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This is a copy of an article published in Lo Squaderno - Explorations in Space and Society, no. 48, pp.23-26. It is available from the publisher at:

<http://www.losquaderno.professionaldreamers.net/?p=1835>

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Impressum | June 2018

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Over skies of extraction

**Harshavardhan
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In the 2017 TM Krishna classical recital for the Ennore Creek Campaign, titled *Chennai Poromboke Paadal*, translating from Tamil as the Chennai *Poromboke* song, T.M. Krishna recited in Carnatic classical style, a song for the common lands¹. The song explores the transformation in the meaning of the word *Poromboke* from common lands to waste lands – from how the commons transformed perceptually and materially to a surface of toxic space, expelled and demonized as waste. Critiquing the coal power plant that stands by Ennore creek emitting ash into the sky and the fluid earth, TM Krishna recites “*the sea and the river, he has kept apart . . . the white sky, he blackened*”. In moving images shot over brown infrastructural pipelines, backgrounded by the atmospheric might of the toxic plains of the Ennore creek and its wetlands, TM Krishna asks “*for one who sold the waterbodies, the lake is mere poromboke . . . - you and I, then; what are we to him?*”. Ecologically, Krishna claims, “we are poromboke”, too. In this ecological assemblage of life between ground and air, the body is in aerosols, submerged in the toxic present, questioning its ontology and the surfaces it ponders.

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The aerosol is material as materials are aerosols. They are both in-fact surfaces, disregarding distinctions and the in-between of? the urban, the infrastructural, the pit, the burners, the forest, the mud amongst *milieu* others. Michelle Murphy calls life in this recomposed air as alterlife describing life as something that is “already altered, which is also life open to alteration” (2017, p.497). Fly ash for example is a speculative material act of plural alternations, holding the capacity for a future of multiple altered frames. Fly ash is a cartography of immanent space, because of its capacity to occupy space at the pores of material and a material ability to accommodate weight. It bleaches with mushy sand. It fogs the sky. It manipulates being as its spills and mixes. What makes fly ash (also categorically called coal ash) really interesting as a material is its speculative makeup, which is almost completely dependent on the makeup of the coal bed from which the coal was originally extracted. The chemical composition, gravity, surface value, mineralogical composition of fly ashes vary (Ramezaniapour, 2014) and therefore compose a wide complex diversity of possible outcomes and mobilities. As Murphy (2017) indicates, it’s hard to identify where the condition of alterlife begins or diverges, that the human as a category itself is formed by chemical relations – and that capitalism ensures the future of toxic relations, even after the human.

The title of this brief essay is an anecdotal play on Marques’s (2017, p.416) remark that “what we cannot possibly yet see is how the sky has a forest on its back”. With this essay, I essentially want to argue that the sky over spaces of extraction are *of* extraction, that the dredging of the earth is in effect almost always a dredging of the sky. There is a modernism in operation here, in reference to

¹ <https://www.youtube.com/watch?v=82jFyeV5AHM>

energy systems, critical infrastructures and contemporary capitalism as we know it. There is also the hubris of modernity within which these explosions are enacted by the combustion of material, in the pretence that these are surfaces of control. The Jharia coalfield based in Jharkhand estimated to be India's largest coal reserve, proves so otherwise – in negotiating control and rupture. The operating coalfield, part of India's ambition to increase coal production, has been actively also burning for about 100 years (Pearce, 2016; Gupta, 2016). As highly combustible material, oxygen, moisture and wind flow choreograph fire through the shafts and crevices of space where coal exposes to air its capacity

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to dance with the air – as fire. Blasts crack material, allowing surface to be created, allowing the fluviability of fire to enhance and spread. The lands deemed largely unstable have consumed some of the human settlements that existed in the territory (Singh and Rotheroe 2018).

Some humans in their thousands continue habitation in these toxic habitats, as cracks and fumes sustain and maintain, in the production of sooted fly ash surfaces, one version of an economy. Coal as a source of temperature and transmission enacts then a dual performance, at the mine and the power plant, i.e. the source and the destination where fly ash is present in both protocols of extraction. The skies above these zones of extraction then are also extractive worlds. Their life capacities are transformed by the surfaces coal and its ash creates. As a cumulative liquid act, the performance transforms life in the air, the soil, surfaces beneath and surfaces above. The performance in/of the Anthropocene disrupts the control function of modernity by deepening precarity and exposing the vulnerability of life by the distribution of chemicals.

As Belanger proposes “The physical, material, fluid, and energetic extents of urbanisation lie far beyond the footprint of cities” (2016, p.44). The coalfields, the structures of energy and the city burn co-producing fly-ash spaces across territory. Fly ash is upon us as aerosol, temperature, energy and dusts - different versions of surfaces, tangible and affective. Fly ash can also constitute silicon dioxide, aluminium oxide, iron oxide, titanium dioxide, calcium oxide, magnesium oxide, sulphur trioxide, potassium oxide, manganese oxide, barium oxide, strontium oxide (Cheng-Yong et al., 2017, Table 1) among several others including dioxins, arsenic and the offerings of the earth at a particular place and a particular time. Fly ash surfaces are unequal and diverse. A little over a thousand kilometres from Jharia via National Highway 19 is New Delhi, the capital. The city houses two coal-fired power stations, yet again producing other stories of fly-ash mobilities and surfaces. Mehra et al.'s (1998) environmental monitoring research interestingly shows that the metallic contamination of water bodies caused by fly ash caused the reduction of the common water hyacinth (*Eichhornia crassipes*) in parts, meanwhile enriching and enabling the growth of mustard greens (*Brassica juncea*), down the river plains, during the monsoons. *Eichhornia crassipes* interestingly has been known to recover platinum (Farago and Parsons, 1985) and lead (Akcin et al., 1994) amongst others, in other experiments in other water bodies. Chemical species operate with microbial and vegetal species subjectively. Some proliferate in the compounding of one flourishing as another diminishes, in toxicity. The dryness of the summer lifts fly ash into flows, transporting dust and in the monsoons, the wetness assists in the descending of fly ash onto other surfaces (Pandey and Singh, 2012).

I wonder therefore whether the emergence of aerosol surfaces into the archive of substantiation, as samples, in what Shannon Mattern (2017) calls the “geo-informatic construct” assists in framing a politics of the Anthropocene. Do aerosol surfaces convey meaning beyond their aesthetic and toxic function? Are these surfaces seen? Are they realised? How are non-human capacities rendered

in knowing these surfaces? Amy Balkin's 2002–2012 speculative Public Smog art project set out to claim the atmosphere as a UNESCO world heritage site². Balkin proposed that this was a park that fluctuated in time, place and scale. As something that was imagined, envisioned and proposed – Balkin's translucent box visualisation extrapolated the potential of spatial visibility into a speculative index of political relations. If modernity, capitalism and the extractive consensus is what caused the transformation of the commonland to the wasteland in the politics of the *poromboke* – is it commoning or uncommoning that will reclaim this space? In other words, does seeing/feeling/experiencing a surface make a difference? Cadena (2017) argues in 'Uncommoning Nature' of the importance of becoming allies with the *anthropo-not-seen*, of the ability of non-human and human collectives in organizing in the war against destruction. Coal ash surfaces contest the imaginary in their function of not conforming with normative boundaries. They are particularly vital and violent in their excavation, extraction and value-generation within human economies. The politics of coal extraction also remains a highly complex subject – considering the indigenous tribal communities that occupy many of these terrestrial surfaces from Chattisgarh to Nagaland – accounting struggles in some, displacements in others and a few successes in reclaiming. They are indeed the alter surfaces of the urban – connected by coal ecologies of aerosol and energy.

One can argue that the aerosol surfaces of fly ash are not bound with the style of politics enacted in the process of extraction. Extraction is aerial. Machines (human and non-human) mine the earth of its atmosphere, creating new layers and setting free materials into the stream. Can you hear the high pitch of the rupture? Can you feel the hymn of the machines? Do you see the bodies immersed in labor, lifting minerals into the dump? Can you smell the dust in the air? Let us dredge the earth they say. Crush the surface, displace material and build worlds. The machines of capitalism in operation (Deleuze and Guattari, 1987) surfacing new surfaces. As Shiv Visvanathan (1987) notes "If progress demands the summoning of the 'other' into modernity, triage is the dispensing of that other" (p.48). Visvanathan continues "If the tribal was once whipped into modernity because he was savage, today he is being bludgeoned back as being incapable of science" (p.48). He argues that the strategy of obsolescence created by protocols of the market and the sciences participates in the erasure of knowledges and ways of knowing. In writing surfaces of modernity therefore, life escapes. So on 'toxic earth', figuring surfaces – aerosols or otherwise as Povinelli (2016) suggests might have to do with attuning with other "modes of existence register these changes even if we do not" (p.136). Alas! "Everything is on fire" says Povinelli (2017, p.512).

So to the question "Can the study of urban surfaces reveal forgotten facts about urban existence?", I respond with the assistance of fly-ash surfaces – speculative and as real as the dust in Delhi air. These are temporal settlements over tangible material surfaces of sight. They are also temporal as atmospheric sensory beings. Their temporality is only challenged by their constant ever-increasing freedoms in the air. In making the world our own, we then come to realize that in-fact we are not alone in this atmosphere – we are of it.

² <http://www.publicsmog.org/>.

References

- Akçin, Gökse, Ömer Saltabas, and Hüseyin Afsar. "Removal of Lead by Water Hyacinth (*Eichhornia Crassipes*)." *Journal of Environmental Science and Health . Part A: Environmental Science and Engineering and Toxicology* 29, no. 10 (December 1, 1994): 2177-83.
- Belanger, Pierre. *Landscape as Infrastructure: A Base Primer*. 1 edition. Abingdon, Oxon ; New York, NY: Routledge, 2016.
- Cadena, Marisol de la. 2017. "E-Flux S.I. 56th Venice Biennale: SUPERCOMMUNITY: Uncommoning Nature." *E-Flux*. Accessed March 16, 2018. <http://supercommunity-e-flux.com/texts/uncommoning-nature/>.
- Cheng-Yong, Heah, Liew Yun-Ming, Mohd Mustafa Al Bakri Abdullah, and Kamarudin Hussin. "Thermal Resistance Variations of Fly Ash Geopolymers: Foaming Responses." *Scientific Reports* 7 (March 27, 2017): 45355. <https://doi.org/10.1038/srep45355>.
- Deleuze, Gilles, and Felix Guattari. *A Thousand Plateaus*. London: Bloomsbury Academic, 1987.
- Farago, M. E., and P. J. Parsons. "The Recovery of Platinum Metals by the Water Hyacinth." *Environmental Technology Letters* 6, no. 1-11 (January 1, 1985): 165-74. <https://doi.org/10.1080/09593338509384333>
- Gupta, Jayanta. "India Creates a Record, Allows Jharia Coalmine Fires to Burn for a Century." *The Times of India*. Accessed March 16, 2018. <https://timesofindia.indiatimes.com/city/kolkata/India-creates-a-record-allows-jharia-coalmine-fires-to-burn-for-a-century/articleshows/50928024.cms>.
- Marques, Pedro, *Apocalypse* (2017) in *E-flux: Supercommunity - Diabolical Togetherness Beyond Contemporary Art*. Edited by Anton Vidokle, Julieta Aranda, and Brian Kuan Wood. S.I.: Verso, 2017.
- Mattern, Shannon. "The Big Data of Ice, Rocks, Soils, and Sediments." *Places Journal*, November 7, 2017. <https://doi.org/10.22269/171107>.
- Mehra, A., M. E. Farago, and D. K. Banerjee. "Impact of Fly Ash from Coal-Fired Power Stations in Delhi, with Particular Reference to Metal Contamination." *Environmental Monitoring and Assessment* 50, no. 1 (March 1, 1998): 15-35. <https://doi.org/10.1023/A:1005860015123>
- Murphy, Michelle. "Alterlife and Decolonial Chemical Relations." *Cultural Anthropology* 32, no. 4 (2017): 494-503.
- Pandey, Vimal Chandra, and Bajrang Singh. "Rehabilitation of Coal Fly Ash Basins: Current Need to Use Ecological Engineering." *Ecological Engineering* 49 (December 1, 2012): 190-92. <https://doi.org/10.1016/j.ecoleng.2012.08.037>.
- Pearce, Fred. "The Human Cost Of India's Push to Produce More Coal." *Yale E360* (blog). Accessed March 16, 2018. https://e360.yale.edu/features/on_burning_ground_human_cost_indias_push_produce_more_coal
- Povinelli, Elizabeth A. *Geontologies: A Requiem to Late Liberalism*. Durham: Duke University Press Books, 2016.
- Povinelli, Elizabeth. "Fires, Fogs, Winds." *Cultural Anthropology* 32, no. 4 (November 20, 2017): 504-13. <https://doi.org/10.14506/ca32.4.03>
- Ramezani-pour, Ali Akbar. *Cement Replacement Materials: Properties, Durability, Sustainability*. Springer Geochemistry/Mineralogy. Berlin Heidelberg: Springer-Verlag, 2014.
- Singh, Gautam, and Dom Rotheroe. "India: The Burning City." *Al Jazeera*. Accessed March 16, 2018. <https://www.aljazeera.com/programmes/peopleandpower/2016/07/india-burning-city-160711081146127.html>
- Visvanathan, Shiv. "From the Annals of the Laboratory State." *Alternatives* 12, no. 1 (January 1, 1987): 37-59. <https://doi.org/10.1177/030437548701200102>