

ASTRONOMY

New Heavenly Neighbor Passes Within Orbit of the Earth

Reinmuth Object, With Diameter of Three Miles, Regarded As One of Most Remarkable Bodies in the Solar System

By DR. HARLOW SHAPLEY
Director, Harvard Observatory

COMPUTATIONS at Harvard Observatory of the orbit of the object recently discovered by Dr. Karl Reinmuth at Heidelberg, Germany, indicate that this is one of the most remarkable and important minor bodies in the solar system. Its period around the sun is two years, which is shorter than that of any known comet, the next shortest being Encke's comet with a period of three and a third years.

The object is remarkably near the earth, about eight million miles away, and has passed within the earth's orbit. Since its discovery on April 27, the object has been observed at Heidelberg, Harvard and the Yerkes Observatories.

The object appears to have a sharp nucleus and may be intermediate between asteroids and comets. The Harvard computations were made by Dr. F. L. Whipple and L. E. Cunningham.

Reinmuth's object, new neighbor of the earth, passed inside the earth's orbit on May 16 at a distance of approximately eight million miles from the earth, Dr. Fred L. Whipple and L. E. Cunningham of the Harvard College Observatory determined.

Minute Speck in Heavens

The minute speck in the heavens has a diameter of about three miles. It is twelfth magnitude and will not become visible to the unaided eye. It is moving half as fast as the moon across the sky.

If the Reinmuth object is an asteroid, it will be the first to come within the earth's orbit. Computations also indicate that it will pass within the orbit of Venus, the planet next closest to the sun. Its orbit about the sun is shaped like the inside of a hat.

For the moment, astronomers will refer to this heavenly body as the Reinmuth object, but if it is judged an asteroid or minor planet, Dr. Karl Reinmuth, who discovered it, will have the privilege of naming it. If it proves

to be a comet, it will be called the Reinmuth comet of 1932.

The Reinmuth object is an asteroid and not a comet in the opinion of Prof. George Van Biesbroeck, of Yerkes Observatory, who has observed it. It is one of the most important heavenly bodies discovered in recent years. Not since the discovery of the ninth planet, Pluto, have astronomers been so interested.

The Reinmuth object will come six million miles closer to the earth than the famous asteroid, Eros, discovered in 1898, which until a few weeks ago was known as the object that approached the earth closer than any other regular

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Reinmuth's "Comet" Shown To Be New Minor Planet

REINMUTH'S "comet," discovered on December 31 of last year by Dr. K. Reinmuth of the Badische Landes-Sternwarte at Heidelberg, has really proven to be a new minor planet, according to calculations announced by the Astronomisches Recheninstitut, Berlin, which keeps track of discoveries of these tiny planets, or asteroids. Though nearly 1,500 are known, the new one is of particular interest because it becomes the tenth known member of the famous "Trojan" group. These are of great importance because they all move in the plane of the orbit of the planet Jupiter, and remain at approximately the same distance from Jupiter and from the sun as Jupiter itself is from the sun, about 483 million miles. Thus, the asteroid, Jupiter and the sun remain continually at the corners of an equilateral triangle.

Such motion represents a solution of the three-body problem. Though mathematicians can calculate the motion in space of two bodies which have an attraction on each other, no one has yet

member of the solar system except the moon.

By a coincidence, it was found just a few days ago that the Delporte object, discovered the middle of March in Belgium, comes closer to earth than Eros but the Reinmuth object's distance of eight million miles now breaks the Delporte object's record of ten million miles.

Planet Spoiled in Making

The asteroids are minor planets, most of which rotate about the sun in the wide gap of the solar system between Mars and Jupiter. More than a thousand asteroids have been discovered in that region and one theory is that they represent the remnants of a single planet that was spoiled in the making.

This Reinmuth object discovered by Dr. Karl Reinmuth on April 27 should not be confused with the "Reinmuth object" discovered by the same German astronomer last year and found to be a new member of the famous Trojan group of asteroids.

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succeeded in fully solving the problem for three bodies. The famous German mathematician, J. L. Lagrange, showed how it could be solved for three bodies moving at the vertices of an equilateral triangle, and the Trojan asteroids proved to be actual examples of this solution. All are small bodies, less than a hundred miles in diameter, and so distant from the earth that they can only be detected with the largest telescopes. The group is so called because they are all named after figures from Greek mythology associated with the Trojan wars. These are Achilles, the first to be discovered, Hector, Nestor, Agamemnon, Odysseus, all of which move ahead of Jupiter, and Patroclus, Priamus, Aeneas, Anchises and the new one, which follow Jupiter. So far, a name has not been assigned to the new discovery and it is designated only by a number, 1931YA. According to precedent, Herr Reinmuth has the privilege of giving it a name.

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