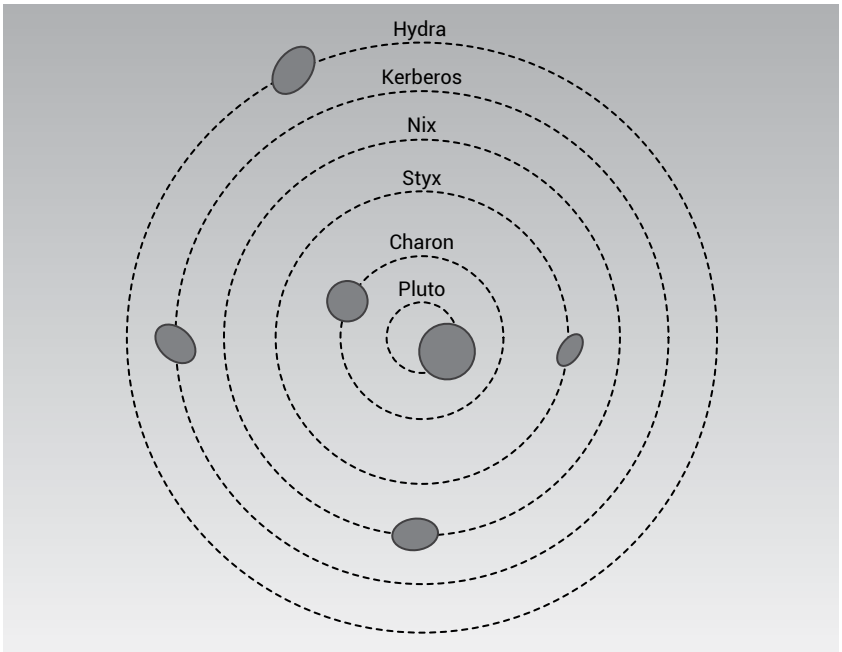
Even more surprises with Pluto's satellites



Pluto/Charon and their moons (NASA/JHUAPL/SwRI/Mark Showalter)

John Hartnett's recent article[1] on the rapid rotation of Pluto's four smaller satellites was excellent. However, I must point out that within astronomical nomenclature, the term *satellite* is preferred over the word *moon*, as the moon is the name of the earth's natural satellite. As Hartnett discussed, synchronous rotation is common among natural satellites, a characteristic that can be explained by tidal interaction on timescales of the supposed 4.6-billion-year age of the solar system. But the short rotation periods of these four satellites argue against such vast age, at least for the four satellites.

I would like to take the discussion further. Hartnett mentioned the possibility that the satellites of Pluto are captured asteroids. As I have argued for other small satellites in the solar system,[2] this is unlikely. We expect that capture events generally would result in highly inclined, elliptical orbits. All of Pluto's satellites have inclinations to Pluto's equator of less than a degree (while Pluto's rotation axis is tilted 122.5 degrees to its orbit around the sun). The orbits of Pluto's satellites are nearly circular. Each of Pluto's satellites has smaller orbital eccentricity than the earth does as it orbits the sun, and perhaps even less than Venus, the planet with the lowest orbital eccentricity. Thus, the orbital characteristics of Pluto's satellites argue against their being captured asteroids. The surfaces of Pluto and its largest satellite, Charon, have far lower crater density than would be expected if their ages are billions of years.[3] Therefore, much evidence suggests the Plutonian system is young.

How might evolutionists respond to this? I predict they will conclude Pluto recently endured a catastrophic collision that resurfaced much of Pluto and created its four smaller satellites. That is, the first discovered and best-studied trans-Neptunian object (a term I prefer over 'Kuiper Belt objects' for bodies in the solar system beyond the orbit of Neptune) supposedly is an unusual and unlikely entity. Good photographs of the four smaller satellites might help sort this out. Unfortunately, the *New Horizon* imagery of the smaller satellites was poor. Of the four smaller satellites, Nix has the highest resolution images. They are tantalizing, suggesting Nix may be heavily cratered. If that were the case, it would disprove this scenario. Clearly, the Plutonian system is a mess for the evolutionary paradigm.

However, does this mean that the creationary model is better? Perhaps not, at least as far as that model has been developed. While creationists claimed the low-crater density of Pluto as evidence of recent origin, none of us predicted this outcome. We acknowledge tidal locking can explain synchronous rotation, but that requires much more time than the recent creation model will allow. Some creationists may suggest synchronous rotation is evidence of design; though, in most (all?) cases, no purpose has been established. And it is a tad inconsistent to discuss lack of synchronous rotation in a few instances as evidence of recent origin, while simultaneously ignoring the implication of great age for those satellites that have synchronous rotation. These considerations underscore the fact that no comprehensive model of creation astronomy yet exists. Many other questions and difficulties remain. Obviously, there is much work yet to do, and I look forward to the challenge. I also encourage others, such as Hartnett, in this endeavour.

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References

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2. Faulkner, D.R., Anomalies with planets and satellites in the solar system—indication of design? *Answers Research J.* **7**:205–214, 2014.
3. Spencer, W., Rediscovering Pluto, *J. Creation* **29**(3): 3–5, 2015.