PLUTO (134340): THE ICONOCLAST AND HERALD OF WAR

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What follows is an excerpt from my upcoming book, *The Plutinos in Astrology* ©, this section being about the more astronomical aspects of Pluto. With the *New Horizons* probe having sent back our first clear pictures of this fascinating little world in July 2015, it is timely that we take a closer look at just what Pluto means to us astrologically, even though we might think we know enough already.

"Pluto[1] has been a fascination for astronomers and astrologers alike since its discovery on 18 February 1930 by Clyde Tombaugh.[2] The commonly accepted chart for discovery is set at 18 Feb 1930 at around 4:00 PM,[3] Flagstaff, AZ, US. Pluto is fascinating for several reasons: It is very far away from us, it is so small we have only recently seen a clear picture of its surface (as of 2015), it has a high inclination off the ecliptic and a highly elliptical orbit, so in that regard it is not like the main planets of our solar system. It is the largest known Kuiper belt object (KBO). Pluto also orbits on its side rather than its equator, so its pole is pointed toward us when we see it.[4] Pluto opened the door for many questions about the true constitution of our solar system with its discovery, and continues to do so.

If we want to get an idea about why Pluto was demoted from planetary status to that of a dwarf planet, one reason is its size: If it were placed on a map of the US, its diameter would stretch only from the Mississippi River to the Pacific ocean, roughly. It is quite small in comparison with the main planets in the solar system, even with respect to Mercury, which is over twice the diameter of Pluto. Pluto's size is only 18% of Earth's, with a mass of only 2.2% of Earth's. Pluto also has an orbit that is different from that of the other main planets, in that the orbit is elongated and inclined off the ecliptic by 17.1°. It is also tied in with the orbit of Neptune by gravitational resonance, so its orbit is not entirely independent, as are those of the main planets.

Pluto's largest moon (Charon) is just over half the diameter of Pluto. At a diameter of just over 1200 km, if it had its own independent orbit around the sun, Charon would likely be classed as a dwarf planet in its own right. Pluto has four other small moons—Nix, Hydra, Kerberos and Styx. Nix and Hydra were discovered together on 15 June 2005 by the Pluto Companion Search Team.[5] The discovery plates were taken by the Hubble Space Telescope on the 15th and 18th of May 2005 and were first observed at Johns Hopkins University by Max Mutchler on 15 June 2005.[6] Nix and Hydra orbit Pluto at a distance of 2 and 3 times that of Charon, respectively. These two have nearly circular orbits around Pluto in the same plane as Charon. The discovery of these two moons suggested that Pluto may have had a variable ring system,[7] but which has since proven not to be so. Kerberos was first observed on 28 Jun 2011 at 14:24 by the Hubble Space Telescope.[8] Styx was first observed on 26 Jun 2012 at 12:15 UT by the Hubble Space Telescope.[9] Pluto even has a quasi-satellite—(15810)1994 JR_1—which is also a plutino, and which is currently in close proximity to Pluto, and will remain so for the next 250,000 years.[10]

Charon (depicted above[11]) was discovered on 22 July 1978 at the United States Naval Observatory Station in Flagstaff, AZ, US. It was first observed on 29 April 1965.[12] Charon was the mythological ferryman who escorted the souls of the dead to Pluto's realm. He is typically depicted unfavorably,[13] being portrayed as old, ugly, with a crooked nose, bearded and wearing a fouled, sometimes-bloody tunic. His counterpart in Etruscan was Charun, (depicted below[14]) who was even uglier, with blue-gray skin depicting the decay of death, a hooked nose, tusked mouth, pointed ears and wielding a large double-headed mallet, sometimes with snakes around his arms.[15] His was not the sort of personage that boded well for a happy afterlife, even though his depiction is thought to be partly apotropaic in nature—meant to ward off evil. These depictions put one in mind of the wrathful deities depicted in Buddhism—enlightened beings taking on wrathful forms to help people toward enlightenment. Charon was the son of Nyx and Erebus, who were brother and sister, and he was the brother of Thanatos and Hypnos. The dead had to pay a fee to Charon in order to secure their transit to the underworld—the tax for gaining entry to Pluto's realm.[16] The fee was a single obolos coin which was placed in the mouth of the corpse at burial. If the fee was not paid then the soul was left to wander the earth as a ghost among the living.[17]

Due to the fact that Charon is so large in comparison to Pluto, the position of Pluto in a horoscope is not precisely where we think it is. Instead, what we see listed for Pluto's position is the barycenter between it and Charon. This barycenter does not lie within the diameter of either body, either,[18] but the distance from us involved is so large that for all practical purposes in astrology the barycenter of the Pluto/Charon system can be treated as the center of the planet itself. This does bring up an interesting point, though: Pluto does not have a smooth orbit through space as a result of Charon's influence. Instead, it wobbles around its barycenter through space along its orbital path. In addition, Charon and Pluto are tidally locked as well, meaning that they always present the same face to each other as they orbit around their barycenter. This also means that they have the same rotational period on their respective axes.[19] The other moons—Styx, Nyx, Kerberos and Hydra—exhibit near mean orbital resonances with Charon of 3:1, 4:1, 5:1 and 6:1 respectively. Kerberos orbits Pluto between Nyx and Hydra, and Styx orbits between Nix and Charon. If we take the meanings of the five moons together we get further insights into how Pluto might work astrologically: Charon and Styx, representing a debt and a barrier that must be crossed; Cerberus, representing the fact that we cannot leave the Pluto experience once it is engaged; Hydra, the demons of our own making that we must face in the Pluto experience, and finally Nyx—a figure of rare and exceptional beauty that stands at the beginning of creation, and which welcomes us into our next creative phase after the Pluto experience. Nyx can be seen as the veil over our primordial mind, the state at which we awaken to higher realizations.

Given Pluto's composition, if it were placed near the sun it would develop a tail, like a comet.[20] In other words, the surface of Pluto is composed of a high percentage of volatiles. Pluto is thought to be a residual planetesimal—a body that failed to achieve the mass necessary early in the solar system's history in order to become a main planet. It is now believed that Pluto is the largest member of the Kuiper belt.[21] Pluto probably once had an near-circular orbit at about 33 AU from the sun earlier in the solar system's history, but the theory is that it was knocked into its present orbit when Neptune migrated out to its present position early in the history of the solar system.[22] It is postulated that there should have been around 1000 Pluto-sized bodies in the early protoplanetary disc of the solar system.[23] However, due to the migration of the gas giants earlier in the history of the solar system, most of the larger bodies were either captured as moons, destroyed due to collisions with other neighboring bodies or ejected from the solar system altogether. Finally, due to the Pluto/Charon relationship, it has been suggested that Pluto be further reclassified as a binary

dwarf planet, to further distinguish it from the main planets.[24] So, the preceding is a brief overview of the physical, astronomical side of Pluto.

Having been able to spend some time investigating Pluto astrologically and astronomically over the last 80+ years, we are now somewhat familiar with that little world. Astrologically, we have an idea about what it does at a personal level in a horoscope for the most part, we have an idea of what it does in the collective subjectively and we are about to learn much more about its physical characteristics with data from the *New Horizons* probe. What many astrologers may not realize is that Pluto does not spend all of its time in zodiacal constellations, though. In fact, it spends quite a lot of time outside the zodiacal constellations—most notably in the constellations Cetus (~56 years), Orion (~19 years) and Coma Berenices (~5 years), plus a short time in Boötes and Eridanus—a third of its orbital period of 240 years, really, due to the inclination of its orbit off the ecliptic. That little bit of information is ignored in mainstream astrology or not even gleaned. As a result, we deal with Pluto exclusively as its position is projected onto the ecliptic via the signs, when in point of fact its orbit is inclined off the ecliptic by just over 17º.[25] This is actually highly significant, but we will not deal with that aspect of the plutinos at present. For the most part they are found orbiting within the zodiacal constellations.

As for when Pluto was in these extra-zodiacal constellations, it was in Cetus most recently from the middle of 1812 to the middle of 1868. It also grazes the corner of Eridanus when it is passing through the latter part of Cetus, spending about a year there. It was last there at about 1857, and likewise in Boötes, where it was last in 1980. Regarding extra-zodiacal constellations, of particular interest aside from the previously-mentioned constellations is the time it spends transiting through Serpens and Ophiuchus, where it spends a total of about ten years collectively. The actual 'stretch' through this sector of the heavens is 16 years, which happened last from 1991–2007, but the total time in Serpens and Ophiuchus is 10 years. It will enter Cetus again in 2060 and stay there for the remainder of this century"…More later.

Look closely at the years in the last paragraph. They are quite suggestive in terms of the title of this article.

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[1] Image left is from: http://hubblesite.org/newscenter/newsdesk/archive/releases/2006/29/image/b

[2] The date and time of the actual discovery plate is 23 Jan 1930, 5h27m30s UT, Flagstaff, AZ, courtesy of http://www.kentauren.info/plutchir.pdf

[3] 'Around 4:00 PM' is not usually an acceptable timing for astrologers, but it is the closest time we could get in this instance. Reported from http://www.kentauren.info/plutchir.pdf , according to Tombaugh's notes.

[4] www.abyss.uoregon.edu/~js/ast121/lectures/lec21.html Accessed April 2015

[5] This is a group connected with the Hubble Space Telescope.
See: www.hubblesite/newscenter/archive/releases/2005/19/fastfacts/

[6] http://hubblesite.org/newscenter/archive/releases/2005/19/full/ and http://www.boulder.swri.edu/plutomoons/

[7] http://news.discovery.com/space/astronomy/pluto-could-have-ten-moons.htm

[8] http://www.cbat.eps.harvard.edu/cbet/cbet002769.txt

[9] http://phys.org/news/2012-07-hubble-space-telescope-moon-pluto.html

[10] At 127 km in diameter, this body is not a likely dwarf planet candidate. It does have its own discreet orbit around the Sun, being independent of Pluto, but when it comes in close proximity it has the appearance from Pluto of spiraling around the planet before departing to its own orbit again. This happens every 2 million years. It was first observed on 12 May 1994 at La Palma Observatory by M.J. Irwin and A Zytkow. La Palma Observatory is at 28N46, 17W54 on the Canary Islands. No discovery time given. See also: Plutino 15810 (1994JR1), an accidental quasi-satellite of Pluto, C. de la Fuente Marcos and R. de la Fuente Marcos. Retrieved from www.arxiv.org/pdf/1209.3116.pdf

[11] From *The Last Judgement* (1536–1541), by Michelangelo, at the Sistine Chapel.

[12] http://www.cbat.eps.harvard.edu/iauc/03200/03241.html

[13] See: Virgil, *Aeneid* 6. 299*;* Seneca, *Hercules Furens* 726 ff, Statius, *Thebaid* 11. 587 The picture is from Caravaggio, *Carontedi* (

[14] Image taken from www.en.wikipedia.org/wiki/Charun#/media/File:Charun_hammer_Cdm_Paris_2783.jpg

[15] www.theoi.com/Khthonios/Kharon.html Retrieved December 2014.

[16] Apuleius, *The Golden Ass* 6. 18 ff
[17] Virgil, *Aeneid* 6. 299
[18] See: www.commons.wikinedia.org/wiki/File:Pluto-Charon_System.gif
[19] Young, Leslie A. (1997). "The Once and Future Pluto". Southwest Research Institute, Boulder, Colorado.
[20] Pluto is a Kuiper belt object (KBO). The typical KBO has a composition similar to comets, and like comets, KBOs were thought to have formed in the same sector of the protoplanetary disc in the early stages of solar systemic development.
[21] Hahn, Joseph M. and Malhotra, Renu, "Neptune's Migration Into A Stirred-Up Kuiper Belt: A Detailed Comparison of Simulations to Observations". The Astronomical Journal, 130:2392–2414 (2005, November). "Kuiper belt objects [of which Pluto is one] are relics of the solar system's primordial planetesimal disc; they are bits of debris that failed to coalesce into other large planets." p. 2392
[22] Op cit.
[23] The Nice model. This refers to the city in France, not some pleasing presentation on the theory of the formation of the solar system. It was named after the Observatoire de la Côte d'Azur, where the theory was evolved. In short, this is the model that proposes that the gas giants—Saturn, Uranus and Neptune—migrated outward from their initial compact position in the early solar system, thus disrupting the orbits of the outer planetary bodies, with Jupiter migrating inward and causing the formation of the Oort cloud, and with Neptune forming the Kuiper belt and the scattered disc. See: "Solving solar system quandaries is simple: Just flip-flop the position of Uranus and Neptune", http://www.eurekalert.org/pub_releases/2007-12/asu-sss121107.php , 11 Dec 2007, Steve Desch. See also: M. Antoniette Barucci , *The Solar System Beyond Neptune*: the chapter, "The Dynamical Structure of the Kuiper Belt and its Primordial Origin", chapter by Morbidelli, Levison and Gomes. Phoenix: University of Arizona Press, 2008.
[24] See: "The mass ratio of Charon to Pluto from Hubble Space Telescope astrometry with the fine guidance sensors", Olkin, Wasserman and Franz, 20 Mar 2003, Lowell Observatory, Flagstaff, AZ, USA.
[25] www.nssdc.nasa.gov/planetary/factsheet/plutofact.html Accessed April 2015