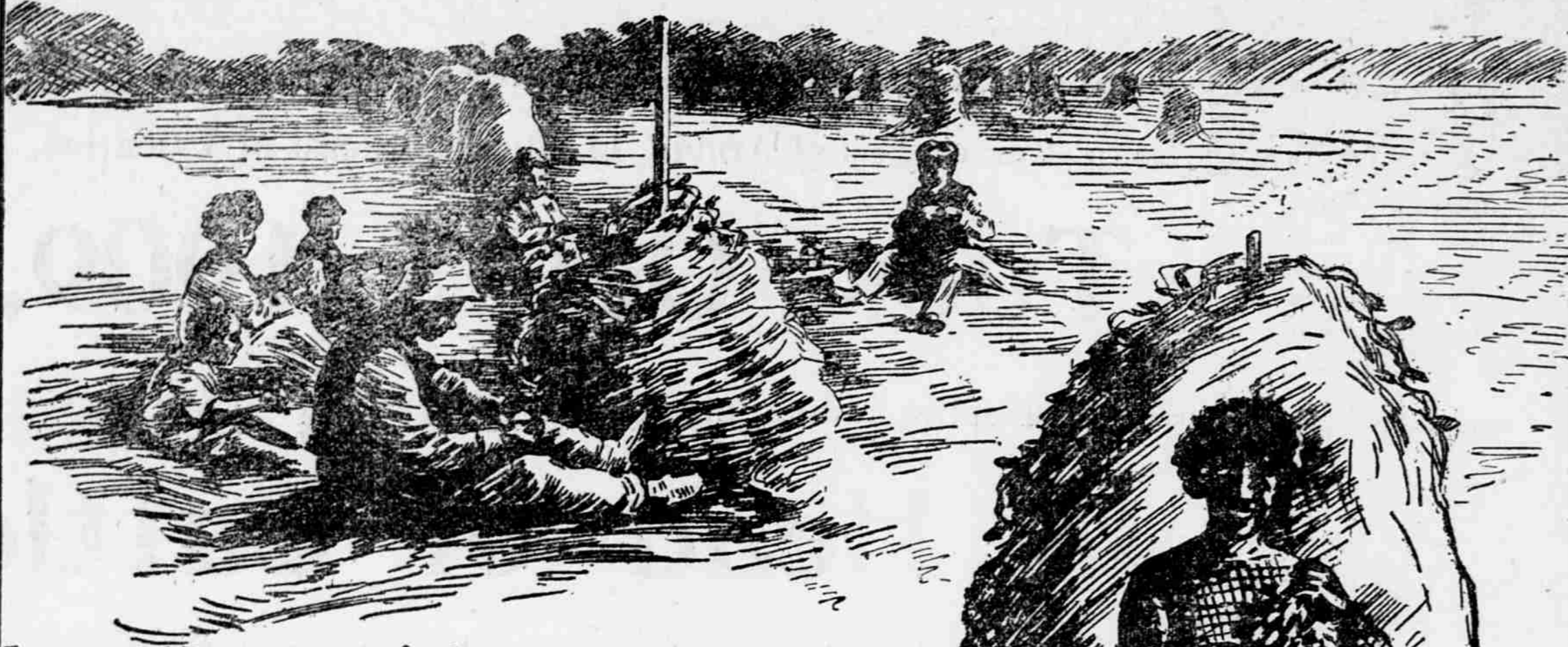


THE RISE OF THE GOOBER



PICKING THE NUTS FROM THE VINES



FROM humbleness to greatness, from insignificance to one of the most prominent places among the food products of the world, from vulgarity as the dietetic extravagance of the masses to the position of a table delicacy for the classes. That is the history of the peanut in the past fifty years.

The possibilities of the peanut as a wealth producer seem not to have been realized until recently. And even now, notwithstanding an immense increase in the acreage devoted to the crop, they are being incompletely utilized, so that the Department of Agriculture is about to issue a special bulletin calling attention to the chances for making money by raising the "goober."

A very striking feature of the document in question is the showing it makes of the many new uses to which peanuts are being put nowadays. They form an important ingredient in the vegetarian "meats" which are much more widely consumed than most people imagine. Some of these "meats," by the way, are made to imitate breaded lamb chops, with sticks of macaroni for bones. Peanuts are employed largely in the confectionery trade, and enter into the composition of many fancy cakes, such as macaroons, as a substitute for almonds. Peanut butter (likewise much affected by the vegetarians) is manufactured by the ton, and, put up in neat packages, is greatly esteemed for automobile lunches.

Now that the pestiferous boll weevil is ruining the cotton over such wide areas in the South, many planters are turning their attention to peanuts as a money crop. Although \$12,000,000 worth of "goobers" were raised in this country last year, the supply is still not nearly equal to the demand—a condition sufficiently proved by the fact that we are importing great quantities of peanut oil from Europe. Thus, too, although there are tens of thousands of acres of waste lands in the Southern States which are only waiting to be tilled with a hoe in a proper manner in order to yield enough peanuts to furnish all the oil we want, plus a liberal supply for export.

Before the civil war there were practically no peanuts eaten in America, except by the negroes and the whites of the same social grade. Now more than 300,000,000 pounds of the nuts are consumed here annually. Fifty years ago nobody thought of raising peanuts for profit, and the few that were grown were either in the "garden patches" of the slaves or as curiosities in the experimental gardens of scientists. Now there are nearly 500,000 acres in the United States that are planted to peanuts, and 200,000 persons make their living as "hands" in the peanut fields, to say nothing of the other people employed in the "factories" where the nuts are cleaned and prepared for market.

No food product known, say statisticians, has had such a remarkable and such a rapid rise as the peanut. Nothing has sprung into popularity so quickly and so completely, and in the face of such an accumulation of pre-conceived prejudice, and there are few crops grown at the present time in any part of the world that yield better returns for the money and labor invested than the peanut crop of the United States.

The reason for it all is that during the civil war, when food was scarce, some hungry Confederate soldiers raided the "garden patch" of an old negro down in Virginia, and, for lack of anything better, confiscated all his peanuts. They found the peanuts were good to the taste and satisfying. They also discovered that the peanut made excellent food for horses. They wondered why they had never discovered these facts before, and, in thinking the matter over, they remembered how fond the negroes had always been of the little "ground peas," as they are often called even yet in Virginia, and how fat the little pickaninnies always were when the peanuts were being picked. When the war was over and these soldiers went home to their battle-wasted plantations and began looking round for a way to bring a living out of the barrenness which they found, some of them thought of the peanuts. They borrowed some seed nuts from the negroes and planted their fields to peanuts, and without any knowledge of how to raise the crop, and little available labor for cultivating it, they succeeded in making a good crop the first year.

That was the beginning. Peanuts have been valuable as a marketable commodity in America from that time. At first only the common people used the nuts, but there happened to be enough of that class of society to make peanut raising profitable from the start, and since then common sense



THE PRINCESS OF THE PEANUT FIELD

and experimentation upon the nuts as an article of food have gradually broken down the prejudice against them. Now everybody eats peanuts, the small boy at the circus and the epicure in his home, and man and beast alike are benefited by the many uses to which the humble, and for so long despised, little nut has been put.

Many people are surprised when they learn how many things are made from the peanut, and how many ways the little nuts themselves are eaten. Everybody is familiar with the "fresh-roasted" of the corner stand, and the automatic whistle, and with peanut candy of all kinds, and some kinds that are not supposed to be peanuts, such as nougat and "burnt almonds." The recent popular confection known as salted peanuts is another way in which 300,000,000 pounds of peanuts which this country alone produces every year are consumed. Then there are all the so-called health foods—peanut butter, peanut flour, from which bread and pastry of all kinds are made, peanut "coffee" and "cocoa," peanut meal, which forms the foundation for patties and croquettes, and vegetarian "meat" rolls, and, lastly, peanut oil. If nothing else could be made from the peanut, it would still be a very profitable crop, for shelled peanuts yield from 38 to 42 per cent of oil, and peanut oil has so many uses that the manufacture of it is fast becoming a more important industry than the making of olive oil.

The peanut vine or straw from which the nuts have been removed is of considerable value for the feeding of live stock. The ash from the shells used in the factory as fuel is valuable as a fertilizer, containing as much as 3 per cent of phosphoric acid, 9 per cent of potash and 6 per cent of lime. The thin brown envelopes of the peas have a feeding value almost equal to that of wheat bran.

The cultivation of peanuts was until recently confined almost wholly to areas in Virginia, Tennessee, the Carolinas and Georgia, but during the last ten years it has spread throughout the South Atlantic States, and even as far west as California.

The peanut plant, like the bean and the garden pea, has the power of collecting nitrogen from the atmosphere and storing it in little nodules upon its roots. For this reason it is one of the most desirable of soil-renewing and soil-improving plants. It is necessary, however, with a view to this end, that the main portion of the roots shall be left in the ground. If this be done, the nitrogen accumulated in a season by the means described will have a fertilizing value of \$3 or \$4 an acre.

Peanuts give an average yield of thirty-four bushels to the acre, but it is believed by government experts that the output can be increased to fifty or even sixty bushels by selecting superior seed from season to season.

MANY MILLIONS LOST BY PESTS ON FARMS

Injurious Mammals and Insects Cost \$789,000,000 Every Year.

NATION IS SEEKING REMEDY.

Magnitude of the Work of Agriculture Department in Extermination of Destroyer.

In the message of President Roosevelt, transmitting a report of the National Conservation Commission, which was sent to Congress last January, appears the astounding statement that "the losses to farm products due to injurious mammals is estimated at \$130,000,000 annually, and the loss through insects is reckoned at \$659,000,000 annually."

These statements are confirmed by the Secretary of Agriculture and the scientists of that department who have charge of such matters. It is asserted that the prairie dogs in the State of Texas alone eat as much grass every year as would feed a million and a half of cattle. There are estimated to be 400,000,000 prairie dogs in Texas, an average of twenty-five to the acre, and 200 dogs will eat as much grass as a steer. Besides this, the value of the land is very much injured by the dogs, because they dig up the roots of the grass and destroy it. Then, when they have cleaned out all the vegetation in their neighborhood, they migrate to another section and continue their work of destruction. The result is that entire townships of land have been made barren by their ravages. Texas, Kansas, Colorado and other Western states have been working for years to destroy the dogs by means of poisoned wheat.

West of the Mississippi river ground squirrels are exceedingly destructive, and cause the loss of many millions of dollars annually. In California alone every year they eat up about \$2,000,000 worth of wheat, and they carry the germs of diseases which can be communicated to human beings through the agency of fleas. The State of Washington is troubled in a similar manner, and spends \$25,000 a year in fighting the pests.

In Nevada the agricultural sections are being overrun with field mice. In Humboldt Valley last year the mice destroyed 15,000 acres out of a total of 20,000 acres of alfalfa, so that the fields had to be replowed and replanted.

"The rat continues to cause enormous losses throughout the entire United States," Secretary Wilson says, "and during the past year an attempt was made to ascertain the approximate damage done to property by this rodent in the cities of Washington and Baltimore. Many business men were interviewed, including dealers in various kinds of merchandise, feeders of horses, managers of hotels and restaurants and manufacturers. The inquiries included all sections of the two cities and both small and large dealers. It is estimated that the loss from rats in Washington is about \$400,000 a year, and in Baltimore upward of \$700,000 a year. Assuming, as is probable, that similar conditions obtain in all our cities of over 100,000 inhabitants, the damage by rats in these centers of pop-

ulation entails a direct loss of \$20,000,000 annually. This enormous sum gives an idea of the still greater total loss inflicted by this rodent throughout the length and breadth of the land.

The officers of the biological survey say that the gopher also does a great deal of damage to the crops, because it feeds upon the roots of plants and destroys great quantities of grain and garden stuff. It also throws up mounds of earth, which bury the grass and other crops. Gophers have recently proved a serious annoyance to the irrigation service by burrowing under the dams and embankments of the reservoirs and canals, causing expensive leaks and breaks. No animal, however, is more easily controlled by traps and poisons, and at the request of the reclamation service the biological survey recently sent out men to devise ways and methods of trapping gophers, so that now the animals are practically exterminated upon the government irrigation system, although they are likely to come back again if they are not looked after. It is impossible to estimate the amount of damage that they have done.

Rabbits are also doing a good deal of damage, particularly in the fruit countries. In Australia a few years ago they became so numerous that the entire population used to join in rabbit drives and slaughter millions of them at a single meeting. Rabbits breed so rapidly that it is difficult to keep them down, but it has been discovered that an inexpensive whitewash made of lime and sulphur will protect orchard trees against rabbits for at least a year, when it must be renewed.

Wolves and coyotes are being gradually exterminated on the Western plains. Secretary Wilson says that more than 1,800 wolves and about 24,000 coyotes were killed last year by locating their breeding dens and poisoning the young. He urges that this work be continued throughout the West so long as wild land exists in vast tracts where they can find safe harborage and breeding grounds. Hitherto the losses to stockmen have averaged \$200,000,000 a year from these animals, but he says that by persistent effort and at a comparatively small cost they can be kept down so as to limit the damage done by them to a minimum.

In their relation to agriculture mammals differ considerably from birds. Few birds are so harmful that their wholesale destruction is called for, since, by devouring destructive insects, most of them render a full equivalent for any mischief they may commit. Such is by no means true of mammals. A few are very beneficial, and the usefulness of such servants of man as bats, skunks, weasels, badgers, foxes and moles should be known and appreciated, that their lives may be spared and they be allowed to continue their good work.

Every year witnesses an increase in the number of sportsmen who pursue our game birds, every species of which plays a more or less important part in destroying insect life and preserving the balance of nature; and this, too, while the reclamation of vast tracts of wild land for agriculture and other purposes encroaches on the breeding grounds of game birds, which are thus gradually becoming fewer in numbers, while the demand for them becomes greater and greater. Many of our insectivorous birds are also killed for food, despite the fact that state laws almost everywhere prohibit such slaughter. With these and other forces acting against the welfare of our birds, it becomes doubly important to use every means in our power not only to prevent the reduction of useful species, but to increase their numbers whenever and wherever possible.

MORE THAN HALF A MILLION TRAMPS NOW ROAMING ABOUT THE U. S.



IT IS conservatively estimated that there is an army of at least 500,000 tramps in the United States. This figure is calculated by taking as a basis the number of tramps killed on the railroads every year and multiplying it by the proportion of train men killed in the year compared to the total number of train men killed in the year compared to the total number of train men employed. But it is entirely probable that the number at present reaches nearer 1,000,000 than 500,000, says the Review of Reviews. The recent industrial depression added large accessions. Reports from railway agents throughout the country show that never in the history of the railroads was so large a number of tramps met with.

A large proportion are youths ranging from 16 to 21 years of age. Beginning with a yearning for adventure, about one-half quit the nomadic life and return home, or settle down, while the remaining half become inveterate tramps and gradually tend from vagrancy into a career of crime and semi-crime. A very large percentage of tramps, however, are adults, and comprise every species from men who will not work or who have become chronically unfitted for work, to those who are innocent victims of downright adversity that knocks and keeps them down.

Both the charitable societies and the railroad corporations have long desired some practicable method of dealing effectively with all aspects of the tramp problem. If it could be done the charitable societies would be relieved of a burdensome drain upon their time and resources, and railroads would benefit by the stoppage of the great losses and annoyances to which they have been subjected, while from a humanitarian standpoint the tramp would be given an opportunity to regain his standing in society. Hitherto all experiments have failed.

The charitable societies and the railroads believe that they have at last come upon a plan which is quite certain to prove efficacious. This plan is a transplanting, with certain modifications suitable to American conditions, of the tramp colony idea already in force in Holland, Belgium and Switzerland. Since the instituting of these colonies vagrancy has been unknown in those countries, and although they have certain features which cannot well be adopted in this country, the general plan of these European experiments will be followed.

NOTES FROM WORLD OF SCIENCE

If a nail be dipped into oil before being driven into hard wood it will enter without splitting.

Oiling a file used on soft metals will make it cut more smoothly and prevent it from clogging.

A novelty is a glove containing a purse in the palm, fastening with the usual clasp, to prevent loss of the contents.

Into the trade school at Liege, Belgium, there has been introduced a course in cigarmaking, fostered by government subsidy.

DO ANIMALS REASON?



OPINIONS OF WASHINGTON'S ZOOLOGICAL EXPERTS

keepers of all the great gardens throughout the world have since that time devoted themselves to the solution of the problem—do animals reason?

There are no wiser men in America than those who have charge of the National Garden in Washington, and among them there is none whose knowledge is more extended than that of Mr. Blackburn, head keeper of the Zoo, who for thirty years has devoted his time to the care and study of every kind of creature, from the lizard to the lion.

"Yes, I have read all the nature faker stories," he said. "But I have yet to learn, after all my experience, just what is meant by 'instinct' as distinguished from reasons. Scientists define instinct as 'inherited habit,' or, as another learned professor of psychology puts it, 'the blind pursuing of a means to an end.' All this is too technical for me. I cannot see the difference between a man going under the shade of a tree to get out of the hot sun, and a deer who grazes in the meadow during day, going into the mountain crags to sleep, where it knows it will be safe from the lowland wolves. The man certainly reasons that under the shade of the tree he will be protected from the heat of the sun; why can it be said that the deer reasons less when it seeks a sleeping place secure from its enemies? Why should one be called instinct and the other reason?"

"The animals of the cat tribe stay hidden by day. They can not only see

better at night, and therefore take their prey with greater ease, but they can lie safer from their natural enemies. Among carnivorous animals, there has never been a case known where a hungry creature attacked one that overmatched it in strength.

"Generally speaking," said Mr. Blackburn, "I think there is hardly an animal here that does not reason, when occasion requires. For instance, we have whips hanging up throughout the different animal houses, with which to chastise refractory or stubborn beasts. It is but a short time before a new animal comes to know the meaning of the whip, and generally all that is necessary for a keeper to do is to reach toward the hook on which the whip is hanging; the animal knows what that means, and does what he has before refused to do. It seems to me that is reasoning."

Lions and tigers, according to Mr. Blackburn, exhibit little reasoning power, except in the matter of getting something to eat. Snakes exhibit the smallest degree of intelligence, and in the smaller species seem hardly to have sense enough to get their food.

Clyde Powers, with twenty years of circus experience in the training of every kind of animal, except Teddy bears, expresses wonder that any one should doubt the power of animals to reason.

"There are different grades of mental power in animals just as there are among the human race," he said.

"From my experience, I've decided that the four-footed highbrow is the elephant. Most animals do their tricks merely to get food, but the elephant goes through his stunts as a matter of duty; you cannot bribe him or force him by withholding his rations. Elephants are also endowed with a sense of humor."

But Dr. Edmund B. Southwick, the eminent New York bug scientist, goes far beyond all others in his conclusions, and asserts reasoning powers even in insects—a fact that will be admitted, however, by any one who has ever had a duel with an indignant bumblebee. Dr. Southwick cites a case of some brainy caterpillars that were taken out of a tree on a New York street, and in seeking to get back to their feeding ground of leaves climbed the walls of adjacent houses. Finding nothing to eat up there, they concluded there was no use staying outdoors any longer, and they might as well go into winter quarters, although it was long before the time they should have ceased feeding, and spin their cocoons. Accordingly they wrapped themselves up in their webs, spent the winter there, and emerged in the spring as moths. This, thinks the scientist, was conclusive evidence that the caterpillars had thought it all out for themselves.

Asosan, in Southern Japan, has the largest volcanic crater in the world. It measures fourteen miles across one way, and more than ten miles the other.

Italy has seventeen tobacco factories. Ninety per cent of the operatives are women, who are paid on a piece system and earn from 48 to 58 cents a day.