

Agricultural Constructs in the Greater Caribbean Basin: Geography, Climate, and Culture in the Making of Place

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This paper begins to present our research at University of Florida's "Preservation Institute: Caribbean" (PI:C)¹ on the influence of geography, climate, and culture on place making in the Greater Caribbean Basin. This research is based on the premise that the perception of geography and climate is culturally determined. Not denying that practical environmental conditions have always been the first step in the evaluation of place-making potential, we maintain, however, that the look at these practicalities is always filtered through a cultural lens. As a result, when analyzing contemporary second nature landscapes, we search for unequivocal traces of the cultural situations that define the region's history and present.

Methodologically, we proceed through place oriented case studies. Since our interest is in the confluence of geography, culture and climate, the decision to leave the city for the territory of rural areas was strategic. Away from historic city centers, the dissolution of urban traditions of occupation and the influence of building style leaves room for a less mediated environmental perception. The interrelationship of agricultural settlements to geography, and their immediacy to the land, offers a set of basic place-making considerations that still are culturally determined.

Conceived as an interdisciplinary project, our research includes the design workshop as one of its principal components. Students of anthropology, history, and collaborating students from local architectural schools facilitate an understanding of the current sociological environment. In selected case studies, this understanding materializes in projects supported by people of the area. Yearly study cycles are dedicated to a specific sub-region; after three years in the Yucatán, and one year in Puerto Rico, we are now entering a new cycle in the Mexican State of Veracruz. Our long-term goal is to generate a body of knowledge on cultural place making in Caribbean rural areas.

Here we will concentrate on the analytical section of our research: the study of the historical and contemporary components of place-making in the region. Conducted as a purely disciplinary investigation in the tectonics of constructed landscape our study covers the following issues:

A.1. Place making is considered an act of territorial appropriation, a process that includes naming as marking something as belonging to an idea. Our study of the land acknowledges issues of property, power, production, and display. These issues become architectural

through a territorial language where the representation of boundary, border, prohibition, and facilitation, is both physical and symbolic.

A.2. Water, used strategically, is considered as the essence of the transformation of unoccupied land into an agricultural place. We search for all attempts to control water and the resulting marks on the surface of the earth that evidence this transformation. The resulting second nature generated by these strategic surface modifications is studied as a cultural artifact.

A.3. The current landscape is scrutinized for different systems of measure imposed into the pre-existing land. These systems of ground measurements are analyzed in terms of the cultural values they directly reflect.

A.4. In the tropics, the creation of place requires the creation of shadow. We think of shadow as a geographically spatial substance. Since the deepest shadows generally mark privileged territories, built or planted devices creating a territorial articulation of shadows are considered as hierarchical decisions that contain meaning.

A.5. The intense demands of hot and humid climates have historically produced a keen perception of every current of air and its effect on the density of vapors. The poetic control of vapors begins with the selection of place. We consider privileged orientations and their technological transformation as both practical and cultural choices.

A.6. Rain is also thought of as a specific tropical cultural component different than ground water. Tropical storms are a transcendental spectacle of nature's power that generates cultural responses. We search for attempts to control the symbolism and consequences of torrential rain that transcend practical considerations.

A.7. Successive markings of the earth produced by all of the above factors over the centuries are considered from the disciplinary attitude of architecture. We study the land as a palimpsest, whose construction has followed tectonic rules.

THE CASE STUDIES

The criterion for selecting a specific agricultural place as a case study is rooted in the history of the specific sub-area in question. In the Caribbean, up to very recent times, the chronicle of agricultural exploitation demonstrates the logic behind most historical and political changes. A case study is selected for its ability to resonate with these events.

Despite developmental differences among the countries of the region, it is always possible to link current conditions to the colonial partitioning of the land. Even today, the structure of agricultural land in the Caribbean remains a convoluted offspring of colonial agricultural systems. Since we are studying Hispanic speaking countries, choosing different evolutions of the Spanish "*hacienda*" system for our comparative study was only natural. The specific *haciendas* are chosen for their conceptual clarity in place-making strategies. The analysis of the architectural and historical development of the *hacienda* in question is directed to uncover the contributions of all the cultures involved in its formation.

Given space limitations, selected case studies are examined here only in terms of issues A-1 and A.2: the representation power and water control in place making.

THE YUCATÁN CASE STUDIES

When the Spanish entered the Yucatán in the 16th century, they encountered a landscape already transformed by intensive human action. The monuments of Maya cities, featured today as set pieces in archeological sites, are simply vertical components of a landscape reconstruction that included vast urban and agricultural zones. Yucatán's porous, karst topography combined with an unreliable rainy season made water control the center of this transformation. Maya civilization devoted much of their physical energy to the pragmatic control of the two great problems of tropical climates: too much water or too little of it. They created extensive civil hydraulic projects including the control of *cenotes* (sinkholes), redirection of rivers and streams, extensive system of canals, construction of vast drainage fields, and underground water storage vessels called *chultunes*².

Not surprisingly, dependency on rainwater transcended practical considerations and became a central factor in Maya mythology. Chac, the god of rain, was the dominant Maya deity of the northern Yucatán. The mask of Chac, obsessively repeated, became a tectonic component in the most significant Northern Yucatán constructions such as Pyramid of the Magician in Uxmal or the Palace of the Masks in Kabah. Indeed, the name of the dominant northeast Yucatán Maya people, *the Itzaes*, and the name of its capital city *Chichen Itza*, etymologically acknowledge this mythical dependence on water³. The name Chichén is composed of two words, *Chi*, which means mouth and *Chen*, which means well. Chichén translates as "in the mouth of the well", this well referring to a specific large *cenote* adjacent to the city and considered by the Itzaes their most sacred place and used not only as a source of water but also and more importantly as a site of ritual sacrifice. Itzá in turn signifies "wise men of the water", from the Maya *its*, wise man, and *há* or *a*, water.

An important consequence, overlooked by quantitative studies, is that in the moment that an issue such as water enters the mythical realm, practical considerations become secondary. As proof of its enduring meaning, water remains as the central focus of daily life and the source of political power in contemporary Yucatán. Interestingly, during times of drought, political candidates often send water trucks into the plazas of small villages, which create a spontaneous ritual of play, parades, dancing and religious ceremonies.

Regarding agricultural history, Maya archeology has long superseded the view that the low-intensity *milpas* – small, familiar, itinerant cornfields— was their sole production system⁴. The current

accepted view is that the Maya also developed intensive farming methods dependent on artificial irrigation. Unfortunately, all the intensive agricultural systems were developed in the areas adjacent to their cities, which was the first land to be coveted by the Spaniards. Since the first contact period, centuries of land exploitation have erased most traces of Maya irrigation systems. Even in *haciendas* that were created above these coveted lands it is now difficult to trace the Maya hydraulic components. One fundamental fact remains: nearly all colonial *haciendas* are built directly around *cenotes* that were known since Maya times and that are still considered sacred places by the Maya population, the demographically dominant ethnic group in rural Yucatán. The current relationship of Maya people to *cenotes* appropriated by *haciendas* still retains a mythical component that affects hierarchical, practical, and symbolic decisions that coexist with those of the colonial system.

In the early stages of Spanish rule, colonial *haciendas* began as cattle ranches where agricultural production was limited to subsistence farming and modest sales of surplus crops. Since most individual *haciendas* have retained features dating from their inception, it is important to briefly describe the components of the earlier *hacienda* type. The two fundamental parts of the cattle *hacienda* were the *casa principal* —the owner's house usually occupied on a permanent basis by the Spanish settler— and the *corrales* — low-walled enclosures for the cattle. The *Corrales* directly adjacent to the house became a territory that separated the settler from the wilderness beyond. These place-making decisions were controlled by the symbolic placement of the *casa principal* and the storage of water to feed the cattle in relation to the source of water. For practical and representational reasons the house and water deposit were always located in higher elevations and, in many cases, they were superimposed directly on top of Maya platforms.

After centuries of relative *hacienda* stability, a uniquely prosperous era was sparked in 1878 by the invention of harvesting machines in the U.S. that required natural cords to bundle crops. The Yucatán was ideally suited for the production of *henequen* —a cactus whose leaves can be processed into cordage. The subsequent economic boom transformed the Yucatán into the most prosperous region of late nineteenth century Mexico. The surplus of this bonanza, allowed *hacienda* owners to fully express the power systems of the new nation state. The *henequen hacienda* in essence was still organized around the symbolic elevation of the *casa principal*. The earlier *corrales* were transformed into ornamental landscape reinforcing the territory of the owner. This territory was normally accessed through an elaborate freestanding doorway that became a symbolic projection of the *hacienda* owner's power in the landscape.

Many other elements, however, were put into meaningful play. A fundamental counterpoint added to the spatial diagram was the *casa de maquinas* —the factory for processing henequen. The factory was frequently located opposite the *casa principal* and built in overtly symbolic and eclectic European styles. More importantly, acknowledging the status change, the factory's oversized chimney became the de facto territorial marker of the *hacienda* in the surrounding landscape.

A third fundamental component of the *hacienda* was the chapel. Located in either the privileged place of the *casa principal* with an independent access, or as an isolated element, the chapel strongly tied the institution of religion and its ritual processions to the new territory of the *hacienda*. The fourth component was the village of the workers. These villages were either located near a pre-existing nucleus of rural population, or the *hacienda* owners simply created an autonomous village that was frequently organized by a grid. In either case, the villages were re-contextualized within the new territory of the *hacienda*.

Due to the unpredictable nature of rains and the problem of surface water retention, all henequen *haciendas* required extensive systems of water storage and distribution. These necessities were used to their fullest practical and symbolic capacity to transform the topography. The extensive water deposits become territories in themselves and provided a new vantage point, upon which most new *casas principales* were built.

The origin of water in the elevation of the *casa principal* had obvious cultural connotations. The elaborate water system acts as fingers that support and also control the surrounding place/landscape and in turn visually reinforce its dependence on the *hacienda* owner.

The special interest of the Yucatán *haciendas* resides in how, up to today, the Maya and the colonial symbolic systems coexist. Finding case studies was not difficult, as the Yucatán has over one thousand *haciendas*. Below we present some that were useful to articulate the critical position of our study.

AKÉ

Early *haciendas* tended to be built on or near Maya sites to take advantage of water sources, labor force, and building materials created by the razing of temples. *Hacienda Aké* is one of these: a superimposition of an important Maya archeological site, a traditional village, and a working henequen *hacienda* dating from the 17th century.

The Maya city of Aké and the remnants of its agrarian population were re-contextualized by the superimposition of the *hacienda* narrative. The colonial interventions attempted to impose a visible new power hierarchy over the Maya land forms. To complete this new cultural construction, several temple mounds were transformed into platforms for the owner's house, the chapel, and the cisterns of water to supply the fields. New devices to control water such as aqueducts, cisterns and large pools extend into the landscape to physically mark the old territory as belonging to the new dominant narrative.

Due to the very strong presence of the Maya ruins, Aké—more than other *haciendas*—uses equally strong and emblematic colonial images in an attempt to dominate the symbolic outcome. The new chapel claims the apogee in the composition, occupying the former platform of the highest earlier Maya temple. More important than this, however, is the use of the colonial “plaza” as a device to organize some of the old and most of the new constructions. *Hacienda Aké* generates a new rectangular public territory made for work and recreation that is formed by the *casa de maquinas*, the adjacent private territory of the owner; the workers' housing, the chapel on its mound, and some commercial buildings. This new colonial plaza replaces the ritually oriented spaces of the adjacent temple complex.

YUNKU

Hacienda Yunku is a modest henequen *hacienda* currently in transition towards tertiary uses. Yunku is set in a landscape where the *cenotes* are very close to the surface and easily accessible. Contrary to Aké, the presence of pre-colonial markings in Yunku is not overwhelmingly evident. Yunku was the site of a rural community before it was developed as a *hacienda*, and the only remaining pre-colonial marks are found in the subtle structure of meandering footpaths across the patchwork of *milpas*. Most importantly perhaps, traces remain in the collective memory of the surrounding Maya population. The *hacienda* was built in the eighteenth century, literally adjacent to the existing village and directly on top of the community *cenote*, a subterranean sinkhole accessed through a cave like opening. In doing so, the *hacienda* appropriated both the practical and ritualistic Maya source of water for the purposes of the new owners. The *hacienda* complex is structured around a system of water pools from colonial and contemporary periods that are built directly upon the *cenote*. An interesting constructed landscape in its own right, the extensive artificial platforms supporting the pools hover in the liminal space between direct observation of the *cenote* and gradual access through a consciously convoluted spatial promenade.

With no other local source of employment, the *hacienda* has been the productive center of the village for centuries. The *hacienda* also remains the ritual center of the village. The old *cenote* retains its symbolic power, but the *casa principal* contains a chapel that also acts as the

religious center for the Maya population. Women and children from the village still use the chapel on a daily basis. The baptismal font shares the plumbing wall with the kitchen, and the house, so enhanced with meaning, lays opposite to the artificial platforms of water lying upon the *cenote*. The coexistence of these two symbolic systems as the fundamental maker of place is not lost on the inhabitants of Yunku.

XIXIM

The current *Hacienda Xixim* lies upon a vast 17th century *hacienda* located in the rolling hills of the Puuc region. The *hacienda* was in ruins and the property abandoned when an entrepreneur purchased it for conversion into a bamboo farm. This labor-intensive project, including plans to manufacture various products from bamboo, has profoundly impacted the economy of the adjacent rural area. Contrary to both Aké and Yunku, there were no Maya settlements adjacent to Xixim. Although some workers' housing was created in the 18th and 19th centuries, the bulk of the labor force travels to and from nearby villages. Our interest in Xixim resided in how these contemporary conditions affected the symbols remaining in the place from earlier stages.

In contrast to Aké and Yunku, the contemporary re-invention of place at Xixim is a late 20th century secular intervention with no intentional interest in a mythical component. Built anew, the *casa principal* utilized the foundations of the original but significantly altered its symbolic content. Before reconstruction, the house was an element in a field other elements such as the massive water deposits lying isolated in the middle of platforms. After, the reconstruction, the water deposits were embedded into a re-contextualized platform that plays down their mechanical aspect and more fully integrates them into a natural landscape. A picturesque approach, not intentionally apparent in earlier *haciendas*, has been superimposed over the site. The image of the *hacienda* as a clearing in the woods, framing an idealized image of nature, now attempts to present Xixim as a place. Despite all this, perhaps because of a collective social memory, the symbolic content of the re-used earlier platforms remains intact and still dominates the act of place making.

THE PUERTO RICO CASE STUDIES

Although “*hacienda*” remains an all-encompassing term in Spanish speaking countries, scholarship in English language makes a distinction between *haciendas* and plantations. According to Robert G. Keith⁵, *haciendas* are agricultural places where the symbolic power status attached to ownership of the land remains a fundamental component. Plantations are places where economic profit is the single reason for their development. While virtually all Yucatán *haciendas* remain in the first group, in Puerto Rico, even though the “*hacienda*” name is retained, these constructions are considered plantations in Keith's terms.

Contrary to the more layered and ambiguous situations in the Yucatán *haciendas*, most major agricultural ventures in Puerto Rico, divided evenly between sugar and coffee, are essentially landscapes of commercial production. This fact does not, however, undermine their status as places of human habitation that retain a fundamentally different but equally powerful cultural approach to place making.

Our eventual decision to focus on the coffee plantations in Puerto Rico's central highlands rather than the sugar plantations of the lowlands was motivated by the economic viability of coffee that makes this region economically and socially vibrant. In contrast to the *haciendas* of the Yucatán, where the symbolic use of water primarily represents power, the coffee plantations demonstrate a mechanistic approach to water. The mythical component of Maya and Colonial narratives is substituted in the Puerto Rico *haciendas* by the equally powerful mythology of the Industrial Revolution. The processes of making coffee transform the mountainous topography in and around the *haciendas* into giant water mechanisms that will land and water into the metaphor of the machine.

HACIENDA LA BUENA VISTA

Hacienda La Buena Vista, located in the steep southern slopes of Cordillera Central, is a plantation fully restored as a working museum of nineteenth century coffee production. La Buena Vista proved to be an ideal steeping stone to understand *haciendas* mediated by contemporary technologies. The place-making program can not be more direct: starting with a small dam, a river is redirected through the sloping land of the *hacienda*. This new scar in the previously untouched land makes la Buena Vista a place. Every programmatic element at La Buena Vista was ultimately directed by hydraulic engineering. Peculiarly, the physical interventions, which rely solely on hydraulic physics and gravity, re-measure the surface of the land rather than eradicate it. Forced by the extreme topography into a sustainable design, the owners, ironically, had to pay more careful attention to land contours, soils, rainfall, wind and the growing cycle of crops, than in plantations where the role of technology is less evident.

The place-making agenda at La Buena Vista, however, does not stop with the practicalities of engineering. The water flow is used strategically as a source of meaning. For example, the symbolic threshold signifying the main entrance is not a doorway—as in the Yucatán—but an artificial water cascade. This cascade—situated at the lowest elevation of the *hacienda* site—is in an unproductive bypass of the redirected river flow. Only activated when visitors were expected, its function was purely symbolic. The cascade ends in a precise circular pond, an artificial geometry that effectively marks the territorial edge of the *hacienda*.

In la Buena Vista—contrary to Yucatán *haciendas* where the *casa principal* occupied the prominent place—the central space of the *hacienda* is reserved for water. The *casa principal*, remains the largest and most careful construction, but it is located in a lateral position, with the water mill and the organized river claiming the center. Acknowledging the frequent and unpredictable rains, large retractable trays for drying the coffee beans accentuate the mechanistic imagery.

It is important to remember that plantations such as la Buena Vista were not mere factories. They were and are places of human habitation retaining this fundamental component in their place-making agenda. In the end, the project of La Buena Vista could not, like the machine, be wholly self-referential. Although intentionally driven by a mechanistic logic, the demands of nature, aided by the program of inhabitation, move the landscape into a more symbolic territory.

HACIENDA OLIVARES

Hacienda Olivares is located North of Yauco, the current epicenter of Puerto Rico's coffee production. *Hacienda* Olivares, like *Hacienda* Paraguas and many other examples, reproduces the basic place-making strategies of La Buena Vista. Organized by a re-directed river as a hydraulic device, Olivares—one of the biggest coffee plantations of late nineteenth and early twentieth centuries—was first and foremost an enormous place to dry coffee beans. The coffee drying platforms—

called *glacis*—together with water devices such as the hydraulic wheel became the organizers of place. Interestingly, even if the relation of the *casa principal* to these platforms is similar to examples in the Yucatan, the mechanistic imagery masks the power relations to such a degree that these are not perceived here as a primary component.

Since the 1960's, the Puerto Rican government has progressively distributed the unused productive coffee land of many earlier *haciendas*—such as Olivares—to small farmers. The *hacienda* buildings, mostly abandoned, remain a voided center. This situation contrasts with the fact that, in the hands of these small new owners, coffee is now a profitable way of life. Reflecting the economic bonanza, the area is being transformed by many new constructions. Commercial and domestic buildings show no formal planning but they do not appear haphazardly. As a result of a cultural desire to precisely measure a proximity to others, all new constructions appear in groups and are never isolated. The lack of a strong planning agenda does not mean however, that cultural place-making traits are not present.

CONCLUSION: LOOKING TOWARD THE VERACRUZ STUDY

This study is a work in progress; a first attempt to construct a comparative discussion that has not been systematically attempted from the point of view of our discipline. Our hope is that, by looking at a broad range of Caribbean sub regions, our ability to perceive differences will keep expanding the vocabulary of the discussion.

As an anecdotal conclusion, after deciding that Xalapa—the capital of the state of Veracruz—will be the base for our next study, we found that the word *Xalapa*, originating in pre-Colombian Olmec language means, “water-springs in the sand”. Here again, a fundamental act of place making appears rooted in the cultural perception of water value, and in doing so encourages us to continue the direction of our study.

NOTES

¹Preservation Institute: Caribbean (PI: C) is a research and education institute within the University of Florida's College of Design, Construction and Planning. Founded in 1982, it has the institutional mandate of studying how new architectural developments in the region can contribute to its ecological and historical heritage.

²Linda Schele, *A Forest of Kings: The Untold Story of the Ancient Maya* (New York: William Morrow, 1990) p. 61.

³Roman Pina Chan, *Chichén Itzá: The city of the wise men of the water*. (Mexico, Editorial Dante, 1992) p. 13.

⁴Teresa Rojas, *La Agricultura en Tierras Mejicanas desde sus Orígenes hasta nuestros Días* (Mexico, Editorial Grijalbo, 1990) p. 42.

⁵Robert G. Keith, *Haciendas and Plantations in Latin American History* (New York: Holmes & Meier, 1977) p. 11.