

Is That So?

By EUGENE BURNS
Ranger-Naturalist

During these bright sunny days of autumn, let's look at the nearest star which alone shines by day, our sun. But mind, if you're going to look into it, use a piece of smoked glass or you may burn your eyes.

Reason enough: It's a hot ball. At its surface the temperature is 10,800 degrees Fahrenheit; inside, infinitely hotter, perhaps nearer 46,000,000 degrees! And even at a distance of 93,000,000 miles, the heat is too concentrated.

Roughly speaking, the sun's diameter is 865,400 miles, about 109 times that of our earth while its volume is about 1,300,000 times that of our earth. Although a gaseous incandescent ball, its surface gravity is 28 times that of our earth. That means that a

man of 143 pounds would weigh almost three tons up there.

Within the sun tremendous pressures build up: in the heart, perhaps a billion tons per square inch and a density seven times that of lead.

In The New Astronomy (Simon and Schuster, N.Y.), Armin J. Deutsch says that atomic nuclei colliding in this incredible heat and pressure strike each other with such furious violence that one nuclear species may be transformed into another. The most important of these processes, he adds, build helium nuclei out of hydrogen.

By these thermonuclear reactions, he estimates that 564,000,000 tons of the sun's hydrogen are transmitted every second into 560,000,000 tons of helium. Most of the 4,000,000 tons of mass that melt away every second, he explains, are converted into radiant energy.

This radiant energy flows out from the sun's incandescent surface at the rate of half a million billion horsepower!

Earth Small Target

Fortunately because of our distance the earth is but a small target and is struck by less than half a billionth part of the total solar radiation.

I say fortunately, advisedly: if we were only 10 per cent closer to the sun, the heat would become so intense that it would burn us up. On the other hand, if we were only 10 per cent farther away our entire planet would freeze up: glaciers would grow rapidly, rains would cease and with the end of the water cycle would come the end of plant life. And the end of plant life would mean the inevitable end of man. That's us.

What seems to be a bright smooth surface of our sun-star is actually an incandescent atmosphere about 200 miles thick. Yet even when we look at the sun through a powerful telescope,

to detect them in the sun.

One of the still unsolved puzzles of our sun is its so-called sunspots. They range in size from less than 500 mile across—barely observable through a telescope, to huge naked-eye seeable objects more than 30,000 miles across. The reason they look dark is not because they permit us to look at solid matter in the sun but simply because they are some 2,000 degrees cooler than the surrounding atmospheric gases.

Occasionally these sunspots gather in great groups and then spots covering more than a billion square miles result. The biggest recorded blackened area of more than 6 billion square miles. Small spots last only a few days; large ones may persist over three months.

Sunspots come and go in cy-

cles of an average of every 11.3 years—although the periods of maximum spottedness may vary a year or two.

Strangely, animal population cycles seem to match this sunspot cycle. Some naturalists have made much of this. Possibly the plants have more vitamins during the least sunspot periods, they say, and with more vitamins animals are healthier and birth rates go up. . . . Could be. (Copyright, 1956, by Eugene Burns)

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Hearing on Flood Control Scheduled

A public hearing on flood control on Rogue river and its tributaries will be held in the Josephine county library in Grants Pass at 9:30 a.m. Thursday, Nov. 15, the Army corps of engineers announced Friday.

The hearing was first scheduled for yesterday, but was postponed because the corps of engineers would be unable to have a representative at the hearing. Col. Jackson Graham, district engineer, Portland, said all interested parties have been invited to be present or represented at the hearing, including representatives of federal, state, county and municipal agencies.

Colonel Graham said those attending will be given an opportunity to express their views on the extent of improvement desired. Oral statements will be heard, but for accuracy of record all important facts and arguments should be submitted in writing. Records of the hearing will be forwarded for consideration by the secretary of the Army.

BUILD OBSERVATORY

Tokyo—(U.P.)—Radio Peiping said Saturday that Communist China has started construction of an observatory on the "roof of the world" for research in connection with the coming geophysical year. The site is the Tibetan plateau near Lhasa, 11,667 feet above sea level.

Lutheran Church Host To Teachers Today

St. Peter Evangelical Lutheran church, 1020 East Main st., Medford, is host today to Sunday school teachers from Lutheran congregations in Ashland, Dunsmuir, Grants Pass, Klamath Falls and Roseburg. The training rally will start at 4 p.m.

Teachers from the congregations meet once each year to discuss teaching and methods in teaching children in Sunday school.

Enrollment, worship activity, aims and the use of audio-visual materials in the Sunday school are among topics for consideration at the rally.

Arthur Phillips, chairman of the teachers' group, said attention will be given to the role of the Sunday school in combating problems that confront juveniles.

RETURN PRISON

Landsberg, Germany—(U.P.)—The U.S. Army said Saturday it will return the grim Landsberg war crimes prison to the Bavarian government at the end of this month. The Army will retain only a small wing of the prison to house the 31 Nazi war criminals still serving their sentences.

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