

Planetary Perils in Prague: An Insider's View

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Historically, "planet" has been a continually evolving concept. By the mid 1800s John Herschel listed 18 of them, not including the sun and moon. By 2006 the International Astronomical Union was in a bureaucratic muddle, not knowing which committee or working group had the naming responsibility for large, new-found objects beyond Pluto. And clearly Pluto itself was an anomalous planet, much smaller than originally believed and much smaller than the moon.

Our IAU planetary definition committee recognized that Pluto and its trans-Neptunian cousins represented a newly emerging category, a new planet-like group that deserved its own name, and which would lead the public to understand the growing complexity of our study of both the solar system and other planetary systems. We were also aware of the public relations issues around the status of Pluto.

Our carefully crafted and sensitive proposal defined planets in terms of their roundness ("hydrostatic equilibrium"), a favorite criterion of planetary physicists, and proceeded to distinguish between the "classical" planets and the round trans-Neptunian objects with the proposed name of "plutons." We stumbled by not assigning a category and name "cereans" to any small, round, rocky bodies of the inner solar system.

In Prague, we were blindsided by the IAU press officer who demanded to know precisely how many planets there were by our proposed definition. Since we anticipated that this would be a continually growing number, we had not actually counted. It was easy for the press to find critics of nearly any proposal, and we were soon in a firestorm of controversy. Furthermore, a group of celestial mechanics felt that we had not properly considered the role of "where" in defining planets, and they were determined to include something of the system dynamics in the definition. Ultimately various grounds of dissatisfaction coalesced to back a hasty and clumsily worded alternative proposal.

In retrospect, at this point the resolution should have been tabled for further examination. It is easy to extend the scientific definition of "planet," but difficult to restrict a word whose usage is defined primarily by cultural context. I believe that, scientifically, a sub-category such as "classical planet" from Mercury to Neptune would have worked fine with the public, along with any number of other categories, and this would have been invaluable for public education. Instead, the refrain "And Pluto isn't a planet anymore" has dominated the news, a situation astronomers should have avoided. As Kepler wrote to his teacher, "Experts cannot live off themselves or on air. Therefore, let us act in astronomical affairs in such a way that we hold on to our supporters of astronomy and do not starve."