

Is That So?

By EUGENE BURNS
Ranger-Naturalist

The greatest show seen on earth is our sun, a huge, burning, tumbling, spurting ball of gas. What matter that the stage is 93,000,000 miles or so away? And as with most things which seem commonplace, the more we know about it the more impressive the daily spectacle becomes.

Our earth is 7,900 miles through—yet it would take a line of 109 earths to reach across the sun's fiery diameter and more than a million to equal its bulk.

To change this to understandable terms, let's reduce the sun to a ball only ten feet through. Then proportionately, the earth



we live on would become as large as a small marble spinning some 900 feet away, making it invisible to our eyes.

Yet far away as this distance scarcely anything can occur on earth which isn't of the sun's doing. From it we get both heat and light, directly; our rain, thanks to evaporation caused by the sun; our winds, caused by the sun's unequal heating of land and water; our food, which is stored-up sun's energy in plant and animal; and the base of our power, through wood, petroleum and falling water, all forms of the sun's energy.

What is the source of the sun's tremendous energy? Heat caused by the transformation of hydrogen atoms into helium.

Earth's Heat Cold

And so great is the heat resulting that the sun's surface temperature is estimated to be from 8,000 to 11,000 degrees Fahrenheit with an inside temperature infinitely hotter—estimated from 29 to 40,000,000 degrees. In comparison any heat on earth is cold. And for a good reason. Nothing could be made that hot for more than a split fraction of a second for the very simple reason that no furnace could stand so high a temperature—the materials would evaporate completely.

Although the sun consists of gases, and extremely hot ones, nonetheless the pressures within the central regions are so great that they reach the tremendous value of 10,000,000 atmospheres—a density about six times that of mercury.

The sun's tremendous heat naturally releases a fantastic amount of energy—in fact more than 4,000,000 tons are poured off into the surrounding void every second. And energy can be weighed in "tons"—even the light from an electric light bulb has weight, although much too little to measure. Of these 4,000,000 tons the earth intercepts the tiniest portion—a mere four pounds each second. But yet, small as this amount may seem, it adds up to 173 tons a day.

In releasing this energy, the sun gives away of its own mass and substance—a total of 1/1,000,000,000,000th part of its resources each year. But lest the depletion of the sun and its heart cause you undue worry, consider that it has been shining on the earth for hundreds of millions of years that we know of—judging by the earth's past life, and at the rate it is now consuming itself, it will keep on shining for thousands of millions of years to come.

How does the surface of the sun look while this is going on? Seen As Neat Disk

To the naked eye, of course, the face of the sun appears as a neat disk with clean-cut edges but that is because it is so bright that we cannot see its features clearly (and if you are to look into the sun, by all means use darkened glasses otherwise you may ruin your eyes within seconds). But when there is a total eclipse—when the moon passes between us and the sun—then we can see something of the great activity of the sun's surface—the great fountains flaring out at the edges in silvery light. And the reason why we call it the greatest show on earth.

How great are these surface fountains playing every minute of the day? These solar prominences, as they are called, are hundreds of thousands of miles high—twenty times and more the breadth of our earth!

Thus the whole surface of the sun is seething, tumbling, shooting out and falling back in—a heaving, restless sea of gases. A sight at once sublime and impressive.

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Power Line Funds Pleases Senators

Washington—(U.P.)—Oregon's U. S. senators Saturday expressed "delight" that \$2,038,000 to build power transmission lines to a new aluminum reduction plant at The Dalles, Ore., was contained in a Department of Interior supplemental appropriation request.

Senators Wayne L. Morse and Richard L. Neuberger, both Democrats, said the supplemental message received by the Senate Friday was "better late than never."

The senators said that while it was regrettable that the Interior Department "delayed this recommendation for two years," they would do all within their means to help facilitate passage of the appropriation through the Senate.

The appropriation covered construction of Bonneville Power Administration transmission facilities. Once it was passed by Congress, Senators Morse and Neuberger declared, plans could go ahead immediately for The Dalles aluminum plant.

A final fall-winter count of whooping cranes at their winter refuge in Texas shows the flock of America's rarest migratory birds has dwindled to a total of 21, three short of the previous year.



DESIGNED for use by officers on attache and foreign missions, new Air Force white uniform will not be worn or required within United States. Uniform may be required in tropical and semi-tropical areas when prescribed by commanders. (International)

In The Day's News

By FRANK JENKINS

Human rights note: The senate of the United States has approved a resolution expressing the hope that CAPTIVE SATELLITE PEOPLES will regain the sovereign rights of self-government.

The resolution had the backing of the senate leaders of both parties. The vote of the senators present was 89 FOR and NONE AGAINST.

PERSONALLY, I think the vote of the people of the United States—if they understood all the principles involved—would be in about the same proportion.

WHAT are these principles?

Let me quote again from the American Declaration of Independence:

1. "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among men, deriving their just powers from the consent of the governed."

2. "That when ever any form of government becomes destructive of these ends it is the right of the people to alter or abolish it, and to institute NEW GOVERNMENT, laying its foundation on such principles and organizing its powers in such form as to

them shall seem most likely to effect their safety and happiness."

THE RESOLUTION adopted unanimously by the senators present and voting will miff the Russians, because it will seem to them to be a direct invitation on the part of the United States of America to the people of the captive and enslaved satellite nations to REVOLT against their Communist masters.

It MIGHT so anger the Russians as to remove all possibility of agreement on relaxation of present tensions at the upcoming meeting of heads of state of Russia, the United States, Great Britain and France at Geneva.

WELL—WHAT ARE WE?

Are we men? Or, are we mice?

DO WE, or DON'T we, believe that "all men are endowed by their creator with certain unalienable rights (including life, liberty and the pursuit of happiness) . . . that to secure these rights governments are instituted among men, deriving their just powers FROM THE CONSENT OF THE GOVERNED and that whenever any form of government becomes destructive of these ends it is the right of the people to ALTER OR ABOLISH it . . ."

I THINK this is a good time for us to remember the concluding sentence of the Declaration

Once in a Blue Moon

By J. HUGH PRUETT

Astronomer, Extension Division Ore. Higher Education System

"Once in a blue moon" used to mean "never"; now it seems to indicate "hardly ever." Literature on the subject is practically non-existent. Seven times in 19 years there are 13 full moons in a year. This gives 11 months with one full moon each and two with two. This second in a month was once called "blue moon." It was considered unlucky and a real nuisance as it occurred at various times of the year and upset scheduling of church festivals. According to this, "once in a blue moon" would mean once in two or three years.

A friend recently called my attention to a statement in a book lately published in England which read, "Also a blue

moon was seen in 1944 by J. H. Pruett of the United States." Said Pruett certainly did see one. I had always been rather skeptical of a moon that would appear blue until on the evening of July 28, 1944, when before my astonished eyes there hung in the southern sky just such an object. My wife and two of the neighbors were equally amazed at the very unusual sight.

Noticed After Sunset The moon, at first-quarter phase that day (half moon), was first noticed shortly after sunset. It was then thinly veiled by a small patch of high cirrus clouds, which were tinted a beautiful orange-red by the sun just below the horizon. We thought that the lunar blue might be the effect of contrast with the red of the clouds. But while we looked and wondered, our lunar neighbor soon "floated" out into clear sky—and was just as blue as ever.

The blue was not uncertain and elusive, requiring close attention to discern the coloration. Not the least imagination was required. Normal eyes were impressed immediately with a very distinct blue so unnatural to old Luna's usual smiling face. The effect was evident for about 15 minutes. As the sky became darker, the weird coloration was gradually lost in the yellow radiance of the night moon.

Shortly after this I discussed the phenomenon in my weekly newspaper column used in several states and asked for similar observations from readers. Soon I had a large number of "testimonials" at hand. Most observers had seen only one such appearance each during the previous years of their lives.

On Nov. 8, 1948, while waiting for a city bus on a street corner, I witnessed my second blue moon. When I called the bus driver's attention to it, he said, "I have been noticing the past few minutes how green all the auto lights appear."

Prof. Fergus J. Wood, present science editor of the Encyclopedia Americana, has stated that he believes such blue moons are due to the presence in the atmosphere of numberless, infinitely minute, suspended particles, individually too small to be seen, yet together having a sensible effect on light rays transmitted through the atmosphere.

The Arctic tern is the champion long distance bird, covering 20,000 miles annually, traveling from its breeding grounds in the north to its winter quarters in the south sea area.

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We are sincerely grateful to our many friends, here and throughout the country, for their expressions of sympathy following our recent fire. Especially do we want to acknowledge with deep appreciation the cooperation and encouragement extended by manufacturers and wholesalers which makes possible the early resumption of our service to this community.

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We Will NOT Hold a FIRE SALE!

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