

Cumulus Calcite. The Subtractive Rendering of a Photographed Cloud

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ABSTRACT

Clouds are primarily condensed water vapour that produce very small ice crystals held in the atmosphere as a light reflecting mass. As cumulative contingencies, their most arresting attribute is the power to take form whenever, wherever and from thin air. Produced as a unique object at Factum Arte digital mediation studios in Madrid, the backlit alabaster Cumulus Calcite reveals veins of minerals running throughout the stone that astoundingly correspond with a cloud's aerial fluxes. The original digital image was carved into the translucent slab with CNC milling technology driven by software that renders tonal information into relief surfaces. Despite being 'carved in stone' the luminous shape undergoes substantial changes. As soon as the viewer steps aside, the cumulus implodes into a rugged formation of canyons and cliffs. What was once nebulous floating mist is transformed into a variegated topographical terrain. Caught up in the intermittent perception of sky and earth, reflective light (albedo) or transmitted light (lithophane), medium as reproductive technology or affecting account of sensorial weather, is the poetics of deep geological time and the transitive formations of atmospheric phenomena.

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Marble is a time-honoured material used for memorials in the remembrance of past lives, specific places and significant events. It is a mineral testimony that speaks across time by attempting to forestall in its geological and enduring materiality the incursion of amnesia. This occurs much in the same way as a photograph's indexical imprint proclaims its exceptional poignancy. The gathering of these abiding material and memorializing forces were brought to fruition in Cumulus Calcite, a carved, LED-backlit cumulus cloud that I originally photographed over the foothills of the

Sangre de Cristo Mountains in New Mexico. The commissioned work was produced by Factum Arte Digital Mediation studios in Madrid, Spain.

Factum Arte's skilled fabricators excavated the ethereal image from an alabaster slab using CNC milling technology and CAD software. The photograph's tonal range is recreated by varying the depth of the carving, with the highlights corresponding to the most recessed areas and the gradating shadows announcing increasingly denser areas of the stone. The process recalls the 19th-

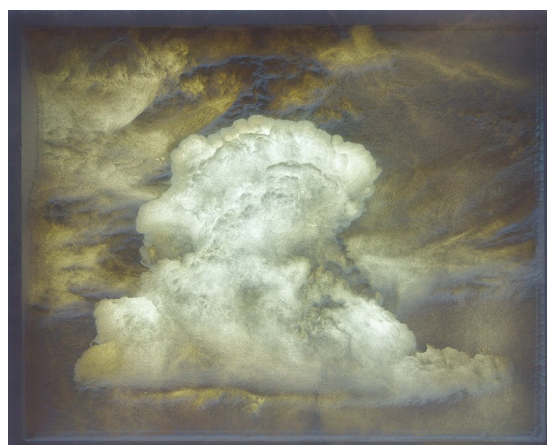


Figure 1



Figure 2

Figure 1. Cumulus Calcite (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

Figure 2. Cumulus Calcite (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

century lithophane designs that were impressed, effectively moulded, onto translucent porcelain. Both techniques use transmitted light to reveal a latent image in a carved or formed substrate. In a traditional low or high relief sculpture, the image projects from a background surface composition to create the illusion of three-dimensionality, with the raised areas appearing closest to the viewer. In this case, the carved alabaster reproduces the clouds' billowing brightness as a flourishing form that defies the logic of a relief composition.

The deceptive effect engages the viewer and motivates them to change their vantage point. Upon doing so, the surging cloud implodes into a rugged formation of canyons and cliffs. This result is akin to the optical illusion known as the Hollow-Face illusion as demonstrated by British neuropsychologist Richard Gregory. His investigations point out how the dynamics of perception are ruled by the suppression of conflicting sensory data to a given perceptual hypothesis, that gives rise to the involuntary flipping of depth (Gregory, 2009 p.124). Colombian artist Oscar Muñoz skilfully probes this illusory experience and how our biases for perceiving faces as convex surfaces overrides his cast and hollowed self-portrait in *Cíclope* (2002).

Clouds produce temporary, fugitive forms manifesting transitory and indeterminate states, they signify an atmospheric performance that runs the gamut of light and dark meteorological phenomena. Events that bear out as replenishing rain or catastrophic storms attest to their life-changing power by reflecting the contingent and contradictory nature of reality. As phenomenon-in-becoming, the scope of which includes air, water, temperature, dust particles, and sea salt, they embody changing densities of matter and cumulative processes. For anthropologist Tim Ingold, these life-sustaining developments reveal shared, permeating movements between meteorological phenomena – as an immersive medium – and the earth's landscape. 'For it is precisely through the binding of medium and substances that wind and weather leave their mark. Thus the land itself no longer appears as an interface separating the two, but as a vaguely defined zone of admixture and intermingling' (Ingold, 2011 p.119). He significantly calls attention to the etymological root of cloud from *clud*, a 'mass of rock, hill', related to *clod*, as a composite of augmenting elements. 'They are, respectively, their shining and billowing, just as the hills are, their rising, the fire is its burning and the pebbles are their grating' (Ibid, p.117).

Ingold's insights parallel printmaking's inherently receptive and transmutable potential as an interconnected web of reciprocally influencing and translating processes. Each of these processes disclose the materiality of mediations while opening up to undeterminable contingencies. As an expansive practice, print media evolves synergistically through multiple media. This correlating dynamic moves beyond the dictates of discipline-based precepts towards other modes of seeing and being through innovation and invention. In the case of *Cumulus Calcite*, reproductive imaging and sculpting technologies spanning from the 19C to 21C coalesce to explore perceptual modes of distinct spatial-temporal realities. It is worth noting that a number



Figure 3



Figure 4

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Figure 3. *Cumulus Calcite* (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

Figure 4. *Cumulus Calcite*, detail (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

of artists and curators advocate for more inclusive approaches when defining a print. This fluctuating permeability is advocated by artist, curator and educator Barbara Balfour as a more 'relational understanding of print vis-à-vis other media'. (Balfour, 2018).

Returning to the work at hand, what was once nebulous floating mist is transformed into a scaled-down, jagged, topography. This stony landscape changes the incandescent cloud into a turbulent sea of lava, signalling its former contact with magma and geological cycle from sedimentary to metamorphic rock. By turning off the backlight source, the concave contours resemble the earth's frozen polar regions, a radically different sensation and domain that furthers the estrangement of the original numinous cloud. Looking at Cumulus Calcite, our perception wavers between the photographic image and the stone substrate, sensing that motif and medium have become assimilated to the point of being indistinguishable.

Stepping back from the unlit alabaster, the cloud's deep cavity takes on the form of a mould, evoking the sense of an original that has long been lost, leaving in its absence a wake of lithic wandering and climatological pathos. In doing so, the piece helps us comprehend how a cast mournfully evokes the absence of the clouds' singular formation (Iverssen, 2017, p.61). Current climate models are showing how human-caused drivers are disrupting the formation of stratocumulus clouds which are needed to cool the earth's surface and drastically accelerating the pace of global warming. This situation carries profound consequences and, according to Michel Serres, call for post-anthropocentric commitments in recognizing the rights of nature: 'The Earth speaks to us in terms of forces, bonds, and interactions, and that's enough to make a contract. Each of the partners in symbiosis thus owes, by rights, life to the other, on pain of death' (Serres, 1995, p.39).

Alabaster's captivating translucency and veining patterns are the result of hydrothermal metamorphism: alterations brought by processes of sedimentary deposits, extreme variations in temperature, pressure and tectonic movements. These geological events are testimonies to the restless trajectories and unfolding stories of cataclysm, creativity, and memorialization: all presaging formations yet to come while echoing a deep past. They are passages of deep time, a visualization of how distant pasts and futures flow through the present in unexpected ways to create simultaneous and contradictory temporalities.

The visionary prose of Roger Caillois in 'The Writing of Stones' reflects on these deep temporal aesthetic and geophysical unfoldings. 'They provide moreover, taken on the spot and at a certain instant of its development, an irreversible cut made into the fabric of the universe. Like fossil imprints, this mark, this trace, is not only an effigy, but the thing itself stabilized by a miracle, which attests to itself and to the hidden laws of our shared formation where the whole of nature was borne along' (Caillois cited in Warner, 2008). One of marble's most striking qualities is the iron oxide deposits that leave brown clouding

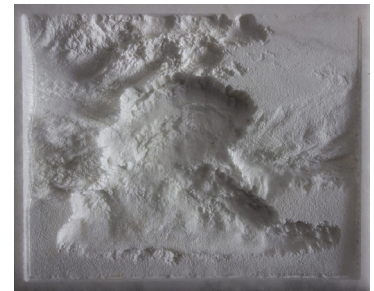


Figure 5

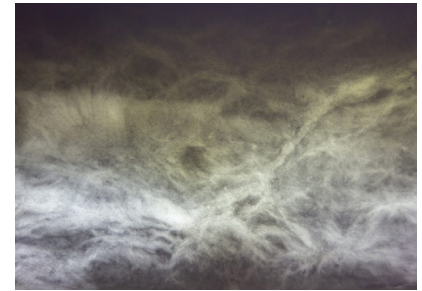


Figure 6

Figure 5. Cumulus Calcite (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

Figure 6. Cumulus Calcite, detail (2019) by Enrique Leal. CNC milled alabaster. 445 x 540 x 90 mm

and veining in the stone. Light shining through the lateral sides of the Cumulus Calcite reveal the sediment patterns of mineral impurities during sedimentation as pictorial geological landscapes. The deposits depict eruptions and exposed layers of strata formed by energetic lines of tension and compression. Like fossilized impressions, the markings of the cloud are an admixture of the transient and perdurable that elicit a desire to discern the luminous form and sense its enfolded temporality.

BIBLIOGRAPHY

Gregory, R (2009). *Seeing Through Illusions*. Oxford. Oxford University Press.

Ingold, T. (2011) *Being Alive. Essays on Movement, Knowledge and Description*. New York. Routledge.

Iverssen, M. (2017) *Photography, Trace, and Trauma*. Chicago. University of Chicago Press.

Muñoz, O. *Cíclope* (2002). Available from: <https://vimeo.com/96806712>. [Accessed 20 November 2021].

Pelzer-Montada, R. (ed.) (2018). *Perspectives On Contemporary Printmaking, Critical Writing Since 1986*. Manchester. Manchester University Press.

Serres, M. (1995) *The Natural Contract*. Translated by E. MacArthur and W. Paulson. Ann Arbor. University of Michigan Press.

Warner, M. (2008) *The Writing of Stones. Roger Caillois's imaginary logic*. *Cabinet*, issue 29, Spring. Available from: <http://www.cabinetmagazine.org/issues/29/warner.php>. [Accessed 10 September, 2019].

AUTHOR

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IMAGE GALLERY



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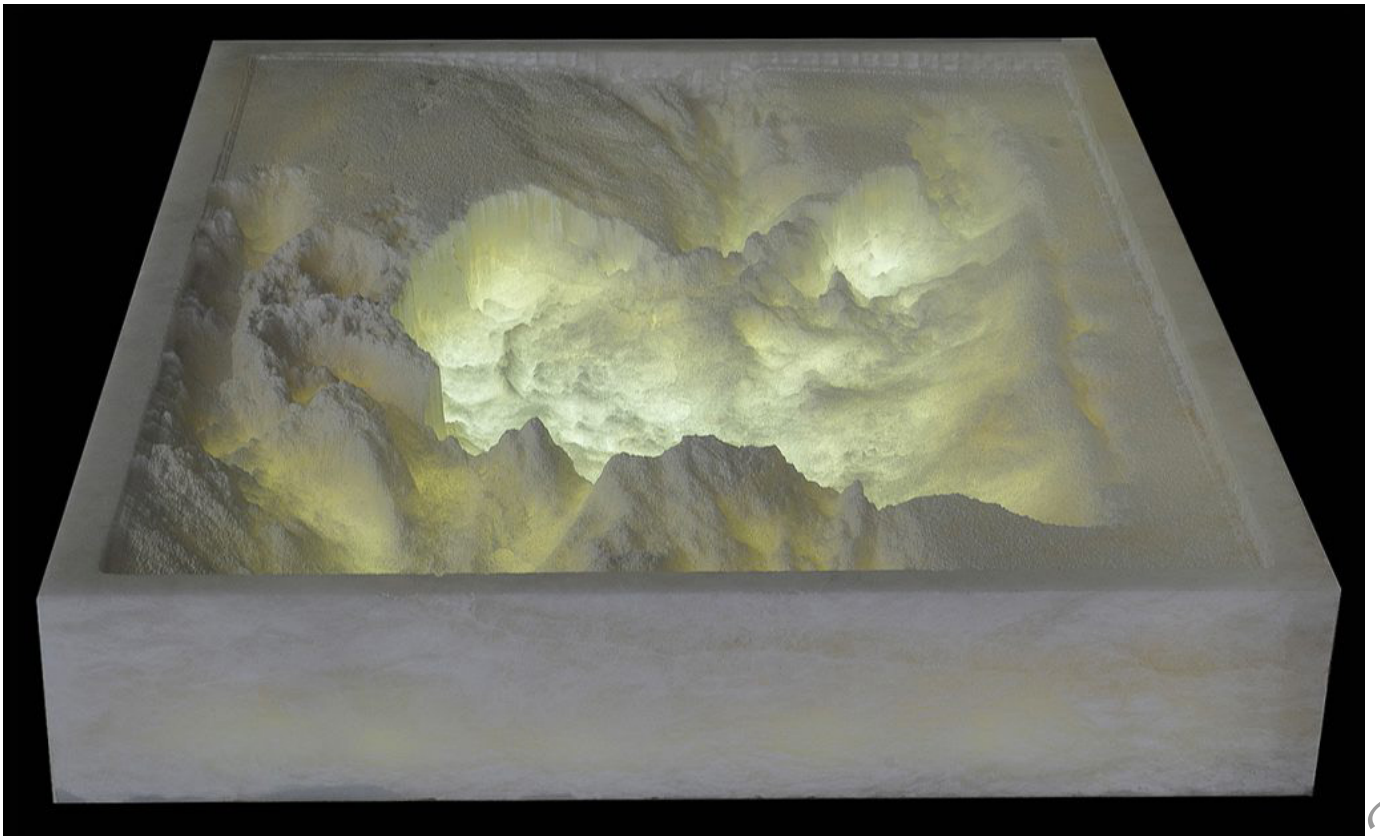


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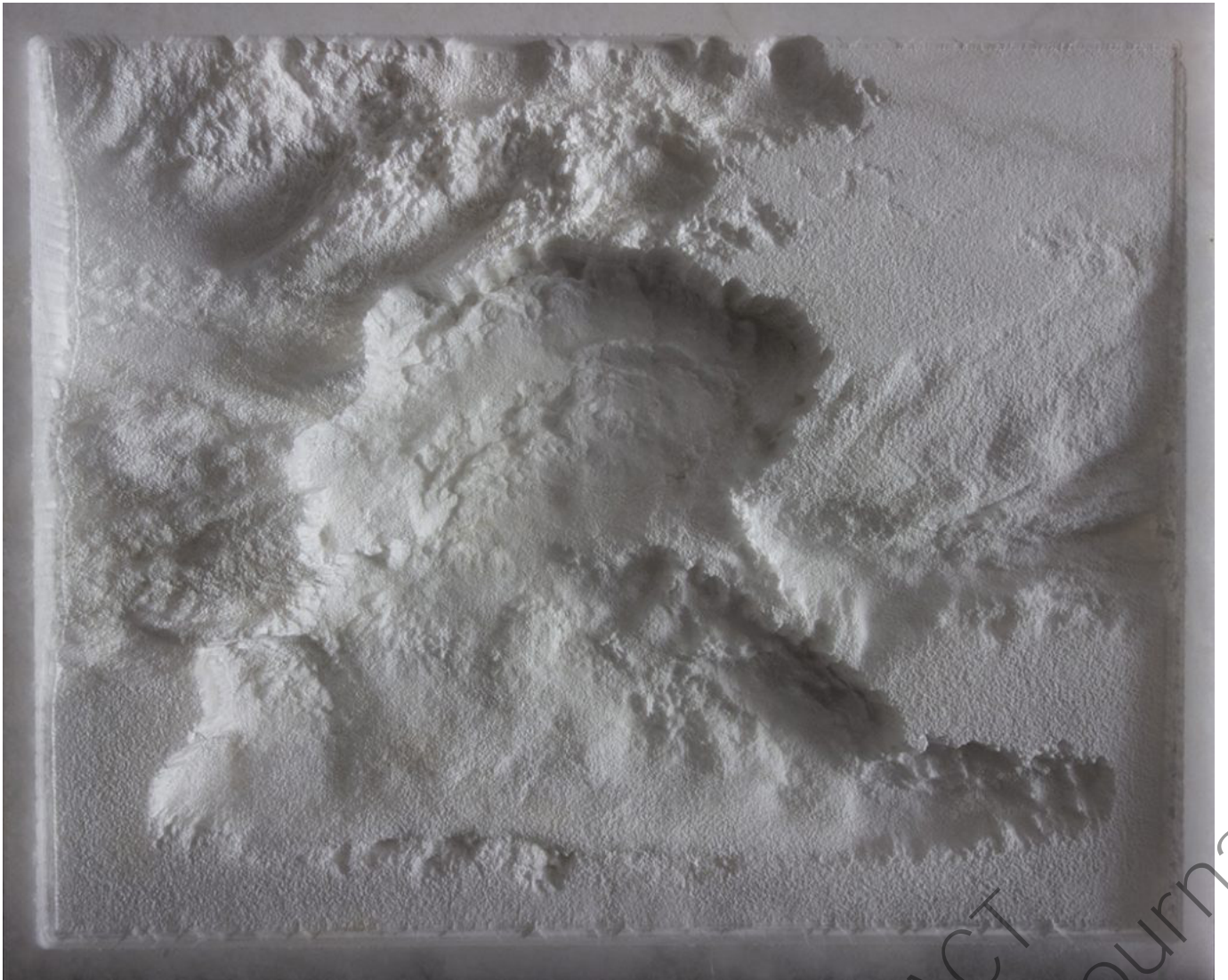


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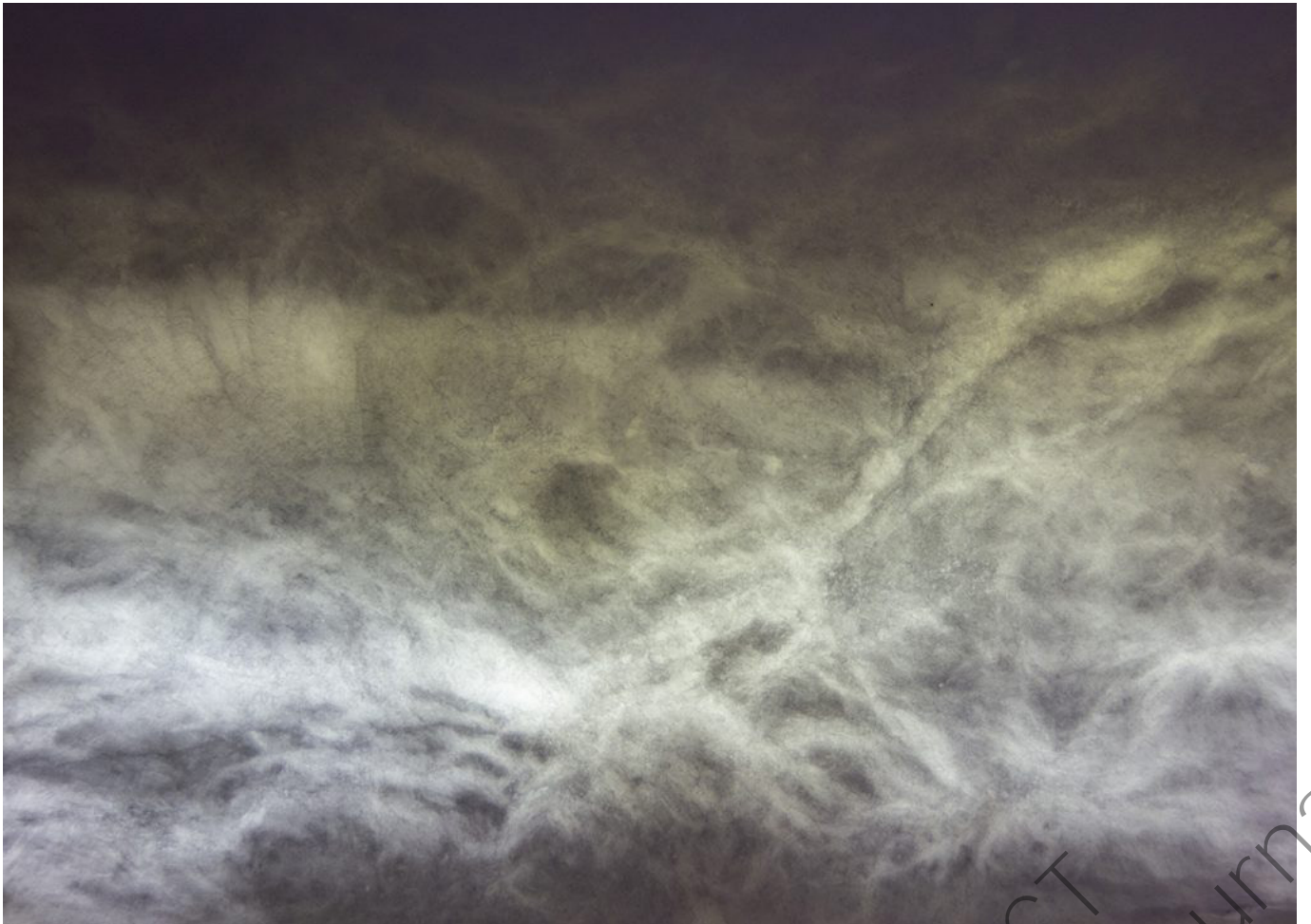


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