

planned. Probably the war will divert the Russian attention to other activities now. However, a complete publication telling what could be done was published some time ago, and perhaps will guide isolated groups in making their observations.

In Japan, and in the occupied parts of China, where the eclipse is visible, it is likely that Japanese astronomers will make some studies, despite war, as there are several large and active observatories in Japan. The most favorable location, astronomically, from which to see the eclipse, will be in the vicinity of Hankow. There the sun will be at its highest, and will be completely covered for 3 minutes 21 seconds.

Two days after the eclipse, on Sept. 23, at 5:33 a.m., E. S. T., the sun will be directly over the equator. This, the autumnal equinox, marks the beginning of autumn.

Celestial Time Table for September

Friday, Sept. 5, partial eclipse of moon, not visible in U. S.; 12:36 p.m., full moon. **Monday, Sept. 8,** 9:15 p.m., moon passes Mars. **Thursday, Sept. 11,** 8 a.m., moon farthest: distance 251,500 miles; 5:00 p.m., moon passes Saturn. **Saturday, Sept. 13,** 1:16 p.m., moon passes Jupiter, 2:31 p.m., moon in last quarter. **Saturday-Sunday, Sept. 20-21,** total eclipse of sun, not visible in U. S. **Saturday, Sept. 20,** 11:38 p.m., new moon. **Tuesday, Sept. 23,** 5:00 a.m., moon nearest: distance 225,600 miles; 5:33 a.m., autumnal equinox, autumn commences 6:44 p.m., moon passes Venus. **Saturday, Sept. 27,** 3:09 p.m., moon in first quarter. Eastern standard time throughout.

Science News Letter, August 30, 1941

PHYSICS

Yellow Lamps No Better At Piercing Fog

THAT yellow light is no better at piercing fog than the light of an ordinary tungsten lamp is shown by experiments recently carried out by Dr. Matthew Luckiesh, research physicist and Franklin medalist, and L. L. Holladay, of the Lighting Research Laboratory of the General Electric Company, Nela Park, Cleveland. (*Journal, Optical Society of America*, August)

The so-called fog-lamps, consisting of yellow lenses which absorb from 20% to 35% of the tungsten-filament light, the report states, must contribute something to the seeing to offset the loss due to less light. No satisfactory tests have been published, but the present investigation makes it more than unlikely that they have any advantage.

Similar fog-piercing claims have been

made for the new sodium lamps. In this case there is no loss of light by colored filters, for the light is inherently yellow and practically monochromatic. Yet even this lamp showed no significant superiority over the tungsten lamp in fog-penetrating qualities.

The two lamps of equal intensity were tested side by side in clear weather, moderate fog, dense fog, mist, and snow.

They were tested by day and by night. Also a pair of lamps of low intensity and a pair of high intensity were used.

Many experienced observers made many readings on a Luckiesh-Moss visibility meter at a distance of 1,000 feet. No significant differences showed in the averages.

The report explains that the fog-penetrating power of a light does indeed depend on its color or wave-length, as has been generally known. Thus blue light, which is of short wave-length, penetrates fog less than red light, which is of long wave-length. The sodium lamp emits yellow light that is practically of a single



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wave-length. This wave-length is about midway between those of the red and blue lights. Hence the fog-penetrating power of the sodium light is just about middling.

The white light of the tungsten fila-

ment contains all the colors from red to blue. It is true that the blue rays are cut down by the fog, but the remaining red rays have a fog-penetrating power superior to the yellow light of the sodium lamps. This evens the score.

Science News Letter, August 30, 1941

PSYCHOLOGY

National Hates and Loves Built Up by 'Conditioning'

A People May Be "Conditioned" To Follow a Leader Or Hate a Political System Like Rats in Laboratory

A NATION going to war is like the animal in a laboratory maze artificially "conditioned" by the psychologist to turn to the right or to the left.

This picture of a mass of people led blindly to destruction by false ideas is painted by Dr. Trigant Burrow, scientific director of The Lifwynn Foundation, New York City.

A whole people, he says, like an individual, may build up emotional prejudices attached to slogans or symbols which become obsessions and which completely dominate their behavior.

They may be conditioned to follow fanatically this or that leader and to hate this or that political system in exactly the same way that a rat is condi-

tioned to go down the right alley of a maze and to avoid the left one.

In the laboratory of phylobiology established by Dr. Burrow and his associates it has been shown that individuals and peoples are trained to attack emotional prejudices or affects to mere symbols—political, economic or religious—and that these symbols have induced reactions in us that are now definitely pathological. Our likes and dislikes, allegiances and hates have nothing to do with the natural requirements of the organism—the individual's own inborn needs.

In Dr. Burrow's experimental work with individuals and social groups he finds that stimuli symbolized as "right" and stimuli symbolized as "wrong" have placed man in a position identical with that of the experimental animal.

When the laboratory rat finds the turnings in his maze becoming more and more difficult and the "right door" looking more and more like the "wrong door," he becomes confused. His behavior is disorganized. He may run senselessly about in purposeless circles. He has fallen victim to a "neurosis."

So with man and his dilemma of right and wrong. As Dr. Burrow points out, whole peoples have become neurotic in trying to find their way through a bewildering maze of artificial prejudices and ideologies. The foundation of man's world is threatened by the hostility of factions with opposing emotional attachments.

Nations have broken down and run amok.

When war is over and the "new social order" is established, the world's ills will not be cured, he says, by any political demagogue with a partisan ideology.

We need to look to scientists trained in the understanding of human behavior, as they alone can reckon with the conflict in man's organism and his resulting "social neurosis."

Science News Letter, August 30, 1941

Here's a way to laugh at the heat

Draw a nice cool corpse up beside your easy chair and let delicious cold shivers course up and down your spine while you read a blood-chilling Penguin mystery.

Penguins, as you know, are those complete, unabridged, low-cost books that Englishmen read while they're waiting for time-bombs to be removed from their libraries.

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Ten Minute Alibi, by Anthony Armstrong and Herbert Shaw

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Thursday, September 4, 2:45 p.m., EST

On "Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Lt. Col. Edwin S. Van Deusen, of the Motor Transport Division of the Quartermaster General's Office, will tell how Uncle Sam transports his Army by motor.

Listen in each Thursday.