Cells Show Intelligence In Reconstructing Sponges

How the single living cells of a sponge animal, separated from each other when the original living creature is crushed and run through a sieve, creep about on the sea bottom or on the bottom of a laboratory aquarium until each cell finds its proper neighbors and its proper place in the reconstruction, thus rebuilding the living animal virtually as good as new just as citizens of a destroyed city would find each his proper location and rebuild his home is described by Dr. Paul S. Galtsoff of the United States Bureau of Fisheries in an address before the Academy of sciences of Washington, D.C., published in abstract by that institution. That living sponges are able to reconstruct themselves thus after being disinterested has long been known to biologists but it was imagined that the living cells were able to alter their characters so that virtually any cell could take up any duty in the reconstructed animal or that new cells perhaps grew from a few of the old ones as plants grow from seed. Both of these ideas Dr. Galtsoff finds to be wrong. What really happens, he records, is that the original cells creep about among each other until they come into proper mutual relationship, each cell seeming to know quite well what its place is in the complete animal and keeping on the move until it finds that place. It seems superficially, Dr. Galtsoff admits, as though some outside force or "intelligence" were directing the reconstruction but the facts show he believes, that the forces concerned really are no more than the physical and chemical properties of the living protoplasm. On a greasy surface, for example, the cells are unable to move properly and cannot reconstruct the original sponge.

City Trees Suffer From Lack of Air

When you have to fill in around a tree, in grading your lawn, it is not enough to leave a "well" around the trunk.

The tree feeds with its tiny rootlets twenty or thirty feet away. Many a tree with a "well" supposed to save it, has been thoroughly smothered just the same. So say the Davey Tree Company of Kent, Ohio, in a pamphlet on the subject. They write:

Many trees die from thirst and smothering of the roots.

Trees breathe—hence their need for air is just as real as your own. They must have air, not only above ground for the leaves, but also below the sod for the roots. Since the trees have no respiratory system comparable to that present in animals, it is necessary that air come in direct contact with all the living tissues, especially those which are vitally active as are the growing root tips.

Therefore, lack of air around the roots of a tree soon shows its effect in the size and color of the leaves, which ordinarily afford an excellent key to the general vigor of a tree. A tree with a serious cavity may put out luxuriant foliage, but a heavy crop of well-formed rich green leaves signifies active roots and healthy life processes.

If the leaves are undersized, yellow or brown; if the foliage is thin or sparse; if the tree is full of dead branches; if the annual twig growth is short; then the roots are in serious trouble.

Immediate relief is necessary.

Many people have the erroneous idea that a well at the base of the tree is sufficient precaution to provide for the aeration of the roots. Experience proves we are assured, that a well is entirely inadequate.

The well does provide for air around the base of the tree. However, it makes no provision for the vitally active feeding roots which are ten, twenty, or even thirty feet from the tree. Those active roots, which need the air more, are just as positively smothered as they would be were no well made.

An improvement of this kind does not permit the circulation of air (and water) where it is most needed. The roots actively engaged in picking up food, air, and water are not the tiny rootlets near the trunk. The rootlets which we hegers are the tiny rootlets at the edge of the tree's spread.

Artificial watering are of prime importance in the preservation of trees. Even so shallow a fill-in as three inches will kill a tree unless remedial measures are employed. In the forests a rich covering of mold over a barrier porous soil formation takes care of the circulation of air and water. But these natural advantages are not present in the artificial environment which surrounds the city trees.

Too often the result is that city trees fight a losing battle for survival.

Silk Imports

Canada still imports much the larger part of her silk goods. The production of the home industry amounts to a little more than one-third of the imports. Imports of silk into Canada in the calendar year 1929 were valued at $9,402,000, while imports of artificial silk in the same year were $12,864,000. Of natural silk imports, $11,826,000 came from the United States and $8,211,000 from Japan. Of artificial silk manufactures, the largest source was the United Kingdom, from which the imports were valued at $5,461,000. Canada's exports of silk and artificial silk combined amounted in the same year to less than $333,000.

"People's emotions are apt to follow the words they use."—Thomas W. Lamont.

Bombing of Clouds Stops Hail Storm

French Farmers Assert that this Method Lessens Hail Destruction

Vichy, France.—A ring of sentinels bombs the clouds here during every storm, fighting hail with explosives.

This is the centre of the hail prevention service, in which many French farmers have absolute faith. Here in the suburb Cusset are made most of the rocket bombs, and the seven-mile semicircular line of outposts that protects farms around the city is one of the best organized in France.

The theory is that big rockets shot into storm clouds, exploded by precisely timed fuses, create waves that dissipate clouds and prevent the formation of hail.

When scientists question the efficacy of the method the farmers' associations show statistics to prove that where rockets are used there is a tremendous saving in lessened damage from hail, one of the scourges of this region. Hail stones of great size often are reported.

There are thirty "firing posts," to each of which are detailed two men, usually farmers, one of whom must always be on duty to act at the approach of a storm. As soon as storm clouds approach, the sentinels estimate the height and fire the rockets.

This hail service costs each farmer about eight cents an acre a year. Once cannon were used to fire shells, but the rockets are said to be cheaper and better. Before that there often were used big iron funnels with the large end up. A charge of powder rammed in the small end was expolded, sending up waves that widened.

Bell ringing is practiced at Arronnes near here. A big inverted bell is rung loudly. As the village itself is in a funned-shapped hollow, the sound waves rise and spread, and the believers in this protection assert clouds are prevented from forming hail.

Britain to Build Super Flying Boats

London.—Work shortly will be begun at the Vickers Supermarine Works at Southampton on the largest flying boat yet attempted in Britain, it is understood. Research has been progressing for some time and details reported call for a vessel 18 feet high and 100 feet long, driven by six engines, developing a total of 3700 horsepower.

The craft will accommodate forty passengers in five saloon cabins with sleeping quarters for twenty. Each saloon will have eight armchairs with collapsible sleeping berths above, while further aft will be a baggage room, kitchen and lavatory.

Construction plans provide for a highwing all-metal monoplane, carrying a navigating deck above passenger quarters. The wingspread will be about 140 feet with a front edge six feet thick. It is anticipated that this large craft, weighing more than 30 tons loaded, will be much more seaworthy than anything so far produced.

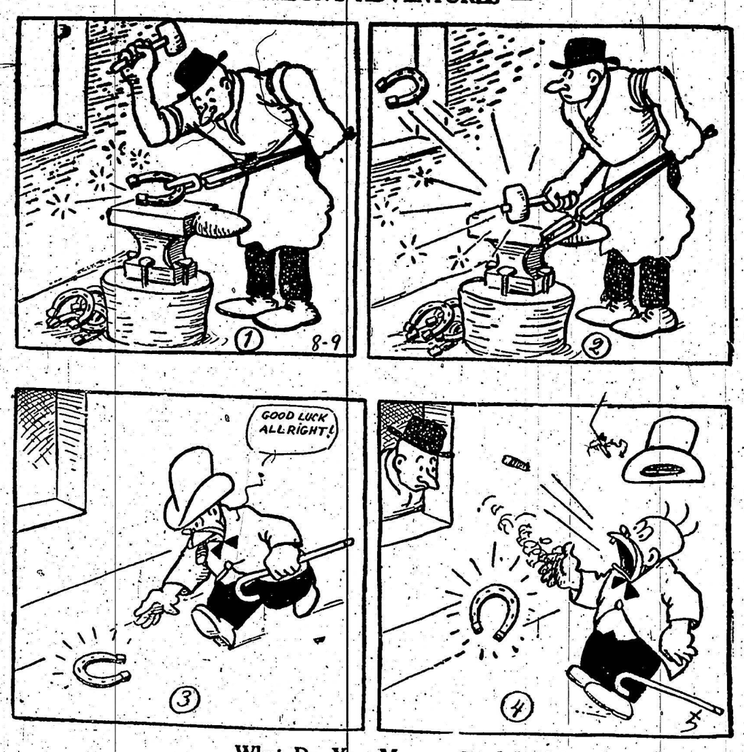
Canada's Canned Goods

Canada's exports of canned foods are more than double her imports of these products. In the calendar year 1928, imports were valued at $8,617,000, and consisted mostly of fruits and vegetables not grown in the Dominion. Exports of canned foods during that year amounted to $18,858,000, of which canned fish supplied $13,517,000 and condensed milk $3,463,000.

KNOWLEDGE

There is a kind of knowledge which many persons shrink from. It is that which involves certain duties and responsibilities which they are not willing to accept.

"ADAMSON'S ADVENTURES"—



What Do You Mean,—Good Luck?

Hidden Cave of Gold Bananas Lures Australians

Two Expeditions Disappear into Bush — Savages Prove Hostile

Adelaide, S. Aust.—Departure of two expeditions into Central Australia in search of gold is largely due to the persistent belief among prospectors that somewhere in the heart of the country there exists an Aladdin's cave of gold closely guarded by aborigines.

One party, leaving Sydney and traveling by way of Alice Springs, includes Captain Blakiston Houston, aide-de-camp to the Governor-General. It has taken along with it an airplane to assist in the survey work and if necessary to drop food supplies if the men get too far from their base.

The other expedition, from Adelaide, is led by Michael Terry, explorer and author, being financed by a group of some 50 leading citizens. Both parties recently reached their bases in the Alice Springs country about the same time.

The Terry expedition is prepared to remain for 12 months, being one of the best organized expeditions sent into the interior for many years.

Dr. Herbert Basedow, a central Australian authority, puts the object of the quest at the southwest corner of the Northern Territory, between 250 and 300 miles from Alice Springs.

Thirty years ago an explorer named Earle penetrated the wilds and brought back dazzling specimens in a bottle-green quartz. Since then parties have endeavored to trace the locality and have failed. Earle's rough sketch of the country showed a cave where invisible wealth rivaling Aladdin's was supposed to be hidden. The natives are said to know, but are unwilling to give the information.

The natives have traveled from the far interior to the west coast of South Australia with fine specimens from the mysterious field, and men have gone after it, without success. It is said that since the country is subject to long periods of drought, sometimes extending over nine years, the natives think that expeditions visiting the locality with camel teams will use up the small resources of water and, consequently, are hostile when whites put in an appearance.

Dr. Basedow, however, has not found the natives so alarming as they have been painted.

The South Australian Government has already sent three expeditions to Central Australia in search of the deposits. Dr. Basedow, then deputy Government Geologist, accompanied one of them. They obtained some of the green-looking quartz, but there was no gold in it. When Dr. Basedow led the McKay expedition in 1926 he met some natives of the tribes inhabiting the elusive gold-bearing country, but they divulged nothing.

Dr. Basedow is convinced of the presence of gold deposits. The country, he says, has striking auriferous tendencies.

"But, dad, Jack has got character. You can read it in his eyes." Father: "Then, Beatrice, I've just blackened his character."

To Curve Inward And Nuts To Be Self-Cracking

Bristol, England. — Hero's comfort for the people who have a hard time in extracting the meat from the proverbially stubborn nut, Dr. A. W. Hill of the Botanical Research Station at Kew, recently told the British Association for the Advancement of Science, that it was at last possible to produce self-cracking nuts. "This is a valuable achievement in a commercial sense," Dr. Hill remarked. "For instance, in California pistachio nuts have been commercially valueless owing to the cost of extracting them." The botanical expert also recorded research achievement in the case of limes, which has a useful habit of shedding the fruit when it is ripe, thus enabling the collection of limes on the ground. Botanists, he said, were now striving to produce bananas immune from disease and curving inward on a bunch. This new curve, if brought about, would enable the fruit to be handled more easily and to take up less room on board ship.

Chinese Eel Has Elephant's Trunk

The Field Museum of Natural History in Chicago has received a fish with a "trunk" resembling in a general way that of an elephant. The fish is a spiny-backed eel, commonly known as the mud eel, and it is scientifically designated as Mastacembelus. It came with the collections made in the Ogan River in Sumatra by the Chancellor-Stuart-Field Museum Expedition in the South Pacific.

The fish is used as food in China, according to Alfred C. Wood, assistant curator in charge of fish at the museum. In the growing of rice in that country it is necessary to keep the land flooded most of the season, and when harvest time comes the water is drawn off and the ground becomes more or less dry.

At this time the Chinese farmers harvest a crop of fish, which have come to live in the warm shallow water of the fields, swimming about with the swaying rice. The farmers catch large numbers of these mud eels, which are different from ordinary eels in that they are flattened from side to side instead of being rounded.

"These mud eels are interesting to scientists because they possess characteristics that are generally supposed to belong to very different groups of fishes," says Mr. Wood. "Down the back they are armed with a row of very sharp spines. At the front of the head they bear the 'trunk,' much like that of an elephant and nearly as large in proportion.

"Like the elephant, this fish has its nostrils in its trunk. The trunk is used as a feeler to test out anything in its path, and may be used to catch small creatures upon which it feeds. It is waved around in the same way as an elephant's trunk. Various species of these eels are found in muddy waters of tropical streams and lakes from Western Africa to Eastern Asia."

NEW LINGERIE

The newest lingerie has its lace dyed to match the silk. White is very good this fall, indicative of the old-fashioned trend of styles.

PEACE AND WAR

No nation ever had an army large enough to guarantee it against attack in time of peace or ensure it victory in time of war—Calvin Collidge.

The Changing Views of this Universe

It seems almost incredible that at one time—and not so very long ago—it was considered daring, if not indelicate, for a lady to aspire to authorship. At twenty-two, Jane Austen, seriously engaged on her first novel, "Pride and Prejudice," felt it necessary to be careful that her occupation should not be suspected by servants or visitors.

In order to cover up her tracks, as it were, Jane wrote on small sheets of paper, and she roundly objected to a squeak in the door being remedied because it warned her of the approach of the enemy. Her first published novel, "Sense and Sensibility," did not appear under her own name, but was modestly announced as "By A Lady." The secret of its authorship was carefully guarded.

Later, the Sisters Bronte—Charlotte, Anne and Emily—all wrote first novels under assumed names. In 1846 the three sisters offered to publishers "three distinct and unconnected tales." They were "Wuthering Heights," by Ellis Bell (Emily Bronte); "The Professor," by Currer Bell (Anne Bronte), and "Agnes Grey," by Acton Bell (Anne Bronte). "Wuthering Heights" and "Agnes Grey" were accepted without much delay but "The Professor" traveled among several publishers without acceptance. It was only after "Jane Eyre," by Currer Bell (Charlotte Bronte) had been published in 1847, notes Annie Russell Marble (in "Pen Names and Personalities") that Currer Bell was recognized as a novelist of promise.

By the way, the first pseudonym used by Lucile Amandine Aurore Dupin—baptismal name of "George Sand"—was "Jules Sand." It was signed in 1831 to "Rose et Blanche," the novel which she had written in collaboration with Jules Sandeau. The origin of the pen name is self-evident. Two years later she broke her emotional and literary links with Sandeau, but she retained the last part of the pseudonym, changing the first name to George.

The other woman novelist comprising the "Two Great Georges"—George Eliot (Mary Ann Evans)—chose George because it was the first name of George Henry Lewes, her "boy friend" and literary mentor, and Eliot "because it was a good, mouth-filling name."

"We don't want the old system back. We want a better one."—Henry Ford.

Oyster Is Product Of Ages of Laziness

Perwinkle, and Starfish Are Oysters Most Deadly Enemies

The oyster, it has been discovered, is the product of ages of laziness. Centuries ago he chose not to walk, so now he must anchor himself to some object below the surface. What was once a foot, and perhaps, ages ago, two feet, is now a scarcely distinguishable protuberance.

But inert as oysters have become they can still do astonishing things. The oyster pays no attention to ordinary noises. However, if while he is feeding he is startled by a thunderclap or explosion, the mouth closes tight. So he can hear.

If an oyster is placed in a tank near a window, and the shade is drawn to shut out the light, he closes his shells. Hence he can see.

The "mantle" is fringed with delicate tentacles, which have been identified as organs or touch and feeling, as well as of taste and smell.

And at least one oyster has written. He was placed in a tank, with his lower shell cemented to the upper shell. At the upper end the wire was connected to a balance. The balance changed whenever the oyster opened or closed his shell, and the contrivance operated a pen, which marked on paper the record of the oyster's movements, showing the number of hours during which the shells were shut. The bivalve confessed that he feeds eighteen hours out of twenty-four.

The oyster derives his food from the water, his normal daily consumption being five gallons, and a colony of less than a million drink more water in the course of a day than the inhabitants of London.

The female oyster produces at a spawning from ten to sixty million eggs, but only a small percentage survive. If all lived the world would soon be overrun with oyster shells, for the descendants of one pair of oysters would compose in five generations a mass six times the size of the earth.

Many interesting facts have been observed in connection with the subaqueous cities in which oysters congregate. The murderers of those undersea cities are the periwinkle which drills through the shells of the oyster and sucks out the meat, and the starfish which embraces his victim with his five strong arms, smothers it until it opens its shell, and then feasts.

An Irish Revolt

Until a few years ago, it looked as though oysters would suffer persecution without revolt. But last year a startling event took place.

On the north-east coast of Ireland, near Donegal, oysters have been growing to enormous size, and it was observed that thousands of rats were going down to the beach, never to return. One day a fisherman found the answer. A rat crept up to an oyster in shallow water. There was a high-pitched screech—and the next wave covered both bivalve and rodent. The rat's nose was caught between the oyster's shells and he had been dragged to death.

Thousands of rats have died in this manner for the shellfish is inevitably the victor. The appetite for oysters around Donegal has diminished, but so has the rat menace, so the people are satisfied!

Quite the Reverse

Casey and Murphy were admiring a big London building.

"It's surprisin'," said Casey, with a knowing air, 'how mortar binds all those hundreds of bricks together."

Murphy gave his companion a suspicious sneer.

"Whinever are ye goin' to learn a bit of sense, Casey?" he replied.

"Suro and whatever d'ye mean?" queried Casey.

"Bricks aren't kept together by mortar," Murphy explained. "Mortar keeps them apart."

His Secret

The manager of a big company happened to meet one of his employees in the park.

"Good-morning, Smith," he said, "I've been wanting to congratulate you for some time. You're the best outside salesman we've ever had."

"Thank you, sir," responded Smith. "I always do my best."

"What puzzles me," went on the manager, "is how you do it?"

"Easy, sir!" replied the other. "When a woman opens the door to me, I say: 'Good-morning, miss, is your mother in'?"

Ottawa.—There were 72,152 students enrolled in the universities and colleges of Canada last year, according to the Dominion Bureau of Statistics. Of his number, 46,354 were men and 25,798 women. There were 6,772 degrees and diplomas granted of which 35.7 per cent. or 2,427 went to women.

BOOKS

Writers and Readers

VERY GOOD, JEEVES. By P. G. Wodehouse. Garden City; Doubleday, Doran and Company, $2.

As regularly as clockwork, P. G. Wodehouse delights the world with tales (long or short) with his own special brand of humor. In fact each succeeding offering gets better and better, therefore "Very Good, Jeeves," the latest from this writer's pen, has our complete approval.

It remains but to say that the eleven stories in this volume have to do with such far from trifling episodes as Bertie Wooster's troubles with Bingo Little and Mr. Fijmer at Aunt Agatha's place at Loollam Chersey; Mr. Sipperley's great love for Gwendolyn Moon Tuppy, Glossop's for Cora Bellinger, Bertie's for Gladys Pendlebury, the general wickedness of the playful Roberta Wickham, the dog McIntosh and Sir Reignald Wither-spoon, Bart., of Bleaching Court, Little Bleaching Hants. Somewhere between the young lovers and shrimping at Bognor Aunt Dahlia remarks, "Put the thing squarely up to Jeeves and let Nature take its course." Sounder advice was never offered.

A CANADIAN WAR STORY.

"Show Me Death" is a first novel by W. Redwers Dent. It is a Canadian war novel, it really fine piece of work. Lionel Thor, whose autobiography the story purports to be, begins it by telling us that his childhood in Toronto was, thanks to his mother, an unhappy one. "I wasn't wanted, not wanted, my first real suspicion of life and its difficulties was that. Not wanted. . . . I was the [illegible]. She said so often to others, to God, to me, that two children were enough for any woman." When the War came, the chance to escape by enlisting was too good to miss and he cheerfully took it, becoming a member of the Canadian Mounted Rifles at the age of sixteen. His adventures of love and war in England and France were of the usual type, but their record is set down in a fresh and vivid style that gives this book a character of its own. In the end Corporal Lionel Thor, M.M., C. de G., is invalided home, where his dreadfully disfigured face does not, as he feared, stand between him and domestic happiness.

THE HAWK, By Roy Vickers. New York: The Dial Press, $2.

This one is wild, woolly, incredible and—quite readable. Mr. Vickers tells about Douglas Harris, alias Lord Doring, a distinguished aviator who is sent to Dartmoor for manslaughtering a policeman (on the testimony of Cora Scaton, the villainess), was helped to escape by a gang of dope smugglers, forced to work for them and so forth to a noble and extremely happy ending. Most embarrassing of all, Douglas was compelled to pass as the husband of the unspeakable Cora—and how is he going to explain to Cecily Warren, the heroine? The author banks largely upon speed and real cleverness in manufacturing thrills.

Some recent best sellers:

FICTION

YEARS OF GRACE, by Margaret Ayer Barnes (Houghton, Milfflin). Changing morals and manners seen through three generations of Chicago's best people.

SHEPHERDS IN SACKCLOTH, by Sheila Kaye-Smith (Harper). The spiritual difficulties of an Anglican rural clergyman.

THE SELBYS, by Anne Green (Dutton). Sparkling comedy of Americans in Paris.

ROGUE HERRIES by Hugh Walpole (Doubleday, Doran). Eighteenth century romance of a picturesque scamp.

THE DOOR, by Mary Roberts Rinehart (Farrar & Rinehart). A triple murder mystery.

GALLOWS ORCHARD, by Claire Spencer (Cape and Smith). A proud and wilful Scotch girl brings disaster on the men who love her and the man she loves.

CIMARRON, by Edna Ferber (Doubleday, Doran). Boom days in Oklahoma, from the Run to the oil strikes.

THE GENTLEMAN IN THE PARLOUR, by W. Somerset Maugham (Doubleday, Doran). White men in the exotic East.

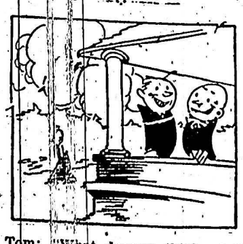
NON-FICTION.

ALL ABOUT AMOS 'N' ANDY, by Charles J. Correll and Freeman F. Gosden (Rand, McNally). Two radio favorites.

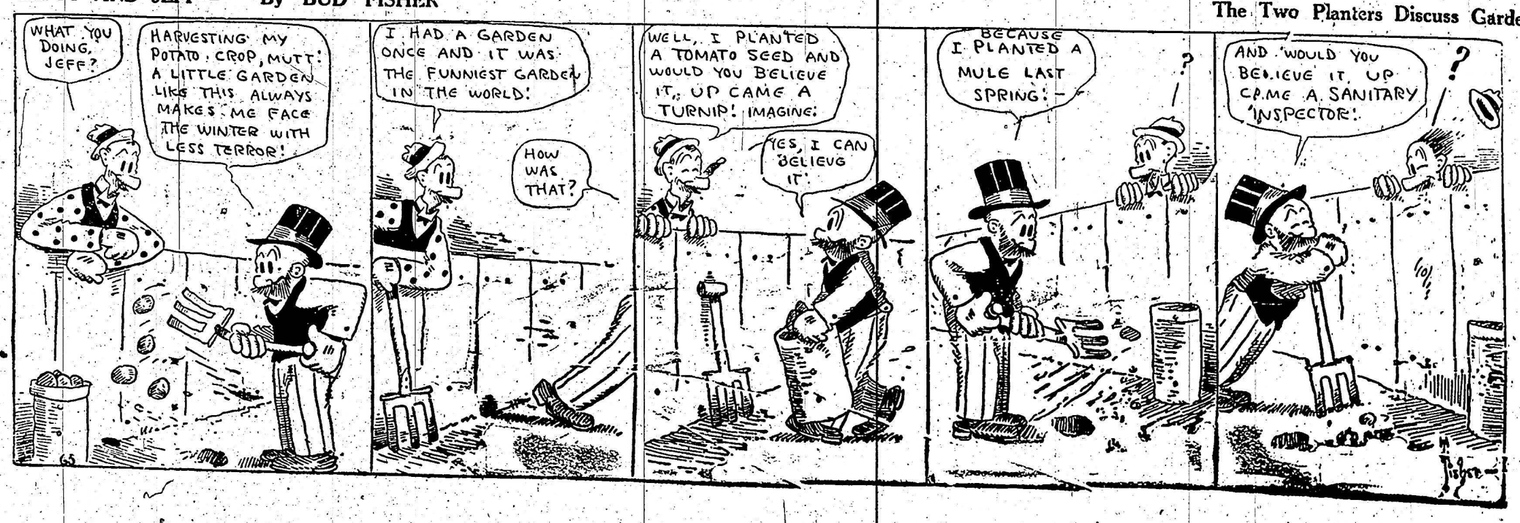
CONTRACT BRIDGE FOR ALL, by Milton C. Work (Winston). With official rules.

FAULT FINDING

One of the easiest things to do is to find fault. You can find fault over anything at all. The opposite thing is a thankful heart. You ask, "What have I to be thankful for?" Well, for more things than I have space to put in the Calendar. There is no use making a long list of things. A thankful heart is a way of looking at life. If you want to feel mean, think mean and act mean, just be ungrateful. If you want to be happy, useful, and do good work, think of the things you have for which you are grateful. Then go out with a thankful heart. —Rev. E. C. Bartow.



Tom: "What do you think of the view from the hotel veranda?"
Harry: "Magnificent. I can see four heiresses right from where I sit."

MUTT AND JEFF— By BUD FISHER

The Two Planters Discuss Gardening.