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Key Words

Visual Communication
Science Visualization

Although I grew up reading comic books, I always hesitate before using superhero references. That said, I admire the moment in Spiderman when Uncle Ben tells Peter Parker: “*With great power comes great responsibility*”. Actually, that’s the concise, film version; the original line appeared in a caption and read: “With great power there must also come — great responsibility!” (Lee 1962) But I’m not one to nitpick.

Ben (or the omniscient narrator) had a point, and with my tongue only slightly in cheek, I would suggest that the great power of as-

tronomical imagery should be executed responsibly. Immanuel Kant describes the kind of power I’m talking about: his idea of the sublime encompasses both the aesthetic and the intellectual to generate a potentially overwhelming emotional experience (Kant 1790). As purveyors of beautiful images coupled with complex and compelling scientific concepts, astronomy communicators have an opportunity to impart a sense of the sublime. Thus, the topic of imagery and its associated content merits discussion, which is what prompts me to talk about visualising astronomy.

For a little over a year, I have tried my hand at blogging about scientific imagery and the way in which it can help support (or sometimes detract from) a story. We learn from our mistakes, and we also learn from each others’ successes; thus, I try to mix constructive criticism with explicit praise, but the appropriate blend of honey and vinegar can prove tricky to achieve. In this column, I shall confine my comments to astronomical imagery and visuals produced for public consumption, but of course, things get stickier when moved from the blogosphere into



Figure 1. West side of Oceanus Procellarum as imaged by the SELENE/KAGUYA spacecraft.

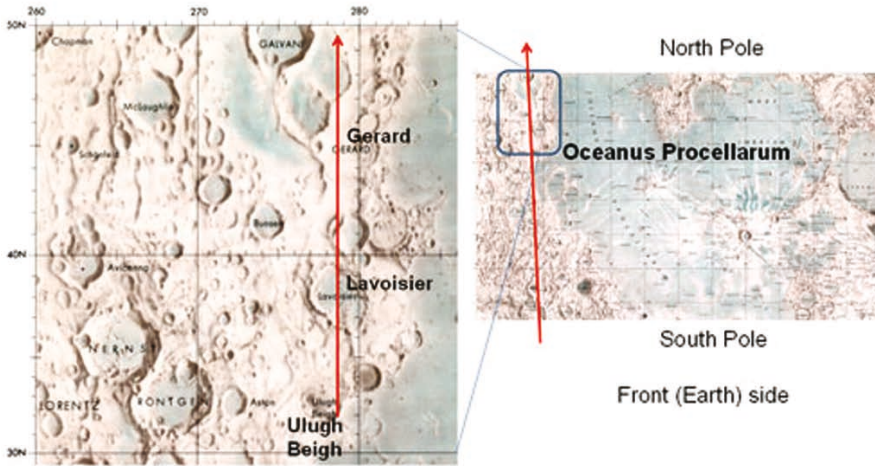


Figure 2. Lunar map showing the trajectory (red) of the SELENE/KAGUYA spacecraft and indicating the region (blue) depicted in a portion of the video released. (JAXA/USRA).

print, so... I ask for your charity even when my comments seem uncharitable.

Let's get the ball rolling with a particularly striking series of visuals from the SELENE or KAGUYA launched by JAXA earlier this year. In collaboration with the Japan Broadcasting Corporation (NHK), the spacecraft has sent back high-definition (and we're talking 1080p here) imagery from lunar orbit. The frame above comes from one such video sequence. On the JAXA website, you can watch streaming video of the orbits; in addition, you can find maps such as Figure 2.

Watching the video and using the little map, I can say with some confidence that the feature in the centre left foreground of the still image is Ulugh Beigh with the crater Lavoisier in the middle distance. Seems like a great map-reading exercise for, well, university students, given some of the cognitive studies on map-reading I've heard about (Taylor & Rapp 2006). But it also works as a blueprint for an interactive tool, showing the location of the spacecraft on an inset map in coordination with the video (a little like a heads-up display in a computer game).

I appreciate that level of detail in the information made available online. It surprises me, however, that the actual high-definition video

is nowhere to be found on the JAXA website; in fact, you can't download any of the video, since it's available only as streams. Heck, you can't even get single frames at full resolution! In an era when several groups (e.g. Spitzer Space Telescope and ESA/Hubble) release regular high-definition video podcasts, the unavailability of such content seems particularly unfortunate.

Detailed images sent back from the other side of the Moon? A sublime concept, when one really allows the idea to sink in. But the experience of that particular epiphany relies on our ability to communicate effectively and responsibly about the amazing discoveries in astronomy.

References

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Bio

Ryan Wyatt is the Director of Morrison Planetarium and Science Visualization at the California Academy of Sciences in San Francisco, California, USA. He writes a somewhat regular blog, *Visualizing Science*, available online at <http://visualizingscience.ryanwyatt.net/>.



The 2008 Meeting of the Astronomical Society of the Pacific

The International Year of Astronomy: Preparing the Planet and Ourselves

Join the Astronomical Society of the Pacific (ASP) June 1–5 in St. Louis, Missouri at the summer meeting of the American Astronomical Society (AAS) where the ASP, in partnership with the AAS, will sponsor a symposium on preparing for the 2009 International Year of Astronomy (IYA).

The program will include opportunities to propose and attend sharing and coordination sessions for education and public outreach practitioners as well as hands-on workshops on best practices for reaching different audiences for the IYA.

To learn more about the meeting and the ASP, visit www.astrosociety.org