

Critical Zone: The Earth Below Our Feet

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ABSTRACT

The core of this paper is to reflect on an international collaborative project “Critical Sciencing Zone,” along with works from the Kochi biennale (2018), which responded to the flood and landslides in Karnataka and Kerala. The critical condition of the thin layer of the earth crust (Critical Zone) is of immense concern in this paper. I am tracing the inclination for vertical movements and aspirations to reach the sky, that have proportionately accelerated technology to the detriment of the Earth. This paper will speculate through art works and demonstrate some of those concern and fundamentally emphasizes learning through cognitive, experiential and affective processes in order to acknowledge and recognize Nature. In short, my aim is to examine and discover perspectives and manufacture discourses that may erode human alienation from Nature.

“The Earth,” he said, “has a skin, and this skin has diseases. One of these diseases is called ‘Man’.”
Friedrich Nietzsche, Thus Spoke Zarathustra

INTRODUCTION

The critical condition of the Earth is overwhelming and this is extremely and embarrassingly a very obvious understatement. As much as there is despair, yet it is necessary to find means to make amends for the blunders done to the Earth. My contribution in this paper is to look at perspectives and frameworks, in order to rethink them, so that our attitude, discourses and practices are renegotiated, and hence, foreground the Other and by that I mean Nature. To begin with, it should not be the Other, however, the othering has deepened so far that a repetitive deploying of poststructural and postmodern interrogations of the foundations of knowledge systems and discourses will continue to be pertinent. An archaeology of knowledge unearths the apriori/discourses, or assumptions that precede and preside silently behind logic, questions, frameworks and other normalized principles. (Foucault, 1972)

A projects titled “Critical Sciencing Zone” (March 2018, July 2018) was a major source of inspiration for this paper. The occurrences that followed the projects was an array of related incidents with real and fictional concatenations. The disaster that immediately followed in August 2018 was a rude awakening to two southern States in India, one in Coorg, a district in the State of Karnataka and in several parts of the neighbouring State of Kerala. The unusually severe rainfall, and heavy floods, not witnessed in nearly a century, caused landslides that washed away not only the houses and vegetation, but also the land itself which changed the geography of those regions. These occurrences unfolded the trepidations of the above projects. The calamity was incorporated into the Kochi Biennale Dec 2018- March 2019 (Kerala), at Kochi, a port city in Kerala. The ongoing Biennale titled “Possibilities for a Non-Alienated Life” includes several themes, and highlights ‘ecological disaster on the planet.’ Some of those works will be of importance to this paper and they bear an uncanny connection to the above mentioned projects at IISc. Indeed, I am writing this paper in the midst of raw natural occurrences and reflective aesthetic responses and resonances.

Critical Sciencing Zone was comprised of two events: Workshop and Exhibition (March 2018) and Two Earth Labs (July 2018) and they are part of a larger project *De/Globalization* (India, Egypt, Germany). Link: <http://deglobalize.com> The primary participants are:

Daniel Fetzner, Professor for Design and Artistic Research and head of Media Ecology Lab at Hochschule Offenburg
Dr. Vasanthi Mariadass, Srishti Institute for Art Design and Technology, India, Dr. Martin Dornberg, M.D., PhD Center Psychosomatics/Psychotherapy, Freiburg. Philosopher at Freiburg University. Ephraim Wegner, Electronic musician and artistic staff member at Media Ecology Lab, Hochschule Offenburg, Dr. Raghavendra Gadagkar and his Team Indian Institute of Science (IISc), Indo French Cell for Water Sciences and The Earth Science Department at Indian Institute of Science, (IISc), India.

This was an interdisciplinary workshop constituted by researchers from Science--Humanities—Design—Art—Social Sciences focusing on environmental question through the fundamental elements necessary for living: Air, Water and Earth. We engaged with Indo French Cell for water science, Wind Tunnel lab, and Earth Science departments at IISc. The participation and performance was by plants and animals (including Human beings) along with questions concerning the Anthropocene; the exponential development in Technology and hence human activity was the primary concern for our project.

Critical and Theoretical concerns by Gilles Deleuze and Felix Guattari, Robert Smithson, Lyn Margulis and Bruno Latour are important here for the brilliant perspectives they recreate to undo the adamant sedimentation of thoughts and frameworks that delimits other possibilities. To perhaps refresh, cleanse, and expand terminologies and thereby avoid cliché and finally limitations. Primarily, poststructural and postmodern theories will be of importance for my analysis here. They are simultaneously a fundamental and radical source for education, since they constantly engaged with critique and methods for reading, writing, and interpretation through theory and performance. In short, rethinking meaning making dictums and dictates, and hence the valorising games played by the elite through history, politics and religion is systematically addressed by poststructuralists. Smithson's works and particularly his essay "A Sedimentation of the Mind" provides instructions not only for his audience but more specifically for Artists, Curators and Art Critics/Historians. His methods include fragmentation and "pulverization" of hardened ideology similar to poststructural strategies and hence introduces the process of "leaky minds" that poststructuralism would describe as sliding signifiers.



Figure 1: Critical Sciencing Zone, Performance

Critical Sciencing Zone (March 2018) was a research process for 3 weeks, that ended in a performance (figure 1). It was inspired by Latour's (2014) essay "Some Advantages of the Notion of "Critical Zone" for Geopolitics" which was central to our discussions with scientists. The Critical Zone topic have been of great concern to scientists for a very long time, ever since the forecast of its fragility was speculated. It is the layer of the earth just below the atmosphere and it reaches below to the hard rock layer, also known as the mother rock—the continental crust. Therefore, Critical Zone Observatories (CZO) exist in different parts of the world, and they are equipped with sophisticated instruments where data is perpetually gathered and shared. Discussions with scientists, found objects and living beings around

the Institute was used for the performance at a small auditorium at Center for contemporary Studies (CCS) in IISc. It was an unusual staging and surprisingly the audience performed, including the "intruding" bamboo stem that entered through the window out of curiosity, while a wasp hive was placed at the entrance, consequently the whole auditorium became a stage. We the expected performers remained off stage, and the stage was populated by other critical protagonists: a freshly cut wood found in the wooded areas, live streaming of the Wasp colony, a wasp hive and books used as reference material. The cut wood seemed to be reclining, and appeared like a dead being making the auditorium a funeral space. The puzzled audience must pay tribute to the dead and the living at once, although they were unaware of this predicament. The audience were requested to bring objects representative of their work to discuss, as a result they were forced to become the performers. Of course, we the so called performers were merely facilitators and performed to the extent that we introduced and reflected along with synthesized background sound found in the surroundings; extracted and shaped to highlight sounds that are forgotten in the Anthropocene.

Here we were in a science institution and introducing a topic that the scientists have already engaged with for more than 30 years. Many have moved on after surveying, analysis and data collection that terminated in publications. And yet the performance impacted them and us with affects; puzzling incomprehension, funeral, mourning and loss. Here is the palpable and moving e-mail (heavily edited) response by Pascal Jouquet, then based in IISc at the Indo-French cell for Water Sciences--a scientist who was an audience and performer at once, who reflected on his experiential learning.

Dear all,

First of all, Sorry(s): Sorry to not have been able to send you a message before; Sorry to be a simple and humble soil ecologist and not a philosopher; and consequently Sorry in advance for all the weird, chaotic and perhaps incomprehensible message you gonna read (perhaps...); and finally Sorry to be so critical of a concept whose utility seems to be so uncontroversial... Consequently, a significant proportion of our activities are carried out in "Critical Zone observatories", in India (where I was based these last 4 years), in France and in South-East Asia, mainly... I give you this picture to say that my view is far from objective and that the Critical Zone concept is all around me... We could even say that we have been swallowed by this concept. Chapters and books about the critical zone flourish. Soil ecologists, and philosophers (!!!), are even writing about it and (re)place their work in this context: "Biodiversity within the Critical Zone". The Critical Zone concept is everywhere... But... Is it something really new, a new paradigm that everybody got except me (and shame on me...) and that opens new directions, that gives a new vision of our ecosystem ... With this mind, I couldn't remain insensible to your venue, our discussion and even your performance. You made me think - you made me read - you make me write now in the middle of a night... That's simply magic and a real pleasure, if not a therapy... ;-)

After my many Sorry(S), now please acknowledge my so many Thanks! I do not have my notes with me and I'll probably forget many aspects but Thanks also for your fantastic and breathtaking performance. I don't know if you remember but I challenged you. I wanted you to make me understand "things", I wanted to grow, to reach a new state of understanding. I don't know if I have been where you wanted me to go but yes, it worked. I went far, very far and I was so excited at the end by this incredible experience... I didn't simply understand it - I felt it !!! Then, SorryS and Thanks! ;-)

As your videos of the swimming pool highlighted, an ecosystem (= a watershed) is made of many and incommensurable smaller and entangled ecosystems that are all Critical in the sense that they are crucial for many different organisms ... but the "Zone" concept isn't too 'linear' for that? Linear in the sense that it goes in a direction: first of all, it is "vertical" from the rock and water-table

A change in perspective (like the one raised by the round table and the final participation of Prof. Raghavendra) is a good example of what can be learnt from any change in perspective...

Wish you all the best, Pascal

Pascal JOUQUET

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Before discussing the next project "Two Earth Labs," a detour to the Kochi Biennale is pertinent here, because it sets the stage for the vertical aspiration of Humans: An egotistical, megalomaniacal assumption to oversee all that exists on the earth and sky. Beginning with Deleuze (1987), who made the remarkable shift from the Tree model, which is man-made and partial, vertical and hierarchical and more particularly a repressive structure constituted by a skeleton of a "tree" that hides the many inconsistencies within, and hence he re-assigns a Rhizome structure in his introduction to *A Thousand Plateaus* (1987). At any rate this tree structure is merely a skeleton, an impoverished version passing of itself as a form, which fully and accurately represents genealogy. In the Rhizomatic structure the movement is horizontal and they branch out at unpredictable intervals, nonhierarchical and include localized nodes/centers that improvise, add and multiply, but do not produce an absolute, **the** Center. Often such striking biological and geological forms are used in this paper that forces the theoretical paradigm to emerge out of earth, and not merely by human mind. More than ever our knowledge systems are derived and appropriated from the environment, but we fail to acknowledge Nature, and the paradigms gleaned from it, since the earth is at our feet literally and must be at our service. Whereas, diligently we acknowledge fellow human beings and their contributions through bibliographies, endnotes, footnotes and credits. Human alienation from nature appropriates all achievements emerging exclusively from and by humans and will not allow acknowledgement of other living beings—a self-authorization that leads to the use and abuse of the Other. In rare occasions, a few like Jean-Luc Godard, the French New Wave Filmmaker, would acknowledge nature as a source of inspiration in some of his works. Those moments often seem absurd, but they contextually render the unthought, namely, acknowledgement to Nature.

Godard's visual essay *King Lear* (1987) includes extracts from two infamous essays "The Death of the Author" by Roland Barthes and "What is an Author?" by Michel Foucault (Lodge, 1988). But, Godard extends those perspectives and includes a character who plays The Author figure, called Shakespeare Junior the fifth: a punk who is often found plagiarizing. On several occasions he seeks solitude on a sea shore and while he is busy writing we see the waves splash and spray on the writer. He is sitting on rocks

and oblivious to the water washing over him and his book. In sum, there is no absolute solitude at all, since the sea, sand, rocks and most of all the waves are engaging with him and those are also the most inspirational moments. It is unthinkable to thank and acknowledge Nature for intellectual activity, from an anthropocentric logic, however, several works by Godard navigate the viewer to think the unthinkable and thank the unthankable. A few religions continue to include nature and yet the abuse on the earth continues, overtaken by Techno-Scientific Capitalism.

Postmodern theories suggest that since the enlightenment the vertical drive to look at the sky supersedes the horizontal (Barthes, 1977; Virilio, (1997). Hierarchies, binaries continue with their **schemes** and advance those vertical concerns. The move towards the sky and space without a horizon or an ever expanding one, becomes the alibi and dissimulation of Modern man to efface the **recognition** of plunder done to the earth and justify it—hence, forget and repress it. In general, the human race is looking up at the stars, seduced by “heavenly” objects resulting in fabrications that reach and explore space. The prompt for such movement is not merely material, scientific and megalomaniacal but also cultural and theological or indeed, aided by the latter. Tejal Shah’s work at the Kochi Biennale 2019, illustrates a fundamental cultural aspect, such as stories, especially during full moon, that surrounds the mystery and the beauty of this celestial object. Those simple stories and songs generate discourses that incite the fire to find, reach, and possess the moon and stars. Her *You Too Can Reach the Moon* (2013) is an image of a transgender mother pointing the moon to a child, where Shah weaves gender and ecological issues. Parents pointed to the moon and told stories to entertain or distract an irritable child, or while feeding a reluctant kid. Along with the food they feed them with limitless desire to reach the unreachable, and yes for sure we have reached the moon. The child is caught by the moon and the cultural annotations given to him or her. Later in life the annotations continue as a romantic setting, where the parent is displaced by the lover. Such entangled desire for celestial objects in the sky is sustained by their eternal mystery and distance.

On the adjacent wall is a video by Shah, titled *Moon Burning*, where continuous and intense burning reaches a point to form a crescent, another beautiful and seductive early phase of the moon. The aspirations are incited and they burn through history, until it reaches those destinations where actual intense fire burns the ore, melts, smelts and purifies them to form tools and objects that realise those ambitions. Even if enormous amount of resources and funding is wasted again and again on space research, even by countries that cannot afford to do it – like India for instance—we continue to justify such prodigal waste. For sure they don’t need to justify since such heavenly endeavours are a cause in themselves. More justifiable with instruments of information management--satellites—the one eyed “Cyclop” (Virilio, 1997), for they are contingents to war and war “deterrence.” This later possibility is a powerful reason to walk away with absolute assurance of doing the “right thing.” So where is the need for justification out there in open space without a horizon?

Marzia Farhana, an artist from Bangladesh, exhibited *Ecocide and the Rise of Free Fall* (2018) at the Kochi Biennale (2018). It is an assemblage of multimedia installation and video work that describes the vertical move and the process that converts the material of the earth to reach the sky. Her work is composed of found material obtained abundantly in the aftermath of Kerala Floods Aug 2018: white goods, furniture, books and other valuables washed away in the landslides. Not only the houses and all its possession disappeared in the landslides, but the very land itself on which they stood does not exist anymore, changing the geography and mapping of those regions. The installation was distributed in several rooms, but not carefully as it would be in a home. They look like they have tumbled down, crowding the space and inverse, since they are dangling from the roof on thin ropes. Movement is difficult in this installation, signifying not only the enormous number of objects that got washed away, but, also the abundance of wealth, old and new, in most of these regions: particularly new wealth, a neo bourgeoisie, who perhaps crowded their homes with the latest appliances and furniture. There was national attention to the Kerala calamity and support came from various sources. This must have been a sharp contrast to Farhana, who hails from Bangladesh, where the river Ganges flows both in India and her country. In these regions erosion is constant and the ever shifting river forms new islands. People are landless or marooned in such newly formed islands and this has become a way of life. They point to the water to identify their land. land. *Char-The No Man’s Land* (2012) by Sourav Sarangi, was a film about one such newly formed island called Char, in the recent Bangalore International film festival Biffes (2019), in Nature’s Fury Category. The people continue to live on the marooned island with literally nothing to survive on. To make things worse the India-Bangladesh border is drawn through this little insignificant island. The only way to survive is to improvise with the means around, which happens to be smuggling rice, medicine etc. The

border control vultures will not allow that very little that they are striving for, and relentlessly punish or just make it extremely hard. The Indian Government hardly supports them, nor does it let them eke out a living for themselves and finally there is no public support. A stark contrast to the Kerala flood scenario that happened nearly after a century.

It is pertinent to trace back to “Sedimentation of the Mind” (Smithson, 1968) and particularly to the segment ‘From Steel to Rust’ that connects with Farhana’s *Ecocide and the Rise of Free Fall* (2018). Her work resonates Smithson’s critiques on artists who include technology in their work, and particularly the euphoric use of it as a medium. By suspending technology, he discovered the sub-stratum of the Earth, since the discourse of the industrial process is framed by the vertical reach away from the earth. Here he is reminding of other processes of oxidation, carbonization, hydration that affect metals and rock weathering and prefers them for art making practice. Such processes are inherent to the Gaia model of the Earth established long ago by Paul Vernadsky a geologist, in the early twentieth century (Arenes, Latour, Gaillardet, 2018). A model that remind us of the earth as a breathing and living organism and filled not an inert substance to be used in the service of Technology. Hence Smithson (1968) states:

By excluding technological processes from the making of art, we began to discover other processes of a more fundamental order. The break up or fragmentation of matter makes one aware of the sub-strata of the Earth before it is overly refined by industry, into sheet metal, extruded I-beams, aluminium channels, tubes, wires, pipes, cold-rolled steel, iron bars, etc. ... Oxidation, hydration, carbonization, and solution (the major process of rock and mineral disintegration) are the four methods that could be turned toward the making of art. (87)

Those torn and crushed household items in Farhana’s work, are covered with mud, already rusting and slowly absorbed by the earth—justifiable return of ‘man-made’ material to the earth. Her anti-capitalist and anti-technology inclination dangles the rusted objects and illustrates its disintegration. She like Smithson recognizes how many artists are also grounded in a powerful ideology of the ‘ideal’ which incites human imagination and fires technological growth. Those artists therefore need the “refined ‘paints’ of the studio.” Hence Smithson continues with

The smelting process that goes into the making of steel and other alloys separates “impurities” from an original ore, and extract metal in order to make a more “ideal” product. Burnt-out ore and slag-like rust is as basic and primary as the material smelted from it. Technological ideology has no sense of time other than its immediate supply and demand, and its laboratories function as blinders to the rest of the world. Like the refined “paints” of the studio, the refined metals of the laboratory exist within an “ideal system.” Such enclosed “pure” systems make it impossible to perceive any other kind of processes other than the ones of differentiated technology. (Smithson, 1968, 86)

In one of the small rooms crammed with domestic objects, Farhana inserts a video screening running perpetually on the floor while leaning against a vertical pipe. Technology is comfortably leaning against verticality—a phallic order no doubt. The video image is of a red hot fire burning relentlessly, and slags of smelting metal sliding precariously. This room by Farhana is not creating a hearth with a fire cooking a warm meal, but a reminder of the industry and manufacture the ideal material to make white goods and other traditional kitchen objects such as knives and ladles too—industry and the domestic are not very far. A small boulder of rock is sitting next to the video as if it were looking at it. Perpendicular to the video and the rock is a mirror reflecting them—a necessary reflection on the smelting process, while the rock is sitting still in silence unaware/oblivious to any ideology. At the upper end of the vertical pipe is an old rusty television, with the image of an airplane silently and consistently swirling and hovering menacingly. The smelting metal on the floor/earth has transcended to become the flying object in the sky. The image on the television is facing the floor and “looking” at the video. Hopefully acknowledging the ore from which it was created, since once it floats into the sky it forgets the dirt it came from. Or is it ensuring that the fire continues to burn and smelt for its continued existence. Another adjacent television is also looking down at the floor below, but it has a fantastical image of a flying horse, a mythical creature that made the plane a reality. The hearth in a home, is not merely cooking an innocent warm meal, but various fantasies and thoughts simmer in conversations, and family and friends partake of food and thought. Perhaps the flying horse is the next novelty and technological upgradation, since the planes are not live enough? Fabrications and inventions are extractions of human mental fantasy just as the necessary material are extracted from the ore, although based on a very subjective notion of the ideal.

Smithson's land art and writings, poetically expresses the acceleration of technology as endeavours that move away from the earth. Based on the binary premise of Earth/Heaven axis and its implied hierarchy. Therefore, although the ore found in the dirt below our feet is used for technological advancement, this very ore which is of the earth is forgotten through extreme refinement. Steel is one such "man-made" material that even if made from the earth it appears as if it is man-made and **not of the earth**. The refinement of the ore exceeds itself to the point where the purified form of the material is not of the earth: refining is an erasure of the sediment that leads to amnesia, but it is the desire to forget the earth that primarily induces this amnesia/Alzheimer. The highly refined materials including steel, aluminium, nickel, chromium, including plastic, a man-made material par excellence (also made from elements found in the earth) are used for making objects that reach the "heaven." Rockets, planes and satellites cannot be of the earth, because they must be man-made (not out of nature or God) in an absolute sense—like a god and beyond--The Uber Man. The Eiffel tower is by far the best example that illustrates the euphoria of steel and as a symbol of Technological and Scientific aspiration that displaces the steeple of the churches, reaches the sky and visible from most part of Paris—a Scientific temperament and ideology consistently haunting the imagination (Barthes, 1979).

The second event "Two Earth Labs" of *Critical Sciencing Zone* at IISc, was based on Land art work by Smithson. While the first event "Workshop and Exhibition" was a performance inside the auditorium, "Two Earth Labs" was outside the auditorium, in a small wooded area. One of them was nestled among the trees and a square piece of land of about 3m x 3m was cleared and dug out to a depth of about 6 inches. While the stage inside the audience was about 6 inches high, this dug out was an inverse of it and the performers sat inside the square and performed their respective research (figure 2). The space itself resembled a Bower bird's nest to the scale of human, and just as they adorn them with colourful found objects we used serial lights that lined the entrance to the nest (Deleuze & Guattari, 1988). The male Bower birds (the stage bird variety) clip the leaves from a tree and drop them on the ground, and they also carefully turn the leaf over to get the right shade of green that they prefer. After setting the stage the male bird sings and performs. Nature continues to perform, come what may, and improvise from what is around: sometimes they even pick bright blue plastic corks to decorate their bower. The project continually improvised to include thoughts emerging from Nature.

Within the square patch there were several mirrors on the ground facing the sky, but they hardly reflected the sky; the foliage and soil were reflected. One of the mirror that faced the sky, was strategically and partially buried in the earth and looked like a pool of water. The mirror in Farhana's work and in "Two Earth Labs" are indicating narcissism, egotistical and megalomaniacal tendency that give rise to the exponential advancement in technology, and ironically this has happened despite the several severe humiliations suffered by the human ego through paradigm shift that emerged since the beginning of 20th century aggravated by 2 world wars. Radical paradigm shifts by Freud, Marx et al. contributed to a lack, and as a result the ego reinstates itself through endless substitutions. (Slavoj Zizek, 1992). Indeed, the exponential acceleration in technology according to Zizek is a result of this humiliation, surpassed and harnessed by such achievements. The first event of *Critical Sciencing Zone* introduced death on the stage, and the second by digging out square patches marked burial: the grave became a stage for further research by Scientists, Theorists, and Artists. Perhaps for the death and transformation of the ego. Nietzsche's citation at the beginning of the paper is a sharp diagnosis of the Critical Zone that proscribes for sure, but also prescribes investigation and remedy for the disease called "Man."



“...the great murders [destructions] have become the quiet game of the well behaved.”

Michel Foucault

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