

# FUTURE SCIENCE FICTION

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Editor: ROBERT A. W. LOWNDES                      DOROTHY B. SEADOR, Asso. Ed.

COVER BY EMSH                      symbolizing a close finish in the "Race Into Space"

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**the new  
science  
of  
astronomy**

by DONALD FRANSON

*We're happy to present the first article to be translated from what appears to be a popular scientific magazine, included with the miscellaneous reading material packed in the "missile from outer space" that fell in Saskatchewan. Alarmists say that the government is training the armed forces in the use of lawn mowers and harvesting machines, just in case.*

**I**T IS SCARCELY twenty years since the first rocket photographs of the world beyond the clouds were published; it is only eleven since the intrepid Reed burst into the unknown; it is less than two years since the space station was established—yet the study of this outside universe, called *astronomy*, has taken first place among the natural sciences, and is still growing. Only this year, more data has been obtained about the six known planets than in all previous years together, and “astronomers”—there is an expanding number of such specialists now—believe they will shortly find out the secret of the distant lights, said by some to be further planets or suns, too far away to measure.

Of all the wonders revealed thus far, the most wonderful is how wrong all our previous ideas of the universe have been. This youngest of sciences has revolutionized thinking in the other, older sciences—such as Venusology, meteorology, even biology. Yet all this new knowledge owes its existence to chance—to the meteorological

study of the upper atmosphere (Professor Groves claims that astronomy is a *branch* of meteorology) by means of the newly developed rockets, just a score of years ago. Needless to say, the mechanical science of rocketry has progressed equally fast, after a long dormant period of disuse in war, and the two fields have intertwined in a mutually beneficial symbiosis.

Although all these things have been broadcast and taught in schools, the new facts come so fast that one can hardly keep up with them. Each one seems to overturn all previous theory, or complicate known facts, so that new hypotheses must constantly be presented. For this reason, an article such as this would hardly be comprehensible without a resume of what has been learned so far.

**P**ICTURE, if you can, the days of twenty years ago. Venus turned serenely, life went on about its business of growing, budding, wilting, and our minds were occupied with the latest novel of Hawthorn or

musical play of Rose, or the game of rootball; or if we were scientists, we dabbled in botany or mathematics or mechanics, knowing there was nothing new under the bright patch of sky we then thought was the sun.

Then the rocket photographs. No one could interpret them, at first. It was only afterward that they were fully explained, and it was thought at the time that chemicals from the other instruments had gotten into the plates.

The pictures were mostly dark; that was expected, because they had been taken on the night side of Venus. But instead of the few meteor trails that had been predicted, they showed thousands of white spots. Later pictures were similar, but the real truth of the matter came only after Reed made his epochal flight. Let us accompany him, and hear his own words:

"I don't know what I expected, as I neared the altitude where the clouds were supposed to thin out. A universal brightness, I suppose, though the rocket pictures had shown a daytime scene that was the

same as the night one. But I was totally unprepared mentally for what I saw before me. Thousands of little lights, in a totally black sky, though it was daytime! I had been warned the sun would be blinding, so I shielded my eyes with photographic shades. The sun itself was a little thing—not the white giant I thought it would be—yet it was intensely bright; with ten shades of darkness I was still able to make it out as a disc, but then was unable to see the lights again until my vision returned. I call them lights because they resembled a distant community all lit up. However, they were utterly motionless, of different colors and brilliance, and partly cloudy in places. These clouds are of light, apparently, not water, and are very faint.”

**L**ITTLE by little, as other expeditions—each one lasting longer—followed Reed’s into the clear, more knowledge was gained. It was Wood who discovered that the four brightest lights, and one other, moved in relation to the background of other lights; it was Barley who

charted the sun’s own movements, and the Laurel expedition which estimated the distances of the various nearby phenomena. But it remained for a Venusbound mathematician, Mulberry, to see the relationship between the various lights and Venus itself.

For, hard as it is to believe at first, Venus is not floating on the surface of an ocean of light, sometimes one side up, sometimes the other. It is free in black space, and all the light comes from the sun, which is the center around which Venus revolves, once a year. And Venus is not even the nearest to the sun! It is second; another of these moving lights called planets is closer and has priority. However there is no danger that this other world will get in the way and cut off our light and heat; space is so vast, and the planets so small in comparison, that this is of no concern.

Four other planets revolve outside Venus’ orbit; these take a back seat to us. Three of these outside planets have other, smaller worlds revolving about them. Venus has none,

that we can discover, besides the artificial ones that we have ourselves put up. So the universe is a complicated affair of wheels within wheels. All the other lights in the sky appear stationary, but it is thought that they may have motion also, only they are so far away that we have not detected it in the short time we have been observing them.

**H**OW DIFFERENT from the thoughts of the ancients, the middles and the moderns, even up to a decade ago! Gone is the white universe and the black universe, or the sea of light bearing up the worldly pod. Now we are getting at the truth, and it is a bewildering truth. But the greatest wonder is yet to be told.

For two of the other planets, which it has been discovered are like other Venuses, are inhabited, and by plants! The fourth one out, its surface always visible to our telescopes because it has no clouds at all, has areas on its surface that show the radiations of plant

life. And the third one out, nearer to us, also shows its surface most of the time. It is two-thirds covered with apparent water, and the land areas are partly of a green color, the color of health! And both the water and land show life radiations. Something even more interesting has been discovered about this third planet; nothing more is known about the fourth beyond what has already been mentioned. Doubtless it has some unusual form of vegetable life, adapted to the fierce conditions of direct sunlight.

The third planet, also, gets direct sunlight much of the time. Its temperature, however, is lower than ours, due to its distance from the light and heat-giving sun. A special study of this third planet has been made, from the space station, in the past six months, which has revealed markings that appear to be artificial.

At first the actual time for study of outer space was strictly limited. But since the advent of the space station, it has been continuous, and that is why more has been learned in

the past few months than in the preceding score of years.

**P**ROFESSOR BUSH says there is a civilization of intelligent plants on the third planet, which has built cities and dams that are visible in their effects. Doctor Lemon disagrees; he puts forth the astounding theory that the civilization of that world may be of intelligent animals—but Lemon has always been known for his sensationalism. It is hardly likely that parasites could have developed in competition with thriving plants; and if there were no plants, what could the creatures live on? Doctor Lemon makes the lame explanation that unrestricted solar rays have inhibited the plants' development; this may be so, but why not the animals' too then? But there are unmistakable signs of civilization, even lights on the dark side of that world.

It is true that a world of animals is not unthinkable. There were animals roaming Venus in prehistoric ages. Even up to barbaric times, a few still survived; the emperor Juniper kept animals for his amuse-

ment, throwing his enemies to them, a cruel process of execution in which the victims were torn limb from limb and their leaves cut to bits and absorbed by the beasts. When this sort of thing was outlawed, the enthusiasm for keeping animals languished, for what could you feed them? They were strict vegetarians, and could not live on minerals. Zoos at first fed them live plants of a lower order; then as this was frowned on, dead plants. Even this was thought profane in comparison to fire or plowing under as a method of disposal. Finally, of what use were animals, except as curiosities?

Unfortunately, or fortunately, depending on which way you look at it, all animals were killed off in the "hard times" of a thousand years ago. In that strange economic era, caused mainly by world-wide disorganization, it was impossible to feed the animals or maintain the zoos.

**W**E COULD afford to keep animals now, but unfortunately (for science anyway) they are all gone, except the

microscopic ones. It is a sad thing to contemplate the final extinction of these once decorative if not useful creatures, after millions of years of evolution; but one must remember they were all predators, producing nothing of their own, living only off other creatures. Indeed, in the far past, there were "carnivorous" animals, living off other animals. One might imagine the merely herbivorous animals being shocked at the thought of animals eating other animals, while they went on calmly and self-righteously munching plants.

Some paleontologists like to speak of an "atmospheric balance" in which animals consume the oxygen which plants exhale, and restore useful carbon dioxide to the air. However, animals are inefficient for this purpose, compared to fires and volcanoes; and in the opinion of Professor Sycamore of Ivy University, it is doubtful that such a balance ever existed on Venus, even in paleozoic times. Animals cannot live without plants, but plants can easily live without

animals. We are doing it today without much effort, and have even increased Venus' supply of carbon dioxide, consuming waste oxygen by chemical means. Incidentally, the rocket creates another use for waste oxygen—it is a good fuel, along with natural oils and gases.

So putting aside all ideas of a prehistoric world of devouring animals, we still see the wonder of actual life on two other worlds, intelligent life on one of them. That brings up the thought that no doubt is uppermost in your minds; we have the rockets now to fly in; why not go there?

**T**HE TRIP would not be so easy as that. Much preparation must be made, in spite of the near perfection now attained by the science of rocketry. A precise orbit must be figured out, the sun's effect must be considered (an item not necessary for the satellites) and the time element calculated. But astronomers and rocketeers now are of the opinion that such a trip can be made, and will be made, if we all lend a helping branch, and use the funds of scientific research

that are now frittered away in classifying minute animals, or in obscure chemical experiments. As everyone has agreed from the first, astronomy is a *useful* science.

Before we send ourselves to the third world, a scout ship must be sent, without any pilot or crew. Astronomer Holly says that this first ship, little more than a guided missile, will serve as a messenger to the possible plants inhabiting the third world. It could be filled with books and informational gadgets capable of being deciphered with intelligent effort.

Then will follow the first, to our knowledge, *expedition* across space, to pay a friendly visit to our planetary neighbor. Perhaps it is not the first—the inhabitants of these other worlds, open to space, have had far more opportunity to think about the astronomical wonders than we. Why haven't they visited us then? We don't know.

**I**T IS POSSIBLE that the plants on the third world may not be friendly, and may attack us. The expedition must be equipped with the latest

armament in the form of flame-throwers, chemicals, machetes and axes. Also spray-guns, in event of attack by small animals that could infiltrate into our sap, or damage us by diseases. In the unlikely event of attack by giant animals, we must have other weapons in readiness.

The conquest of space is a matter for careful seeding and much cultivation.

But just imagine the surprise of some experimenting botanist, dormant for twenty years, who might awaken in the midst of these busy preparations. What questions could he ask that would elicit, to him, a sensible reply? What are these preparations for? An expedition to where? How could there be another world? Beyond the clouds? How are you going to get up there? *By weather rocket?* It would take some time for all these revolutionary ideas to soak in and be taken up.

Yet all of this fascinating information is within the scope of this new, budding science of astronomy, undreamed of twenty years ago.