# Do You Know?

The buttery taste of *margarine* is obtained from milk which is treated with lactic acid bacteria, the same bacteria which give butter its distinctive flavor.

Light travels at about 11,000,000 miles a minute, so a *light-year,* a unit of distance used by astronomers, is about 6,000,000,000,000 miles.

Efforts to prolong the life of automotive and aviation engine pistons by coating the tops with pure *beryllium,* made in Germany during the war, gave promising results.

Bands of fertilizer along the rows, coupled with fertilizer plowed under, is said to be the best method of application for *tomato* plants.

What is known as *bicolor lespedeza* provides a seed which quail and other wildlife enjoy.

*Eggs* labelled Extra Large must weigh at least 27 ounces to the dozen.



other smaller ones on Palomar Mountain are the property of the California Institute of Technology. The observatory, however, will be run jointly by Cal. Tech and the Carnegie Institution of Washington. The work at Mount Wilson and Palomar will be so integrated that the excellent telescopes on these near-by mountains, each best suited to a specific task, will be used to maximum advantage.

The 200-inch telescope represents man's most daring effort to reach out into space. It results primarily from the vision, foresight and efforts of the late Dr. George Ellery Hale, "father" of Mount Wilson Observatory. He obtained from the Rockefeller Foundation the money with which to build the Palomar telescope and observatory. In all, more than six and a half million dollars was given to Cal. Tech. for this vast scientific instrument.

The telescope's construction has been under the direction of an observatory council headed by Dr. Hale and, after his death, by Dr. Max Mason.

Dr. Hale did not live to see his dream come true, but he did see it well on its way to completion. It is up to others—to those who use its fruits to unlock the secrets of the universe—to justify this tremendous undertaking.

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ASTRONOMY

# Minor Planet Near Earth

**Tiny asteroid is fourth or fifth known to have entered the earth's orbit. It will come within 15,500,000 miles of the earth and 84,000,000 miles of the sun.**

➤ A NEW tiny planet, one of only four or five known to have entered the earth's orbit, has been spotted by C. A. Wirtanen of Lick Observatory of the University of California. It will come within 15,500,000 miles of the earth and 84,000,000 miles of the sun.

Minor planets usually whirl around the sun in orbits lying between the paths followed by Mars and Jupiter. But instead of staying between the orbits of these two large planets and thus keeping 140,000,000 to 485,000,00 miles from the sun, this asteroid gets even closer to the sun than does the earth.

When first spotted on photographic plates, the asteroid was of about the 13th magnitude, and thus visible only through a powerful telescope, states Dr. C. D. Shane, Lick Observatory director. Since then it has brightened slightly as it approached the earth, and is now 12th magnitude.

The tiny planet, about two miles in diameter, was discovered on March 7. It was found to be rapidly approaching the earth. On March 22 it was about 111,500,000 miles from the sun (the earth is 93,000,000 miles from the sun) and within 21,000,000 miles of the earth, calculates Dr. Leland E. Cunningham of the university's Students' Observatory. By March 30 it was less than 18,000,000 miles away. But there is no danger of this flying mountain crashing into our planet—it can never come nearer than 15,500,000 miles of the earth, study of its path shows.

Only three or four asteroids of the known 1,600 previously have entered the earth's orbit. One of these came almost as near to the sun as the planet Mercury, the innermost of the planets. Each of these faint asteroids was visible for such a short time, however, that it was impossible to accurately calculate their paths and the length of time needed for them to race around the sun. They have since been lost in space.

Wirtanen's new asteroid, on the other hand, will probably not be lost. It has already been observed on several nights.

Going rapidly south of the earth, about the middle of April the planet will be directly under the earth, where it can be seen all night by observers in the southern hemisphere. At that time it will be just about as close to the earth as it can come.

The minor planet will make its closest approach to the sun on May 21. It will then be 9,000,000 miles closer to the sun than is the earth. But despite its nearness to the sun, it will probably be two or three magnitudes fainter than it is now.

This is because we will not be seeing the fully illuminated disk of the planet, but only a part of it. Just as the moon at quarter is not as bright as when we see its entire disk lighted by the sun, so this asteroid will appear fainter even though nearer the sun than at present.

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