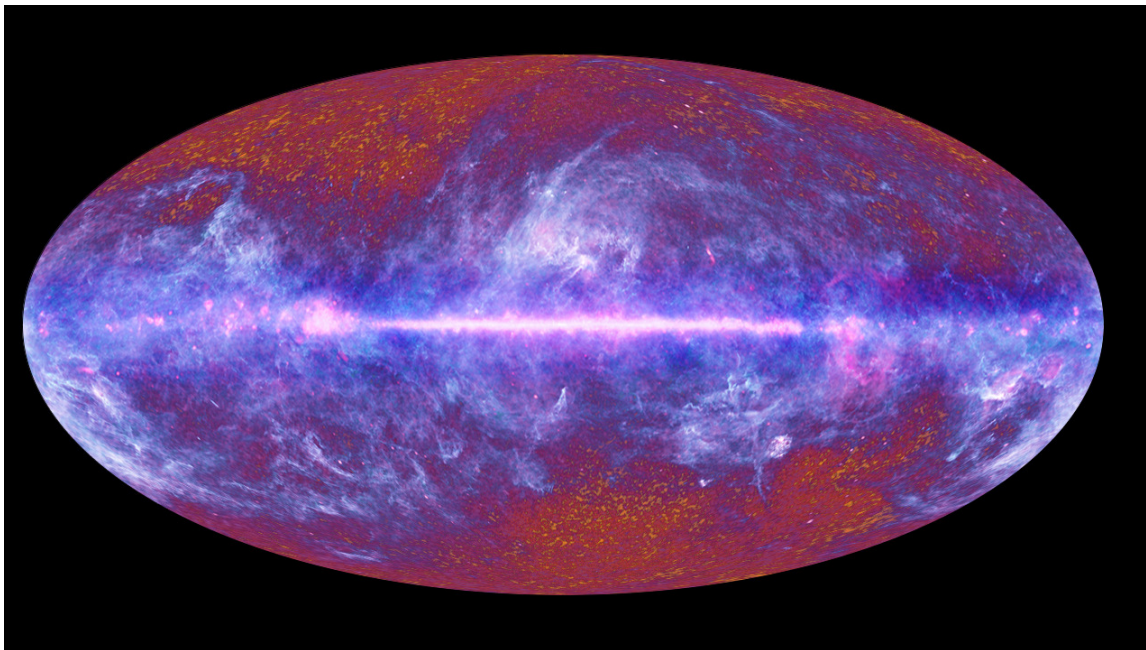


Behind the sky

By Trevor Mahovsky

In March of 2013, the European Space Agency held a press conference to present scientific data gathered from the analysis of the All-Sky Survey, one of the most remarkable images in history. Undertaken by the ESA's Planck spacecraft between 2009 and 2010, this microwave and radio wave survey produced what is essentially the first picture of the entire universe, described by ESA Director General Jean-Jacques Dordain as "integrating all the lights of the multitude of galaxies which have been formed from the origins until now"¹.



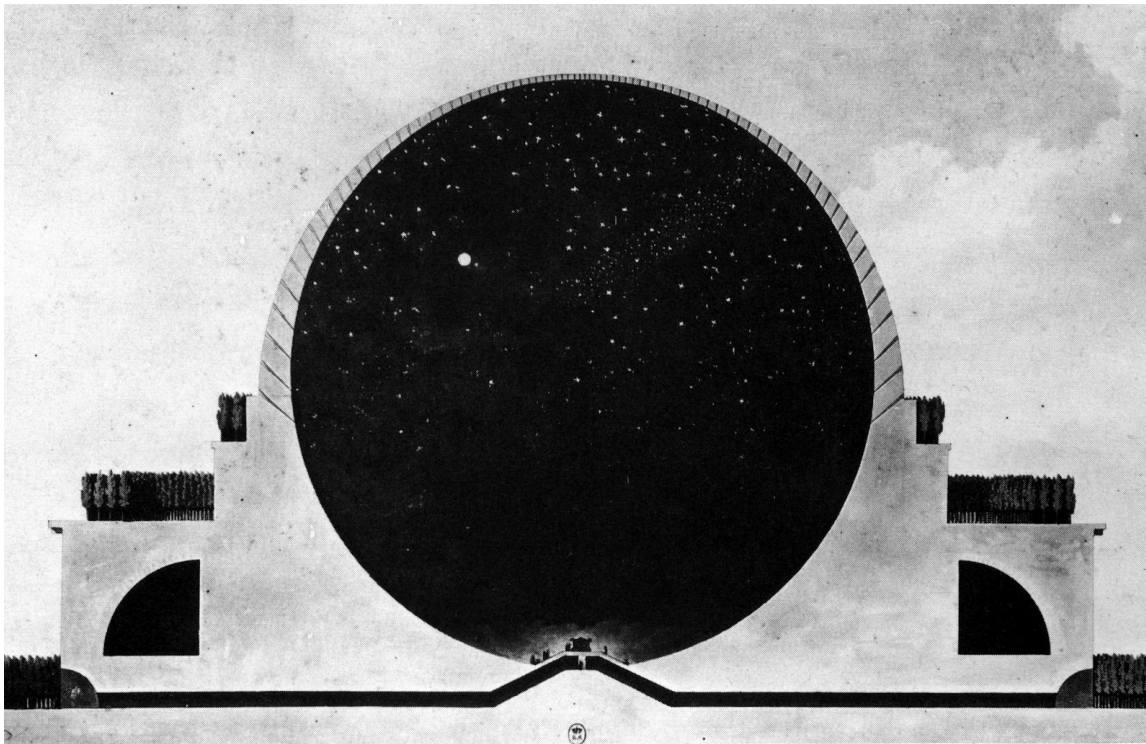
The microwave sky as seen by Planck, photo:ESA/ LFI & HFI Consortia

At first the image is disorienting, since it doesn't correspond to standard images of space: beyond its trippy psychedelic colouration, it appears rather like a laser beam projected through fog. More confusing is the dynamic of the image's edge. The stretched oval shape of the boundary dominates its contents, to the extent that viewing the Survey feels less like being swallowed up by the most expansive vista imaginable, and more like squinting through a squished tube. An ESA animation is helpful in understanding the shape of the Survey: it depicts the universe, as seen in all directions from Planck's vantage point, if it were printed on the inside of a hollow sphere, and the sphere were then cut open and unrolled. Therefore, the boundaries of the image are to be understood as

¹ Video of the conference can be found at http://spaceinvideos.esa.int/Videos/2013/03/Replay_Planck_s_Cosmic_Microwave_Background_map_Media_Briefing

wrapping around until they meet. Being as close as possible to a picture of literally everything, the picture has no edge.

This format — the universe depicted on the inside of a globe, and viewed from the interior of that globe — is strongly reminiscent of Étienne-Louis Boullée's proposed design for Cenotaph to Sir Isaac Newton of 1784. The top half of Boullée's 490-foot-high hollow sphere would have been punctured so that, during the day, light could enter the interior in simulation of the firmament as seen at night. At night, lit by a simulacral sun in the form of a luminescent suspended armillary sphere, the interior of the Cenotaph would have taken on the appearance of day. To enter, viewers would traverse a long corridor at the base of the structure, climb a set of steps, and emerge at the bottom of the interior of the sphere. Not a walk to the foot of the sky, but a Journey to the Centre of the Earth.



Étienne-Louis Boullée, *Projekt for an Isaac-Newton-Memorial. Daylight with artificial starlight. Cross-cut, 1784*,
Own scan from: "Klassizismus und Romantik. 1750-1848", Hrsg. Rolf Toman, Verlag Ullmann und Könemann, Sonderausgabe,
ISBN 978-3-8331-3555-2

Despite the All-Sky Survey's reinforcement of a cosmology antithetical to Newtonian principles of absolute space and time, both the Survey and the Cenotaph exhibit another similarity, which is an association established between their respective primary vantage points and death. Boullée's building is a tomb, and it is designed so that the viewing area corresponds with the location of Newton's sarcophagus at the base of the sphere. In the ESA press conference Dordain describes the sensors on Planck, which he indicates are cooled to 0.1

degree above absolute zero to attain sensitivity to temperature fluctuations of a few millionths of a degree, as “the coldest spot in space”. Ironically, this profoundly dead spot — at absolute zero there is no motion beyond a minimal vibration at a molecular level — was constructed to observe the pattern of Cosmic Microwave Background (CMB) radiation that is the afterglow of the birth of the universe.

What is behind the sky? What is on the outside of that sphere, beyond the mottled magenta-colourized CMB that is the background of the All-Sky Survey? Even surrender to the most infinitesimal fluctuations of the universe does not show this. We can only detect photons that have had time to reach us, photons that pre-existed the birth of all the celestial bodies in the universe, their paths twisting and warping by virtue of gravitational lensing as they passed emerging galaxies on their way to Planck’s deathly sensors. To see further beyond the CMB would be to see even further back in time. Even if it were possible, beyond a certain point — 380,000 years after the Big Bang occurred almost 14 billion years ago — the universe would present nothing to the eye but the ultimate impenetrable fog.

For that first 380,000 years, the universe was opaque. As the Planck educational toolkit describes, it contained nothing but hot plasma primarily composed of protons, neutrons, electrons and photons. Photons could not travel very far due to a proliferation of free electrons which constantly interrupted their movement. With the expansion of the universe, the heat contained within it dispersed across a larger area; the universe cooled, allowing particles to form stable couplings. Electrons could combine with protons to form hydrogen, releasing photons from their imprisonment; the moment photons were free to travel long distances marked the birth of the fundamental conditions for sight. With an incredibly economical yet evocative phrase, the authors of ESA toolkit summarize this event as the point at which the universe “became transparent”.

Perhaps the older eye-confounding universe is what stretches beyond the virtual globe of the Survey, meaning that the globe’s membrane does not separate inside from outside, as does the Cenotaph’s shell. Rather, it marks the threshold of the visual.

The All-Sky Survey and the Cenotaph to Newton offer particularly fitting context for the art of Colin Miner: not only as extensions of its recurring metaphors of cosmos and cave, but also as a means to parallel its underlying logic. They refigure Miner’s art, at a remove: in the words of Miner, with the goal of evoking, not grasping. Their relation to Miner’s art doubles the relation Miner posits between his own work, which often amounts to what can be considered photography by other methods, and the ontological status of photography itself.

As with Planck's sensors, many of Miner's works set themselves against the edge of the visual: one thinks of a recent video work, fog grid mist reflection (2012) in which the screen slowly fills with smoke until it appears as if it were a photographic grey card. This work utilizes a recurring motif found in much of Miner's work: a movement in and out of the state of seeing nothing. As Planck demonstrates, the wonder of the opaque universe, a fog from which everything in existence emerged, is powerfully compelling. Miner is not directly referring to the ancient cosmos, but he is conjuring a similar sense of dissolution, of giving oneself over to a profoundly eradicating force. By definition this state eludes representation, and Miner has recourse to the metaphor of smoke, which also carries the allusion of the spectral: a phantasm that mysteriously approaches only to withdraw. Contained within the claustrophobic space of the spray booth in which the video is set, the smoke of fog grid mist reflection presents an allegory of the interior, transposing the Survey's cosmic mysteries to an inner world reminiscent of the Cenotaph. A universe opens up and collapses inside the confines of the air extraction unit, a marvel that is also nothing but an expelled breath.

For the seeing of 'nothing' to register as an experience at all, it must be placed in some kind of context, as a point in a journey or as a step in a process: for example, a movement from light to dark, or from transparency to opacity. The RGB videos taken by Miner in a complex of caves in northern Manchuria, (title), their subject colorized in an hallucinatory manner not unlike that of the CMB in the All-Sky Survey, take a slightly different tack to fog grid mist reflection. Where Miner's earlier video put the eye to rest in a comforting mist, here the eye is overtaxed by the demand to adjust to the constant cycling of the hyper-saturated hues of the RGB lights as they are cast upon the mineral and rock formations of the cave. The acclimatization of one's eyes to each new hue becomes the focus of the experience, as if one's vision was out of synch and behind the pace of the image. There is a parallel between the eye and the way the camera struggles to calibrate at certain points. The viewer's colour bearings are loosened as emerging hues exhibit an initial indeterminacy; Merleau-Ponty might say that our grip is briefly lost. It takes a moment to comprehend exactly what colour one is looking at; perhaps this moment affords a paradoxical look at the condition of not looking.

When thought of in relation to this thematic in Miner's art, the Survey and the Cenotaph are pulled in certain directions, in a form of gravitational lensing. The Cenotaph takes on the aspect of a cave, and the passage at its base signifies a journey from light into an hallucinatory darkness, to the place of the after-image. It becomes not unlike a camera obscura, albeit one constructed for the display of the aperture rather than the production of an image. The standard single aperture is expanded to a multitude; there is a correspondence with the way Miner has made work by repeatedly puncturing foil-faced foam sheathing to

produce a representation of the cosmos for subsequent photography. The giant eyeball that is Cenotaph is thus dazzled, shot through with a galaxy of pupils.

Thinking of the All-Sky Survey through the logic of Miner's approach likewise provides a means to consider photography at a distance. This distance is established by the fact that the All-Sky Survey, an image that represents readings of far-infrared, microwave and high frequency radio domains, is in fact not a photograph at all. Planck studies photography at the vastest of possible removes: what Planck does is make us aware of the photographic quality of the Cosmic Microwave Background radiation, an idea reinforced in the language of the ESA education package, which describes the CMB, being a relic of the Big Bang, as a "snapshot" of the birth of the universe. First there was blackness, then a flash of light. By virtue of a delay, light eventually meets us in the present as a trace of a distant time, in testimonial that this happened. Planck is not producing a photograph, but studying one.

Yet to think of this blackness, this flash, this delay, they are all on unimaginable scales. Their terrible beauty awakens a death drive in us, as they are things that cannot be understood but only given over to. Boullée's shielding cave offers an attempt at a defensive posture, though it takes on the aspect of a grave. This invites speculation as to the existence of a connection between the centre of the earth and the back of the sky, as if the edge of one somehow wraps and twists to meet the other; this idea is also suggested by the way that the rock and mineral formations of (video title), which have an uncanny similarity to images of space, present a seemingly celestial vista at the same time as they court blindness. The blackness, flash and delay that resulted in the vista studied by Planck are such ultimate examples of photographic principles that they destroy the idea of photography, stretching it to such an unimaginable vastness that it is torn asunder, to be folded back into the fabric of the universe.