

Straight Streets in a Curvaceous Crescent: Colonial Urban Planning and Its Impact on Modern New Orleans

Richard Campanella¹

Journal of Planning History
1-16

© 2018 The Author(s)
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1538513218800478
journals.sagepub.com/home/jph



Abstract

New Orleans is justly famous for its vast inventory of historical architecture, representing scores of stylistic influences dating to the French and Spanish colonial eras. Less appreciated is the fact that the Crescent City also retains nearly original colonial urban designs. Two downtown neighborhoods, the French Quarter and Central Business District, are entirely undergirded by colonial-era planning, and dozens of other neighborhoods followed suit even after Americanization. New Orleanians who reside in these areas negotiate these colonial planning decisions in nearly every movement they make, and they reside in a state with as many colonial-era land surveying systems as can be found throughout the United States. This article explains how those patterns fell in place.

Keywords

New Orleans, Louisiana, cadastral systems, colonial planning, planning eras/approaches, French Quarter, surveying systems, French long lots

Origins

Men under the command of Jean-Baptiste Le Moyne, Sieur de Bienville began clearing vegetation for *La Nouvelle-Orléans* in the early spring of 1718. Their proximate motivation was to establish a counter-office for the Company of the West, to which a monopoly charter had been granted by Philippe, the Duc d'Orléans and Regent of France, for the creation of an enslaved tobacco plantation economy. The ultimate motivation for the foundation of New Orleans was to create a French bulwark near the mouth of the Mississippi River to control access to France's 1682 claim of the vast interior valley, while preventing the Spanish and English from doing the same.¹

Where exactly to locate New Orleans had vexed French colonials. Bienville's selection of what is now the French Quarter site had plenty of detractors, on account of its soft deltaic soils, flood-prone banks and backswamps, and hundred miles of shoal-prone river separating it from Gulf waters. But

¹ School of Architecture, Tulane University, New Orleans, LA, USA

Corresponding Author:

Richard Campanella, School of Architecture, Tulane University, Richardson Memorial Hall, New Orleans, LA 70118, USA.
Email: rcampane@tulane.edu

Bienville's site had a convenient alternative route to the Gulf, via a bayou named St. John and a bay named Lake Pontchartrain, while its fertile soils and defensive riverside perch made it superior to coastal options.

Superior, perhaps, but only in a relative sense. The terrain itself, fluid with mud and water, precluded urbanization as French colonials understood it. Their response was to impose rigidity upon that fluidity, in the form of river-restraining levees, runoff-draining canals, rational urban grids, delineated parcels, and defendable ramparts. These engineering tactics enabled the birthing of a city on a fluvial delta, even as they would, over time, disrupt the hydrological processes that created the deltaic landscape in the first place. Common to all these tactics was the one geometric shape utterly absent in nature, particularly in fluvial deltas: the straight line. From the colonial standpoint, Euclidean geometry—straight lines and ninety-degree angles—introduced order to disorder, civilization to wilderness, godliness to the heathen, and the power of the Crown to the cowering native.

The surveying of straight lines arrived to the toolbox of colonialism via ancient architectural sources and contemporary military engineering. Hippodamus of Miletus is credited for the first conscientious planning of cities; his gridded street system, which appeared in Piraeus in the fifth century BC and subsequently spread, became a fundamental concept of urban planning. Centuries later, Roman authorities deployed the grid model throughout their empire, aligning new street axes to cardinal directions and placing forums at the town nuclei. It was during this era that Marcus Vitruvius Pollio scribed his magisterial *De architectura*, which did for buildings what Hippodamus had done earlier for cities.

Vitruvius's tome disappeared after Rome's fall—a loss that can be viewed as symbolic because progressive thought on urban design in the West subsequently waned. The Dark Ages “can be regarded as a period of stagnation in European urban development,” wrote Thomas Hall. “Little change was made in existing urban structures and major foundations or expansions were rare.”²

The Renaissance reinvigorated European thinking about cities, and in the late 1400s, Vitruvius's *De architectura* fortuitously reappeared. The opus taught a new generation that buildings should be *firmitas*, *utilitas*, and *venustas*—strong, useful, and beautiful. So too should cities: Vitruvius articulated the values of *ordinatio* (measured and incremented order), *symmetria*, and *eurythmia* (graceful adaptiveness) in urban design, manifested by central plazas and orthogonal street networks and paying homage, ultimately, to the human body. Leonardo de Vinci's famous sketch of the Vitruvian Man, his outstretched limbs inscribed within a circle and square, venerated humanity's “canon of proportions:” the circle represented nature, heaven, and the divine; the square, with its straight lines and ninety-degree angles, represented earthly rationality.³

Vitruvian ideas resonated with imperialism. Throughout their New World colonization, Spanish colonials produced hundreds of urban grids with central plazas fronted by institutions of church and state. Similar designs appeared in European cities during the 1600s–1700s, taking “hold among the French at the very moment that the Bourbon monarchy was expanding its imperial domain on the Continent.”⁴

Louisiana arrived into Bourbon France's imperial docket at roughly the same time that Sébastien Le Prestre, Seigneur de Vauban emerged as the Crown's premier military engineer. Vauban integrated principles of military defense with Vitruvian and Hippodamian notions of symmetrical urban order. He designed plats with narrow streets (to funnel invading troops), which ran in straight lines (to muster local militias) and set them within fortifications angled to expose attackers from any approaches to maximum fire power. Vauban's field manual *New Method of Fortification* educated generations of engineers in the geometry of forts and fortified cities, with instructions on “How to describe any Polygon within a given Circle . . . How to make the Draught of a Square . . . The Structure of a Hexagon . . . To make the Streets in a Fortress . . . Of the principal Angles of a Fortress . . . Of the Streets, Places of Arms, Corps de Garde, and Magazines . . . Of the Advantages and Disadvantages of a Place situated [by a] great River . . .”⁵

The concept of neatly fortified cities appealed to the Crown's absolutist aspirations. Eager to inscribe his power into the landscape, King Louis XIV deployed engineers trained by Vauban and his successor, the Marquis d'Asfeld, across the French countryside to redesign towns' irregular warrens with orthogonal grids set within stellar-shaped ramparts. Villages that were once largely organic, autonomous, and vulnerable now became part of "a national project" and dependent on the Crown for protection.⁶ Likewise, French claims in the New World were sized up for a similar imperial envelopment. Urban planning worked hand in hand with national expansion; in the words of historical anthropologist Shannon Lee Dawdy, it represented "a conscious conviction that spatial control yielded political control."⁷

The Bienville–Pailloux Baseline

Spatial control did not come immediately to Bienville's New Orleans. Conditions in early 1718 were a bit too uncertain, and the task at hand too overwhelming, for a full plat to be laid out promptly. Bienville did not, however, concede to disorder. Probably with the collaboration of Jacques Barbizon de Pailloux, the engineer who in 1711 laid out Mobile in present-day Alabama, Bienville plotted a perfectly straight baseline running behind the crest of the natural levee about 700 feet from the river. Angled by thirty-seven degrees (southwest to northeast, rather than along a cardinal direction), the baseline fronted a sharp meander of the river, such that it faced approaching ships. The baseline suggested that Bienville expected a fully articulated urban grid to be forthcoming, and its rotation angle indicated he had military defensive on his mind. The Bienville–Pailloux line would later drive the orientation of the entire city.⁸

This initial attempt at urban planning, however, failed to prevent desultory development. The disarray may have arisen from a sense that Bienville's project could not withstand flood threats from the Mississippi (it inundated in 1719) and that it would get relocated to safer sites at Mobile, Manchac, or Natchez. It did not help that the Company of the West's land-development scheme—"built on speculation, deception, and inflation"⁹—collapsed in 1720, instigating riots in Europe and further tainting Louisiana's already unsavory reputation. Although the Company survived the crash, prospects did not bode well for its New Orleans project. One observer described the isolated settlement as comprising "about a hundred forty barracks, disposed with no great regularity, [with] a few inconsiderable houses, scattered up and down, without any order or regularity *New Orleans*, in 1720, made a very contemptible figure . . ." ¹⁰

What further affronted the beleaguered outpost was the recent decision by the reconstituted Company to designate Biloxi, a hundred miles to the west in present-day Mississippi, as capital of the Louisiana colony. Chief Engineer Louis-Pierre Le Blond de La Tour proceeded to design plans for the new coastal capital, and having served under Marquis d'Asfeld, Vauban's successor in the Corps of Engineers, he sketched a star-shaped fort design surrounding a symmetrical street grid with a *place d'armes* and church.¹¹

La Tour soon fell ill and dispatched his assistant, Adrien de Pauger, also a protégé of d'Asfeld and Vauban, to New Orleans to bring order to that "contemptible" outpost. Pauger arrived on March 21, 1721, with La Tour's Biloxi plans in his baggage and proceeded to survey the terrain and its relationship to the river. He then got to work.

Pauger's Grid

Pauger's progress may be reconstructed from his communiqués with superiors. He sent a letter to Paris on April 14 in which he enclosed "the plan of the city projected at New Orleans." He sent another copy to La Tour on the same day, in which he explained "the changes I have been obliged to make because of the situation of the terrain[,] being higher on the river bank." He then announced an

important decision: "I have brought the town site . . . closer to the river, so as to profit from the proximity of the landing place as well as to have more air from the breezes that come from it."¹²

Had Pauger not shifted his grid (by 700 feet, as it turned out) toward the river from Bienville's baseline, the city would have sat two feet lower in elevation—not much in an absolute sense but nearly 20 percent of the entire vertical range of the local landscape. That additional verticality would enable New Orleans to evade high water rising from the backswamp, the likes of which flooded the city in 1816, 1849, 1871, and 2005. Pauger's savvy intervention also proved wise economically and climatologically: the riverfront would indeed bustle with shipping activity, and the river provided the only reliable source of cooling breezes during blazing subtropical summers.

The April 1721 sketches have been lost, but another one, dated August 9, probably resembled them, given that its title read *Plan de la Ville de la Nouvelle Orleans projetée en Mars 1721*. This crude drawing, which covers only the riverfront blocks, represents the earliest surviving depiction of today's street grid as well as three of its extant street names.¹³ What this map did not show was the smattering of huts, sheds, gardens, and paths paying no heed to Pauger's orderly vision. Worse yet, villagers continued building willy-nilly as they had since 1718 and reacted indignantly when the lordly newcomer told them otherwise. A city census had enumerated 519 residents, including 171 black slaves and 21 Indian slaves, so there were plenty of potential conflicts to resolve.¹⁴ Pauger was not pleased. He huffed at the insolence of one man who "wanted to build as he saw fit, without regularity and without plan" and went so far as to produce a map documenting the infractions. (It is Figure 1 that shows the Bienville–Pailloux baseline, which it labeled *Alignement Suiuant le projet de Mr. de Bienville des premieres maisons*.)

The engineer later nearly suffered blows from an enraged housewife—and narrowly escaped a duel with her husband—when Pauger's straight streets intersected her crooked garden. A clash indeed ensued after Pauger had a man's house demolished because it "was not in alignment of the street (having built it before the plan was proposed)." The angry citizen sought indemnification from the Superior Council, but Pauger's authority prevailed: "Mr. Pauger sent to find him and, after having regaled him with a volley of blows with a stick, had him put in prison, with irons on his feet . . ."¹⁵

We might view this incident with hilarity today, but it attests to the sober fact that early New Orleans was a monarchical and totalitarian society. Urban planning decisions, like all other expressions of power, flowed from the top-down with little regard for the concerns of citizens—to say nothing of the lives of indigenous peoples, whose displacement went hand in glove with imperialism, nor of the lives of the enslaved, upon which the entire colonial project rested.

The arrival of Pauger's plans in Paris may have triggered a key decision for the destiny of New Orleans.¹⁶ The Crown at that time found itself in the throes of economic chaos, after the collapse of the Company's Louisiana scheme, known infamously as the "Mississippi Bubble" and sometimes described as history's first major real estate scam. Officials had been concurrently contemplating which site should serve as the colony's capital and Company headquarters, but distracted as they were by the fiscal turmoil, that question ranked a distant second on their list of priorities. Into this messy moment arrived Pauger's beautiful, orderly plans for New Orleans (Figure 2). According to Historian Marc de Villiers du Terrage, the appearance of Pauger's map in Paris probably "had weight in the Company's final decision, since the regent [Philippe, Duc d'Orléans], god-father to the new capital, was necessarily flattered to see the project put into effect,"¹⁷ particularly after enduring three years of bad news about his namesake's fortunes. Momentum started to build for Bienville's site. "The year 1721 had been generally favourable to New Orleans," wrote Villiers du Terrage. "From a military post, a sales-counter, and a camping-ground for travellers, it had become, in November, a small town, and the number of its irreconcilable enemies began to decrease."¹⁸

On December 23, 1721, four weeks after the arrival of Pauger's plans, the Company officially decided to transfer the general management of Louisiana from Biloxi to New Orleans. Word of the

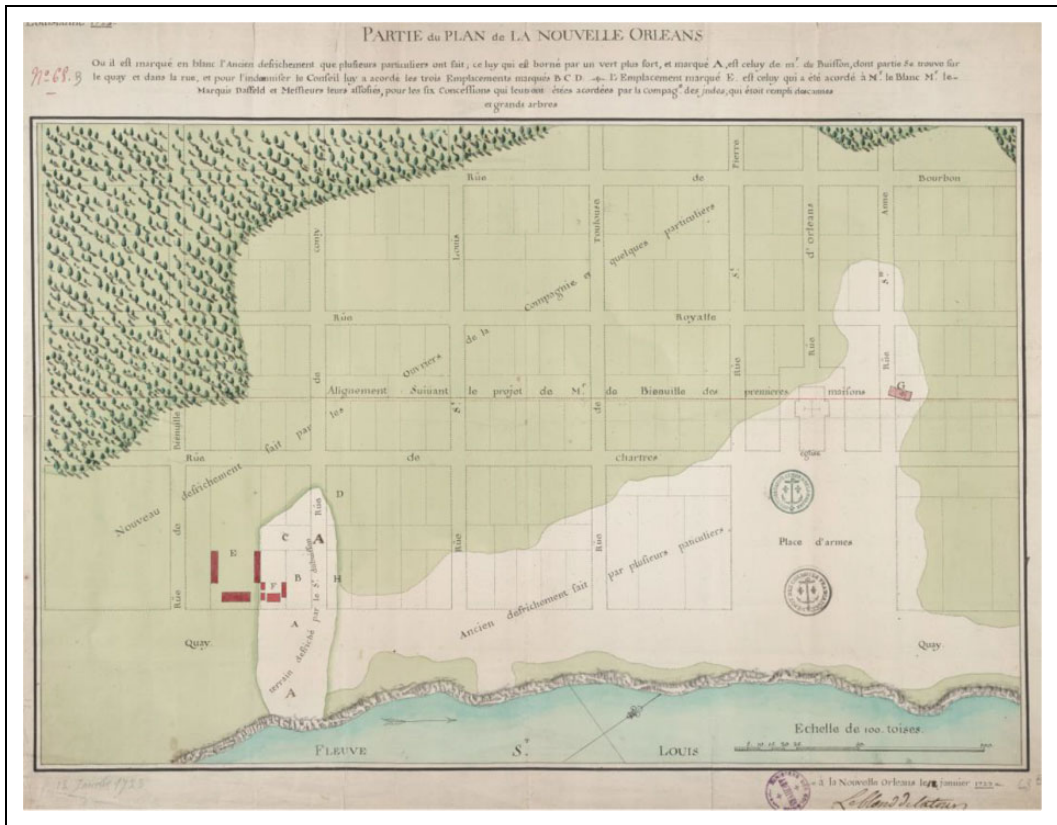


Figure 1. *Partie du Plan de La Nouvelle Orleans*, by Le Blond de la Tour and Adrien de Pauger (1723), depicting proposed blocks and the existing baseline, labeled “Alignement Suiuant le projet de Mr. de Bienville des premieres maisons.”

Source: Library of Congress.

status upgrade would not reach New Orleans for five weeks, during which time Pauger’s plan remained on paper. This is evidenced by a January 1722 eyewitness account by the Jesuit Father Pierre François Xavier de Charlevoix. “Imagine to yourself,” Charlevoix wrote, “two hundred persons . . . sent out to a build a city . . . who have settled on the banks of a great river . . . waiting till a plan is laid out for them, and till they have built houses according to it . . . Pauger . . . has just shown me a plan of his own invention; but it will not be so easy to put into execution, as it has been to draw [on] paper.”¹⁹

The plan Charlevoix inspected was the predecessor of a fully articulated plan that Pauger’s superior La Tour had approved on April 23, 1722. That *Plan de la Ville de la Nouvelle Orleans* beautifully depicted a nine-by-six grid of perfectly square blocks, which, angled to match Bienville’s antecedent thirty-seven-degree baseline, neatly exploited the higher, better-drained natural levee while positioning corner bastions to confront approaching enemy ships. Each block measured fifty *toises* (320 feet by today’s English standards) on each side, a *toise* being six *pieds*, the French foot. Within the blocks were twelve parcels: two sets of five oriented perpendicularly to the river separated by two slightly larger river-parallel properties.²⁰ Pauger designed the parcels so that each lot “may have the houses on the street front and may still have some land in the rear to have a garden, which here is half of life.”²¹

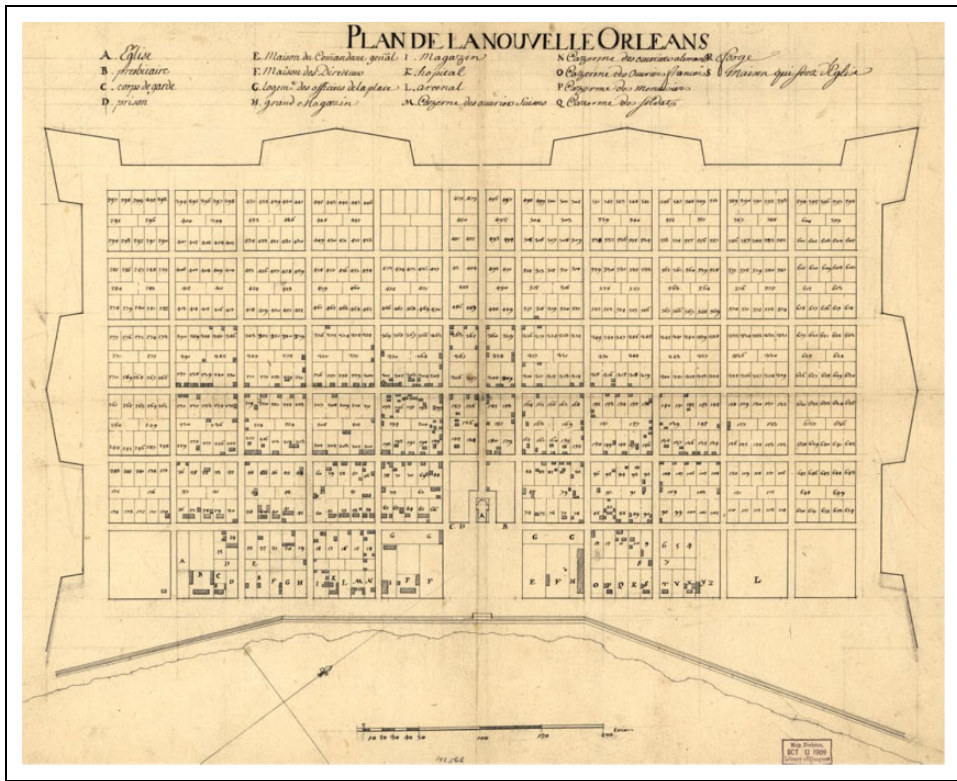


Figure 2. *Plan de la Nouvelle Orleans, 1722*, showing early land use and construction.
Source: Library of Congress.

In the principal cell of the urban grid, Pauger created a *place d'armes*, to be fronted by edifices of church and state in perfect Vitruvian symmetry, overlooking the Mississippi River (labeled *Fluve St. Louis*). Pauger also splits the blocks evenly behind the church with an additional street (Orleans)—a feature that, taken together with the positioning of the church and *place*, resembled La Tour's plan for Biloxi. Surrounding the urban grid was the *de rigueur* Vauban fortification, commanding clear firing lines in all directions. The map labeled the longitudinal streets as, starting downriver, *Rue de l'Arsenal* (positioned at the urban fringe, per Vauban's instructions), *Rue St. Philippe*, *Rue Dumaine*, *Rue St. Anne*, *Rue d'Orleans*, *Rue St. Pierre*, *Rue de Toulouse*, *Rue St. Louis*, and *Rue Bienville*. On the latitudinal streets, starting from the river were *Rue du Quay*, *Rue Chartres* which further downriver became *Rue de Conty*, *Rue Royale (Royale)*, and finally *Rue de Bourbon*. Other names (*Dauphine* and *Burgundy*) were added shortly thereafter; still others were relocated, changed, or appended over the centuries. With the exception of *Rue Quay* (today's Decatur Street), all other street names paid homage to the monarchy in general or to key Crown figures, their relatives, lineages, titles, or patron saints.²²

Pauger's plan represented to the colonial gaze everything that the wild, fluid delta was not. It embodied the Vitruvian value of *ordinatio* in its measured and incremented blocks. It bespoke *symmetria* in its perfect proportionality. It exhibited *eurythmia* in its graceful adaptiveness to natural topography, hydrology, and climate. Unlike nature, however, it contained not a single curve. Note the emphasis on geometric rectitude in the description of New Orleans by Le Page du Pratz who witnessed the budding city before and after its platting:

All the streets are laid out both in length and breadth by the line, and intersect and cross each other at right angles. The streets divide the town in to fifty-five isles; eleven along the river lengthwise . . . [E]ach of those isles is fifty square toises, and each again divided into twelve emplacements, or compartments, for lodging as many families.²³

An updated plan under the same title, *Plan de la Ville de la Nouvelle Orleans*, appeared later in 1722, in which the nine-by-six grid grew by two additional streets, yielding a total of sixty-six blocks with full parcel delineation and enumeration, an expanded fortification, and proposed locations for sixteen city features.²⁴

On May 26, 1722, word of the Company's decision to designate New Orleans as capital reached Biloxi. "His Royal Highness having thought it advisable to make the principal establishment of the colony at New Orleans on the Mississippi River," beamed a contented Bienville to the Council, "we have accordingly transported here all the goods that were at Biloxi." Bienville then lavished praise on his superiors: "It appears to me that a better decision could not have been made in view of the good quality of the soil along the river [and the] considerable advantage for . . . the unloading of the vessels."²⁵ Of course, Bienville knew this all along. He was flattering his bosses while congratulating himself.

A splendid new urban plan, new people, new resources, capital-city status: the winds of fortune finally seemed to be blowing New Orleans' way—but for the existing hodgepodge still impeding Pauger's execution of the plan. Surely he eventually would have mustered enough official force to clear away those first four years of indiscriminate development. But nature beat him to it.

Disaster as Opportunity

At 9 a.m. on September 11, 1722, "a great wind" swept the settlement, "followed an hour later by the most terrible tempest," wrote Pauger.²⁶ "With this impetuous wind came such torrents of rain," recalled the colonist Dumont, "that you could not step out a moment without risk of being drowned[;] it rooted up the largest trees, and the birds, unable to keep up, fell in the streets."²⁷ Not until 4 a.m. on September 13 did the gusts abate, at which time "they set to work to repair the damage done."²⁸

New Orleans' first hurricane caused much destruction, but it also gave the engineers exactly the *tabula rasa* they wanted. Wrote La Tour, "all these buildings were temporary and old, not a single one was in the alignment of the new town, and they were to have been pulled down. Little harm would have been done . . ."²⁹ Dumont described the activities that followed: La Tour "cleared a pretty long and wide strip [present-day Decatur Street] along the river, to put in execution the plan he [and Pauger] had projected." They

traced on the ground the streets and quarters which were to form the new town, and notified all who wished building sites to present their petitions to the council. To each settler . . . they gave a plot ten fathoms front by twenty deep [sixty by one-hundred-twenty English feet] . . . Those who obtained these plots [must] inclose them with palisades, and leave all around a strip at least three feet wide, at the foot of which a ditch was to be dug, to serve as a drain for the river water.³⁰

Clearing and draining the right-of-ways permanently transformed early New Orleans from a natural to a humanized space. A built environment subsequently arose within the cells of Pauger's grid: the provisional wooden "palisade cabins" were replaced with houses build of "brick, or half-brick and half-wood," and institutions of imperial and ecclesiastic authority were erected by the *place d'armes*. "New Orleans," wrote Dumont of this era, "began to assume the appearance of a city."³¹

Colonial Cadastral Systems

Today's French Quarter ranks among the nation's best-preserved colonial urban designs, its main streets still as they were laid out in 1722 and most retaining their original French nomenclature, albeit anglicized. The colonial imprint in New Orleans, however, was not limited to the city's original neighborhood; it spread as the city's population grew, and it did so into adjacent plantations delineated according to the French colonial cadastral philosophy known as the "long-lot" or *arpent* system.

In form, the long-lot system appeared in north central Europe around the end of the first millennium and may date as far back as Babylonian times.³² It spread to present-day Belgium and northern France in later centuries, where the system was called variously *en arête de poisson* (herringbone), *village-route* (street-village), or *hameau-allongé* (string town).³³ Whether this land division pattern derived from tillage practices or from an organized effort of settlement and tenure, the resulting parcels were consistently shaped as elongated lots, or long lots, with depth-to-width ratios from 3:1 to 10:1 or more.

It was primarily the French who transferred long-lot surveying to the New World, starting in Québec, where the lots were called *rotures*, and eventually "everywhere in North America where there was the least bit of French influence, from the St. Lawrence Valley westward to Michilimackinac and to the Detroit region . . . Green Bay and Prairie du Chien . . . to the Red River . . . to the Illinois Country (including St. Louis) and to Lower Louisiana . . ."³⁴ The logic behind long lots is compelling: given (1) a valued resource at one end (usually a waterway or road), (2) unproductive land at the other end (marshes or mountains), and (3) a swath of well-drained, fertile land in between (the natural levee in the case of New Orleans; flat valley bottoms elsewhere), then the ideal subdivision method would be to delineate long narrow strips so that a maximum number of farms would enjoy access to the valued resource.³⁵ In the case of lower Louisiana, long lots were an optimal allocation of two scarce resources: river access and fertile land.

The unit used to survey long lots was the *arpent de Paris*, measuring 180 French feet or 192 English feet. That size reflected the amount of land one farmer can till in one day, as does the *manzana* in Latin America and the *acre* in Anglo-influenced areas. Unlike those units, however, the *arpent* may be used as a linear or areal measurement.³⁶

The Louisiana Long Lot

The initial years of French imperialism in the Mississippi region were characterized by a weak, distant governing authority and a plethora of land; hence, only rudimentary attempts were made to standardize and document land distribution. This era has been described by the late geographer Milton B. Newton, Jr., as the time in which land apportionment was conducted by *concessions*, large grants aimed to develop a plantation economy so that raw materials and commodities may flow back to the metropole in the standard mercantilist model. It was understood by all imperial powers that land conceded to empowered subjects would quite literally lay the groundwork for wealth production. Early concessions in Louisiana, imprecise as they were, nonetheless had key long-lot morphologies: they were oriented perpendicularly to the river, they extended backward toward the *ciprière* (cypress swamps), and they were usually deeper than they were wide.³⁷

Some concessionaires used their holdings not for agriculture but for timber and real estate sales, "entirely contrary to the establishment of the colony."³⁸ When the Crown learned of these abuses, it issued the Edict of October 12, 1716, to provide for the return of certain lands to the public domain for their redistribution "in the proportion of two to four arpents front by forty to sixty in



Figure 3. Detail of 1749 map showing early New Orleans upon the natural levees of the lower Mississippi, by which time those scarcely elevated lands were mostly subdivided into French long lots. F. Saucier, *Carte Particulière du Cours du Fleuve St. Louis, 1749.*
Source: Library of Congress.

depth.”³⁹ This clause was only partially enforced, but its stipulation “that the concessions be cultivated in accordance with the same pattern of long, narrow fields that prevailed in the country along the St. Lawrence River [and] Cape Breton Island . . . would henceforth be the rule for all lands in the colony.”⁴⁰

The era of imprecise concessions thus morphed into a well-defined cadastral system with exact surveying methods. By the mid-1700s, most riverine land near New Orleans had been delineated into arpent-based long lots (Figure 3). They typically measured forty to eighty arpents deep, depending on the width of the natural levee, and anywhere from a few to a few dozen *arpents de face* (frontage arpents). Where the river meandered, lots diverged on the exterior of the bend and converged on the interior, thus evoking comparisons to a snake skeleton or a pinched accordion (Figure 4). Indigo, rice, tobacco, and food crops were raised on these early plantations, and after 1795, most downriver from Baton Rouge switched to sugar cane production. By this time, the city and colony were under Spanish dominion, despite that the population remained mostly French Creole in ethnicity and francophone in tongue. The Spanish dons simply conformed to the French long-lot cadastral system and allowed it to continue.

As New Orleans ached to expand, a new land use became an option for those long-lot plantations nearest the city: urbanization. Following the 1788 Good Friday fire, which charred four-fifths of New Orleans, Spanish Surveyor General Don Carlos Laveau Trudeau sketched a street plat for the former Gravier family plantation, between present-day Common Street and Howard Avenue. Like that of the original city, this colonial urban plan limned straight streets and square blocks around a central *place* (now Lafayette Square). But unlike the original city, this design was not a perfect symmetrical grid, which the parallelogram shape of the Gravier’s

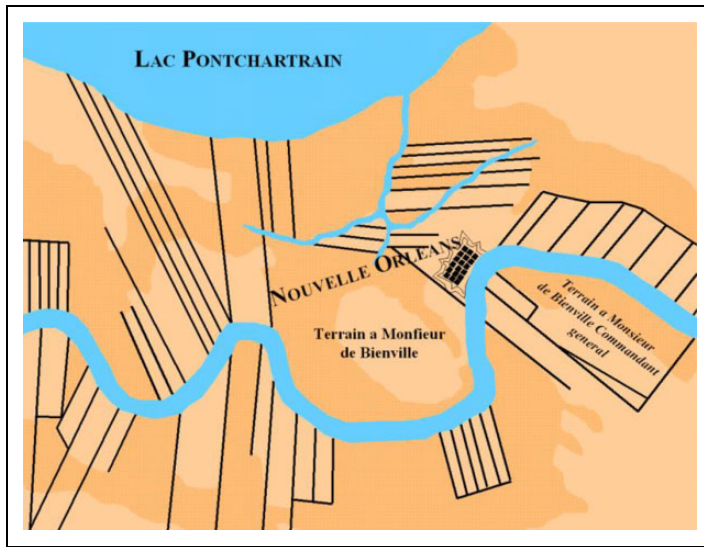


Figure 4. Early long-lot plantations near New Orleans region, laid out just after the surveying of the city grid in 1722. The lack of parcels in the main crescent of the future city (today's uptown), plus unsurveyed areas on the opposite bank, reflects the fact that Bienville had claimed these lands for himself as one enormous estate. He would later lose ownership of these lands, at which point they, too, would be subdivided into French long lot plantations and, many years later, urbanized. Map by author based on *Carte Particuliere du fleuve St. Louis* (circa 1723).

long lot and the curvaceous riverfront disallowed. So Trudeau contorted his lines to fit a reasonably rectilinear array of streets and blocks into the slanted quadrilateral, forming what he named “Suburbio Santa Maria” (Figure 5). Francophone Creoles called it “Faubourg St. Marie”; Anglophone Americans would call it “St. Mary,” and today we call it the Central Business District.⁴¹

Colonial Long-lot Plantations Become Urban Neighborhoods

Faubourg St. Marie set a precedent for other families who owned other long lots near New Orleans: if they sensed more money could be made by getting out of agriculture and getting into the real estate business, they need only hire a surveyor to lay out blocks and sell off the parcels to speculators and homebuilders. One by one throughout what is now Uptown New Orleans, from 1805 to 1854, planter families made that decision and hired engineers and surveyors to execute it. Those professionals had no choice but to confine their plats to within the limits of their client’s property; the upper and lower limits of the long lot thus became the edges of the new faubourg (suburb), the middle was usually reserved for a grand avenue, and all other spaces became interior blocks. Where the river ran straight, like in the lower banlieue (outskirts, now Bywater and the Lower Ninth Ward), surveyors had no problems fitting orthogonal street networks snugly into the rectangular long lots. But where the river meandered broadly, such as the upper banlieue (Uptown), surveyors had to squeeze their grids into wedge-shaped properties. This yielded slivers and trapezoids, and odd street “jogs” occurred whenever one surveyor attempted (or resisted) to align his plat to that which a colleague had previously laid out in an adjacent long lot. This explains why Prytania Street jogs at the Joseph Street intersection, why St. Charles angles at Felicity Street, why Maple Street doesn’t quite align with itself on either side of Lowerline, and why Lowerline and Upperline are so named, as they were “lower” and “upper” boundaries of two different plantations.



Figure 5. This detail of the Plan of the City of New Orleans and Adjacent Plantations by Carlos Trudeau (1798 map reproduced in 1875) shows Trudeau’s 1788 subdivision of the fifteen-arpent Gravier plantation (lower center), becoming the Suburbio Santa Maria and setting the precedent for urban expansion into colonial-era long-lot cadasters. The area is now New Orleans’ Central Business District. Source: Library of Congress.

The only exceptions to the rule actually validate the rule: when adjacent plantations were purchased and subdivided together, surveyors were free to ignore the lines that once separated them—and ignore them they did. Case in point: the plantations of Delord-Sarpy and Duplantier, Solet, Robin, and Livaudais were all purchased, conflated, and subdivided in one fell swoop (1806–1810), obsolescing their borders and giving us today’s Lower Garden District.⁴²

Because of this piecemeal, bottom-up development done without a centralized planning authority—the city had a chief engineer but no city planning agency until the 1920s—the morphology of the French colonial long-lot system became inadvertently “burned into” the expanding American city of New Orleans (Figure 6).

The Enduring Colonial Imprint

It may seem paradoxical that cryptic centuries-old cadastral systems may outlive massive structures of brick and mortar. But buildings are subject to the elements and the whims of their owners,

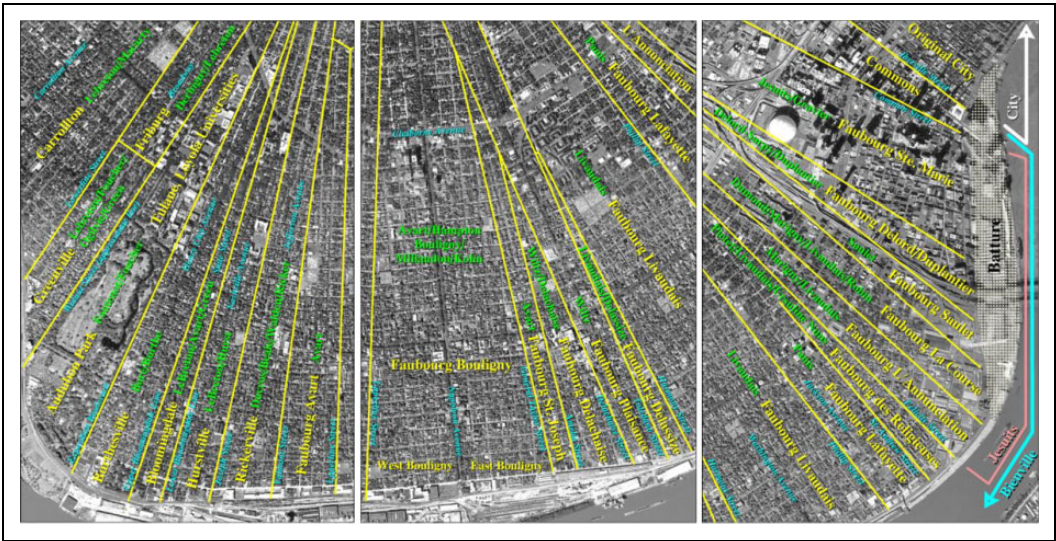


Figure 6. Colonial and antebellum-era long-lot plantations overlaid on satellite image of New Orleans, showing near-perfect relationship between geometry of old French colonial cadastral system and piecemeal expansion of New Orleans over the course of the nineteenth century. Names in yellow font indicate planter family at the time of the parcel's subdivision; present-day streets appear in blue font. Map and interpretation by author based on various historical maps and data; aerial photography courtesy US Geological Survey.

whereas cadastral systems are inscribed in legal and political realms with deep roots in fundamental national philosophies. In a free-market capitalist economy such as that of the United States, for example, privately owned land is the provenance of wealth, securing all subsequent financial commitments and forming the original valuation to which all future value is added. In a system where wealth begets wealth, the begetting begins with land, the land demarcation begins with the cadastral system, and the gravitas by which that system is stewarded becomes paramount to the functioning of the whole economy. Excepting revolutionary changes of government, cadastral patterns usually endure under new administrations and continue their imprint upon the landscape. In the case of Louisiana, the French colonial arpent system persisted even when Spanish replaced the French and the Americans replaced the colonials. Throughout the state today, we find extensive regions still reflecting French long lots, as well as irregular British metes and bounds in the “Florida parishes” once occupied by the English, Spanish *sitios* in the southwestern corner of the state once under Spanish and Mexican control, and ample acreage surveyed by the orderly Jeffersonian invention known as the American Township-and-Range Public Land Survey.⁴³

Colonial cadasters and urban plats affect the daily lives of Louisianans in nearly every movement they make (Figure 7), from driving to work in the morning to stopping at the grocery store at night. For those few thousand who live in the French Quarter, even more direct are the influences of colonial-era design thinking. Case in point: on the 1300 block of Royal Street, between Barracks Street and Esplanade Avenue, there is a short driveway usually occupied by a parked sedan—all perfectly ordinary and mundane. But upon closer inspection, it becomes clear that the driveway narrows slightly and that the adjacent walls are similarly off-plumb. The slants are a spatial artifact of the Sébastien Vauban-inspired angled fortification system set within Pauger’s orthogonal grid, now nearly 300 years old. It speaks of order, rationality, and an ultimately successful project called New Orleans, even as it also whispers of imperialism, exploitation, and a deteriorating fluvial delta, starved of water and sediment amid all these rigid straight lines.⁴⁴

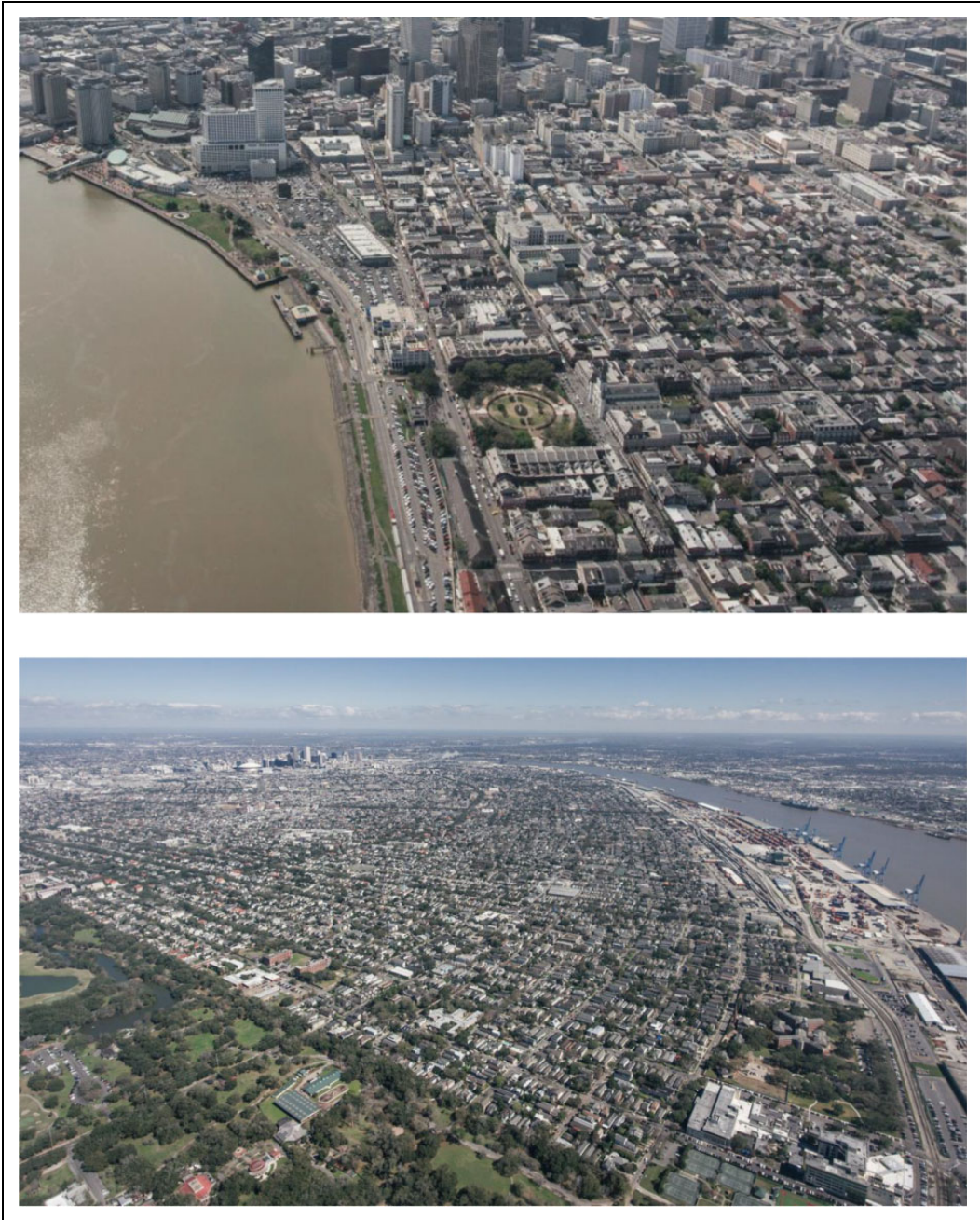


Figure 7. Nearly every inch of the spaces visible in these two drone photographs, of the French Quarter and Central Business District (top) and Uptown New Orleans (below), are, geometrically speaking, traceable to colonial times. In the case of the French Quarter, the colonial spatial philosophy was the fortified urban grid; in the case of the other spaces, it was the French long-lot cadastral system for the creation of agricultural parcels, which later got subsumed by urban expansion. Drone photographs by Lorenzo Serafini and Richard Campanella, 2017.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. This article draws from the author's prior research published in two books and two articles over the past fifteen years. The books, both by Richard Campanella, are *Bourbon Street: A History* (Baton Rouge: Louisiana State University Press, 2014) and *Time and Place in New Orleans: Past Geographies in the Present Day* (Gretna, Louisiana: Pelican Publishing Company, 2002). The articles, also by Campanella, include "Arpents, Ligas, and Acres: Cultural Fingerprints on Louisiana's Landscape," *Louisiana Cultural Vistas*, Spring 2016, "Why Prytania Jogs at Joseph," *Preservation in Print Magazine*, October 2013, and "Grandeur on Government Street: Baroque Urban Planning in Louisiana's Capital," *Louisiana Cultural Vistas*, forthcoming Winter 2018.
2. Thomas Hall, *Planning Europe's Capital Cities: Aspects of Nineteenth Century Urban Development* (Oxford, UK: Alexandrine Press, 1997), 9–15.
3. Thomas Gordon Smith, *Vitruvius on Architecture* (New York: The Montecelli Press, 2003), 9–25; Toby Lester, *Da Vinci's Ghost: Genius, Obsession, and How Leonardo Created the World in His Own Image* (New York: Free Press, 2011).
4. Shannon Lee Dawdy, *Building the Devil's Empire: French Colonial New Orleans* (Chicago, IL: The University of Chicago Press, 2008), 68.
5. Sébastien Le Prestre and Seigneur de Vauban, *The New Method of Fortification, as Practices by Monsieur de Vauban, Engineer General of France, with an Explication of All Terms Appertaining to that Art* (London, UK: Abell Swall, 1693), topics culled from table of contents of second edition.
6. Dawdy, *Building the Devil's Empire*, 72.
7. *Ibid.*, 66.
8. This line appears on Le Blond de La Tour's January 12, 1723, map, *Partie du Plan de la Nouvelle Orleans* (Paris, France: French National Archives), drawn in red and labeled, "Alignement Suiuant le projet de Mr. de Bienville des premieres maisons." See also Samuel Wilson Jr., *The Vieux Carre, New Orleans: Its Plan, Its Growth, Its Architecture* (New Orleans, LA: Bureau of Governmental Research, 1968), 4.
9. Alfred E. Lemmon, "La Louisiane/La Luisiana: A Bourbon Colony," in *Charting Louisiana: Five Hundred Years of Maps*, eds. Alfred E. Lemmon, John T. Magill, and Jason R. Wiese (New Orleans, LA: The Historic New Orleans Collection, 2003), 46.
10. Thomas Jefferys, *The Natural and Civil History of the French Dominions in North and South America* (London, UK: Thomas Jefferys, 1760), 148–49.
11. Le Blond de La Tour, *Plan des ouvrages projetés pour le nouveau établissement du Nouveau Biloxy*, January 8, 1721, French National Archives.
12. As quoted in Wilson, *The Vieux Carre, New Orleans*, 11.
13. Adrien de Pauger, *Plan de la Ville de la Nouvelle Orleans projetée en Mars 1721* (Paris, France: French National Archives, 1721), as reproduced in Wilson, *The Vieux Carre, New Orleans*, 6.
14. Charles R. Maduell, Jr., *The Census Tables for the French Colony of Louisiana from 1699 to 1732* (Baltimore, MD: Clearfield, 1972), 16–22 and 81.
15. As quoted by Baron Marc de Villiers du Terrage, "A History of the Foundation of New Orleans (1717-1722)," *The Louisiana Historical Quarterly* 3, no. 2 (April 1920), 226.

16. Letter, "Company of the Indies to the Council of Louisiana, undated (circa 1710s)," in *Mississippi Provincial Archives 1701-1729: French Dominion, Volume II*, eds. Dunbar Rowland and Albert Godfrey Sanders (Jackson, MS: Press of the Mississippi Department of Archives and History, 1929), 253.
17. du Terrage, "A History of the Foundation," 222–223.
18. *Ibid.*, 229.
19. Pierre François Xavier de Charlevoix, *Journal of a Voyage to North-America Undertaken by Order of the French King, Volume II* (London, UK: James Dodsley, 1761), 275–76.
20. Marcel Giraud, *A History of French Louisiana, Volume Five: The Company of the Indies, 1723-1731* (Baton Rouge: Louisiana University Press, 1987), 498–99; de La Tour, *Partie du Plan de la Nouvelle Orleans*, January 12, 1723.
21. As quoted in Wilson, *The Vieux Carre, New Orleans*, 12.
22. Le Blond de La Tour, *Plan de la Ville de la Nouvelle Orleans*, April 23, 1722, as reproduced in Wilson, *The Vieux Carre, New Orleans*, 12.
23. Le Page du Pratz, *The History of Louisiana*, ed. Joseph G. Tregle, Jr. (Baton Rouge: Louisiana University Press, 1976 reprint of 1758 original), 54.
24. *Plan de la Nouvelle Orleans* (circa 1722), as reproduced in Lemmon, "La Louisiane/La Luisiana," 309.
25. Letter, "Bienville to the Council, February 1, 1723," in *Mississippi Provincial Archives 1704-1743: French Dominion, Volume III*, eds. Dunbar Rowland and Albert Godfrey Sanders (Jackson, MS: Press of the Mississippi Department of Archives and History, 1932), 343–44.
26. Adrien de Pauger, as quoted by Wilson, *The Vieux Carre, New Orleans*, 13. A footnote in Dumont's journal, as well as a number of tertiary sources, date this hurricane to September 11, 1721, but 1722 is the more likely year.
27. M. Dumont, "History of Louisiana, Translated from the Historical Memoirs of M. Dumont," in *Historical Memoirs of Louisiana, From the First Settlement of the Colony to the Departure of Governor O'Reilly in 1770*, ed. B. F. French (New York: Lampport, Blakeman & Law, 1853), 24.
28. Baron Marc de Villiers, "A History of the Foundation of New Orleans (1717-1722)," *The Louisiana Historical Quarterly* 3, no. 2 (April 1920), 235–36.
29. De La Tour, as quoted by de Villiers, "A History of the Foundation," 236. Similar words have been attributed to Pauger.
30. Dumont, "History of Louisiana," 23–24.
31. *Ibid.*, 41.
32. John Whitting Hall, *Louisiana Survey Systems: Their Antecedents, Distribution, and Characteristics* (Doctoral diss., Louisiana State University Department of Geography and Anthropology, 1970), 25–32, and William B. Knipmeyer, *Settlement Succession in Eastern French Louisiana* (Master's thesis, Louisiana State University Department of Geography and Anthropology, 1956), 32–34.
33. Carl J. Ekberg, *French Roots in the Illinois Country* (Chicago: University of Illinois Press, 1998), 6.
34. *Ibid.*, 5–6, 9, and 12.
35. An elongated lot also minimized the number of times a farmer had to retrack to the next row and accommodated the farm implements of the day, namely ploughs. Long lots also offered proximity to neighbors, access to fishing resources, a diversity of flora and soil types, and were easy to survey. Ekberg, *French Roots*, 11.
36. Other variations of the arpent used by the French and Spanish demonstrate the wide range of the unit's size: the *arpent d'ordonnance*, the *arpent comun*, and the *arpent belgeque* measured 1.26 acres, 1.04 acres, and 4.17 acres, respectively. Jack D. L. Holmes, "The Value of the Arpent in Spanish Louisiana and West Florida," *Louisiana History* 24, no. 3 (Summer 1983), 314–20.
37. Milton B. Newton, Jr., *Louisiana: A Geographical Portrait* (Baton Rouge, LA: Geoforensics, 1987), 210–12, and Hall, *Louisiana Survey Systems*, 33.
38. Edict of October 12, 1716, translated by Dart, Henry P., "The First Law Regulating Land Grants in French Colonial Louisiana." *The Louisiana Historical Quarterly* 14, no. 3 (July 1931), 346.

39. Ibid., 347.
40. Marcel Giraud, *A History of French Louisiana, Volume Two: Years of Transition, 1715-1717* (Baton Rouge: Louisiana University Press, 1958), 136. (This quote is from the historian Marcel Giraud regarding the Edict of 1716, not from the edict itself.)
41. Meloncy C. Soniat, "The Faubourgs Forming the Upper Section of the City of New Orleans," *The Louisiana Historical Quarterly* 20 (January–October 1937), 192–211; Samuel Wilson Jr., "Early History of Faubourg St. Mary," in *New Orleans Architecture, Volume II: The American Sector (Friends of the Cabildo series)* edited by Mary Louise Christovich, Roulhac Toledano, Betsy Swanson, and Pat Holden. (Gretna, LA: Pelican, 1972), 3–40.
42. Soniat, "The Faubourgs Forming the Upper Section," 1937; Samuel Wilson Jr., "Early History of the Lower Garden District," in *New Orleans Architecture, Vol. I: The Lower Garden District (Friends of the Cabildo Series)* edited by Mary Louise Christovich, Roulhac Toledano, and Betsy Swanson. (Gretna, LA: Pelican, 1971), 7–12.
43. Richard Campanella, "Arpents, Ligas, and Acres: Cultural Fingerprints on Louisiana's Landscape," *Louisiana Cultural Vistas* 27, no. 1 (Spring 2016), 56–57; Richard Campanella, "Why Prytania Jogs at Joseph," *Preservation in Print Magazine* 40, no. 7 (October 2013), 18–19.
44. Richard Campanella, "New Orleans 'Fort-prints': Odd angled properties are relics of city's fortified past," *New Orleans Times-Picayune*, May 12, 2017, H6–H7.

Author Biography

Richard Campanella, a Geographer with the Tulane School of Architecture, is the author of ten books and over 200 articles on the geography of greater New Orleans. The only two-time winner of the Louisiana Endowment for the Humanities Book of the Year Award, he has also received the Louisiana Literary Award, the Williams Prize, and the Malcolm Heard Award for excellence in teaching. In 2016, the Government of France named Campanella a Knight in the Order of the Academic Palms.