

comets. When the particles are burned up in our atmosphere, the tracks are parallel, but they seem to converge in the distance, in the direction from which they appear to have come.

This is the same effect of perspective that makes a railroad's parallel tracks seem to converge in the distance. In the same fashion, the meteors seem to radiate from Perseus and so they are called the Perseid meteors.

Unlike some of the other meteor showers, which come at other times of year, the Perseids are rather constant in number, but the brightness of the sky determines how brilliantly the shower can be seen.

This year the moon is at last quarter on Aug. 10, a few days before the shower, and rises about midnight. Thus, it will be in the sky at the time of night when the meteors are most numerous, but will not interfere as much as if it were full.

Anyone who stays up late, on either the

12th or the 13th, and watches the north-eastern sky, should be able to see a number of these meteors.

**Celestial Time Table for August**

Aug. EST		
3	2:30 p.m.	Full moon.
4	1:00 p.m.	Jupiter on opposite side of sun from earth.
5	12:00 noon	Mercury on opposite side of sun from earth.
10	9:33 p.m.	Moon in last quarter.
12	during night	Perseid meteors
14	1:00 p.m.	Moon nearest, distance 227,400 miles.
16	10:00 p.m.	Mars on opposite side of sun from earth.
17	2:58 p.m.	New moon.
23	11:09 p.m.	Moon passes Saturn.
25	3:51 a.m.	Moon in first quarter.
26	10:00 a.m.	Moon farthest, distance 251,200 miles.

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, July 30, 1955

ENTOMOLOGY

**Panamanian Bees Make Wax From Oil**

➤ A RACE of Panamanian bees, *Trigona pallida*, uses oil to make the wax of their honeycombs.

The bees get the oil from a bucket of black crude oil used for mosquito control in Panama.

They are inhabitants of the jungle island of Barro Colorado where the Smithsonian Institution's tropical research center is located, are stingless and produce a honey that ranges from "excellent" to "nauseating," the Institution reported. Quality of the honey varies with the flowers they feed on.

They build no nests of their own, but take up squatter's rights in those of ants and termites.

The bees apparently see primarily by ultraviolet light, invisible to most animals including humans. Specimens confined in a box with several windows, each illuminated by a different light band, tried to escape toward the ultraviolet.

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The fulmar, a grey and white sea-bird of northern oceans, spits out an oily fluid at intruders approaching its nest.

PUBLIC HEALTH

**A-Bomb Test Danger Low**

➤ DANGER to the public from tests of atomic weapons in Nevada has been reduced to a minimum, an Atomic Energy Commission scientist said.

How the AEC cooperated with public health services and civil defense groups to protect the public is reported in the *Journal of the American Medical Association* (July 16) by Dr. Gordon M. Dunning, of AEC's division of biology and medicine.

Chief measure for protecting the public was the original selection of the Nevada site for atomic tests. The site covers 600 square miles, with an adjacent U.S. Air Force gunnery range of 4,000 square miles. These tracts are surrounded by wide expanses of sparsely populated land. Aerial and surface surveys insure that no persons or animals wander into the area.

Theoretical dangers from test explosions include three effects, Dr. Dunning explained, from seering light, from blast and from various radiations.

Looking directly at a fireball from nearby or through binoculars at greater distances would damage eyes. Military personnel and others viewing the shots are urged to protect their eyes with high density protective glasses.

**Four Eye Injuries**

Only four military persons have suffered eye injuries. In three cases, the damage was superficial. A few observers on nearby mountains who did not wear dark glasses have reported temporary blind spots.

To protect motorists who might be startled by the bright flash, traffic is halted on nearby highways in line of sight five minutes before the blast. Aircraft travel is restricted for 30 minutes before and after the shot over a circle 130 miles in diameter.

No cases of injury to humans have been reported from the blast of atomic tests.

Shock waves are of two kinds. One travels parallel to the earth's surface, and may be felt up to 6 miles from the site of the explosion. They may be strong enough to break windows or cause minor damage to buildings. A total of \$44,300 has been allowed for claims for such blast damage, Dr. Dunning revealed.

**Reflected Shock Waves**

Other shock waves are reflected from the ozone layer of the upper atmosphere. Such reflected waves may reach 60 to 150 miles from the test site. They may be strong enough to be heard distinctly, but have not resulted in any known damage to buildings.

AEC officials constantly check atmospheric radiation levels, both near the test site and over the United States. Ninety Weather Bureau stations throughout the country collect fallout data, as do ten AEC installations.

As part of the radiation monitoring system, instruments have been set up in 30 communities around the test site as far as 160 miles away. They are connected to commercial telephone wires. An operator sitting at a control point can place a normal telephone call, receiving signals that can be translated in seconds into gamma radiation dose rates.

No cases have been reported of humans receiving radiation burns, off the test site, Dr. Dunning said. However, in 1952, some cows 15 to 20 miles from "ground zero" were burned and, in 1953, some horses were burned.

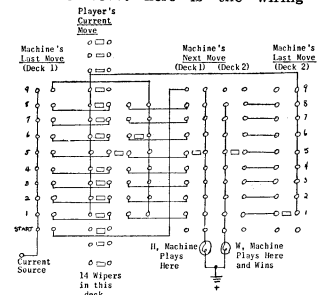
Science News Letter, July 30, 1955

To produce better pine trees, a hypodermic needle filled with pollen from a selected "father" tree is injected into the bag-covered flowers of an outstanding "mother" tree.

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