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WETLAND URBANISM*

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Habitation and industrial development coexisting in the wetland region
Source: Image by Author.

* This essay serves as a current summary of research being conducted by the author and Ann Yoachim that, as indicated by the general nature of what is presented here, is in its initial phase of theorization and is ultimately only a portion of work related to the topic of developed landscapes and habitation in conjunction with industrial production.

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ABSTRACT

This article offers an analysis of settlement patterns that are on the periphery of a historic urban center and which are enmeshed in a resource-rich natural environment that provides the economic driver for the region. The combination of particular conditions provided here — urban fringe, fragile ecology and extensive resource extraction — proves to illustrate a form of development that embraces a specific environmental context while conforming to its globally connected industrial underpinnings. The effects of these contradictory influences are legible in the resulting fabric of its communities, towns and cities. Consideration of the influences shaping its current development and future potentials offer opportunities to theorize about urbanization in similar contexts throughout the world.

KEYWORDS

Urbanism, industrial development, environmental degradation.

URBANISMO DE HUMEDAL



Housing development at the periphery
Source: Image by Author.

RESUMEN

En este artículo se presenta un análisis de los patrones de asentamiento que se encuentran en la periferia de un centro urbano histórico, y que están inmersos en un entorno natural rico en recursos que proporciona el motor económico de la región. La combinación de las condiciones particulares previstas aquí –periferia urbana, frágil ecología y la extensa extracción de recursos– ilustra una forma de desarrollo que abarca un contexto ambiental específico, con base en la industria conectada en el mundo. Los efectos de estas influencias contradictorias son legibles en el tejido resultante de sus comunidades, los pueblos y ciudades. La consideración de las influencias que dan forma a su desarrollo actual y potencial futuro ofrece oportunidades para teorizar sobre la urbanización en contextos similares en todo el mundo.

PALABRAS CLAVE

Urbanismo, desarrollo industrial, degradación ambiental.

THE CONTRADICTION LOGIC OF PROJECTIVE DEVELOPMENT IN A PREDOMINANTLY RURAL, RESOURCE-RICH REGION

“The work we did was never about the future. It wasn’t trying to predict what would happen in ten or twenty years time, but rather a reaction to what we saw around us...” (Webb, 2010, p.117)

While studies proclaiming the importance of concentric urban nodes are common, our understanding and analysis of settlement patterns that are peripheral to these centers is limited at best. What is particularly interesting is when these zones are in fact the drivers of regional and global economies. Examining areas of this type provide insight into a form of settlement that is reflective of a rural beginning but has evolved through a process associated with economic drivers often disproportionate to the perceived value or role of the land. Looking at one region of the US, Southeastern Louisiana, provides an opportunity to explore this particular condition. The result is a projective evaluation of spatial settlement patterns as indicators of industrial development subverting the role of the environment and how this is shaping the way we make places.

Figure 1. *Habitation and industrial development coexisting in the wetland region*
Source: image by author.



The productive region

Southeastern Louisiana, loosely outlined as the area south of New Orleans, from the Atchafalaya Basin to the coast east of the Mississippi River, is a region defined by its symbiotic relationship with the natural environment. This low, flat terrain is dominated by a continuous horizon; water and land — constantly fluctuating and often indistinguishable from one another — woven together to form the landscape. The land, a deltaic plain created by the meandering and historic sedimentation of the Mississippi River, is mostly wetland, interspersed with bayous (small rivers) connecting upper sections of the River to the Gulf. The rivers edge, with its increased elevation due to sediment deposits from seasonal flooding, is where settlement in the region began. The seemingly infinite bounties of both the water and the land adequately provided a subsistence living. Populations were

dispersed but aligned to the waterways, tied to the regional access and protective high ground they afforded.

After several decades of this basic arrangement, dependency and the economic primacy of the natural environment has shifted with the discovery of oil around 1901. Since that time the work associated with the extraction of these resources — what became some of the most prolific oil and gas reserves in the world — has grown to encompass the region. Today, the areas economy is of vital national and global importance: the state is currently first in crude oil production and third in natural gas among the 50 states on the US (The Data Center, 2014).

The infrastructure necessary to facilitate this industry has also made its mark on the environment. Extraction of underground resources required significant modification of the landscape, specifically in the form of canals to provide access to wellheads and the routing of pipelines. This exploitive process, indifferent to patterns of the natural environment, has in effect fundamentally altered the regional ecology¹.

Meanwhile, a significant population has developed at historic settlement locations and within the wetland fabric. Ranging in size from tens to tens of thousands, these communities, villages, towns and cities collectively define an important zone of extended urbanization². Often overlooked due to the dominance of New Orleans — the historic, concentric node — this network of settlements function as a supportive backbone to the extraction economy. Home to many of its workers and structures necessary to function in the region, these places are physical manifestations of the local and global connectedness driving the inhabitation of this precarious landscape.



Figure 2. *Housing pressed against a levee protection system*
Source: image by author.

- 1 Much has been written about the destruction of the landscape in efforts to develop oil and gas finds and its effects on the local communities. While there are scholarly texts available that provide information for an expert community, Tidwell (2003) provides an encompassing accessible introduction.
- 2 “Extended urbanization” along with much of the proceeding terminology is derived from research towards a new theorization of global urbanization conducted by Neil Brenner, Christian Schmid amongst others. For an overview analysis of this particular form of analysis see Brenner, Neil & Nikos Katsikis (2013). *Is the Mediterranean Urban? New Geographies*, Vol. 05.

Living with contradictions

The region nonetheless faces an uncertain future. Land loss, hyper-industrial development and the rising sea challenge prospects for the region. A paradoxical struggle — to maintain an association with the natural while the landscape and economy continue to bend to the resource extraction industry — defines contemporary Southeastern Louisiana. Tension between allegiance to environmental and economic drivers has created a contradictory condition of life where both inhabitants and the mythology of the place rely equally on these opposing forces.

Actual land loss itself is perhaps the fundamental challenge to existence in this region now and into the future. A consequence primarily of 20th century flood management practices, harmful extraction practices and, more recently, global sea level rise, wetland and coastal erosion are erasing the physical foundation for which these communities exist. Portions of ground disappear into open water at a rate of 1 acre every hour. In the next 50 years it's expected to lose 1,750 square miles of land. Yards, houses and trees are swallowed up in the span of a childhood and have, at the extremities, created a slow migration northward along historically high ground (Meffert & Lewis, 2012).

It does, however, have a plan. A product of years of analysis, community and scientific input, the Coastal Master Plan, Louisiana's long-term environmental strategy most recently updated in 2012, is a comprehensive approach to restoring the failing ecology while fortifying the robust economy of this region. While not without its critics, the Plan is at least an attempt at reconciling the myriad issues necessary to have an effecting impact — coastal restoration at a grand scale and community fortification while enabling economic growth. Its one great flaw is a lack of funding. And the need is great. Estimated cost for implementing a portion of the plan is in the billions and to-date has not found the national support necessary (Coastal Protection & Restoration Authority, 2012). Collapse would appear to be inevitable.

Locational dictums

To understand the relevance of these contradictions and how communities continue to persist requires transcending the normative assumptions about the region to expose realities that are prevalent, though undervalued. Specifically, economic realities do not align with the popularized image of a dominant environment. While its natural beauty and bounty is unquestionable, it is impossible to ignore the ascendancy of the extraction industry (economically, physically and psychologically) and the certainty of land-loss, both through global environmental processes, as mentioned already, and, paradoxically, the workings of the industry itself (The Data Center, 2014). Even with the erosion of the physical place there still exists a need for real connectivity. Road and pipeline infrastructure, while more costly, is still a necessity if the vast underground resources are to be accessed, both on land and in the Gulf. This includes the outward flow of oil and gas along with the flux of workers engaged in the industry.

Accordingly, there will continue to be a network of towns to support these activities. The historic centers remain but with increased physical isolation regional communities are seeing an intense moment of depopulation or concentration depending on their proximity to resources (The Data Center, 2014). The normal tendency to align development to geographically ideal land — high ground, well north of known erosion zones in our case — is giving way to development patterns indifferent to the changing terrain and normalized understandings of land use.



Figure 3. Elevated highways through the eroded landscape
Source: image by author.

How and why settlement continues to exist, even thrive, in this region are pivotal questions for our general interpretation of growth and inhabitation in areas of fraught environmental conditions coupled with valuable resources. This form of settlement has a particular makeup and pattern that is emblematic of its relationship with these forces. Thinking of this as a type of urbanization, rather than accepting these locations as rural, is useful for analyzing this condition. Not urban in form, rather in the sophistication of their infrastructure and connectedness to a global flow despite their physical isolation. Not urban as in dense population agglomerations, either, but a range of towns across a large territory that collectively constitutes one community. In this case, urban as a conception that provides a context for understanding the strength of these communities, how they're shaped in defiance of environmental and geographical conditions, and, ultimately, a way of interpreting contradictory development.



Figure 4. Housing and roadway morphing to the landform
Source: image by author.

To adequately understand an urbanization that is defined by ecological breakdown amidst economic opportunism requires a new conceptual framework. In lieu of alternate planning proposals or projective design exercises, a categorical analysis challenges the prevailing, idealized image of the region and exposes the nuanced characteristics associated with this contradictory development. What is being offered here, by no means an exhaustive or exclusive list, is a series of dictums that summarize and state the actual conditions and relationships that exist and recognize them as an advantaged way of seeing the regions potentials. Sharp observations, derived from a close reading of the context, delivered in intentionally polemical language, collectively offer a realist view meant to succinctly characterize this new urban form, and preface future planning and design engagement.

1. Economics and culture are aligned to the resource extraction industry

As the economy bends towards the prevailing, localized emphasis of production, culture, too, aligns itself to this situation. Regional identity becomes intertwined with industry. This is relevant because cultural ties are as, if not more, difficult to intercept and change as economic forces.

2. Corporate Logic Governs

As the economic forces increase in presence and expenditure of capital, governing decision are driven towards, if not by, the investing industries. Local governments lose control of what is theirs to control in an effort to capture or keep — contradictorily — the engines of the economy.

Figure 5. Industrial development affixed to a tenuous beachfront
Source: image by author.



3. Transience Fuels the Economy

In this region and particular industry, a localized population is less relevant than with previous modes of production. The work often occurs at a distance and by people that literally fly in, fulfilling a 2 week on, 2 week off cycle. In lieu of homes, hotels, parking lots and heliports are the infrastructure for the work force.



Figure 6. An industrial service and transport boat traversing a waterway
Source: image by author.



Figure 7. Overlay of industrial, agricultural and historic land organizations
Source: image by author.

4. Organizational systems are indifferent to land and water

Ordering of the territory conventionally relies on recognized divisions of ground to establish ownership and control. As water replaces land the methods for determining rights to resources are disrupted. Physical property, the need of the individual for habitation, gives way to systems that instead defer to industrial interests.

5. Degradation drives investment

Population and community development is normally driven by and with the stability of ecological systems. Investment in maintaining growth is, in most cases, tied to the strength of the surrounding environment — collapse in local conditions tends to incite a withdrawal of capital. Contrarily, as the environment begins to degrade industry is forced to invest more heavily in the maintenance of systems and infrastructure needed to maintain production in the region.

Figure 8. Pipeline structure in remote section of wetland
Source: image by author.



Figure 9. Recent housing development at the periphery
Source: image by author.



6. Urbanism supersedes environmentalism

The emphasis on natural environments, and their associated bounty, are fundamental to the collective psyche of this region. Protection is an essential goal but as conditions deteriorate in ways beyond the control of local citizenry, existence is associated with town fabric and infrastructure. The systems that allow for connectedness and commerce at expanded scales (local, regional, global) become the foundation for sustained habitation.

7. Monumental land loss is inevitable

The erosion of the coastal edge and wetlands has been in process since the early 20th century. While not immediately understood as such, its impact and activity is easily present to anyone who lives in the region or in its purview. The ability to manage the retreat, better restore what was lost, has with time and global environmental pressures reached a precipice. The land is lost. What we can do to resolve this is limited at best.

8. Nature is opportunistic and will adapt. People are opportunistic and will adapt

Changes in the makeup of the environment have occurred to adapt to new conditions — increased salinity levels, altered soil compositions, habitat loss. As the landscape has been modified, manipulated and mangled, the ecology of the region has — as dynamic systems do — survived. Likewise, the people that live in this area have found ways to prosper in spite of drastic physical and economic changes. They will continue to do so as these conditions evolve.

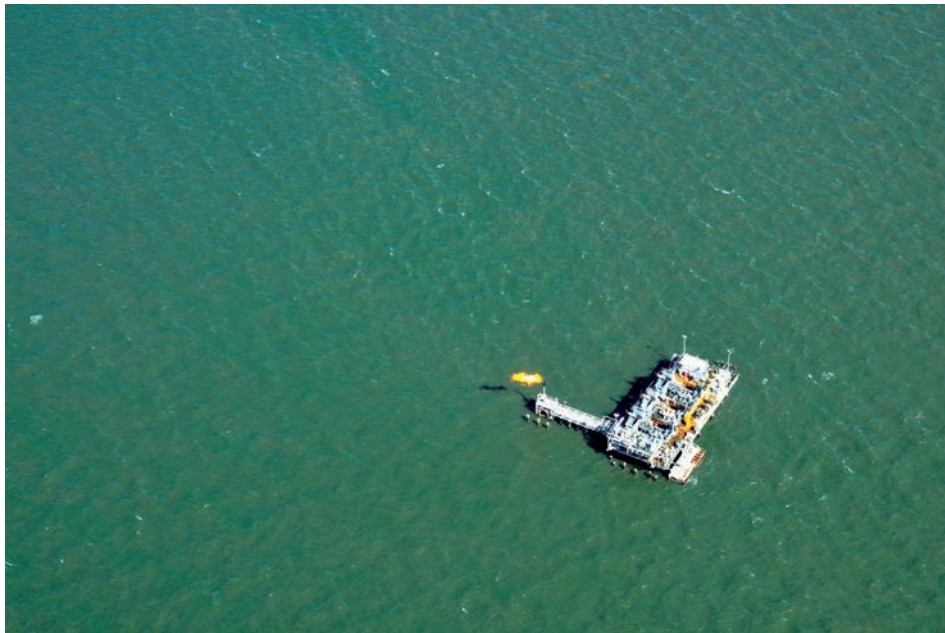


Figure 10. Oil and pipeline structure set against the encroaching ocean
Source: image by author.

A list of this sort intentionally prioritizes the role of opportunistic interpretation and is not meant to be judgmental. It is meant to represent what makes a place like Southeastern Louisiana both unique and, increasingly, very much like other territories that share its dependency on global economic demands. While this perspective is born from a particular context, the dictums provide a guideline of sorts for engaging in similar environments in other global contexts. As we continue to look at the role of habitation and control of regions with heavy resource extraction in fragile environmental conditions we can begin to theorize about this form of urbanization and the necessity for it to be understood alongside traditional urban cores.

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