

I found a picture in my mailbox.

It made me think of what has been lost.

The Landsat programme is the longest running satellite imaging enterprise of this world and currently in its eighth generation. Landsat 8 started its mission in 2013 and operates in parallel with Landsat 7, which was launched in 1999. "Landsat's space-based land imaging is essential because it provides repetitive and synoptic observations of the Earth otherwise unavailable (...)"^[1] and allows the monitoring of changes to the earth's surface we all cling to in our relentless drive to survive. Landsat directs our attention to the world 'in development'; it takes account.

Enjoy the creepy naked cyber girl!

Sarah Benhaïm, Johannes Bruder

The process is, however, not as straightforward as it may seem. Despite continuous improvement, Landsat's thermo infrared sensors are still producing uncorrectable artefacts in image data that have to be interpreted by consulting the data of previous images and background information about the represented area (the so-called ground truth: small samples of the imaged object, drawn on site, in order to verify imaging data). Whenever an object within the current frame is too bright (wildfires, volcanoes) or 'over reflective' (e.g. greenhouses), oversaturation can occur in some short wavelength infrared bands (SWIR) and cause the detector to return null values for a short period of time. The respective area/object will show up in dazzling white on edited satellite images, a spectral or ghostly glow, leaving their beholder in a state of maximum entropy. Too much light might leave you in the dark!

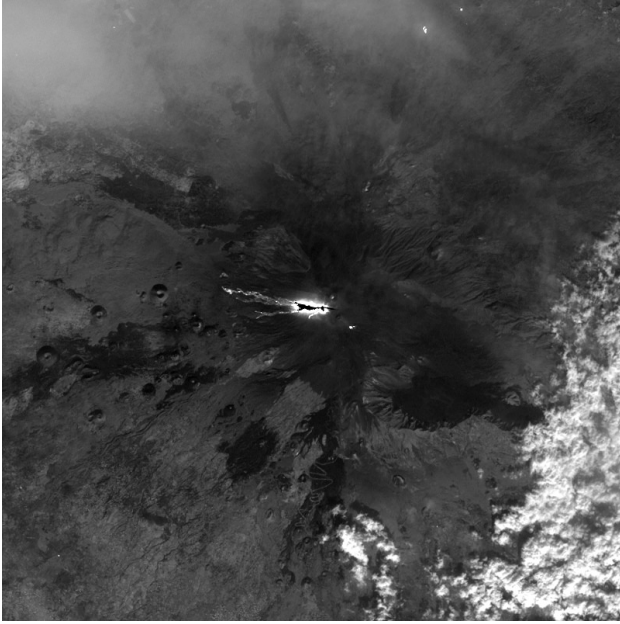


Figure 1: Example of Oversaturation during an eruption at the Mt. Etna volcano in 1999. Landsat 7 ETM+, Band 7 data. (retrieved from http://landsat.usgs.gov/science_an_oversaturation.php)

Artefacts caused by oversaturation are a well known problem in probably any field of signal processing. In photography, oversaturation refers to a loss of detail induced by the tweaking of colours in the editing process; in music production the oversaturation of sounds will trigger a pre-defined limiter and produce a loss in frequency dynamics: the signal clips.

In case of oversaturation, information is represented as void - e.g. the infamous blank spot on maps - that has the capacity to be either completely disregarded as artefact or draw all attention. In many cases, the beholder's response will indeed involve an oscillation between two poles: is this real or is it an artefact? Do I desire this effect or should it be corrected? It is this unsettling effect of sensorial oversaturation - the indecision between entropy and information - that is particularly interesting with regard to images of lost & found things or lost & found images of things.

Jump Cut!

I found the following image attached to a mail from my colleague Sarah Benhaïm who I had asked for an image from her fieldwork in Paris' Noise Music Scene.



Figure 2: Picture taken at a live show of Opéra Mort in Paris

The image shows at least two spectral elements. The more obviously ghostly, but less visible being the blurred silhouette of a band member in the foreground, face and hands melting into the darkness of the room; a well-known artefact resulting from quick movement, especially in low-lit surroundings. In the back, less ghostly yet disturbing, a naked female lined up among the listeners. It is her who provokes a second look, de-void of clothes, shining in the dark, leaving you wondering how this particular void fits into the bigger picture.

Or, what is the bigger picture?

The photo is a document of an an event of

oversaturation that challenges expectation and incites a desire to inquire about the characteristics of noise. If the 'creepy naked cyber girl' appears disturbing, what did we expect in her place? Why would we be unsettled? by her appearance and what does it tell us about the underground noise music scene in Paris? Or: where is the noise in an image of a Parisian noise show? The ground truth^[2] reads as follows:

"During the Opéra Mort live show, everybody was concentrated on the two musicians and surrounded them in a circle. At some point, a very creepy girl, who looked like a cyberpunk with a little cat on her shoulders, started licking her earphones erotically, looking at the musicians. She started taking off her clothes, did some movements back and forth, showing her thighs. The musicians noticed her only after 15 minutes, since she 'performed' in their back. Some people in the audience were laughing, but the situation was very uncomfortable, and people tried hard to concentrate on the musical performance."

It seems clear, considering the field notes, that the appearance of the 'creepy naked cyber girl' marks an extraordinary event even in the context of underground noise music in Paris, which is by definition built on the oversaturation of (musical) minds. Attendants of a noise music show are expecting to be disturbed! Yet, even in a disturbing context, an unsettling, spectral appearance can cause oversaturation: too much to process.

"An American noise band that played the same night approached the musicians of Opéra Mort after the concert and told them that the performance was crazy just to find out that the 'creepy naked cyber girl' was not part of it. Suddenly, their admiration turned into jealousy about the fact that Opéra Morts music seems to drive people to the point of denudation."

The ground truth begs the question whether the photo constitutes a fair representation of what it

was supposed to show. But do we really have to answer this question? Are we, in search of being empirical, supposed to know what a faithful representation is? Or is it up to those who look, read, experience to decide what noise really is?

Noisy artefacts may be hard to account for in the context of their appearance, but they do mark an event with certain properties that make sense. Just as Landsat artefacts, as spectral as they may be, represent a property of the imaged object, so does the appearance of the 'creepy naked cyber girl' inform our knowledge about the underground noise music scene in Paris. She forces us to inquire about the event, to dig deeper underground.

The appearance of the 'creepy naked cyber girl', while probably not characteristic for noise music shows in Paris, is representative of what was supposed to be characterised: she IS noise. Noise might be unsettling - if we cannot be sure what it represents - yet, it is not necessarily adulterant. It reminds us that what is considered as noise is a decision, that there is no true representation of our kaleidoscopic world, and that noise allows to reconsider and readjust.

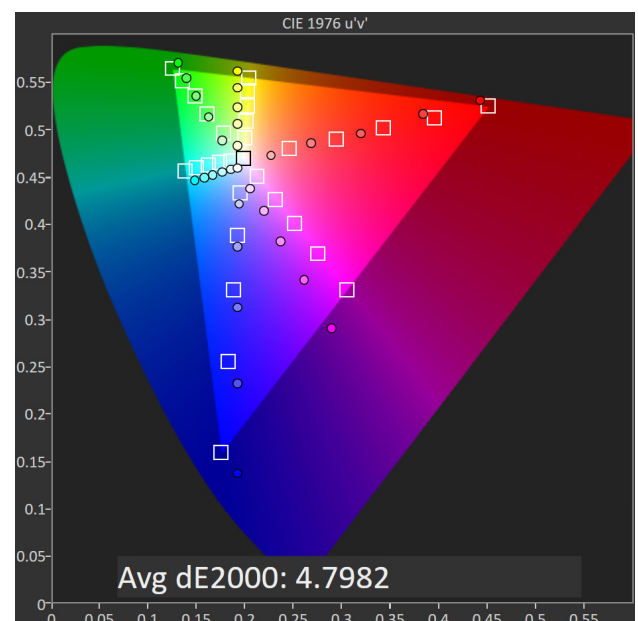


Figure 3. Saturation Sweep Test Moto G (2015),

retrieved
from <http://www.anandtech.com/show/9525/the-moto-g-2015-review/4>

The distortion of experience through noise and extraordinary events might help to see the bigger picture. It reminds us that if you lose your stability, you might actually find new ways to represent. Or, as stated on Nasa's Landsat webpage: "Despite their dramatic appearance, Oversaturation artifacts are considered to be minor, and they cause no permanent harm [...]."^[3]

[1] http://landsat.gsfc.nasa.gov/?page_id=3510

[2] Ground truth refers to information provided by direct information as opposed to information provided by inference in fields like Geophysics, Meteorology or Machine Learning. In this case, the ground truth (in *italics*) is provided by Sarah Benhaïm, who investigates underground noise music scenes in France and China.

[3] http://landsat.usgs.gov/science_an_oversaturation.php