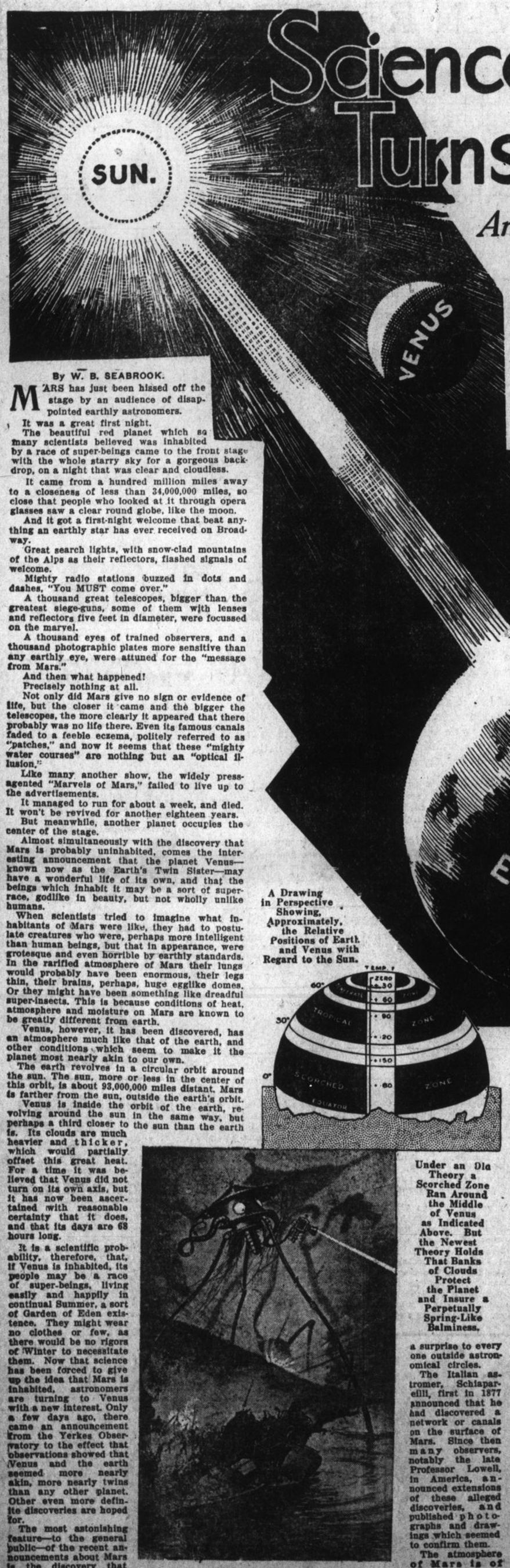
Science Peeved at Mars. Now Turns to Venus

And Finds Earth's "Twin Sister" Inhabited—Perhaps—By Heroic, Beautiful Creatures of a Super Race, Who Live in a Perpetually Summerlike Garden of Eden.



A Drawing in Perspective Showing, Approximately, the Relative Positions of Earth and Venus with Regard to the Sun.

By W. B. SEABROOK.

MARS has just been hissed off the stage by an audience of disappointed earthly astronomers.

It was a great first night.

The beautiful red planet which so many scientists believed was inhabited by a race of super-beings came to the front stage with the whole starry sky for a gorgeous backdrop, on a night that was clear and cloudless.

It came from a hundred million miles away to a closeness of less than 34,000,000 miles, so close that people who looked at it through opera glasses saw a clear round globe, like the moon.

And it got a first-night welcome that beat anything an earthly star has ever received on Broadway.

Great search lights, with snow-clad mountains of the Alps as their reflectors, flashed signals of welcome.

Mighty radio stations buzzed in dots and dashes, "You MUST come over."

A thousand great telescopes, bigger than the greatest siege-guns, some of them with lenses and reflectors five feet in diameter, were focussed on the marvel.

A thousand eyes of trained observers, and a thousand photographic plates more sensitive than any earthly eye, were attuned for the "message from Mars."

And then what happened!

Precisely nothing at all.

Not only did Mars give no sign or evidence of life, but the closer it came and the bigger the telescopes, the more clearly it appeared that there probably was no life there. Even its famous canals faded to a feeble eczema, politely referred to as "patches," and now it seems that these "mighty water courses" are nothing but an "optical illusion."

Like many another show, the widely press-agented "Marvels of Mars," failed to live up to the advertisements.

It managed to run for about a week, and died. It won't be revived for another eighteen years.

But meanwhile, another planet occupies the center of the stage.

Almost simultaneously with the discovery that Mars is probably uninhabited, comes the interesting announcement that the planet Venus—known now as the Earth's Twin Sister—may have a wonderful life of its own, and that the beings which inhabit it may be a sort of super-race, godlike in beauty, but not wholly unlike humans.

When scientists tried to imagine what inhabitants of Mars were like, they had to postulate creatures who were, perhaps more intelligent than human beings, but that in appearance, were grotesque and even horrible by earthly standards. In the rarified atmosphere of Mars their lungs would probably have been enormous, their legs thin, their brains, perhaps, huge egglike domes. Or they might have been something like dreadful super-insects. This is because conditions of heat, atmosphere and moisture on Mars are known to be greatly different from earth.

Venus, however, it has been discovered, has an atmosphere much like that of the earth, and other conditions which seem to make it the planet most nearly akin to our own.

The earth revolves in a circular orbit around the sun. The sun, more or less in the center of this orbit, is about 93,000,000 miles distant. Mars is farther from the sun, outside the earth's orbit.

Venus is inside the orbit of the earth, revolving around the sun in the same way, but perhaps a third closer to the sun than the earth is. Its clouds are much heavier and thicker, which would partially offset this great heat. For a time it was believed that Venus did not turn on its own axis, but it has now been ascertained with reasonable certainty that it does, and that its days are 68 hours long.

It is a scientific probability, therefore, that, if Venus is inhabited, its people may be a race of super-beings, living easily and happily in continual Summer, a sort of Garden of Eden existence. They might wear no clothes or few, as there would be no rigors of Winter to necessitate them. Now that science has been forced to give up the idea that Mars is inhabited, astronomers are turning to Venus with a new interest. Only a few days ago, there came an announcement from the Yerkes Observatory to the effect that observations showed that Venus and the earth seemed more nearly akin, more nearly twins than any other planet. Other even more definite discoveries are hoped for.

The most astonishing feature—to the general public—of the recent announcements about Mars is the discovery that the famous canals are an optical illusion rather than a fact.

There have been so many seemingly convincing photographs and drawings of them that they have been popularly taken for granted as a fact. The explanation of the misunderstanding will be a surprise to every one outside astronomical circles.

A Citizen of Mars on a Raid to the Earth, as Conceived by H. G. Wells in "The War of the Worlds."

The Italian astronomer, Schiaparelli, first in 1877 announced that he had discovered a network or canals on the surface of Mars. Since then many observers, notably the late Professor Lowell, in America, announced extensions of these alleged discoveries, and published photographs and drawings which seemed to confirm them.

The atmosphere of Mars is of slight density, with few clouds, and therefore its surface can be observed with great clearness. It has two polar caps, probably formed by ice or snow, and contain more or less dark patches with shaded zones. The most remarkable one has something like the shape and [illegible] peninsula. These markings have enabled astronomers to learn that Mars rotates on its axis in 24 hours, 23 minutes and 27 seconds, and that it has a succession of days and seasons similar to our own, although its size is a little less than half that of the earth. It has two moons, called Phobos and Deimas.

Under an Old Theory a Scorched Zone Ran Around the Middle of Venus as Indicated Above. But the Newest Theory Holds That Banks of Clouds Protect the Planet and Insure a Perpetually Spring-Like Balminess.

According to Schiaparelli, the planet had a net work of black lines on its surface—the supposed canals—generally straight and converging in small, dark patches called lakes. The narrowest of these supposed canals measured over 12 miles across. The American astronomer, Percival Lowell, believed that he had plotted out over 400 of these canals and thought they could only be accounted for by the presence of thinking things on the planet. According to Pickering, they are visible because of the lines of vegetation which become more luxuriant when the water from the melting snow-caps flow into them and which disappear during the dry season.

Curiously enough the first suspicion that astronomers were deluding themselves in believing that these were real canals artificially constructed by intelligent beings, was aroused not by peering through telscopes, but by using common sense.

The Lowell theory was that the regions away from the poles were desert, and that the Martians, in order to make life tolerable and grow the necessary produce, used the melting polar snows, directing them carefully along a powerful system of canals which they had dug to fight the extreme dryness of the Martian climate.

The reason why a number of astronomers doubted this theory on grounds of common sense, is summed up by Nordmann, in his book called "The Kingdom of the Heavens," translated by Fournier d'Albe:

"It is not a sign of high intelligence to construct thousands of miles of canals always in straight lines and of uniform width—without regard to inequality of soil, variations of fertility, and we know that the surface of Mars is not uniform and far from flat.

"There is neither economy nor sense in taking water three thousand miles from its source, while leaving vast intervening territories without irrigation."

Following these common sense doubts, a checking up of the great observatories of the world, disclosed the following extraordinary facts:

"All the astronomers who believed that they had observed real canals on Mars, had used telescopes of comparatively feeble or medium power. And nothing even resembling these canals has ever been seen or photographed through the enormous, high-powered monster telescopes either of Europe or America. The bigger and better the telescope used, the less like canals do the markings look.

Dr. David Todd, Observing Mars Through Georgetown University's Big Telescope.

Again quoting Nordmann:

"With these big telescopes the surface of Mars appears powdered with very numerous small patches, whose disposition shows no symmetry. As telescopes become less powerful, these small patches seem to merge with each other and form lines—and these imaginary lines are the celebrated 'canals'!

"With neither the Lick telescope nor the Yerkes telscope can be seen any sign of canals."

On this point there is a famous astronomical joke at the expense of the late Professor Lowell, who was an able and distinguished astronomer despite the fact that his views about the canals are now discounted.

It seems that when Lowell, using a smaller telescope, and wishing to have his observations regarding Mars confirmed, wired Mr. Frost, the eminent director of the Yerkes Observatory. Mr. Frost telegraphed back simply:

"Regret Yerkes telescope too powerful to see canals."

After all, the chief argument in favor of the probable existence of life in other worlds does not consist of anything specific that astronomers know or do not know about local conditions on individual planets like Mars or Venus.

It must consist of the more general fact that this particular globe on which we live is not the great center of the universe and the masterpiece of creation, as the proud ancients supposed, but a mere speck that seems to bear about the same relation to the sum total of the universe that one grain bears to the shores of the sea and the ocean.

There are billions and trillions and quadrillions of other solar systems just like our own with other planets like our own revolving in them, and there is absolutely no reason to imagine that the phenomenon called life has miraculously occurred on this one speck—this one little grain of sand—and not on any of the others.

Of cource, the chief interest lies in the immediate question of whether any of the other planets in our solar system are inhabited—because if they are, they are, theroetically at least,

How Mars Really Looks Under the Highest Powered Telescope. Where Are the Canals? Science Now Denies They Exist.

Gustave Dore's Conception of "The Garden of Eden," a Condition That Scientists Believe May Be Approximated on the Planet Venus.

within hailing distance and some day it might be possible to set up communication and even travel between them.

The distances in our solar system are not so great that it would be crazy to think about bridging them with radio signals or even flashes of light. The moon, of course, is only 249,000 miles away. A man in an ordinary airplane could get there in a few months, so far as the mere elements of time and distance are concerned. The sun is only 93,000,000 miles away. The two planets, Venus and Mars, on which the existence of life has been deemed most likely, are even closer.

These are mere neighborhood globes, all revolving in a neighborly fashion, in our own tiny little corner of the universe.

But outside it, considered in terms of journeys or signals to the other stars—each star is a blazing sun, just like our own sun—the distances become appalling, fantastic and unbridgable.

They are so great that they cannot be measured in terms of miles at all, or when they are, the miles pile up into endless and meaningless rows and columns of millions.

They are measured in terms of "light years." People sometimes do not understand this term, yet it is extremely simple. The speed of light is fixed and unchangeable. Light travels at the rate of 186,000 miles per second. To say that an object is "distant one light year," means that it is at such a distance that it would take a ray of light, going 186,000 miles a second, exactly one year to reach it.

And the nearest fixed star—the other sun in the universe—is almost 100 light years distant, while Betelgeuse and some of the biggest stars in the Milky Way are 150 years distant and even more.

By no sort of calculation is own own earth or our own solar system anything like the "center" or "hub" of this universe. It is, mathematically speaking, a mere tiny, unimportant, microscopic detail in it.

The facts are less flattering to mankind than the old idea was, but unfortunately they are the facts. And in the light of them it seems to scientists at least, a preposterous vanity to imagine that this is the only spot in the universe where there is life and intelligence.

In very ancient times, people conceived the earth as flat, and the sun, moon and stars as comparatively small lights and decorations hung in the sky by the friendly gods, like movable chandeliers suspended along wires strung across a vaulted ceiling.

Aristotle, however, studying the heavens and seeing that the entire starry universe seemed to revolve like a great hollow globe with the pole-star as its axis—and never suspecting that it was merely the little earth turning—invented a fantastic but plausible and beautiful explanation, which for many generations was accepted, and which was even defended by some of the early church fathers as late as 800 A. D.

He decided that the earth was in the center of a great, hollow, revolving globe of crystal, and that the stars were studded on this globe like bright golden nails. Observing that the planets did not revolve with the rest of the heavens, but moved in independent orbits of their own, he invented a number of smaller hollow crystal globes, revolving independently inside the larger one, each with one bright gold stud in it, corresponding to Venus, Mars and so forth.

Aristotle had one of the most brilliant and logical brains that a human being has ever possessed. What he lacked was not reasoning power, but precise information. And his hypothesis is still extremely interesting because it really would afford, from a merely mechanical standpoint, a perfectly logical explanation of what a man sees each night going on in the heavens.

The present interest in Venus lies in the belief not that it is the only other inhabited globe, but that it is the nearest, and the one in which conditions of life may be most similar to those on earth.

Newspaper Feature Service, 1924.