Harry Potter and the Upcoming Venus–Jupiter Conjunction: A Unique Outreach Opportunity

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Summary

As we prepare for the International Year of Astronomy 2009 (IYA2009), we should be on the lookout for celestial events which we can use not only to popularise the IYA2009 and practise our outreach skills, but which also have natural connections to popular culture. The Venus–Jupiter conjunction this autumn is such an opportunity, given several direct connections to the use of astronomy in J. K. Rowling's famous Harry Potter universe.

One of the most beloved children's book series of our day is J. K. Rowling's Harry Potter universe. Comprising seven thick tomes published between 1997 and 2007, Rowling's works have shattered publishing records worldwide. Individual books have been included on numerous "favourite books of all times" polls taken in several countries, and the series is commonly mentioned in the same breath as classic fantasy series such as J. R. R. Tolkien's *The Lord of the Rings* and C. S. Lewis's *The Chronicles of Narnia*. Books 1–5 have already been made into motion pictures, which have also set new box office records, with *Harry Potter and the Half-Blood Prince* to appear on movie screens in July 2009, and two films based on the series' final book, *Harry Potter and the Deathly Hallows* set for release in 2010 and 2011[1]. Although the pure literary value of her works has been debated, some have argued for her inclusion in the official "canon" of children's classics based on the ability her works to turn millions of children (and adults) into voracious readers (Allsobrook 2003).

Readers quickly find themselves completely immersed in Rowling's secondary world, and characters, both major and minor, become personal friends. Some of these characters have names easily recognised from history and mythology (such as Ptolemy), while others are named after heavenly bodies (Heckert 2008; James 2007). From Hogwarts astronomy teacher Aurora Sinistra to students Luna Lovegood and Draco Malfoy, to the Death Eater Bellatrix LeStrange and witch Merope Gaunt (mother of Harry's arch-enemy, Lord Voldemort), astronomical names are common in the Potterverse. Indeed, in the Black family alone we find names such as Sirius, Alphard, Cygnus, Cassiopeia, Orion, Pollux, and Regulus. As C. Renee James (2007) noted, Rowling's works provide a "vast new avenue for astronomy outreach". For example, the New Jersey Astronomy Center for Education developed a planetarium show entitled *The Skies Over Hogwarts* based on these and other astronomical references in the Potterverse[2]. In his popular-level book, *The Science of Harry Potter*, Roger Highfield (2002) engaged readers by comparing the antigravity properties of flying broomsticks to dark energy, and Harry and Hermione's travels in time and location to wormholes and parallel universes.

Rowling herself seems to understand the value of an astronomy education, as demonstrated in numerous passages in Book 5, *Harry Potter and the Order of the Phoenix*. As part of their Hogwarts curriculum, Harry, Ron and Hermione are required to write an essay on the characteristics of the Galilean moons of Jupiter, and Rowling gets the science right. As Hermione explains to Ron, "Jupiter's biggest moon is Ganymede" and "it's Io that's got the volcanoes" (Rowling 2003). Science@NASA production editor Tony Phillips took advantage of this passage soon after the publication of the book by writing a feature article to interest children visiting the NASA website in learning more about these fascinating moons (Phillips 2003). One of the culminating events of the Hogwarts curriculum each June is the OWL exam (Ordinary Wizarding Level), which includes both a written astronomy exam and a practicum involving observing the night sky with a telescope. Readers follow along as Harry carefully plots the positions of various celestial objects on his star map, including the planet Venus, which he locates and views through his telescope near midnight. More than one astronomically-minded reader has initially thought: "View Venus near midnight? Impossible!" However, as Kevin Krisciunas (2003) pointed out in a letter to *Sky and Telescope*, it is possible in some years for Venus to remain above the horizon that late at night in England.

However, as is the case with many writers, Rowling's astronomy is far from perfect. For example, one of the objects Harry and friends supposedly view during their June practicum is Orion, which as several authors have noted is clearly impossible (Pasachoff 2003; Weinstein 2007). In the first book, *Harry Potter and the Philosopher's Stone* (1997), much is made of Mars's "unusual brightness", at odds with the actual appearance of Mars at the time of the book's events (May 1992), according to the timeline of the series (Weinstein 2007). In Book 3, *Harry Potter and the Prisoner of Azkaban* (1999), werewolf Lupin notes that he was suspiciously ill at the times of full Moon, but the dates of his "episodes" did not follow a 29.5 day cycle (Weinstein 2007). But with a little creativity, all astronomical references, regardless of scientific accuracy, can be turned into valuable lessons on astronomical concepts (Larsen & Bednarski 2008).

One of the most common Harry Potter themed astronomy outreach activities has been the star party held in conjunction with the release of individual books in the series. Such activities have been held at bookstores to entertain devoted fans waiting in line for the midnight release of the book (Jones 2003) or larger scale events held at science centres such as the Jodrell Bank Visitors Centre (Lowe 2007 a,b,c). Such events are of interest as we gear up for the International Year of Astronomy in 2009, since they align with the goal of increasing opportunities for the general public to look through a telescope, as well as the IYA2009 USA National Node's "Arts and Entertainment" programme.

Although there are no further books planned in the Potterverse, the mid-2009 release of *Harry Potter and the Half-Blood Prince* offers an ideal opportunity for us to flex our outreach muscles in preparation for IYA2009 and also publicise IYA2009 itself to the general public. Besides the astronomical references already listed, there is another class of astronomical events that is prominent in *Harry Potter and the Order of the Phoenix* — planetary conjunctions. On 30 November and 1 December, Jupiter and Venus pass within 2 degrees of each other, with the crescent Moon joining in on the second night. Given the importance of Venus and Jupiter in the OWL examination and its preparation, and the numerous references to conjunctions in the same book, Potter fans would be delighted to follow in the footsteps of their idol and view these objects in a telescope with their own eyes. Since sunset is approximately 4:30 p.m. (at mid-latitudes) on these nights, and the planets are visible for about three hours afterwards, even the youngest Potter fans can easily attend special events at local science centres, planetariums and observatories.

Due to the brightness of the planets, light pollution is not an issue, making sidewalk observing sessions at local movie theatres another realistic possibility. Attendees can be given their own OWL certificates for completing telescopic observations, and special Harry Potter starwheels can be distributed (Larsen 2008). Since the phases of Venus and Jupiter's moons were among Galileo's initial telescopic observations, important links can be made to the upcoming IYA, and attendees can be made aware of the historical importance of 2009 and local plans for celebrating the IYA. If these references aren't enough reason for celebrating this celestial alignment with muggles and wizards alike, consider this final fact: the planets are gathering in Sagittarius, and as any Potter fan knows, centaurs are stargazers at heart, having "unravelled the mysteries of these movements over centuries" (Rowling 2003: 531).

As philologist and fantasy writer J. R. R. Tolkien noted, "Fantasy is a natural human activity. It certainly does not destroy or even insult Reason; and it does not either blunt the appetite for, nor obscure the perception of scientific verity" (1997). Thanks to Rowling's fantasy series, young people around the world have had their astronomical appetites whetted. We should not waste this opportunity to feed their fascination further and turn it toward astronomical reason.

References

- Allsobrook, M. 2003, *Potter's Place in the Literary Canon*, BBC News, http://news.bbc.co.uk/2/hi/entertainment/2996578.stm, retrieved 17 June 2008
- Heckert, P. A. 2008, *Astronomical Names in Harry Potter*, http://astronomyspace.suite101.com/article.cfm/astronomical_names_in_harry_potter
- Highfield, R. 2002, *The Science of Harry Potter*, (New York: Viking)
- Krisciunas, K. 2003, *Rowling Gets it Right*, Sky and Telescope, 106(6), 12
- James, C. R. 2007, *The Real Stars of Harry Potter*, Mercury, 36(4), 19-27
- Jones, J. H. 2003, *Harry Potter Bookstore Astronomy and Other June Events*, http://www.whiteoaks.com/pipermail/sfevents/2003-June/000226.html retrieved 17 June 2008
- Larsen, K. 2008, *Create a Harry Potter Starfinder*, http://www.ccsu.edu/astronomy/hpstarfinder.html, retrieved 17 June 2008
- Larsen, K. & Bednarski, M. 2008, *Muggles, Meteoritic Armor, and Menelmacar: Using Fantasy Series*, in Astronomy Education and Outreach. Workshop presented at the 212th Meeting of the American Astronomical Society, St. Louis, Missouri
- Lowe, S. 2007a, *Harry Potter and the Telescopes of Doom*, http://www.strudel.org.uk/blog/astro/000596.shtml, retrieved 17 June 2008
- Lowe, S. 2007b, *Harry Potter and the Book 7 Star Party*, http://www.strudel.org.uk/blog/astro/000676.shtml, retrieved 17 June 2008
- Lowe, S. 2007c, *Harry Potter Star Party — the Result*, http://www.strudel.org.uk/blog/astro/000680.shtml, retrieved 17 June 2008
- Pasachoff, J. 2003, *Rowling Gets it Wrong*, Sky and Telescope, 106(6), 12
- Phillips, T. 2003, *Harry Potter and Jupiter's Moons*, http://www.nasa.gov/vision/universe/solarsystem/02jul_harrypotter.html, retrieved 17 June 2008
- Rowling, J. K. 1997, *Harry Potter and the Philosopher's Stone*, (London:Bloomsbury)
- Rowling, J. K. 1999, *Harry Potter and the Prisoner of Azkaban*, (London:Bloomsbury)
- Rowling, J. K. 2003, *Harry Potter and the Order of the Phoenix*, (London:Bloomsbury), 265
- Tolkien, J. R. R. 1997, *The Monsters and the Critics*, (London: Harper Collins), 144
- Weinstein, M. 2007, *Astronomy in the Harry Potter Series*, http://www.hp-lexicon.org/essays/essay_astronomy.html, retrieved 17 June 2008.

Notes

1. http://www.imdb.com
2. http://www.raritanval.edu/planetarium/planetarium.htm

Biography

Kristine Larsen is Professor of Physics and Astronomy, and Director of the University Honours Program, at Central Connecticut State University. The author of two popular level books, *Cosmology 101* and *Stephen Hawking: A Biography*, she has widely published and presented on connections between astronomy and the works of J. R. R. Tolkien.