

Terra Incognita

Post-traumatic Infrastructural Opportunism

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Abstract

Mason White and Lola Sheppard of Lateral Office write that “infrastructures are in fact ecologies, or natural systems artificially supplemented.” Taking a speculative urbanism approach in exploration of the various forms and flows of infrastructure and its relationship to architecture, Terra Incognita creates a future of oil field inhabitation with LOCUS (Large Operative Clean Up System) Corporation in a world where coastal Los Angeles is no longer predicted to be inhabitable due to rising sea levels. LOCUS Missions celebrate new apparatuses for reclaiming the hinterlands from oil extraction.

In anticipation of the impending results of a world affected by climate change, architecture is now more than ever positioned to leverage its unique influence, communication, and power to fight problems that the world cannot see. Every day we turn a lamp on, start a car, or make a pot of coffee, we are engaging into a complex system of interacting with the world’s natural resources: fossil fuels. The United Nations, as of 2019, predicts we have but twelve years at most until climate change is irreversible. As the world runs out of time to cool down, global traumatic incidents such as earthquakes, tsunamis, and hurricanes expose a brittle system of energy infrastructure all over the world- the resiliency of how we generate the energy we use is being scrutinized. Climate change is the ultimate global problem- so when our national systems of energy are restructured, readapted, and reorganized into new urban frameworks focused on multifunction, what happens to an urban future poised for sustainability instead of waste and excess?

This thesis questions the role of current energy territorialization within Aera Energy LLC’s sphere of influence in Kern County and provokes the 21st century energy transition and utopian playground of infrastructural ecology. The research addresses the environmental traumas related to petroleum and natural gas extraction in Kern County and its dynamic relationship with territory and urbanism through a series of provoking cartographic explorations, urban narratives, and computational speculations for a post-carbon future. By questioning the role of systems thinking in large scale problems such as climate change, questions of design autonomy are raised in a world of where we might often neglect to study the systems, the “hidden substrate”, that are right under it. Through leveraging speculative urbanism and representational tactics, the research seeks to posit landscapes of energy as ones that are inherently connected to the growth and development of 21st century cities while also questioning the difference between how energy is currently utilized versus how energy ought to be utilized.

Methodology

This research is conducted using drawing, mapping, and diagramming as main tactics of exploration. Geographic information systems (GIS) mapping as well as representational tactics of photomontage to create the speculative urban narrative. These views are created, manipulated, and post-processed in various digital softwares including Rhino 3D, Blender, Sketchup, and Adobe Creative Suite. The final drawings are a study of composition, form, and contrast in an attempt to illicit speculative urban frameworks for a touristic energy economy at the site of South Belridge. The research studies scholars that situate themselves in a quasi-mapping and representational field while leveraging both mapping and representation as research itself and as proposal/communication of new architectural ideas. These scholars include but are not limited to Kate Orff, James Corner, Smout Allen, and Neeraj Bhatia.

Findings

Though the research is still in progress as of April 2021, three main findings are currently evident. First, in reference and affirmation to many of Katrina Stoll and Scott Lloyd’s work in *Infrastructure as Architecture*, is the agency of infrastructure (and more broadly, designed objects that are not traditionally considered ‘building.’) This research posits the ability of the object and its relevant infrastructure as having a spatial agency in its own right through giving them new purpose. These new purposes could be the usage of a monorail infrastructure as a walkable tour line, a hot air balloon as a water collection system, or an airship as a pollution catcher. Second is the opportunity for extractive wastelands to become a part of a pedagogy that increasingly engages disciplines other than architecture. As it relates specifically to this project, these disciplines include sustainability, geography, geology, and economics. It is clear that the project and discipline need not master these topics, but rather celebrate them as a relevant part of the conversation. Third and last is the affirmation of invisible territories (Orff, Corner et. al) as having an exponential effect on a society that is engrained in consumption and excess through a reinterpretation of exuberance. Energy is something that the world cannot live without; therefore, the thesis questions what the world looks like if ecologies of energy were celebrated rather than conserved.

Selected References

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Image Key

A United States of Energy (digital GIS diagram, Zachary Orig, 2020)
B United States of Trauma (digital GIS diagram, Zachary Orig, 2020)
C Kern County localized GIS diagrams (digital GIS diagrams, Zachary Orig, 2020)
D Images of energy extraction and resultant traumas (digital photographs, Neeraj Bhatia et al, 2017)
E The LOCUS Exodus (Zachary Orig, photomontage, 2021)
F Wastewater Pools (Zachary Orig, photomontage, 2021)
G The Celebration of the Water Collector (Zachary Orig, photomontage, 2021)
H The Pipelines of Rice Terraces (Zachary Orig, photomontage, 2021)
I A Witness to the Water Drone (Zachary Orig, photomontage, 2021)
J Networks of Conduits (Zachary Orig, photomontage, 2021)
K The De-toxicification Rig (Zachary Orig, photomontage, 2021)
L Uprooting the Oil Derricks (Zachary Orig, photomontage, 2021)
M South Belridge Oil Field - Section (Zachary Orig, photomontage, 2021)