Planet Possibly Not Object Predicted

Astronomy

THE new member of the solar system discovered beyond Neptune may not be the ninth major planet predicted by the late Prof. Percival Lowell. Doubt was cast upon its planetary nature by computations made at the Lowell Observatory, where the remarkable solar system outpost was discovered.

Over a month ago the discovery of a faint heavenly object that seemed to conform to the expected orbit of the ninth planet thrilled the world. Now it seems possible that astronomers may eventually concede that the Lowell Observatory astronomers discovered not the expected major planet but a unique asteroid or an extraordinary comet-like object. Such a discovery will still be rated as one of the most important in the history of astronomy, perhaps even more important than if it really had been the planet for which the search was being made.

That "planet X" is not the Lowell planet is to be inferred from the data announced by Dr. V. M. Slipher, director of the Lowell Observatory. He did not discuss the implications of the values of the "preliminary orbit of planet X which has been computed by the Lowell staff with the aid of Dr. John A. Miller, director of the Sproul Observatory" using positions of the object on Jan. 23, two days after it was first photographed, Feb. 23 and March 23.

The Lowell orbit computations give the eccentricity as 0.909, meaning that the object sweeps through space in a greatly elongated ellipse, far flatter than the orbit of any known planet and more like that of a comet. The object's path is far more inclined to the plane of the earth's orbit than any major planet, the calculated inclination being seventeen degrees twenty-one minutes.

Dr. Slipher reports that the distance of the object from the sun is forty-one and three-tenths times that of the earth, far more distant than any known body in the solar system. This is approximately the distance of the planet Lowell predicted. Even more startling is Dr. Slipher's report that the greatest diameter of the object's orbit is such that it sweeps out into space forty billion miles from its position closest to the sun. This is far greater than any distance hitherto measured within the solar system. The object has just begun to recede from its closest approach to the sun.

First intimation that the object discovered by Lowell Observatory is not the ninth planet was contained in an announcement on April 5 of a series of orbits computed by E. C. Bower and F. L. Whipple under the direction of Prof. A. O. Leuschner of the University of California.

Informed of the Lowell computations, Prof. Leuschner and Dr. Harlow Shapley, director of the Harvard College Observatory, issued the following statements to Science Service:

Possibly Asteroid

By Prof. Armin O. Leuschner

The Lowell result confirms the possible high eccentricity announced by us on April 5. Among the possibilities are a large asteroid greatly disturbed in its orbit by close approach to a major planet such as Jupiter. Or it may be one of many long period planetary objects yet to be discovered, or a bright cometary object. I have frequently referred to the close orbital and physical relationship of minor planets and comets. High eccentricity and small mass would seem to eliminate the object as being planet X predicted by Lowell, and signify an unexpected discovery, nevertheless of highest astronomical importance and interest on account of the great distance of an object in the solar system at discovery.

The Lowell orbit agrees closely with our orbit V, but our limited material still admits other solutions. If the Lowell orbit, and our orbit V, are near the truth, the object is receding from the sun in its course towards aphelion and will gradually diminish in brightness beyond the power of the largest telescopes. Only with a very accurate orbit could it be recovered after several centuries.

More Important Than Planet

By Dr. Harlow Shapley

The preliminary orbit indicates a remarkable type of member of the solar system not comparable with known asteroids and comets and perhaps of greater importance in cosmogony than would be another major planet beyond Neptune.

Science News-Letter, April 19, 1930

The Answer Is

In This Issue

What is the shape of the *"new planet's"* orbit? p. 242—What is the greatest *distance* ever measured within the solar system? p. 242—How much power would the complete *breakdown* of matter liberate? p. 243—What discovery would make it *possible* to heat a large building with a handful of snow? p. 243—Why did the ancient *people* of Palestine worship a serpent goddess? p. 244—What did the *Canaanite* gods look like? p. 244—How does the motorman's *health* affect the safety of passengers? p. 246—What makes accurate *photography* from an airplane difficult? p. 247—What has been suggested as a possible *substitute* for cod liver oil? p. 248—Can *bees* tell time? p. 249—What has been the *effect* of diet on girls' stature? p. 250.

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