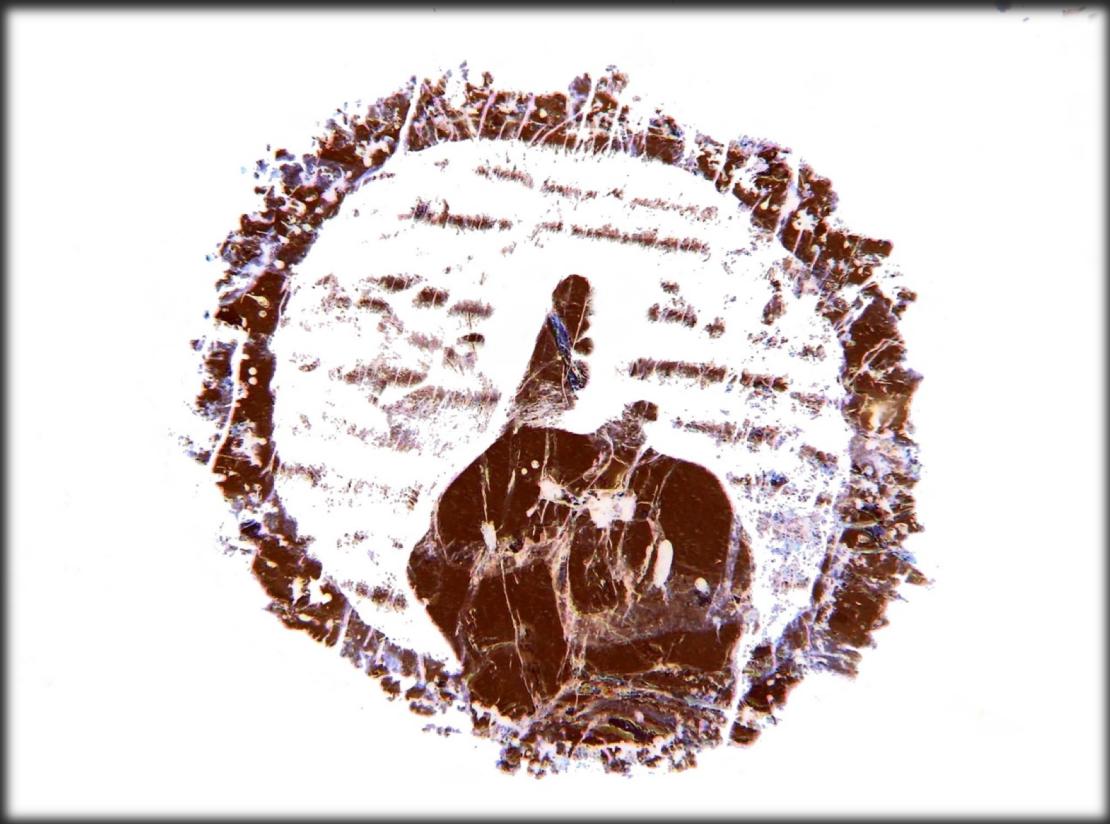


ALIENOCENE – THEORY/FICTION

COSMIC GRAFFITI ON PLANCK'S FAÇADE



FRÉDÉRIC NEYRAT

The door to the invisible must be visible.

- René Daumal

Planck's Wall. – Of Planck Time – as the physicists call it – we know nothing. We only know that from 10^{-43} seconds, the universe enters a period of growth, gravity seizes its independence from its relation to three other fundamental forces (electromagnetic force, weak nuclear force, and strong nuclear force) and presides over the formation of matter, which then extirpates itself from mere quantum fluctuation; but, before this fractional duration, physics fails: it is impossible to take the time to countdown and to recover the 10^{-43} seconds until the supposed “0-moment” of the Big Bang, because “space-time breaks itself into a thousand smithereens” (Michel Cassé). It is perhaps that there is not a “0-moment,” an infinite temperature, or singularity, this infinite mass contained in a null volume. Non-knowledge reigns behind Plank's Wall, on which we write, in the manner of the most ancient parietal art, our graffiti. Thus we render visible the door to the invisible.

The thermic wall and the oldest image of the world. – Before it is 380,000 years old, the universe is too hot and electrons are too fast to be captured by protons. Free, the electrons prevent photons from extending longer than a few nano or picoseconds, in other words the distance that the photons travel before being interrupted is so feeble that the universe remains opaque. We must wait for the temperature of the universe to fall under 3,000 degrees Celsius so that the electrons decelerate, being captured by the protons in order to form atoms, thus freeing the path for the photons: the light could now escape beyond the thermic wall, the second obstacle to visibility. The first, “oldest image of the world” (Hubert Reeves) can now appear – which is thus not an image of the origin, but an image of the moment when, as Michel Cassé says, “the universe became transparent to its own light, that is to say, observable.” Such is the optical game the universe plays with itself, opening itself to its image of light, the source-image. As old as the visible, the source-image is the palimpsest which subtends all deep images.

A Spectral Field. – The liberation of light is the beginning of cosmic radiation, which cooled in the course of the almost 14 billion years during which it spread in all directions of the expanding universe, today approaching -273 degrees Celsius, that is, absolute zero. With the expansion of the universe, the wavelength of cosmic radiation has elongated, this

passing of visible light - the brilliant white light of the beginning, of the first radiation - into invisible light, ultra-violet, micro-waves (in English, this cosmic radiation is called "cosmic microwave background" - which we translate, in French, as *fond diffus cosmologique* [cosmic diffuse background]). The cosmic radiation is then, as the physicists also call it, a fossil radiation - a "thermic specter" (Michel Cassé) which surrounds us, an invisible presence of the most distant visible past. A spectral field persists until astrophysics and the poetry that doubles it succeed in expressing it.

The dark face of the deep. - The expansion of the universe is accelerating, and beyond a certain distance, vis-a-vis some observer, the galaxies depart from each other at a speed that is equal to that of light. At this speed, light no longer emits enough energy to reach this observer. The optical consequences of this flight in advance [*fuite en avant*] of the universe are dramatic: the observable universe of a person who would live in the Milky Way in a thousand trillion years will have reduced itself to a few close stars, and beyond this exhausted starry night will lie an endless void -- darkness, irreversible darkness. In this "endless black night" (Trinh Xuan Thuan), galaxies will become black holes with the mass of a billion suns. Darkness on darkness, night on night: a wall of entropy, or of final extinction, is added to that of Plank as well as to the thermic wall.

The visible is precarious; its duration limited; its origin laborious; its end assured. Each image that we see bears this precariousness, not only because this thing that we see readies itself to disappear, but because appearance itself is condemned to disappearance. This is at least what the dark face of the deep murmurs, with its mouth of cosmic shadow.

The night and the deep image. – To the temporal precariousness of the visible, we must add its quantitative rarity. Pascal already told us: “All the visible world is not but an imperceptible speck in nature’s ample bosom” (*Pensées*, fragment Lafuma 199); but today the theological reduction is replaced by a cosmic expansion: stars and galaxies, like ourselves, constitute only 0.5% of the content of energy and matter of the universe, in the form of baryons (neutrons, protons, electrons). To this fractional domain, we must add the “dark matter” (26.5%) that we cannot observe directly, but which we can measure by gravitational effects, and of which the greatest part is non-baryonic. As for the 73% remaining, it would be constituted by “dark energy,” an “anti-gravitational force that is responsible for the acceleration of the universe” which would be linked to “the density of energy of the empty quantum which existed in the very first moments of the universe” (Trinh Xuan Thuan). Of what is this dark energy composed? Nobody knows.

Dark energy, dark matter, dark night: we could be dazed by such darkness; we could also be seized by a laugh at the measure of the immensity of darkness in

the immensity of the universe, whose infinity suffers entropy and dissipation. A laugh which could lead to the joy of having the luck to open one's eyes to this contradicted nothingness; to the anguish when our death takes shape in this void. Which images could document the cosmic precarity of the visible and of the affects which attach to it? Images which would be able to express all at once the depth of time and its limit, the stars and their specters, matter and its precarity - *deep images*, going as far as the cosmos by exchanging with it what is in itself inaccessible, where the depth would be inverted constantly in elevation.

Returning to dust. - Dust, we are dust, but of the stars. Returning to dust, we elevate ourselves infinitely. This is the good news of the Copernican Revelation, which has not yet been heard, deafened by the millennia of monotheism and of technophilic modernity. It is not that we still believe, as Nietzsche argued, in the shade left by the departure of gods, it is rather that we have not yet been able to see, in the darkest darkness of the shade, an infinity of stars shimmering; we are just beginning to hear what ghosts have to tell us about our planetary condition. Coming from the most ancient instant, while departing from us at an accelerated speed, the unfathomable origin of the universe takes us into the enigma. We can capture the unfathomable in the deep image - the dialectical image commensurate to the universe, the prey of the cosmos, the image that we

have yet to perceive: the absolute constellation that testifies that the encounter happened.

Bibliographic resources used for this article: Michel Cassé, *Du Vide et de la Création*; Etienne Klein, *Petit Voyage dans le Monde des Quantas* ; Hubert Reeves, *Poussières d'Étoiles*; Trinh Xuan Thuan, *The Secret Melody*.