

Visualising Astronomy: The Astronomical Image, Part Two

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Key Words

Visual Communication
Astronomical Images

A quick recap. In my previous column, I offered my two bits on the aesthetics of what I called the Astronomical Image: those sumptuous products of the great observatories that have migrated from the newspaper to the art gallery, capturing people's imagination along the way.

Since my last piece appeared, no less an authoritative source than *The Onion* has weighed in on almost the same topic: in the article "Hubble Kaleidoscope Finds Evidence Of Space Looking All Crazy", the American satirical publication describes how researchers using the instrument have "acquired the first concrete evidence that the Universe is in a constant state of total weirdness". Of course, the text is accompanied by an image¹. Stories in *The Onion* are often formed around a kernel of truth, and I don't think it's much of a stretch to recognise the perception of Hubble images as abstract, garish and fundamentally meaningless (or at least possessing a meaning beyond the ken of the casual observer).

Let's return for a moment to Elizabeth Kessler's idea that Hubble imagery resonates with the Romantic landscape tradition². In my first "Visualising Astronomy" column, I referred to Immanuel Kant's idea of the sublime³, and indeed, conceptions of the sublime informed the development of the Romantic landscape. In particular, J.M.W. Turner's paintings were firmly rooted in 18th-century ideas of the sublime, although strongly linked to Edmund Burke's darker thoughts on terror: "Whatever is fitted in any sort to excite the ideas of pain and danger,

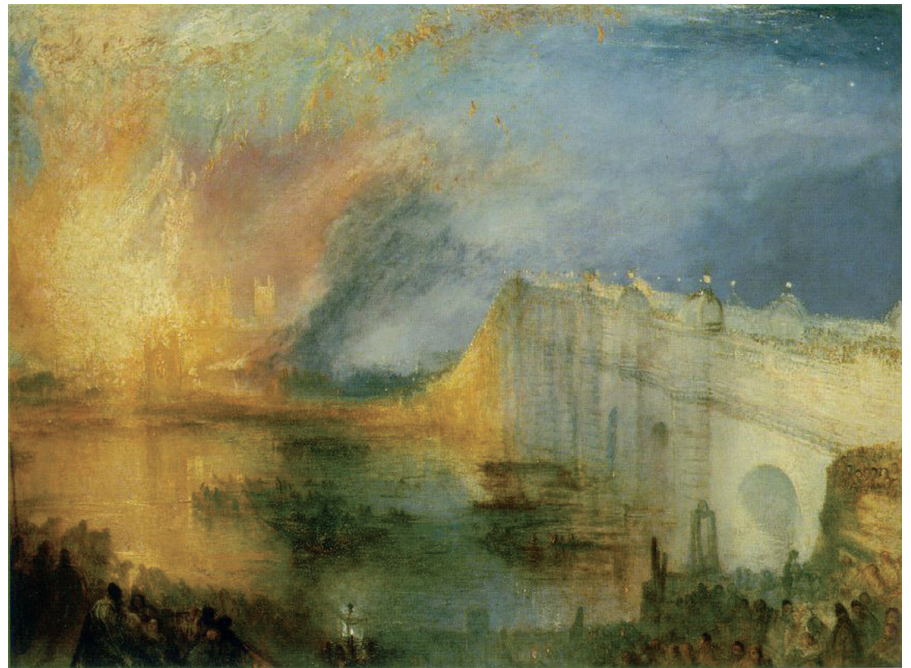


Figure 1. J.M.W. Turner's *The Burning of the Houses of Lords and Commons* (1835) represents the Romantic image as it relates to the sublime — in this case, rooted in a sense of terror, à la Edmund Burke.

that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime; that is, it is productive of the strongest emotion which the mind is capable of feeling⁴." Fun guy, Eddie. For Kant, the infinite and vast also inspired a sense of the sublime.

A friend and I recently toured the J.M.W. Turner exhibit at the Metropolitan Museum of Art in New York City.⁵ As we gazed at one of the several watercolour studies depicting

the immolation of the British Parliament, my friend asked me, "So, is this any good?" I looked at the brightly coloured streaks and splotches of paint, fiery reds and yellows butting up against cool blocks of purple and blue representing the burning buildings. And I replied in the affirmative. "Yeah, these are good, but mostly because they led to that," and I pointed to the large oil canvas nearby, *The Burning of the Houses of Lords and Commons, 16th October, 1834*⁵ (Figure 1). Art demands context.



Figure 2. The structures in the star-forming region W5, as imaged by the Spitzer Space Telescope, may resemble Turner's abstractions, but these "flames" signal the birth of thermonuclear furnaces dozens of times as massive as our Sun.

When you choose to read the little card next to a painting at a typical art museum you see things listed such as the artist, the name of the work, the date it was painted, and the medium (oil on canvas, tempera on board). It's all about context! How do I relate this artwork to other work I've seen? For the most part, the curators of an art exhibit presume that a viewer will know the difference between gouache and oil, between Cézanne and Monet, between Renaissance and Baroque.

Similarly, it seems that an astronomical image featured in one of the "art" exhibits described in my previous column should list the observatory or instrument, the name of the object, the distance to the object, the wavelengths represented, and other relevant information. Of course, no curator of an art exhibit would expect a visitor to know [OIII] from H- α , light years from parsecs, *Gemini* from *Spitzer*. But I would hope, in such a setting, to take advantage of the opportunity to convey the source of the work and give viewers a sense of what they're looking at — in the same way an audio guide at the Met might describe how Turner was influenced by Burke.

A *Spitzer* image of the star-forming region W5 (Figure 2) may evoke the aesthetics of Turner's abstract flames, but how much more evocative to realise that these burning towers lie 6500 light-years away?

Or consider the recent images of Enceladus that *Cassini* sent back (Figure 3). I can imagine a context in which these images could

appear as an abstract work, or perhaps that the rough surface could be interpreted as terrestrial in origin. But if we further invest the image with its meaning as scientific data transmitted home by a remote probe some billion miles from Earth, then we provide a much more impressive aesthetic.

Of course, this is not written without bias. I have thrown in my lot with an ambitious bunch, the talented people behind the Astronomical Virtual Metadata (AVM) standard and FITS Liberator. We have started shaking the trees to establish the Virtual Astronomy Multimedia Project (VAMP)⁶, which pro-



Figure 3. *Cassini*'s image of Enceladus can operate on numerous aesthetic levels, but it gains particular and important meaning when recognised it for what it is — data that has travelled a billion miles from a spacecraft in orbit around another world. Credit: NASA/ESA/ASI *Cassini*.

poses to associate astronomy's voluptuous visuals with metadata that will facilitate their interpretation. Perhaps we can make the Astronomical Image more meaningful and more accessible.

1. The Onion, *Hubble Kaleidoscope Finds Evidence Of Space Looking All Crazy*, Issue 44•29, July 16, 2008, at http://www.theonion.com/content/news/hubble_kaleidoscope_finds_evidence
2. *Astronomers interpret Hubble images in same majestic light as early painters of America's western landscapes*, University of Chicago Press Release, available at <http://chronicle.uchicago.edu/050303/hubble.shtml>
3. Kant, I. 1790, *The Critique of Judgment, Book Two* (1790), available online at <http://ebooks.adelaide.edu.au/k/kant/immanuel/k16j/>
4. Burke, E. 1757, *A Philosophical Enquiry Into the Origin of Our Ideas of the Sublime and Beautiful*, available online at <http://www.bartleby.com/24/2/>
5. Some of the works in the exhibition can be seen at http://www.metmuseum.org/special/jmw_turner/images.asp
6. See <http://www.virtualastronomy.org/> for more information.

Biography

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