a single year, would, if unchecked to the end of the twelfth generation, have multiplied to the number of ten sextillions.

Surely it is great work for a good woman to do, this educating the growing generation in a knowledge of the value of birds to the prosperity of the country.

Send a stamped envelope to Humane Society, Albany, N. Y., and ask for leaflets on birds to read to your children.



## Beauty Secrets of Beautiful Women

**Sprightly Bessie Clayton Tells Girls How Scientific Dancing Can Benefit Them**

By LILLIAN LAUFERTY.

Are you lazy? Bessie Clayton says most American women are, and that is why we still import our supreme successes in so many fields of artistic endeavor.

"Success in doing your work or in merely being properly healthy or alluringly lovely demands constant, earnest, self-sacrificing effort," said the wonderful star who is twinkling merry toes at the Colonial this week.

"You simply don't get anywhere on the stage or in the world unless you first make up your mind where you want to go and then drive your body so it goes. That impressed me very forcibly during four glorious weeks which I danced with Madame Sarah Bernhardt in Paris. She will never get old because she is so dauntless; maybe you think she has a right to sit back now and think about all she has done. No sitting back for her—she is going right on. That is the spirit that makes women great artists. And it gives them good, healthy bodies—clean and strong—as the first step toward beauty.

"Not many of us can take all the steps to beauty just because we happen to want to, but I guess any one who is not lazy can manage to take on step. After that they come right along pretty naturally."

Two Pictures of Bessie Clayton, the Dancer Who Won Fame by Her Eccentric "Yama Yama" Dance.

"You sound like an athelete in training," I remarked.

"That is just what a dancer is. No alcoholic drinks of any sort are allowed—but there are alcohol rubs. Then there is a whole system of massage, bandaging and baths.

"That is the physical part of being a dancer, and it has a reward beyond the ability to dance—it gives a sound body and firm white skin. Are not they worth any woman's trying for, even at a little sacrifice of food and drink and any pleasure that even verges on dissipation?"

They are, indeed, for Miss Clayton's smooth white dimpled wrist, and the firm white flesh of arms, legs and throat bespeak a health and vigor that are charming to eye and mind alike. And health and vigor are a first big step toward beauty.

"No sweets on your menu, I notice. Is that because you consider them injurious? I can't be that with all your violent exercise in dancing you have to consider warding off the white woman's burden—fat."

"A little of both," said Miss Clayton. "Dancing does not keep me thin—it keeps me too well to become anaemic or run down—and fat I dare not get. If a few extra pounds make their appearance, hot baths at night will do wonders; really they just fairly melt the fat off. I recommend a fifteen or twenty-minute hot bath each night to the woman who wants to reduce with comfort and ease.

"You have been called the American Genee—What do you think of the title?" I ventured into these new fields of questioning boldly.

"My dancing," said the earnest women before me seriously, "is not just a gentle art—it is athletics, too. You see one must study one's public. In all the forms of beauty and of endeavor the American public likes fire—ginger—dash—go; call it what you will. And if anything American is to be beautiful it must be in an American way. No girl is any prettier for trying to look like some one else. And my dancing must be mine—and American.

"And if you like a clear skin and bright eyes, and firm healthy flesh better than you do goodies and dissipation and laziness, you can have them. I really know more about dancing steps than steps to beauty, you see. But I think the road to success is ambition, whether it is to be a pretty picture or a moving picture, is to work." Miss Clayton laughed infectiously, and I decided that her sign post to success were well worth noting.

## New Light on the Descent of Man

**The Ancestors of Spiders and Scorpions Give Birth to the Family of Vertebraes**

By GARRETT P. SERVISS.

The affirmation of science that apes and monkeys are our collateral relatives, sprung from the same ancestral stock, was once very offensive to many good

some of whom still obstinately refuse to accept it. They think that it robs man of his dignity. What, then, will they say when told that the ancestors of spiders and scorpions must now be included in the main trunk of the great genealogical tree whose topmost branch terminates, for the present, in man, and that without their intervention neither man nor monkey would have existed?

This assertion is based upon the discovery by Professor William Patten of Dartmouth college, of the long missing link between the vertebrae, or backboned animals, and their predecessors, the invertebrates, or animals without backbones.

Until nature invented the backbone there was no possibility of the existence of an upright animal constructed on the plan of the human skeleton. But the first back-boned animals were fishes. After the fishes came the amphibians, living part of the time in the water and part of the time on land. From the amphibians sprang the land reptiles and the birds, and from the reptiles arose the mammalians, or "mother animals," nourishing their young with milk. The most progressive branch of the mammalians gave origin to a partially upright creature, which became the common ancestor of apes on the one hand and men on the other.

Thus the line of descent is clear from man back to first vertebrates, the fishes. But ever since the days of Darwin zoologists have been puzzled by the question: "What animal was it that marked the change from the invertebrates to the fishes?"

There was the great "missing link" in the chain of animal life on this globe. Professor Patten believes that he has discovered this link in a curious extinct animal called the ostracoderm, which was developed out of the family of the arachnids (Greek arachne, "spider"), to which the scorpions also belong. The arachnids themselves are not vertebrates.

The story of this discovery is intensely interesting. Professor Patten was led to it by observing the peculiar way in which the eyes in the embryo of a scorpion are transferred from the outside of the head to the blind ends of medium tubes projecting from the brain. This was so similar to what takes place in vertebral animals that he began to study the embryonic development of other species of arachnids, and was astonished to find the most striking resemblances with vertebrates. Among other things he found that the brains of arachnids closely mimic those of vertebrates, both in general shape and subdivision, and in their functions.

Still, he could not conclude that the vertebrates sprang direct from the modern scorpions and spiders, because it is known that the first vetebrates were marine animals. But he remembered that the arachnids of today are also of marine descent, their ancestors having been marine arachnids, which flourished before any vertebrate animal had appeared. Evidently he must look for the missing link afar back in geological time.

Accordingly he went back millions of years and fixed his suspicions upon the mysterious marine animal ostracoderm, which, although it was related to the marine arachnids, zoologists had always been puzzled to classify. He traveled wherever the fossils of this creature could be seen, and studied them minutely. But, unfortunately, all that had been collected were more or less imperfect, and his inquiry might never have been completed if he had not discovered a wonderful deposit of ostracoderms in the Devonion rocks on the shore of the Bay de Chaleur in Canada. The deposit was a small one, disclosed by the falling of a cliff. Prof. Patten concluded that, millions of years ago, it had been the muddy bed of a shallow, brakish water pool, in which the animals had been trapped by the sudden running off of tide water, and had perished in a heap.

He believes that their heads were turned against a gentle current of water, because the tops of all the fossil ferns found in the same bed were pointed in nearly the opposite direction. Was there ever so dramatic a picture of life on this earth countless ages ago? And then, to think that if these trapped creatures had been the only representatives of their kind, the great race of the vertebrates might have been extinguished in its cradle!

Many of the specimens were so perfectly preserved that the discoverer was able to ascertain the location of their principal sense organs, of their jaws, gills, stomach, etc., and their mode of locomotion, mode of feeding, and the nature of their food. In other words, it is the long missing link, and it shows that the marine arachnids, the great-grandfather if the spiders and the scorpions, gave rise to a race of creatures in whom nature made her first experiments toward the production of a backbone, which no true arachnid was ever to possess, but which, when set erect in man, was topped with a brain that has made its possessor the master of the world and its secrets.

**They Were Dear to Him.**

Commend us to Senator Redfield. Notwithstanding all those flippant decorative references he stands by his whiskers.

Which recalls the story of old Doc Quigley. Someone asked him why he didn't trim off his straggly beard.

"Not on your life," he replied. "Them whiskers is th' only thing I ever had any luck in raisin'—an' it took me seven days a week an' twenty-four hours a day for twenty-three years to bring 'em to their present state of perfection!"—Cleveland Plain Dealer.