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New Orleans, A City of Layers Preventing Extinction

William Francis Reinhardt

Louisiana State University and Agricultural and Mechanical College, wreinh1@lsu.edu

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NEW ORLEANS, A CITY OF LAYERS PREVENTING EXTINCTION

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
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in

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by

William F. Reinhardt
B.S., Princeton University, 2006
May 2015

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ABSTRACT

Preventing the loss of New Orleans occupies the minds of many designers in Louisiana. Great efforts to preserve the city are targeting the slow return to naturalization of the engineered river to find a new balance determined by plan formulators of the Federal government. Throughout history, many experimental movements have been born from the landscape architecture practice, and may be key to the future of New Orleans. Separate chapters are devoted towards the movements created by William Kent, Fletcher Steele, and Jens Jensen to explore as inspiration to be applied to coastal living. Finally, the future of New Orleans is considered within its own experimental landscape and how it may supersede the current plan.

1. INTRODUCTION

Every city has a period of decline, and many factors prevent a city from collapse. The New Orleans disaster of hurricanes, stems from a misunderstanding of its risk, and has led to a gradual decline in population. The Louisiana Coastal Master Plan seeks to maintain life along the Mississippi River with the introduction of flood control structures to contain the many moving parts of a river system (Meffert 5). One set of structures with a critical role are diversions, such as freshwater diversions to imitate spring floods and sediment diversions which create land. The landscape of such structures is changing around New Orleans and there is a need for these new changes to be understood.

The Davis Pond Freshwater Diversion is located in St. Charles Parish, 15 miles upstream from New Orleans. The main diversion structure consists of cement and sand culverts built into the bank levee of the Mississippi River and capable of diverting 10,000 cubic feet per-second (CFS). Diverted river water flows through a confluence channel before reaching an outfall, which is a 9,000 acre ponding area that is surrounded guide levees and weirs. The flow of diverted water seeks to maintain a 5 parts-per thousand (ppt) salinity threshold as measured by buoy location across the estuary (McAlpin 2). The buoys monitor monthly salinity data across the bayou and are connected to satellites to update models accordingly. (Neupane 1). The goal of freshwater addition is to reduce salt-water intrusion up the estuary that resulted from subsidence (land loss) and the dredging of oil canals.

The Caernarvon Freshwater Diversion is located on the east bank of the Mississippi River (mile 82) in Plaquemines Parish. The diversion structure of concrete is designed to re-introduce up to 8,000 CFS of freshwater into the Breton Sound estuary (Andrus 22). The project was authorized by the Flood Control Act of 1965 although previous flood control efforts displaced many families in the 1920s. The original project plans estimated that 17,000 acres of marshland would be preserved and 77,000 acres would benefit from such diversions.

The West Bay Diversion aims to restore vegetated wetlands within the active Mississippi River delta using a large-scale, sediment diversion channel. This project will rebuild marshland to act as a storm surge barrier to New Orleans, as most flood control projects share such an ultimate goal. Diversions are not tools for cities to prevent extinction due to catastrophic flooding events like spillways, but hold a greater symbol of preventing a city from losing healthy ground nevertheless.

Three diversions lie within proximity to New Orleans and have a great effect on the outcome of its future. Davis Pond Freshwater Diversion, Caernarvon Freshwater Diversion, and the West Bay Diversion act independently but each form a layer around New Orleans. This layer is an experiment and can raise or diminish the safety, health, and wealth of the citizens within its influence. Citizens must not rely on others and experiment with the land in the face of such a grand experiment and look for tools in their own backyard to enable their way of life. The implementation of diversions will maintain a balance of flowing salinity and nutrients, and above that maintain rules for unknown future scenarios.

Full comprehension may not be gathered around these large diversions, but smaller diversions known as siphons also exist. These pump water over the levee at much smaller rates on the order of hundreds of CFS. One such siphon is the Violet Siphon, in St Bernard Parish. There are many possibilities for the siphon in the future and each will change the landscape of its community. The oil spill litigation is unloading a potential 13.7 billion dollars to the coastal inhabitants affected by the BP oil spill. The expanding Port of New Orleans will seek 5,000 acres of real estate, and pressure is to move south towards Violet because of height restrictions. The Coastal Master plan is currently aiming to update their 2012 Plan with a 2017 Plan. Each additional constituent adds a network expansion that creates patterns against the demise of coastal living.

2. REVIEW OF NEW ORLEANS

The foundation of New Orleans can be traced to its influences as a cultural hub for all of Louisiana's coastal living. Traditions, commerce, low-lying topography are all unique components tied to the city and the Mississippi river. The Mississippi River is bound by the Mississippi Delta, where the pulse of the modern urban city is contained (Metzger 32). The city may be limited but also expanded by concurrent technologies that have been adapted through the ages.

Cultural traditions are traced across the past 400 years and are deeper than the surface. The ground of city is fed by a river system, which has migrated to form several lobes. Each lobe can be traced and the silt deposited to the Balize Lobe is its most recent cycle. In the 1800s, the Spanish, French, and more settled upon this most recent lobe, using cypress trees in addition to lumber and ballast form their own ships to secure a foundation. The areal distribution of cypress swamps north of the first settlements is a critical resource. The French Quarter drains to the Lake Ponchartrain shore, and the unconsolidated alluvial sediment collected along the river as a naturally flatland to build.

As an entrance to the rest of the River system, the waterway at New Orleans could sustain life, and more importantly a marine port. The principal port focused efforts on the Mississippi River adjacent to the natural ridge where more formal levees could take form. Underlying clays become compact and loss of swamps forfeit the natural cycles of drainage needed to sustain in a wet climate. Pumps have been built to maintain equilibrium. The landscape is thus complex and ever modern. The gardens of its residents are tied to the colonial past and often prefer the same effect to move water away as quickly as possible with subsurface drainage.

The river has been ceded to the Army Corps of Engineers and billions of US dollars have been set aside to create a design and implementation for the protection of its residents. There are several problems for an area being guaranteed yet unable to replenish its underlying foundation. Nevertheless, experimentalism in the landscape may yield a clearer method to protect its population.

A Mississippi River restoration has long been tied with protection. In 1998, a planning report entitled Coast 2050 began the steady stream of 40 million dollars to spend in Louisiana. The more recent 2012 Coastal Master Plan is 50 billion dollars but the important additional aspect is analysis. If there is an experimental landscape intervention, it could be highlighted by such an

investigation. It is one stance, which a further analysis into the past may hold the ingredients to a surviving design that allows people to live in Louisiana amongst a landscape not yet created.

3. OVERVIEW OF WILLIAM KENT

In the history of landscape architecture, drawing as an experiment began with the work of Englishman Inigo Jones, followed by William Kent, who solidified transitional drawing-based gardens into the formation of the English Garden Movement.

The majority of English gardens in the 1600s were owned by landed gentry, and for generations the most important task was the management of the land. The architecture, and surrounding gardens were designed by untrained gentleman farmers, with the only additional support being the manual labor of craftsman. Craft was designated by selected apprenticed journeymen and it was their challenge to pull the full potential out of each individual material. Then the brick, stone and plant could all be manipulated by a designer for full effect. The first patrons of the English Garden Movement stem from these gentlemen who were looking for superintendents with training in the building process. The required study abroad in Europe, and the ability to draft design drawings, the basis of an experimental landscape architect.

Inigo Jones studied Italian classicism in the 17th Century and brought the symmetry of set design to English landscape for the first time. The 18th century houses and gardens of designer William Kent (1685-1748) also pay homage to the classicism of the architect Andrea Palladio, but his drawings of gardens do not reflect such symmetry. Figure 3.1 shows the completed work, where there is a deviance of angles (Figure 3.2) and paths that reveals an abstract painters process. Once his patrons were ready to elevate their amateur approach to land, William Kent and others of the English Garden Movement found harmonies of the abstract sense of form, line and color (Grese 10). The openness of patrons to appease the talents of the emerging landscape architects and uphold their craft by investing money, allowed for success to follow. The experiments became accepted and sought throughout social circles and therefore part of English landscape history. The drawings created represent an opportunity to understand the design process in the present day, and capture the surrounding culture.



Figure 3.1 Layout of Garden at Chiswick

These traditions primarily involve structural techniques for handling space and are seen in William Kent's design of Chiswick garden. On the outskirts of London, "this organizing of a landscape in increasingly naturalistic forms had an emphasis on preserving the local character of a place" (Grese 10). The input of ruins was no longer the starting point to anchor and establish a garden. "Sweeping shifts in landscape patterns and technological changes in English agriculture allowed... the separation from working farms (Grese 11). "During the late eighteenth century, Lancelot "Capability" Brown further revised English landscape design. He eliminated picturesque ruins, terraces, and other vestiges of formalism and emphasized gently rolling landforms, placid water surfaces, clumps of trees, and wooded groves around a property's border to create a pastoral landscape which in his mind mimicked uncultivated nature (Grese 11). William Kent studied painting under Benedetto Luti in Italy in 1719 where he began the evolution of interior design and architectural garden follies. Minimal artwork was required, when the garden became its own artwork with vegetated material. The goal of garden rooms he subsequently created are still used today in creating outdoor garden space.

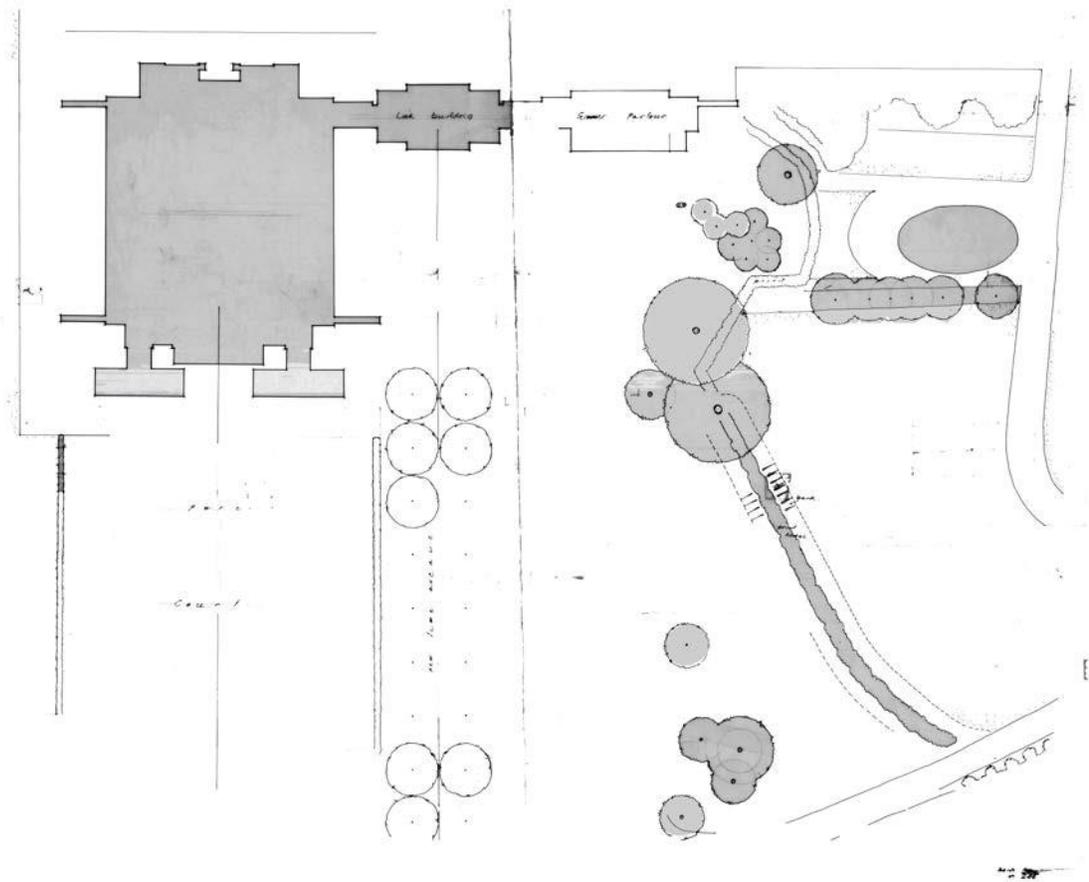


Figure 3.2 Asymmetry of Chiswick Garden

While Capability Brown further refined William Kent's features, it was the owner of Chiswick, Lord Burlington who refined the patron's attitude towards design. Not only did he invite William Kent to further his art studies, he would champion the experiments himself. His libraries and privileged intentions were open for discussion, part of a greater desire to guide any visitor like Virgil guided Dante, in an experiment that would become the foundation for the future of landscape architecture.

The very life on the foundations of English farms was changed by the technology and forward thinking designs of a handful of experimenters. The culture and topography offered by the sweeping fields of the English Garden Movement would begin with gardens of Chiswick, but dispersed throughout the country as a lifestyle worth achieving.

4. OVERVIEW OF FLETCHER STEELE

Fletcher Steele is a historically prominent American landscape architect and responsible for his own period of experimentalism. He began his career as a student singing in church to pay tuition, but soon became a worldly gentleman with many contacts. He did not need to obey the constraints of historical layers, and instead sought relevance by utilizing new technologies. His garden visions of art deco Europe incorporate modern horticultural trends as well as heavy constructed landworks. Fletcher Steele's work implements transitionally modern gardens in America while supporting his practice with published writings and developing theory.

In the 1930's, most of America was recovering from depression and seeking stability. American leaders were keen on fixing economic problems, but also not interested in repeating the past. The government implemented the New Deal, and factories across America expanded by embracing technology. In the garden world, there were similar searches for technology and contemplative musings over Chinese influences, which were mostly still unknown except for a few published journals. Fletcher Steele's first visit to China was in 1934, and he implemented a garden with Chinese follies in 1937. This stimulated a profound personal interest in color, which would later lead his experimental work, if he could find clients with open minds.

The times of "economical, social, and artistic forces converged to create steady work" (Grese 14). The new landscape professionals emerging were not afraid to embrace technology, and Steele's use of curving cement was no exception. Influenced by the cubist gardens of Gabriel Guevrekian, Steele led the replacement of Beaux Arts formalism with modernism. His 1938 Naumkeag design proved to the rest of the world, that the influence of modern art on garden form would not fade away. In fact there was a growing demand for creating an abstract presence, which delivers an imagination and playfulness to gardens for the first time.

The Naumkeag site plan in Figure 4.1 is situated on the eastern coast of the United States and negotiates a complex site and delivers a larger statement. This occurs by creating a new back lawn expanse, framed by curving balustrades, and opening vistas to the Catskill Mountains, and instead of creating a design that could be plugged into any terrain, Steele's form responded to the specific mountain curves and contours. Distant views were incorporated into graded earthworks and axes to create a landscape solution. Symmetry or in this case, the balanced vision of asymmetry is assured by selecting trees of various sizes. Textures are then applied to create tree shadows with transcendent quality or giving the feeling to inorganic material such as painted

concrete. All these applications suggested movement, depth, continuance, and confluence. This would have been a disruption to a French formal garden of parterres and knots.

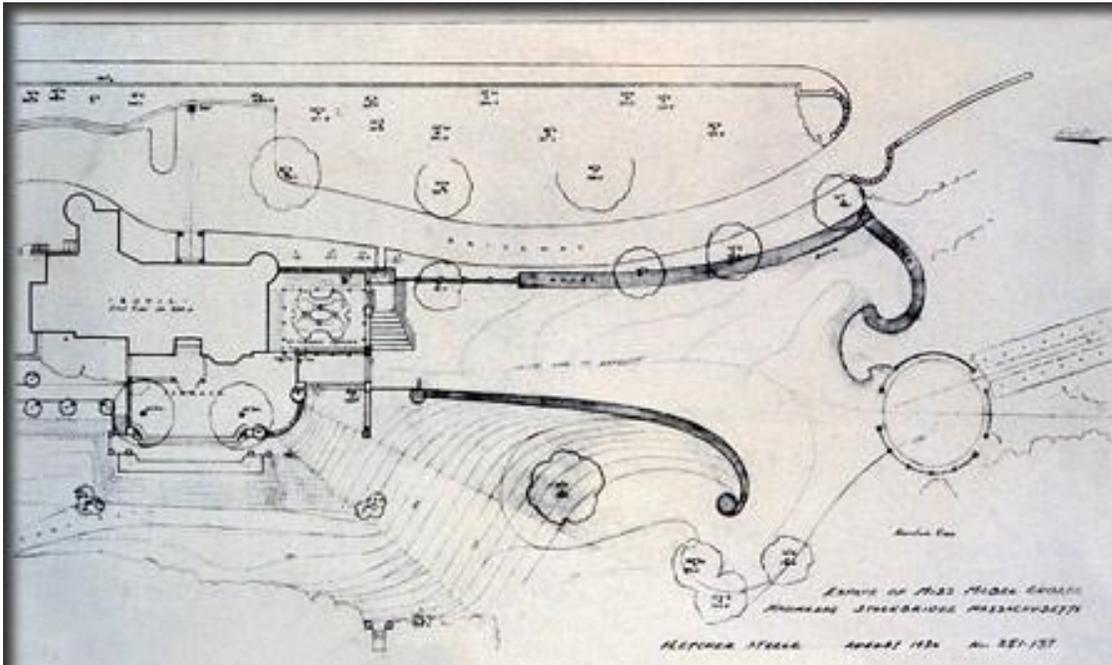


Figure 4.1 Large Lawn Expanse Added by Fletcher Steele

Situated in the Massachusetts garden of Madame Choate, Naumkeag is an estate of 40 acres. And includes the first technological grading used in the profession. The south lawn includes a rill water feature that leads to a series of five fountain pools flanked by four flights of stairs known as the Blue Steps, both timeless design moves. Tracing the significant moments at Naumkeag, each provides solutions to space, form, texture and color. Finally, color was not confined to green boxwood, but a Chinese influence emerges. Additions of light blue paint interact with the light green of the foliage to lend a lavish splendor and joy.

All design elements combine to create a successful functional garden for the cultural elite members of America. There are no unnecessary fixtures, which would lead to disrepair or abandonment in times of financial instability or challenge. Naumkeag and the Blue Steps would stand the test of time.

The garden would not be fully appreciated by outside critics but it would survive. In a time of transition, pushing new art forward, every element would need to meet a purpose of both necessity and design and emerge from the fine balance of three design priorities.

His practice owed a large part to his early apprenticeship with Warren Manning. The first placements for Steele were large estates, allowing him to hone his craft and technical skills, yet

he wanted more. “To Steele’s eye the side that Manning excels is the one which would appeal to a horticulturist or a park superintendent and engineer. But it is not a side, which appeals to an architect or an artist” (Grese 20). Fletcher Steele felt he was more rounded and yearned to express diligence of the whole profession. Steele favored Frederick Law Olmsted, Manning’s own mentor, who had refinement for everything he touched offering an exquisite finish to the unexpressed needs of people.

The Industrial Revolution offered a new crop of landowners the chance to afford gardens, while deteriorating urban centers drove them into the country. This land was untouched and required a talent like Fletcher Steele’s to examine the land. Mentally dissecting it for better or worse. Before he could know what was best for his clients he would need to develop a style similar to the upper class. He would travel to Europe and become empowered with the ability to reach clients on their levels and consideration. In his early days setting up his profession in Boston, he would write “this means practically an entire new wardrobe which will cost me several hundred dollars, and all the money I can possibly make will go into it... to meet his clients on equal footing... and communicate awareness of the fine things in life” (Grese 15).

In some cases summer homes were not yet established so it became Fletcher Steele’s duty for planning the entire site. His desire for perfection would send him climbing tress for the view and in essence building a lifestyle. He would not return to Harvard, because although impressed by the craft of the students, he decided it resulted in merely training glorified draftsmen. In turn, “students were most impressed by Steele’s iconoclastic imagination and his untraditional use of plants, based on abstract understanding of their specific qualities” (Grese 14). He therefore inspired students to break from following Beaux-Arts formalism and embrace more international styles like the architecture departments. Among them, famed Eckbo, Kiley and Rose would admire his work and begin their own practices to shape the future of landscape architecture.

His theory would push his practice to use more powerful spatial configurations such as the strong diagonals and sweeping curves of Figure 4.2. Both suggest a feeling of movement; the diagonal lines can create an axis of visibility. The Ancrum house holds a good example of this “as arrival came via a diagonal road, parallel to the garden’s most prominent axis to the northwest. The drive, a dark red, crushed stone, was Y-shaped, becoming a straight avenue through the formal lawn” (Grese 27).

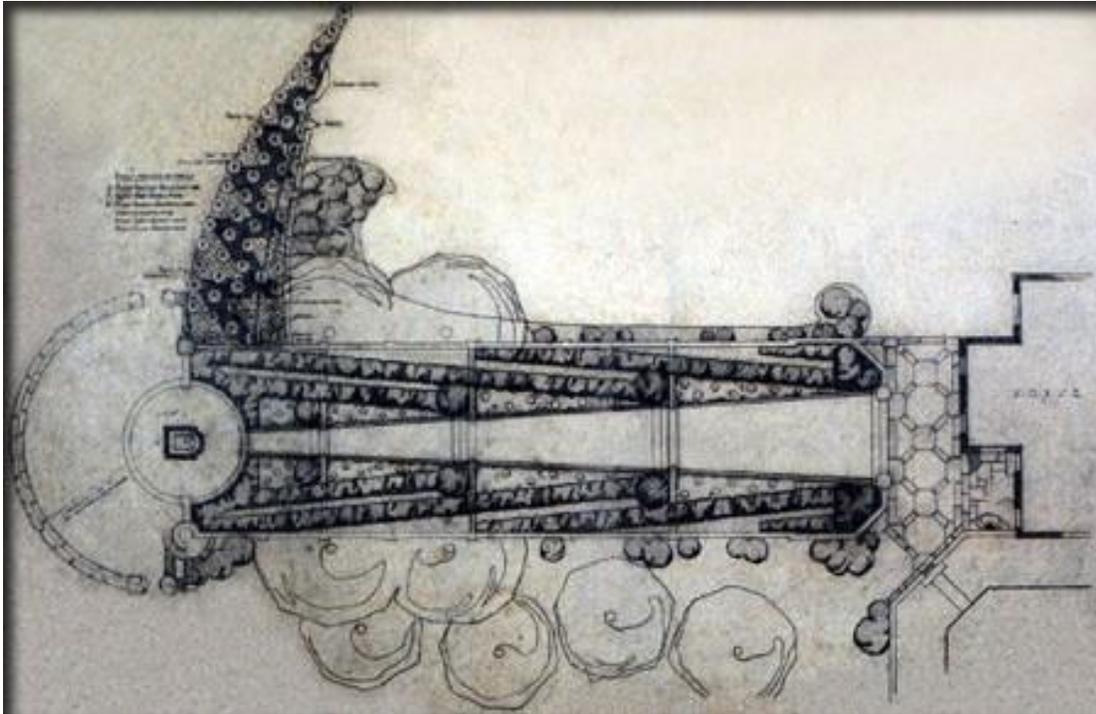


Figure 4.2 Diagonal Axes of Ancrum House

Steele would incorporate the curve of mountains beyond to cut the woodland and bring the background topography into foreground garden details. The Naumkeag House is famous for this, with “great swooping curving lawn seems to go on forever, its impact sudden and insistent and visceral... Once-distant mountains, appropriated by the new contours, participate in garden magic” (Grese 29). The result is the unified design of Figure 4.3 and a new experimental process.

In conclusion, Fletcher Steele was the force that introduces transitionally modern gardens to America as early as the 1930s. It was the strong bond between his practice, writing, and developing theories that convinced America that he held the answers. Answers that brought a new design thinking to American life in the form of a landscape solution. “In works of art... in home and gardens, we want significance- character that unearths the pattern of something deeper” (Grese 29). Further investigation of Fletcher Steele’s work will provide clues to the voice of the future.



Figure 4.3 View of Naumkeag

5. OVERVIEW OF JENS JENSEN

Another period of experimentalism occurred again in America, but originated in the heartlands and is important because it extends to the south. Prairie Style is a movement of landscape architecture stemming from the work of Chicago based Jens Jensen (1860-1951). He focused on a limited palette of natural stone and native flora to create designed settings evoking the spirit of the plains. The predominate design features of horizontal lines are repeated to create a landform to truly frame the lateral branching of plants as they transitioned to a forested buffer zone. Viewing the panorama of steamboats on the Mississippi, Thoreau describes despite his fascination with untouched nature, the encroachment of technology on that purity as a necessary and distinctively American imagination and poetics (Weiss 99). The identification of this certain aesthetic coupled with native plantings and technology allowed for the Prairie Style to infiltrate new territories such as the south.

Jens Jensen is a modernizer, and worked hard to use plants that would not spell ruin in the landscape (Jensen 46). His unique thinking with his beautification work of roads led to universal adoption of nothing but native plants and shrubs along roadways. (Grese 109). The 1923 project entitled “Ideal Section” of the Lincoln highway put in use the latest technologies in lighting, paving, and plantings to create a pleasant route for travel (Grese 106). The location in Indiana near the Illinois border set a precedent for road design and included inventions, such as H. F. Cuntz and the vertical beacon in Figure 5.1. New experimental processes are born.

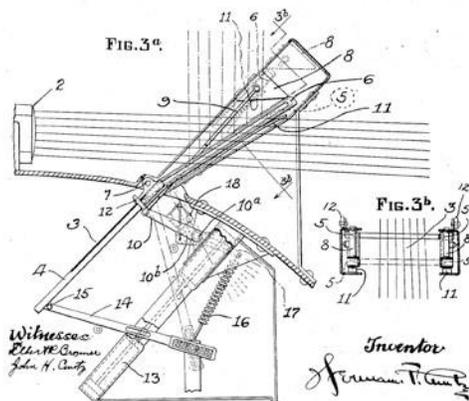


Figure 5.1 Vertical Beacon of U.S. Patent 1666196

The vertical beacon was designed to light the night for “motor cars where long stretches of good highways would provide for reasonable regularity in the movement of the car, and to that extent lightways, such as the Lincoln Highway (U.S. Patent 1666196, Apr 17, 1928). The

possibility of a stretch of highway becoming a lightway, shed light on the entrepreneurial excitement gathered around a changing landscape, in this case brought upon by increased automobile traffic.

Writings in addition to actual built works by Jens Jensen allow the public to witness plant technologies “sing with its surroundings. (Jensen 1936). Native plants in the south were championed by Caroline Dormon (1888-1971) and southerners would rally around landscapes in need of restoration and protection. To prove that this experimentalism with native plants could stand the test of time, the creation of her garden Briarwood into a Nature Preserve proves the purpose was met. The native flora exist especially in her Bay Garden where she cross-pollinate Louisiana Iris in the 1940s. Dormon combined her theory into works such as Longue Vue Gardens and writings such as *Natives Preferred* for future landscape architects to build upon.

Each of these design movements allowed technologies to attract and flourish regionally. The closer to New Orleans the more likely rate of adoption and the collection of technologies can act as buffer to prevent storms of catastrophic calibers.

6. SUMMARY AND CONCLUSIONS

As plantations faded as the dominant form, another repetition of houses can be seen in the Louisiana landscape. Original “land grants insured all settlers received bayou frontage, with a normal depth of forty arpents. Inheritance subdivision were- and are- divided lengthwise so the bayou evolved into a linear or line settlement type (Kollmorgen and Harrison 1946). Each linear community had access to local markets, wither by using the bayou or the highway running parallel to the watercourse (Davis 29). Since these landholdings were quite narrow as a result of Louisiana’s forced-heir-ship laws, children and grandchildren regularly built homes one behind the other perpendicular to the bayou, with property line becoming the street. Consequently there is a tendency for neighbors to be closely related to one another; with kinship being a key element in each community... this is a living landscape (Davis 29).

Jens Jensen along with architects, considered the Midwest their focus, but the Mississippi the lifeline and “each landscape has a soul of its own” (Jensen 21). The soul of the current Louisiana landscape is a cluster of houses known as the legacy house (Davis 29). A true expression of native talent... has grown out of the soil and out of the heart” (Jensen 20). Culture may be lost in some civilizations, but is strong in the southern Louisiana. Local color, the expression of the environments dear to us and of which we are part, must be reflected in creative landscaping and be its motive” (Jensen 21). With woodlands surrounding it... man’s hand had disappeared.

Only his soul remained, and, as it should be, in harmony with the hand of nature. (Jensen 55). Jens Jensen was a street sweeper and little was known about how he began design other than beginning to tinker in a corner of Union Park (Grese 7). He developed expertise in other technical aspects of design, especially road work and concrete construction” (Grese 63).

In one of his letters: I made two gardens for myself: one in the shade, appropriate for my studies, which I called my transalpine Parnassus; it slopes down to the river Sorgue, ending on inaccessible rocks which can only be reached by birds. The other is closer to the house, less wild, and situated in the middle of a rapid river. I enter it by a little bridge leading from a vaulted grotto, where the sun never penetrates; I believe that it resembles the small room where Cicero sometimes went to recite; it is an invitation to study, to which I go at noon. (Petrarch 99)

Two gardens, one for each side of his temperament, inspired either reverie or melancholy; two gardens, one of each extreme of nature, extensive and picturesque or protective and chthonic. (Weiss 10). If one were to formulate this sensibility in relation to the history of landscape

architecture... not delimited by cloister walls... but rather by the limits of the imagination responding to the very act of human perception. Rather than serving as a static allegorical form, the garden reveals the dynamic, creative relation between humanity and nature. The view shifts from the interior to the exterior, encompassing not only the ambient scene, but also distant views; space is no longer treated as metaphoric, but is revealed in its localized and particularized reality. (Weiss 14)

Robert Venturi, in his *Gentle Manifesto* claims “I am for richness of meaning rather than the clarity of meaning; for the implicit function as well as the explicit function. I prefer ‘both-and’ to ‘either-or’, black and white and sometimes gray to black and white.” The thinkers associated with the Frankfurt School would hold an argument that puts aside a Venturi critique, so there is a sense in which the collapse of the modern Louisianan landscape is not delayed by a single designed answer.

This is the theorization of inclusion, not exclusion; of the irrational, not the rational; of discontinuity, not continuity. It is not accident that the baroque, which celebrates the architecture of tension, complexity, ambiguity, contradiction, and paradox, plays a major role in his analysis. (Weiss 48). It can be concluded that the discoveries of the experimental landscape architects must be held relevant in designs, and dynamism replaces static geometrics in a scenario of perpetual motion and metamorphosis (Weiss 51). “They had a technological capacity and a value system that allowed them to live and work in the coastal plain... still sometimes forced to move and find new home sites (Davis 1). The understanding of changes adds longevity to a culture, but when its landscape changes too much without direction from the inhabitants, it is then time to move away.

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APPENDIX A: ADDITIONAL DATA

Violet, is one of the communities in St Bernard parish that can “trace their roots back to the nineteenth century. The community’ elders probably had land claims that predated the Swamp Land Acts, but their illiteracy prevented them from understanding what they owned and their rights of ownership (Din 1988). Nevertheless, land was divided for benefactors of their wills and subdivisions along the arpent lines occurred. Trappers continued to work the back swamp without concern for borders. Violet oystermen would be familiar with experiments in floating equipment, such as luggers “outfitted with a false deck and temporary sides, lugger’s deck became an extension of the small harvest vessel’s hold (Davis 347). The private defenses were superseded by larger public ventures. The country’s levees-only policy, which contributed directly to the flood, was an enormous political error (Davis 69). Since there is affinity to adopt new technological stances, and sustain life in Violet, it makes it a strong candidate for experimental design. In the past, many were forced to flee and abandon proprieties, although the source was the very protection of the people. Proper flood control would require the mixture of levees, floodways, and spillways (Reuss 1982). Moving away is one point, but “engineered to protect the population living within the river alluvial valley, this array of engineered embankments also altered the regions use... but a highly diverse mix of ethnic groups (Davis 69). The creation and adoption of a new style of landscape architecture is the lowlands best chance of escaping extinction. It can be shifted across a changing terrain and culture, developing a scenario for Violet. Figures A.1, A.2, A.3, A.4, A.5 and A.6 develop a visualization of a future community within Violet. There is a nidus sitting atop the batture of the Mississippi River, waiting to resist being washed away.



Figure A.1 Violet Site Plan

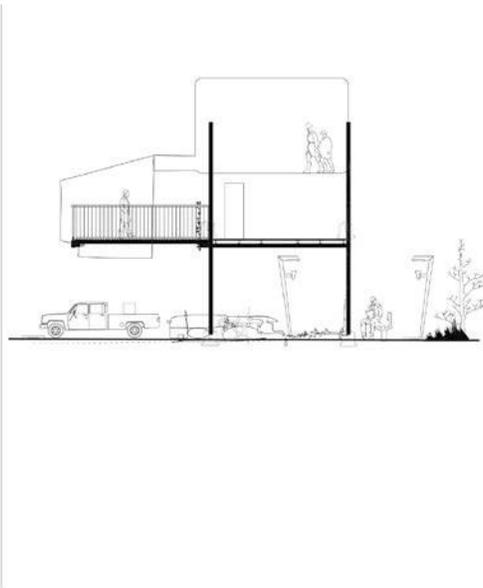


Figure A.2 Detail of Violet Garden



Figure A.3 View of Garden Wall



Figure A.4 View of Garden Interior



Figure A.5 View of Garden Event

VITA

William Reinhardt, a native of California received a bachelor's of science from Princeton University in 2006. After extensive fieldwork, a special interest in the extinction of species grew. Since then, research has been a primary goal, and working at international agencies has helped grow an interest in the field. Entering the Master's of Landscape Architecture has allowed success in exploring the landscape and its possible extinction. He is a candidate to receive his master's degree in May 2015 and plans to work in residential design upon graduation.