Mineral Content in Vegetables Varies With Place of Growth

"The important fact that vegetables from different parts of the continent differ greatly in the percentages of mineral salts which they contain, presumably with parallel differences in their value for health, is disclosed by Dr. William Weston, of Columbia, South Carolina, in an address delivered before the last meeting of the American Medical Association and just published in the association's journal. Food experts now agree, Dr. Weston recalls, that certain mineral elements, even though present in extremely small percentages in foods, are as necessary to human health as are the food materials themselves. Iron and copper are necessary for blood formation. A third metallic element, manganese, probably has similar duties. Phosphorus and calcium are necessary for the formation of bone and probably for other purposes. Iodine is essential to the working of the glands. All these mineral elements usually are found in vegetables, but Dr. Weston and his collaborators find them not distributed uniformly. Systematic chemical analysis of samples from many vegetable-growing regions show that the percentages of the mineral elements may be very low in vegetables from one area, high in those from other areas. One lettuce-growing region, for example, was found to produce this vegetable containing extraordinarily large quantities of all five mineral elements referred to. Vegetables from such areas, where special soils or other factors not yet discovered, apparently produce highly mineralized plant tissues, may yet come to be reserved for invalids and children, leaving ordinary people to get along on less mineralized vegetables from somewhere else.

Brain or Instinct Guides Animals?

Naturalists, After Close Observation, Now Believe Animals Have Reasoning Powers.

J. B. M. Clark

It used to be believed by scientists that animals were guided in their actions entirely by instinct, by natural impulses supposed to arise from long-ingrained habits in the race. The hive bee makes its cell without any instruction, and the cuckoo of her own accord lays her eggs in the nests of other birds. However, in more recent times, naturalists have come to feel that some sort of reasoning process does go on in the brains not only of the higher animals, such as dogs and monkeys, but of lower creatures, such as the snake and even the fish. All appear to be capable of having "ideas."

In his work on The Descent of Man Darwin quotes this story: "A pike which was separated by a plate of glass from an adjoining aquarium, stocked with fish, often dashed himself with such violence against the glass in trying to catch the other fishes, that he was sometimes completely stunned. The pike went on thus for three months, but at last learned caution and ceased to do so. The plate of glass was then removed, but the pike would not attack these particular fishes, though he would devour others that were afterwards introduced; so strongly was the idea of a violent shock associated in his feeble mind with the attempt on his former neighbors."

Darwin also makes mention of a snake which was observed to thrust its head through a hole in a fence and swallow alive a frog on the other side. On account of the swelling made by the body of the frog in its neck, the serpent was unable to withdraw through the hole, and had to "cough up" its prey. A second time the frog was swallowed, with the same result, and a second time it had to be disgorged. On the third occasion, however, the snake seized the frog by the leg and pulled it through the hole, after which it was able to swallow it in comfort. If this is not an act of reason it is certainly difficult to explain it in any other way.

Rengger, a German naturalist, states that when he first gave eggs to his monkeys in Paraguay they smashed them and thus lost much of the contents; but afterwards they gently hit one end against some hard body, and picked off the bits of shell with their fingers. Sometimes lumps of sugar were given to them wrapped up in paper, and occasionally Rengger would put a live wasp in the paper, so that in opening it a monkey would get stung. But any monkey that suffered in this way would never afterwards open the bag without first holding it to its ears to discover if there was any movement within. Sir Andrew Smith, a noted zoologist, himself witnessed the following incident in South Africa. An army officer had frequently teased a certain baboon. The animal, seeing him approach one Sunday dressed up for parade, quickly poured some water into a hole and made some thick mud, which it dashed over the officer's clothes as he passed by. For a long time afterwards whenever this baboon saw this officer it made signs of rejoicing.

Female monkeys have been observed carefully keeping the flies off their infants, and both male and female monkeys do not hesitate to adopt and care for orphan monkeys left unprotected. One female baboon observed by Brehm had adopted a kitten which one day scratched her. This astonished her very much. She proceeded to examine the paws she had always found so soft, and presently discovered the claws, which she proceeded to bite off, evidently considering them dangerous.

According to Darwin, dogs, cats, horses, and probably all higher animals, and even birds, have vivid dreams, which is shown by their movements and the sounds they utter, and he is of the opinion that from this we must admit that they have some power of imagination.

Colonel Hutchinson, in his work, Dog Breaking, tells about two wild ducks that were "winged" and fell on the farther side of a stream. A retriever tried to bring both of them at once, but could not do it. Although never before known to ruffle a feather of a wounded bird, she then deliberately killed one, brought over the live one and returned for the dead bird.

Elephants, of course, are famous for their sagacity, and when they are employed as decoys for the capture of wild members of the species it is apparent that they know well enough what they are doing when they deceive their untamed brethren. Indian elephants are also well known to break branches off the trees and use them for driving away flies.

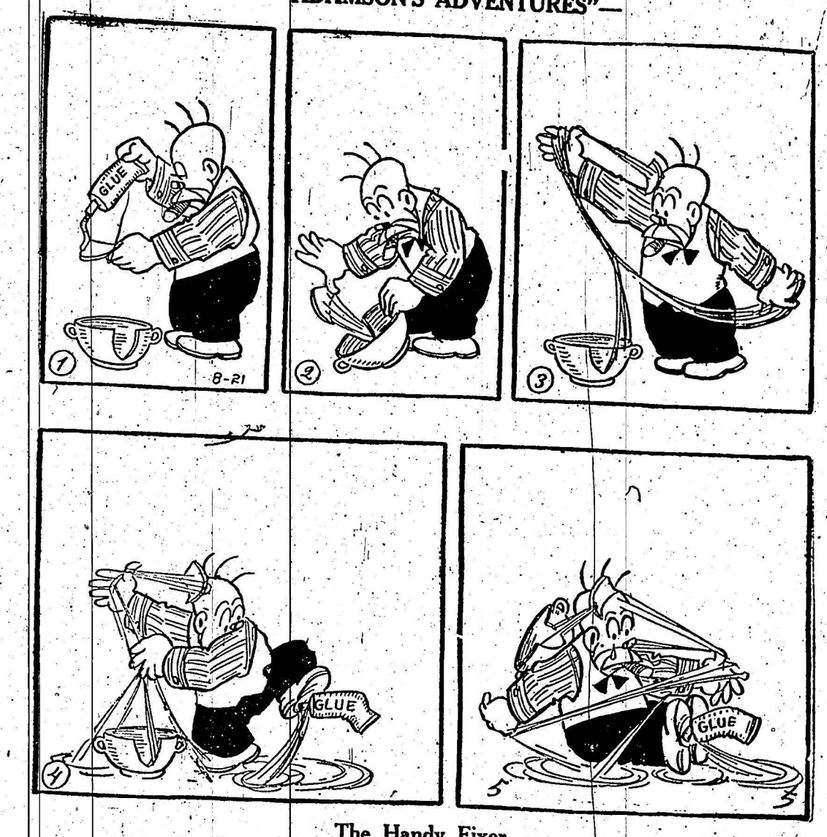
Animals, too, have their ideas about property, as those know who have watched a dog with a bone or birds with their nests. This is also a common characteristic with monkeys, and Darwin tells of one in the London Zoo which had weak teeth and was in the habit of breaking open nuts with a stone. After using the stone it always hid it in the straw, and would not let any other monkey touch it. Baboons have been observed to protect themselves from the heat of the sun by putting straw mats over their heads.

Language is supposed by many people to be one of the chief distinctions between man and the lower animals, but many animals are capable of expressing their desires and emotions by different sounds, and possibly enough these constitute the rudiments of language. Dogs bark in different ways to express different things, and monkeys make many different sounds which arouse in other monkeys the emotions they are intended to portray. Alexander Graham Bell, the inventor of the telephone, believed that dogs could be taught to speak, and claimed that a Skye terrier he had was able to say and understand a few words; and Darwin has stated that, as regards articulate sounds, dogs understand many words and short sentences, although they cannot utter a single word, and that in this respect they are at the same age of development as infants between the ages of ten and twelve months.

Mr. Charles Cottar, writing in Forest and Stream, tells of keeping some Columbus monkeys in captivity, and of becoming convinced of their ability not only to reason but to talk with one another. They were kept in a structure made of poultry wire, and one of them, a half-grown female, learned to break the wire by continually twisting it with her hands. She made an opening large enough to creep through, but finding no forest at hand, stayed among the bushes and crept back into the enclosure at night. Finally she refused to come back, and a snare was set for her, consisting of a bent pole, a string, and a springing device as used by the natives for the purpose. It was baited with a piece of green corn. It worked twice—and that was all. For, after being twice caught by the hand, the monkey would reach below the rope, turn the loop carefully aside, seize the corn, and running to the top of the cage would display as much knowing mischief as a spoiled child. When several other members of the same tribe were brought from the woods, some six months later, and put in the same cage, the monkey that had learned to break the wire immediately taught the trick to the newcomers.

It appears to be the case that animals, especially in their higher forms, are endowed with very similar instincts, emotions, intuitions, and senses to those of man, and intelligence and reasoning power seem to result from the combination and interplay of these with one another. The more the animal advances the more complex these become. And, indeed, man's own understanding is supposed to trace its origin to some such humble beginnings.

"ADAMSON'S ADVENTURES"—



The Handy Fixer.

Bill's Little Girl

By Zona Gale

How I Came to Write This Story

The city editor of the New York Evening World once handed me a cutting from the want advertisements of that day's Morning World. "Go and find what lies back of that," he said.

The advertisement was that one which I have included in the story of Bill. His story is rather like that of the man who had advertised.

I do not recall this man's name. I never saw him again. But I still have his photograph, with that of the little girl.

Bill was thirty when his wife died, and little Minna was four. Bill's carpenter shop was in the yard of his house, so he thought that he could keep up his home for Minna and himself. All day while he worked at his bench she played in the yard, and when he was obliged to be absent for a few hours, the woman next door looked after her. Bill could cook a little, coffee and bacon and fried potatoes and flapjacks, and he found bananas and sardines and crackers useful. When the woman next door said this was not the diet for four-year olds, he asked her to teach him to cook oatmeal and vegetables, and though he always burned the dishes in which he cooked these things, he cooked them every day. He swept, all but the corners, and he dusted, dabbed at every object; and he complained that after he had cleaned the windows he could not see out as well as he could before. He washed and patched Minna's little garments and mended her doll. He found a kitten for her so that she wouldn't be lonely. At night he heard her say her prayer; he either woke her up, or else he made her say them first thing next morning. He himself used to try to pray: "Lord, make me do right by her if you see me doing wrong." On Sundays he took her to church and sat listening with his head on one side, trying to understand, and giving Minna peppermints when she rustled. He stopped work for a day and took her to the Sunday school picnic. "Her mother would of," he explained. When Minna was old enough to go to kindergarten, Bill used to take her morning or afternoon, and he would call for her. Once he dressed himself in his best clothes and went to visit the school. "I think her mother would of," he told the teacher, diffidently. But he could make little of the colored paper and the designs and the games, and he did not go again. "There's some things I can't be any help to her with"; he thought.

Minna was six when Bill fell ill. On a May afternoon he went to a doctor. When he came home he sat in his shop for a long time and did nothing. The sun was beaming through the window in bright squares. He was not going to get well. It might be that he had six months. He could hear Minna singing to her doll.

When she came to kiss him that night, he made an excuse, for he must never kiss her now. He held her at arm's length, looked in her eyes, said: "Minna's a big girl now. She doesn't want papa to kiss her." But her lip curled and she turned away sorrowful, so the next day Bill went to another doctor to make sure. The other doctor made him sure.

He tried to think what to do. He had a sister in Nebraska, but she was a tired woman. His wife had a brother in the city, but he was a man of many words. And little Minna—there were things known to her which he himself did not know—matters of fairies and the words of songs. He wished that he could hear of somebody who would understand her. And he had only six months.

Then the woman next door told him bluntly that he ought not to have the child there, and him coughing as he was; and he knew that his decision was already upon him.

One whole night he thought. Then he advertised in a city paper:

A man with a few months to live would like nice people to adopt his little girl, six, blue eyes, curls. References required.

They came in a limousine, as he had hoped that they would come. Their clothes were as he had hoped. They had with them a little girl who cried: "Is this my little sister?" On which the woman in the smart frock said sharply:

"Now then, you do as mamma tells you and keep out of this or we'll leave you here and take this darling little girl away with us."

So Bill looked at this woman and said steadily that he had now other plans for his little girl. He watched the great blue car roll away. "For the land sake!" said the woman next door when she heard. "You done her out of a fortune. You hadn't the right—a man in your health." And when other cars came, and he let them go, this woman told her husband that Bill ought most certainly to be reported to the authorities.

The man and woman who walked into Bill's shop one morning were still mourning their own little girl. The woman was not sad—only sorrowful, and the man, who was tender of her, was a carpenter. In a blooming of his hope and his dread, Bill said to them: "You're the ones." When they asked: "How long before we can have her?" Bill said: "One day more."

That day he spent in the shop. It was summer and Minna was playing in the yard. He could hear the words of her songs. He cooked their supper and while she ate, he watched. When he had tucked her in her bed, he stood in the dark hearing her breathing. "I'm a little girl to-night—kiss me," she had said, but he shook his head. "A big girl, a big girl," he told her.

When they came for her the next morning he had her ready and her little garments were ready, washed and mended, and he had mended her doll. "Minna's never been for a visit!" he told her buoyantly. And when she ran toward him, "A big girl, a big girl," he reminded her.

He stood and watched the man and woman walking down the street with Minna between them. They had brought her a little blue parasol in case the parting should be hard. This parasol Minna held bobbing above her head, and she was so absorbed in looking up at the blue silk that she did not remember to turn and wave her hand.—The Golden Book.

Electricity Aids Scientists In Measuring Ocean Salt

Washington—With a new electrical device, just developed here by Dr. Frank Wenner, bureau of standards physicist, it is now possible to measure quickly and accurately the amount of salt in any part of the ocean.

With so much salt in the ocean, it might seem surprising that anyone should want to measure it, but saltiness, or salinity as the scientist calls it, is one of the most important bits of data for the oceanographer. It has many practical bearings. For instance, it has been found that salinity changes in the vicinity of icebergs, such knowledge serving as a protection to liners.

The new device, which Dr. Wenner developed in collaboration with Lieut. Commander Edward H. Smith, of the United States coast guard, and Floyd M. Soule, of the Carnegie Institution of Washington, depends on the fact that salt water conducts electricity better than fresh. By means of a familiar instrument on the elementary physics laboratory, the Wheatstone bridge, it is possible to measure resistance to electricity in a substance by electrically balancing it against a known resistance.

Autumn

By Ann Sherburne

The lady Autumn is in town,
You'll know her by her tawny gown,
The berries in her hair;
Her arms are filled with goldenrod,
And everywhere that she has trod,
There's incense in the air.

The pungent smell of brown leaves burning
(Only a few are still left turning
Upon the naked trees);
The last ripe apples on the ground,
Mingle their scent with asters, found
By drowsy golden bees.

The birds no longer sing the gay
Unceasing songs of Summer's day,
But gather for their flight;
Fat sparrows gossip in the eaves,
A cricket chirps midst fallen leaves,
Mist veils the night.

Sun Spots Said to Affect Bird Life

Sun spots affect bird life, in the opinion of Dr. Ralph E. DeLury, assistant director of the Dominion Observatory, who recently addressed members of the Province of Quebec Society for the Protection of Birds at their monthly meeting in the Mechanics' Institute, Montreal. The topic was "Some of My Observations about Birds." Sun spots come in 11 year cycles, he said, and the year when a maximum of sun spots is observed shows a decided increase in such birds as the ruffled grouse in the locality where closest watch has been made.

Amos Tash says: "You can lead a calf to the milk bucket, but it requires diplomacy to teach it to drink."

Food Tests on Infant Mice Point To Wiser Control of Human Diet

Cold Spring Harbor, N.Y.—Now information on right and wrong times for eating certain foods is forecast in experiments on diets of mice by Dr. E. C. MacDowell and C. G. MacDowell at the Carnegie Institution here.

Dr. MacDowell found that most baby mice do not increase in weight during their first two weeks as rapidly as in the period preceding birth. He thought this discrepancy strange and discovered that it was due to the fact that the average mouse has too many brothers and sisters.

By giving the young mice more mother's milk he induced them to grow nearly as rapidly after birth as before and double their weight at fourteen days.

But the added milk was effective only for two weeks. After that the rate of increase on milk fell away until it was revived by changing to solid food.

Some mice he says, have "especially good mothers," which continue to nurse their young and delay the shift to solid food. Even for these baby mice the milk loses its effectiveness after the second week and the extra maternal care only shows growth until after weaning.

"There can be no question," Dr. MacDowell says, "but that a new phase of life is inaugurated at the end of the second week by the eating of the first solid food. Further experiments will be required before attempting to say what is the primary factor that leads to this break; what initiates this natural process of weaning."

City of the Light

By FELIX ADLER

Have you heard the golden city
Mentioned in the legends old?
Everlasting light shines o'er it,
Wondrous tales of it are told.
Only righteous men and women
Dwell within its gleaming wall;
Wrong is banished from its borders,
Justice reins supreme o'er all.

We are builders of that city;
All our joys and all our groans
Help to rear its shining ramparts,
All our lives are building-stones.
But a few brief years we labor,
Soon our earthly day is o'er,
Other builders take our places,
And our place knows us no more.

But the work which we have builded,
Oft with bleeding hands and tears,
And in error and in anguish
Will not perish with the years
It will last, and shine transfigured
In the final reign of Right;
It will merge into the splendors
Of the City of the Light.

Bay To Be Drained For Golf Course

Will Be Flooded and Used as Skating Rink During the Winter

Gothenburg, Sweden.—A golf course on the bottom of what used to be a bay of the North Sea will be constructed at Marstrand an aristocratic water resort, on the Swedish west coast, near Gothenburg. In the winter it will be flooded and used as a skating rink.

Marstrand is built on a rocky island surmounted by an impressive fortress, named Carlsten, which is still in good shape though of no military value. Land is scarce and no flat area, large enough for a golf course, exists, so the town authorities have decided to shut off one of the shallow bays, keep it dry with an electric pump and then lay out greens for the golfers.

The bay is about 2,500 feet long and some 12,000 wide. At present the chief sports at Marstrand are sailing and tennis. The water is said to contain more salt than any other in Sweden and it was used regularly every summer by the late Oscar II, father of the present King.

Another project is to build an automobile route to the mainland by linking several minor islands with a causeway and then run a ferry across the widest gap. At present there are no motor cars at Marstrand and only one horse. Sailboats, on the other hand, are plentiful.

He was new to the yachting game—in fact, he was just helping a friend handle his boat during the regatta. So it was no wonder that his face assumed a mystified expression at the skipper's command. He turned to a sailor near him. "Tell me," begged he. "What is this thing called luff?"—Life.

Efficiency Experts Invade Dairies

Electricity's latest task is a boon to the dairy industry. In the laboratories of the College of Agriculture University of California, at Davis California, there has just been completed a "respiration chamber," in which the efficiency of a cow may be tested electrically. In fact, provisions are made for tests on two cows at one time. Says B. S. Havens in a press bulletin of the General Electric Company (Scheinectady, N.Y.):

"The animals are provided with comfortable stalls in air-tight chambers, and are fed, watered, milked, and cleaned under careful laboratory conditions. The feed is weighed, the water is analyzed, and the air in the chambers is cooled and humidified. Attendants who enter the chambers at regular intervals must pass through an air-lock auxiliary chamber to prevent air leakage. The breathing of the animals is measured by an elaborate, 'mechanical lung' device called an 'aspirator,' designed and built by Dr. Kleiber, on the tail of the cow. A classifier separates the waste products. About the only thing which is not analyzed by the machine is the cow's moo. The respiration chamber is equipped with many interesting scientific instruments. Motors and control devices are used to operate the 'aspirator' and the classifier. Through the use of the equipment, scientists may ascertain what effect, if any, the use of treated water, variation in diet, cooled air or other controllable conditions may have on a cow's efficiency."

Those Growing Pains

New York's population will be greater than that of London in another ten years, and America will then be able to boast of possessing the biggest city in the world.

This prediction is based on the fact that New York census returns, which show a population of 6,955,536, an increase of 133,531 a year, as against London's 52,000.

New Yorkers, though sharing America's pride in bigness are not overpleased about their city's growth. They complain there is no room in their city, and suggest that a "Stop our Growth" campaign is required.

But New York cannot claim the record for rapid growth. Among big cities, Los Angeles does that. Since 1920 her population has increased by 113.50 per cent., and is now 1,231,730.

Part of New York's growth, at any rate, is due to skyscrapers. And these have disadvantages. If fire broke out in a skyscraper containing 10,000 people—as some of them do—even if they could all get out at once there wouldn't be room for them in the street.

Vicar's Wife: "Ah, Mrs. Miles, one half of the world is ignorant of how the other half lives." Cottager: "Not in this village, ma'am."

Rats, Fleas and the Weather Rule Ecuador Plague Cycles

Complex reactions between rats, fleas, weather, and the germs of bubonic plague, determining increases and decreases of this disease among human beings in Ecuador, and providing another excellent example of the profound interrelation which exists so often in Nature, are described by Dr. C. R. Eskey in a recent announcement of the United States Public Health Service. When plague first appeared in Ecuador, in 1908, the largest number of human cases occurred during the dry season—in October, November and December. This peak of plague occurrence now has shifted so that the greatest number of cases occur in the rainy months of January, February and March. This shift is what Dr. Eskey explains as due to the interaction between rats, weather, and fleas. In the beginning, the rat population, living in houses was very susceptible to the infection. Many caught plague and died. Others lived but infected the fleas on their bodies. These fleas, in turn, infected human beings. Gradually these indoor rats became largely immune to the plague and spread the disease less actively. Meanwhile, rats living out-of-doors were less exposed to the disease, since these rats have fewer fleas. The colder temperatures out-of-doors are not so favorable for these insects. Accordingly, this outdoor rat population never acquired much immunity. Nowadays when the rainy season comes on many of these non-immune outdoor rats migrate indoors, come in contact with the few rats in the indoor population, contract plague and spread the germs, causing a corresponding increase in the human cases.

MUTT AND JEFF— By BUD FISHER

Sailors Certainly Have a Way With Women.