

What Makes Up The Milky Way

Scientists Believe That Vacant Space In the "Way" is Filled by Wandering Atoms and Cosmic Dust

Wandering atoms and strange particles of cosmic dust form a vast, cloud-like mass which, astronomers now believe, fills much of the so-called vacant space of the Milky Way.

EARTH ON FRINGE

The earth is probably in the fringes of this cloud. But it is certain that if you look at night in the direction of the Milky Way you are gazing through the cloud and the stars you see are slightly dimmed because of it.

The Milky Way itself is watch-shaped, a huge spiral of stars. The cloud is believed to be watch-shaped also, but smaller, like a watch lying within the Milky Way. The earth is known to lie about one-third of the distance out from center toward the rim of the Milky Way "watch." That is why it lies also in or along the edge of the interior "watch" that forms the cloud.

TRILLION MILES THICK

Dr. Roscoe Stanford, Mt. Wilson astronomer, has pieced together a picture of this cloud, using facts gathered by many experts in thousands of astronomical observations.

He estimates the cloud to be 6,000 million million miles thick. Its length or diameter is unknown but presumably is a large part of the 600,000 million million miles distance from one edge of the Milky Way to the other.

Commands Second Canadian Division



Brigadier-General Victor Odium of Vancouver, has been appointed officer commanding the Second Division, C.A.S.F.

Sylt People Like The Anglo-Saxons

Their Speech Resembles English — Island, Once Part of Mainland, Now Consists of Fortified Sand Dunes

It is more than likely that the British and Canadian fliers who struck at the island of Sylt were bombarding their ancestral homes. The language of its inhabitants, the Sildinger, is Frisian, which of all the Teutonic languages most resembles English.

SOBER AND PIOUS

These Frisians are a quaint, serious, sober, pious folk who make their living largely from the sea and are notable for that love of freedom which only the sea or the mountain top engenders. Their motto, "Rather dead than a slave," is familiar enough to strike a responsive chord in an Englishman's own thoughts. The Frisians, unlike the Prussians, were early brought under the influence of Christianity. Laws were early developed.

LARGELY SAND DUNES

The English word "silt" doubtless has the same origin as "Sylt," as also as the Swedish "sylta," (to salt or pickle) and the English word "salt." Originally "silt" meant "saltiness." Sylt, Germany's largest island in the North Sea, is largely sand dunes. Its coast line has changed and channels have been blocked with the silt of the sands. Once upon a time although perhaps a million years ago, Sylt was part of the mainland.

For military reasons, practically all the five thousand people of Sylt have been evacuated by the Germans.

Cheapest Light

The most efficient source of light in the world is the glow-worm. Chemical changes on the sugar absorbed by the insect produce the light from which it gets its name. In this process only three per cent of the potential energy is lost, the remaining ninety-seven per cent being given out as light. Compare this to the twelve per cent given by electric bulbs.

Sunday School Lesson

LESSON III

MICAH'S VISION OF PEACE.—PRINTED TEXT, Mic. 4: 1-5; 5: 2-5a.

GOLDEN TEXT.—And they shall beat their swords into plowshares, and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war any more. Mic. 4:3.

THE LESSON IN ITS SETTING.—Time.—During the reign of Hezekiah, probably between 726 and 701 B.C.

Place.—Micah's ministry was entirely within the territory of Judah, and for the most part in the city of Jerusalem.

This lesson is especially interesting because the people around whom this whole chapter gathers are the most talked-of, the most hated, people presenting the most difficult problems of all the races in the world today. No one has suffered in modern times as the Jews have suffered, at the hands of other nations; and here is not only a prophecy of such suffering, but a passage of wonderful hope, promising a time when these sufferings will be over, and a period when these people will come back to God and have a kingdom, in which joy and peace will abound.

The name Micah was not an uncommon one among the Hebrews; it means "Who is like Jehovah?" Micah was a simple countryman, born of obscure parents in an otherwise unknown village. Micah, as his prophecy shows, was in closest touch and sympathy with the class of young men whose wrongs he so graphically describes.

Promise of the Kingdom

In the first three chapters, Micah's chief moral denunciations are reserved for the wealthy nobles and worldly priests—the greedy aristocrats who coveted fields and houses and took them by force, who oppressed widows and broke up happy homes. Commercialism and materialism were supplanting almost the last vestige of the ethical and the spiritual in Jerusalem. At such a crisis Micah appeared, and attempted to call the nation back to God and to duty.

4: 1. But in the latter days it shall come to pass, that the mountain of Jehovah's house shall be established on the top of the mountains, and it shall be exalted above the hills; and peoples shall flow unto it. 2. And many nations shall go and say, Come ye, and let us go up to the mountain of Jehovah, and to the house of the God of Jacob; and we will teach us of his ways, and we will walk in his paths. For out of Zion shall go forth the law, and the word of Jehovah from Jerusalem: 3. and he will judge between many peoples, and will decide concerning strong nations far off; and they shall beat their swords into plowshares, and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war any more.

4. But they shall sit every man under his vine and under his fig-tree: and none shall make them afraid: for the mouth of Jehovah of hosts hath spoken it. The mountain of the house of Jehovah is the temple mountain, Moriah, here considered as part of Zion. Zion is the source of the law and the word of the Lord, from which the nations draw instruction how to walk in the ways of God, to make it their own, take it to their homes, and walk according to it.

Every Man Under God
5. For all the peoples walk every one in the name of his god; and we will walk in the name of Jehovah our God for ever and ever. A man's god is what rules his practical life; it is that which shapes and orders our lives. Furthermore, the worshipper will resemble his god in character. Everywhere around us the people are walking every one in the name of his god.

The beautiful picture Micah draws of the coming kingdom finds striking parallels in the prophecies of his great contemporary Isaiah (2: 1-5; 11: 1-12). Here we have almost every longing of the human heart down through all the centuries satisfied—a universal worship of the Lord, absolute righteousness in judgment, abiding peace, perfect security of person and property. When will this kingdom be established? Two clauses of Micah's seem to indicate clearly that the kingdom here spoken of will not be established until at the end of the age, which has by no means yet arrived.

5: 2. But thou, Beth-lehem Ephrathah, which art little to be among the thousands of Judah, out of thee shall one come forth unto me that is to be ruler in Israel; whose goings forth are from old, from everlasting. 3. Therefore will he give them up, until

Earl and Countess of Athlone Coming In June



Canada's new Governor-General, the Earl of Athlone, 66, youngest brother of Queen Mary, who has been appointed to fill the vacancy created by the death of Governor-General Tweedsmuir, is seen ABOVE, with the Countess of Athlone. The Earl and Countess will be welcomed to Canada in June.

the time that she who travelled hath brought forth; then the residue of his brethren shall return unto the children of Israel. 4. And he shall stand, and shall feed his flock in the strength of Jehovah, in the majesty of the name of Jehovah his God; and they shall abide; for now shall he be great unto the ends of the earth. 5. And this man shall be our peace.

Micah's prophecy regarding the birthplace of our Lord Jesus was fulfilled seven hundred years later. It is one of the most remarkable Messianic prophecies in all of the Old Testament. In chapter four we had a very beautiful picture of an age enjoying universal and genuine peace; here the Messiah himself is designated as the cause for such peace.

RADIO REPORTER

By DAVE ROBBINS

INSTANT NEWS

With the expected Spring offensive both on land—sea and in the air—already launched, radio listeners these days keep their receivers dialed in for news—and few parts of the world have a variety of stations offering the authentic news coverage heard in this part of Canada daily. Today radio brings instant news of action on any front—the war of today is carried right to your doorstep. The best three tips for Canadian listeners are to tune in CKOC—CBL—or CFRB for your news.

You get the overnight news first from CKOC at 6:15 each morning and again at eight—then at 12:15 noon—6:15 p.m. and late night news at 10:45. Transradio, one of the fastest news services today is the CKOC source.

From CBL you get news by Canadian Press cable at eight in the morning—12:15 noon—6:30 and 11:00 p.m.

The CFRB news bureau presents news at eight each morning—at 12:30 noon—four in the afternoon—6:30 and at 10:50.

Ellery Queen's mystery serial, heard on the Columbia chain each Sunday night at ten, offers thrilling tales of detectives at work. Dial in to catch this one some Sunday evening.

Music by Faith—a stand-out program—is heard from the CBC chain every Wednesday night at 9:30. It's a treat!

Every Monday and Friday afternoon at 3:30 CKOC offers radio listeners a treat when the program—

Music You Want—takes the air. This three-quarter hour presentation of the classics is one of the finest programs of this type heard on the air today, so, if you appreciate the better music, tune in on Music You Want from 11:20 on your dial.

Pleasure Time—Fred Waring's show from the NBC—red network on Tuesdays at seven—is the type of show that you will enjoy at dinner time. Always a good showman, Fred has gathered a starry aggregation for this one.

AROUND THE DIAL

The week's Spotlight Dialing—Sunday... Revueville via CKOC at 2:30... Mark of the Duke on CBC chain at 10:00 p.m. Monday—Melodies from the Sky from CKOC at 7:15... Culley and Claudette from CBL at eight. With the Troops on the CBC chain at 8:30... Tuesday—Mutiny on the High Seas from CKOC at 6:30... 52nd Husband on the CBS network at 7:30... Information Please from NBC-Blue at 8:30... Thursday... Talk of the Town from CKOC at 6:45... Walt Sereade from CBL at seven... Kay Kyser's College of Musical Knowledge via WOR Mutual at Eight... Rudy Vallee from NBC-Red at 9:30... Saturday—Good Deed Club from CKOC at 9:45 a.m. Metropolitan Opera company from CBC at 1:55 p.m. Wayne King, the Walt King, from the Columbia Chain at 8:30... NBC Symphony Orchestra from CBL-CKOC-CBC at ten... Jimmy Dorsey's Band from NBC-Red network at midnight.

Twin Cities At Head of Lakes

Fort William and Port Arthur Play Important Part in Commerce of Continent

Fort William, the founding of which dates back to the time of the fur traders, extends along the banks of the Kaministiquia River which has been dredged for several miles to give commodious berths to ships. Port Arthur dates from the early development of the silver mines and, with Fort William, shares the expansive facilities of Thunder Bay and as the Twin Cities are at the Canadian head of the Great Lakes, they play an important part in the commerce of the continent.

The district is served by both of the transcontinental railways and by several highways and roads.

PLENTY OF GAME

The waters of the streams and lakes in the district abound in the speckled trout, red trout, lake trout, bass, pickerel and pike. Deer and moose roam the forest areas and provide sport for the big game hunter. Caribou are to be found in a few localities. Ruffed grouse, ducks, and the Canada goose give the sportsman an opportunity in season to test their skill at flying targets. Fur bearers are plentiful, and trappers catch a great variety of animals, including mink, marten, otter, beaver, and fox. Fur farming consists chiefly in the raising of mink and fox.

Farm Notes . . .

To Scare Pests From The Farm

Crows are crafty creatures and by experience they associate a scarecrow with the presence of some tempting forbidden fruit. Crows are long-lived and consequently have long memories.

Pests far worse than crows prey upon the farmer's crops, remarks B. Leslie Emslie, chemist-agronomist. Crows may be seen and heard, shot at or shoo'd away, though perhaps not to stay, while these other pests are invisible micro-organisms who are ravages, however, can be plainly seen by harvest time.

Invisible Enemies

Many of these microscopic pests are fungi, some of which may infect the soil, but most of them are carried on the seed itself—for instance, scab and rhizoctonia of potatoes, seed rot or corn, bunt or stinking smut of wheat, the stripes of oats, severed smut and stripe of barley, root and stem rots of cereals, peas, beans and other crops.

Science has done much for agriculture, and one of the latest and greatest achievements is the discovery that certain organic compounds of mercury will control these seed-borne diseases without injury to the seed itself when applied in the small doses prescribed. Indeed, by destroying the fungi the treatment improves the germinating vigour of the seed and consequently increases yields.

Control Seed-borne Diseases. Years of most careful, painstaking research and trial revealed that there is a specific organic mercury compound for each of several classes of crops. Fortunately, a little goes a long way, so the cost of treatment is trifling, only a few cents an acre. The seeds of cereals, for instance, are treated effectively with the ethylmercury phosphate dust at the rate of only one-half ounce per bushel, and the seed grain may be treated from 24 hours to three months before planting, as may be convenient.

For seed corn there is another organic mercury dust and a different one for vegetable seeds, while for potatoes a wet dip treatment is used. For the control of seedling "damping-off" a dilute solution of the organic mercury specific for vegetables may be prepared and applied to the soil with a watering can or in a finer spray.

Modern Youth Seen Improved

Dr. Frederic P. Woellner thinks American youth is like American

automobiles—each year's models are better than the last.

Dr. Woellner is professor of education at University of California at Los Angeles. He said in an address:

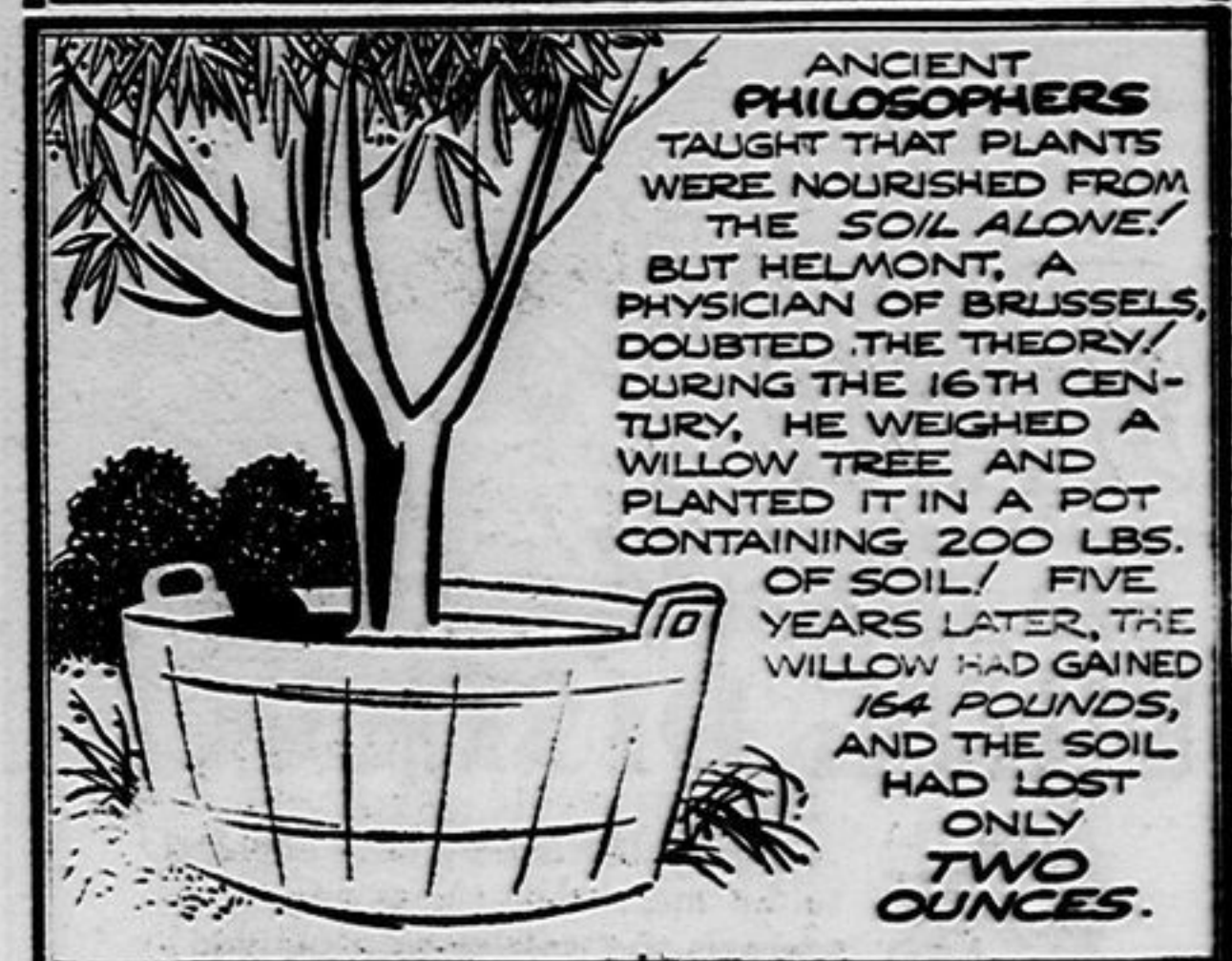
"We are not facing a revolt of

youth. Their way is the way of the young, 'Hell-bent for Heaven.'"

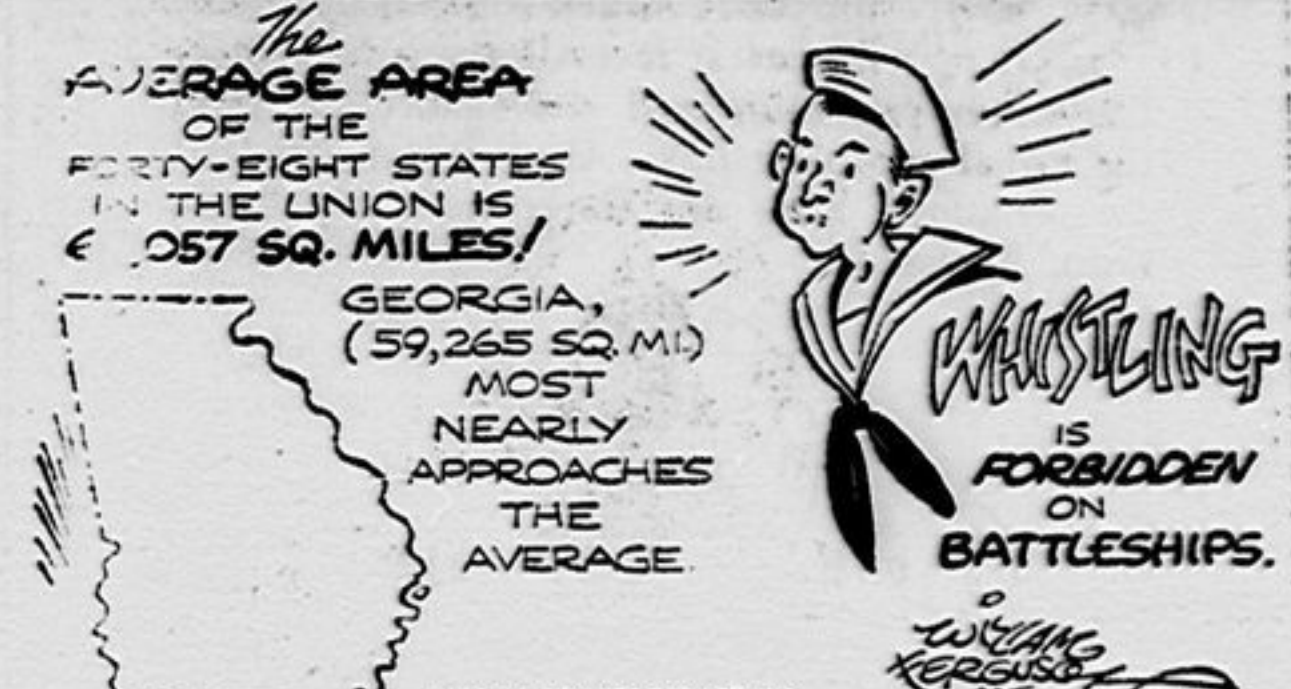
"We are facing a revolt of old age against going along with youth, directing its energy into profitable channels."

THIS CURIOUS WORLD

By William Ferguson



ANCIENT PHILOSOPHERS TAUGHT THAT PLANTS WERE NOURISHED FROM THE SOIL ALONE. BUT HELMONT, A PHYSICIAN OF BRUSSELS, DOUBTED THE THEORY. DURING THE 16TH CENTURY, HE WEIGHED A WILLOW TREE AND PLANTED IT IN A POT CONTAINING 200 LBS. OF SOIL. FIVE YEARS LATER, THE WILLOW HAD GAINED 164 POUNDS, AND THE SOIL HAD LOST ONLY TWO OUNCES.



JAN BAPTISTA VAN HELMONT, after making the experiment regarding plant nourishment, settled on the erroneous conclusion that the tree had taken on its extra weight from the water that he had given it, and not until 200 years later was the discovery made that nourishment was taken in from the air, through the leaves.

NEXT: How long does plant pollen live?

ANCIENT LATIN GOD

HORIZONTAL

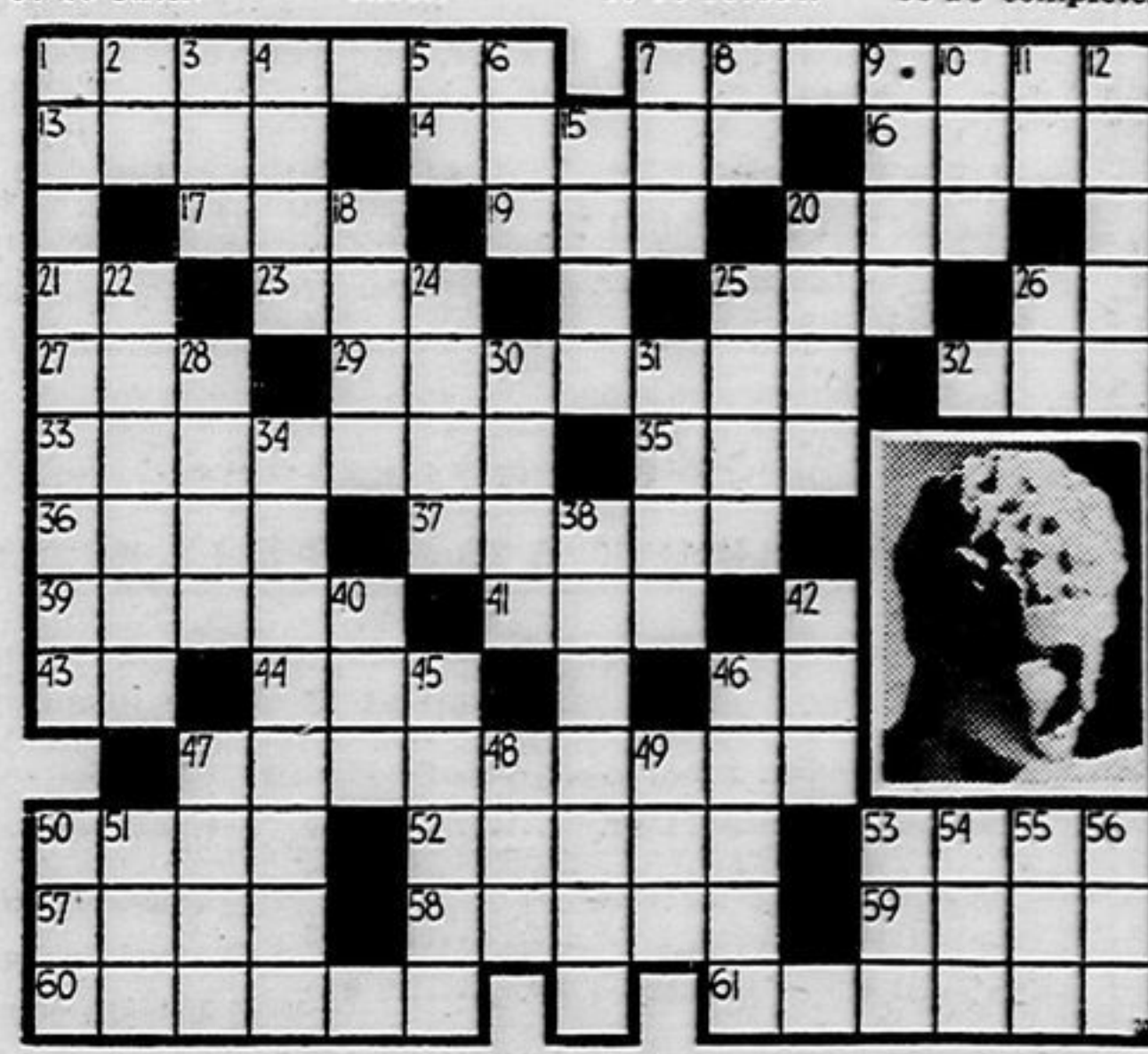
- 1 Pictured ancient Latin god of commerce.
- 7 The nearest the sun is named for him (pl.).
- 13 Title of dignity in Turkey.
- 14 Proportion.
- 16 Obituary.
- 17 Flying mammal.
- 19 Pig sty.
- 20 Crowd.
- 21 South Africa.
- 22 Toupee.
- 23 Relatives.
- 26 All right.
- 27 Night before.
- 29 A metallic name.
- 32 Definite article.
- 33 Retributive justice.
- 35 Born.
- 36 Chastity.
- 37 To stitch shoes.

Answer to Previous Puzzle

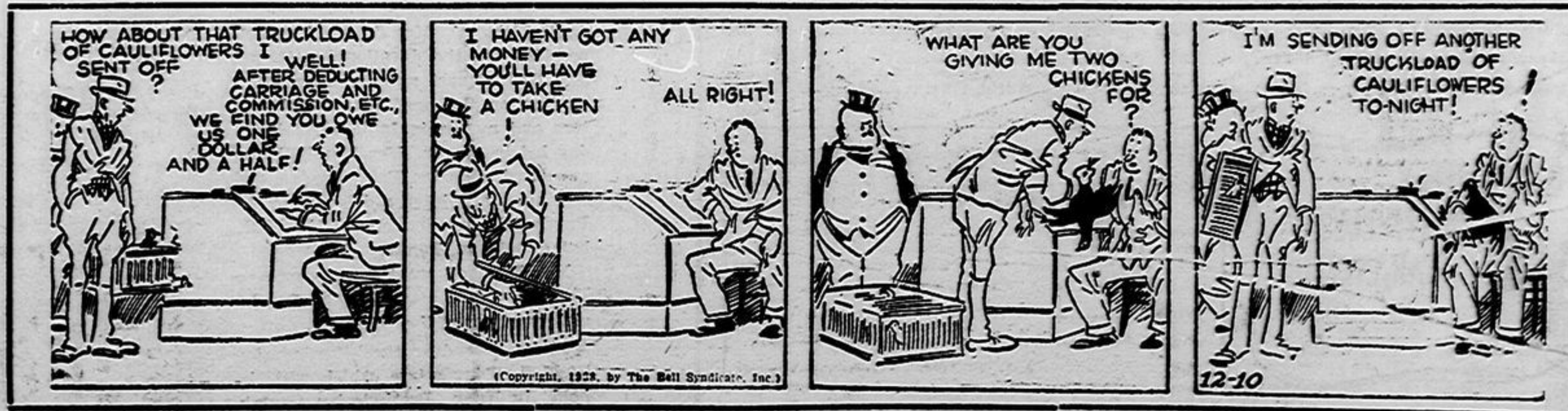
WILLIAM PENN
TRAISE
PANT
AND DIGESTS
Y
MAHAR
ELEM
NAMED
LAPRES
SAP SWOLLEN
MUS OSTER
RAPITER
CHARTER
QUAKERS

11 Liliaceous

- 11 Liliaceous tree.
- 12 Prize for a contest.
- 15 Baseball nine.
- 18 Birds.
- 20 Small weight.
- 22 Reluctant.
- 24 Voluble.
- 25 Leg joint.
- 26 Sound of surprise.
- 28 To eject.
- 30 Biblical character.
- 31 Grafted.
- 32 Rectifying.
- 38 Worker on strike.
- 40 Fish eggs.
- 42 Chum.
- 45 Hair fillet.
- 46 Pertaining to a branch.
- 47 To press.
- 48 Spigot.
- 49 Mongrel.
- 50 To embroider.
- 51 Kimono sash.
- 53 Desert fruit.
- 54 Tennis point.
- 55 To read.
- 56 To complete.



POP—The Barter System



By J. MILLAR WATT