

ASTRONOMY

Eclipse Due July 9

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► PRACTICALLY everyone in the United States will be able to see a portion of the sun blotted out by the moon on July 9. People who live in the West and Southwest, however, will have to get up pretty early, as the sun will rise partially eclipsed. People living in the East will have a chance to see the moon cover a section of the sun after it has risen.

A few in northern Idaho and Montana will be lucky enough to see the sun entirely hidden. It will rise completely eclipsed for observers in Cascade, Idaho, not far from Boise, and inhabitants of Butte, Mont., probably won't have to go farther than to a nearby field to see the total eclipse.

This is the first time since August, 1932, that the path of a total eclipse of the sun has been traced over territory close to our homes. Thirteen years ago the path of such an eclipse crossed New England.

The tip of the shadow of the moon will fully reach the ground just as the sun is rising for people in Valley County, Idaho. Sweeping over Butte, where the total eclipse occurs quite early in the morning, it travels northeastward, crossing into Canada. Racing across Saskatchewan and Manitoba, the eclipse will last about 48 seconds on the shores of Hudson Bay.

At Scoresby Sound, on the east coast of Greenland, mid-totality will occur near noon. The total eclipse will be longest here, reaching its maximum of one minute 16 seconds, according to the Nautical Almanac Office of the U. S. Naval Observatory. Here the path will have its greatest width, about 58 miles, when the sun will be a little over 42 degrees above the horizon.

From Greenland the path of the shadow of the moon will go to Norway, Sweden and Finland, where the eclipse will last about a minute or more. In the USSR the path of the eclipse will pass over many well-populated regions where mid-totality will occur either in the late afternoon or toward sunset. The sun will set totally eclipsed in Turkestan.

The eclipse will last about two hours and 27 minutes from the time the sun rises eclipsed in Idaho until the sun sets eclipsed.

One-half to four-fifths of the sun will be blotted out for observers in the British Isles, while in Iceland only 8% to 14% of the sun will be visible during maximum eclipse. A part or all of the sun will be covered by the moon's shadow for war workers in North America, flyers and sailors in the North Atlantic Ocean, natives in the North Polar regions and fighters, both allied and enemy, over all of Europe.

The nearer the spectator is to the path of totality, the greater will be the amount of the sun that is hidden from him. Some who are in the regions far from the axis of the shadow which lies on a direct line with the moon and the sun will see only a small portion of the sun covered. The diagram shows the southern limits of the partial eclipse, and the path the total eclipse will take.

An eclipse at any particular point can never be total for longer than seven and a half minutes, and this duration can occur only at noon near the equator. The average total eclipse lasts only about two or three minutes. Although the total phase of the July eclipse has a shorter duration (lasting about one and a quarter minutes at most) and narrower path than the average total eclipse, the path passes over much land area and gives many peoples a chance to enjoy its beauty. It fortunately occurs at a season when weather conditions are in general favorable.

Many professional and amateur astronomers here in the United States have considered the possibility of going to Canada to study the eclipse. Due to the inaccessibility of the Hudson Bay region, points on the path in other parts of Canada are the best from which to view the eclipse. Some have selected Pine River, Manitoba, as a likely place even though totality there will be brief, because of its accessibility by rail or car. The government's request that civilians do only essential traveling, however, has kept many such plans from materializing.

Great interest in the eclipse has been reported in the Scandinavian countries and the USSR. Despite war, preparations are already underway to locate a number of observation stations along its path through Norway, Sweden, Finland and Russia.

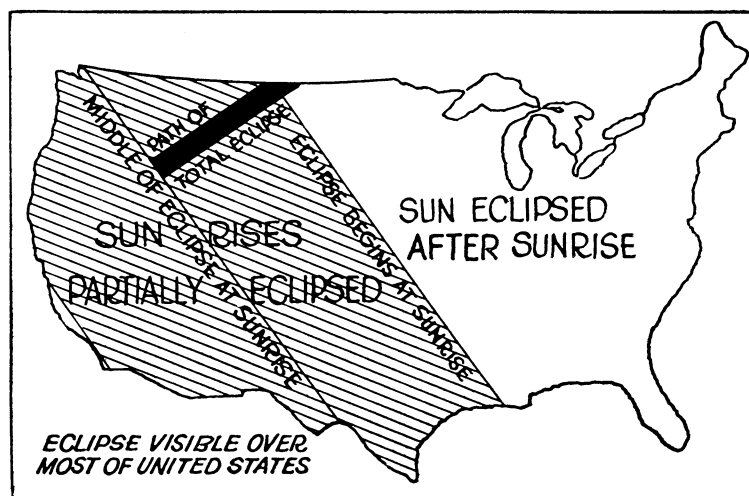
A number of problems to be investigated have been outlined by Prof. Bertil Lindblad of the Stockholm Observatory. They are largely astrophysical, dealing with the flash spectrum and the polarization of the light of the corona.

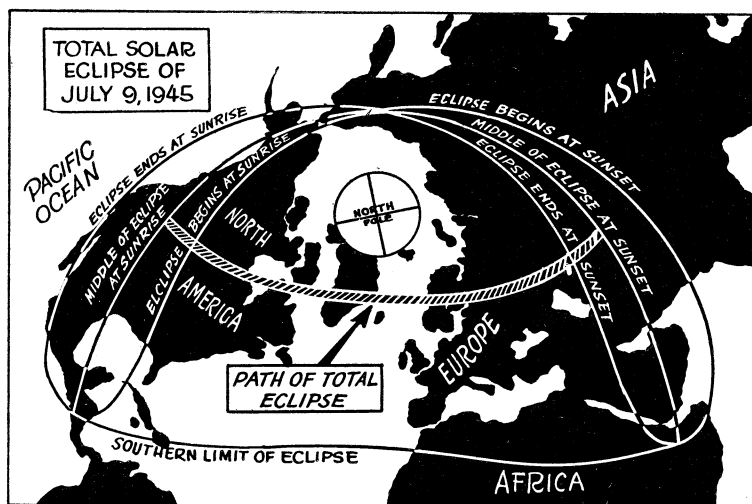
Of particular interest are plans for astronomical-geodetic work which would require international cooperation and accurate observations all along the path of totality. The coming eclipse is believed to offer an excellent opportunity to determine accurately the distance between points in Canada, Greenland and Europe.

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Beetles and humans have similar likes and dislikes for sweet- and sour-tasting foods.

Copper sulfate, in a concentration of 1 to 100,000 in water, will destroy typhoid and cholera germs in approximately four hours.





PSYCHIATRY

Suicide Is Murder

It is not the desire to die that makes a man commit suicide, psychiatrists tell us; it is the desire to kill turned on the self.

► IN MOST people the desire to hold on to this life is so strong that the daily reports of suicides that come to us with the war news are completely puzzling, and yet there is an explanation.

Reports of Nazi leaders killing themselves in disordered Berlin. Reports of Japanese fanatical warriors riding robot bombs to their own death. Reports of German war criminals cheating justice through suicide. Reports of Japanese officers committing hara-kiri when faced with defeat.

Such news seems fantastic and almost incredible to those who love life.

But psychiatrists have explored through psychoanalysis the minds of attempted suicides—men and women who have been restrained from suicide only by the constant vigilance of friends and nurses. They are able to explain why it is that some men are willing to kill themselves. And why it is that a man can turn the weapon he has used to kill others and use it for his own self-murder.

It is not the desire to die that makes a man commit suicide, psychiatrists tell us; it is the desire to kill. Hate makes a man kill himself just as hate sometimes makes a man want to kill his neighbor. Usually, the suicide actually wants to kill someone else but is somehow cheated of his victim.

In the case of the defeated war lord

or the war criminal facing arrest, it is easy to see how circumstances prevent the accustomed outlet of the will to kill. In the case of the many civilian suicides that are a common occurrence all around us, it is often the individual's own conscience that keeps him from killing the person he hates.

The close link between murder and suicide is revealed by statistics. Murder rates and suicide rates always have an inverse relationship to each other. As one goes up the other goes down. And suicide rates tend to be at their lowest in time of war.

Any man may at some time feel a hatred bitter enough so that he wants to strike another man down, get rid of him. But in most men, such desires are balanced and kept in check by other, more friendly emotions. We don't have to act on such an impulse. It doesn't even worry us. We push it aside even before we are aware of it, and forget it.

But the suicide cannot get rid of his desire to destroy—to kill. If he can't kill someone else, he kills himself. So, suicide is really murder directed toward the self.

But, obviously, the man who kills himself must be willing to submit to murder. This is not quite the same, psychiatrists tell us, as wanting to die. Instead, it is the need for punishment to relieve an overwhelming sense of guilt. And no

matter how hardened a criminal a man may be he can still feel deep in his heart the guilt of his crimes. This is so well known, that it is routine to remove from a criminal's cell all instruments with which he might kill himself.

The suicide is often just as unwilling to die as you or I would be. Men and women in hospitals suffering from the effects of poisons they have taken or wounds they have inflicted on themselves will beg their physicians to save them from death.

This apparent contradiction between the suicide's willingness to be murdered and his unwillingness to die is thought by some psychiatrists to be explained by the fact that it is impossible for all children and many adults to imagine themselves as no longer alive.

The angry child who tells his father, "You'll be sorry when I am dead," may picture the scene of his own funeral with weeping relatives and grieving friends, but always in his imagination he is there still in the midst of them, enjoying the spectacle of their discomfort. It is not possible for him to think of his own death as final and irreversible.

The most brutal war criminal may have the same childish way of thinking and may even kill himself in a spirit of revenge against the leaders that have brought him to disaster or against those who are bringing him to justice.

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ORDNANCE

British Bomb Travels Faster Than Sound

► NEW BRITISH rocket-propelled bombs that travel at a speed of 1,100 feet a second, greater than the speed of sound, have recently been developed, reports the British Information Service. The new bomb, dropped from a B-17 Flying Fortress, will tear through six thick layers of concrete before exploding.

Scientists of the British Admiralty, working in cooperation with the British Ministry of Supply, developed the powerful new bombs which ripped open Nazi E-boat shelters at Ijmuiden, Holland, as if they had been made of paper. The job of testing the rocket-propelled bombs was carried out by the U. S. Eighth Air Force. No further details on the design or construction of the bomb are released.

Under reverse lend-lease, details of the design of the bomb have been made available to the U. S. Army Air Forces for possible use in their operations.

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