

Let's Keep Pluto a Planet!

by Charles E. Hughes

Is Pluto a Planet?

by David A. Weintraub
Princeton, N.J. : Princeton University
Press, 2007.
Hardcover, 266 pp., \$ 27.95.

Is Pluto a planet? To paraphrase an old and vulgar expression, "Is the Pope Catholic?"

David Weintraub, a professor of astronomy at Vanderbilt University, deals with this question in great detail in a well-illustrated book. He concludes that Pluto should not be downgraded from a planet to a member of some new and special category—Plutinos, or suchlike.

Weintraub describes the discovery of a swarm of objects beyond the orbit of Pluto, mostly smaller than Pluto, over the last 30 years or so. Yes, Pluto is a planet, he says, and not some strange beast.

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In the ancient world through the Middle Ages, Ptolemaic astronomy taught that there were seven planets: the Sun, the Moon, Mercury, Venus, Mars, Jupiter, and Saturn. The Earth was not a planet, but the center of the Universe.

With the revival and elaboration of the Sun-centered system of Aristarchus, the Sun was demoted from planethood and the Earth was promoted to planet status. There were doubts about the Moon and the newly discovered satellites of Jupiter, and later Saturn. The discovery of the asteroid Ceres in 1801, and then the asteroids Pallas and Vesta, followed by the discovery of many more such bodies, orbiting between Mars and Jupiter, again strained the old system. These so-called asteroids were all very small compared to the major planets like Mars. The largest of them, Ceres, is exactly 920 kilometers in diameter.

Weintraub quotes Kepler as saying that satellites of planets should not be counted as additional planets, and notes that Kepler did not wish to suffer the fate of Bruno by advocating infinite worlds in the universe. Unfortunately, Weintraub does not give a reference for this interesting quote.

William Herschel (1738-1822) discovered planet number seven, Uranus, in 1781. The next planet, discovered in 1846 by Urbain-Jean-Joseph Le Verrier, gave the Solar System eight planets.

Pluto vs. the Empiricists

Pluto was discovered in 1930 by Clyde Tombaugh of Lowell Observatory in Flagstaff, Arizona. The discovery was the end result of a seven-year search for a Planet X, believed to be disturbing the orbit of Neptune. Tombaugh's discovery involved the inspection of thousands of photographic plates of the ecliptic, the

path in the heavens of the planets, and perhaps about a million star images on these photographic plates.

Pluto was a big disappointment to astronomers, because it was so very small, whereas the predictions for the expected Planet X were for a body of major size. Pluto's diameter was eventually determined to be 2,300 kilometers,

smaller than the Moon. Its orbit was so unusual that it would come closer to the Sun than Neptune does. And Pluto has its own small moon, Charon.

Weintraub says yes, Pluto is a planet, and he provides us with the characteristics of a true planet: A planet should orbit a star

such as the Sun, and not orbit another planet. It should not produce its own heat energy by means of thermonuclear fusion reactions. The true planet should be round in shape, not like a potato.

Pluto fits these criteria and is therefore a planet, Weintraub says. I hope that his verdict prevails, for it pains me to think of poor Clyde Tombaugh spending endless evenings at the Lowell Observatory looking at millions of star images only to have his discovery and its fame obliterated by the categorical empiricist crowd, who wish to break the universe down into more categories so as to more easily ignore singularities.

I recommend this book. It describes the latest planetary discoveries and is enjoyable and well-illustrated.

