THE CRISSCROSS OF GRIDDED TRADITIONS IN TWO SENEGALESE CITIES

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Abstract

In Western (Eurocentric) research traditions of urban history and planning history, sub-Saharan Africa is generally denied an urban past, a history and culture of urban settlement-design and especially of indigenous use of urban grid plans. It is against this historiographic lacuna that cases of indigenous grid-pattern settlement in Senegal and Western Sudan are briefly described and contrasted to the gridded tradition of colonial settlement-design. In light of the diffusionist problematic which seeks a supposed singular 'origin' for the grid plan, it is demonstrated that not only did the urban grid plan emerge independently in the Western Sudan, but also that questions about the grid's origin in terms of 'whose heritage?' are still of theoretical relevance and cultural sensitivity in Area Studies research, particularly in African Studies. However, in shifting the discussion from the genealogy of the grid towards a more dialectic approach of spatial production, this article also provides short qualitative insights into the dynamic entanglement of top-down and bottom-up urban design traditions, Western-cum-indigenous, in such important contemporary Senegalese cities as Dakar and Touba.

Introduction

In Western historiography of urban planning, not only that the urban grid-plan has been essentially assigned to occidental planning cultures since Ancient Greece and Rome; but indigenous societies in the global South at present have been normally deprived of any tradition of urban gridded designs.¹ This is particularly true as to sub-Saharan Africa, which has been deprived of an urban past in historiography as well. In the case of Senegal, recent research clearly points on the development of grid-plan settlement design by indigenous societies since the twelfth century, much before the introduction of the Western grid-plan by the French colonialism in the mid-nineteenth century. Indeed, such research has innovative implications in terms of 'whose heritage?' as to the simultaneous-cum-independent application of the grid-plan in different civilisations globally.

Yet still, research on the 'indigenous grid' in Senegal is tended to be part of 'Islamic studies', while research on the 'colonial grid' is tended to be part of the 'extra-European history of Europe' – both fields are considered thematically separate. On the methodological level, by using a rich variety of primary and secondary sources including fieldwork, we aim at incorporating both research corpuses which have not normally considered together regarding the 'European' and 'indigenous' grid-plan traditions. At the same time, on the site-related physical level, we aimed at blurring the seemingly binary differentiation between 'European'

Figure 1
The layout of Touba (drawing made by E. Ross)

Figure 2
The layout of central Dakar (Plateau, Médina) (drawing made by T. Sofer)

grid-plan designs and their 'indigenous' counterparts. This is against the background of postcolonial urban planning in present-day Senegal. Two important Senegalese cities – Dakar and Touba – exemplify a considerable formalistic entanglement between both planning cultures, mediating between cohabitation and hybridisation. Such entanglement breaks free from any essentialist linear perception of gridded traditions, and moves toward a more dialectic and inclusive perception of spatial production.

One grid versus another

"In 1988, upon returning from an initial research session in the field, I presented some of my data to a group of friends and student colleagues in Montreal" recounts geographer Eric Ross – the co-author of this article who had studied Murid and other Islamic settlements in Senegal, particularly the holy city of Touba. "When confronted with my sketch of Touba's urban plan [Fig 1], one member of the group remarked that the influence of French urban planning was clearly evident; he was referring to the 'Haussmannian' aspect of the city" (2002, 35), with its converging avenues and straight streets. At the time Ross casually dismissed the remark, holding that, whereas the colonial grid pattern and Haussmannian Beaux Arts certainly characterise much of Dakar, Touba's gridded configuration corresponds to autochthonous, pre-colonial urban ideas. Dakar's gridiron pattern can be considered as Touba's 'alter-ego', and in traditional colonial historiography Dakar has been depicted as an entirely modern French creation, serving as the capital city of the federation of French West Africa (AOF) (1902-1960) before being inherited as capital by post-independence Senegal. [Fig 2] Yet since then, reflects Ross, the 'Haussmann' incident recurs in his mind, revealing much about prevalent Western assumptions as to urban sub-Saharan Africa:

In caricature, these assumptions are as follows. Historically, Black Africa does not have an indigenous urban tradition. Principles of urban aesthetic are first imported from the Arab/Islamic world. In the modern era, a second set of urban principles are introduced through European colonization, and these account for the vast majority of sub-Saharan Africa's cities today [...] the existence of genuinely African urban traditions has yet to be generally acknowledged. Thus, when confronted by the straight streets and converging avenues of Touba's design, my friend automatically saw evidence of external, European, urban planning principles. (2002, 35-36; see also Ross 1994)

Indeed, such assumptions are tightly related to a surprisingly positional Eurocentric 'psyche' of historiographic mentality, to which an eighteenth-century missionary report from the capital city M'banza-Kongo, could be considered as symptomatic. In this report, the missionary complained about being able to cross the entire capital city without seeing a single house in the surrounding greenery of the equatorial forest (quoted in Balandier, 1968, 132). In other words, urbanity in Africa is disavowed while Africa's bucolic image is strengthened. The depiction of towns in sub-Saharan Africa as 'villages' is persistent throughout the ages from Rousseau's 'noble savage' to nineteenth- and twentieth-century European colonial accounts.² This perspective has been carried directly into some recent urban-studies textbooks, such as Peter Hall's *Cities of Tomorrow* (1996), in which sub-Saharan Africa is not even mentioned. It is rather perceived as the antipode of occidental urbanity, caught and imagined within a web of difference and absolute otherness.

A growing academic awareness, especially since the 1960s, has brought a gradual change, apparent in more recent 'global' urban history textbooks and other works that strive to balance Eurocentric material by incorporating something 'African' (e.g., Grant, 2001; Kostof, 1992; Koolhaas, 2000; Rose-Redwood, 2018; Smith 2007). However, the incorporated examples tend to be the most obvious and celebrated ones, being picked almost randomly from renowned textbooks on African history, resulting in a déjà-vu affect.³ The inclusion of only a few select repetitive examples might create a distorted picture as well. For instance, in his celebrated text *The City Shaped* (1991), Spiro Kostof studies in detail the classical grid plan of cities throughout history. Beyond the canonical repertoire of European cities during the Middle Ages and the Renaissance, and grid designs in the New World, he mentions Asia and the Near East only briefly. No indigenous examples, however, are given for Africa beyond the ancient Egyptian pyramid town of Kahun (p. 103). There is one paragraph on the Roman grid of Timgad in North Africa (p. 107) and two other African cities, which are colonial creations, are listed anecdotally without any further discussion. The first of these examples is from northern Africa, namely "French Morocco" (p. 102), and the second is South Africa's Pietermaritzburg (p. 149). As 'White' Pietermaritzburg is the only example from sub-Saharan Africa, the result is somewhat strange.⁴

As the westernmost point in West Africa and thus a port of call en route to South America or South Africa, the strategic position of Dakar was acknowledged by the French by the mid-nineteenth century. Cap Vert peninsula, over which Dakar extends, was already populated by

Lébou villagers in the mid-nineteenth century. The *tricolour*, presented by the High-Commander of the area in May 1857 for local chiefs to raise over their straw houses, symbolised a peaceful occupation in which the Lébou assisted in refitting a small European complex as a strategic stronghold (Charpy, 1957, 8). The gridiron master-plan of Dakar was conceived in 1862, within the first five years of the French occupation, by Jean Marie Emile Pinet-Laprade – the then-head of the local Corps of Engineers (Charpy, 1958, 542). [Fig 2] It exemplified an essentially Western rationalist vision of colonial 'order.'⁵

In terms of orthogonal street layout and organisation of plots and central squares, Pinet-Laprade's master-plan was by no means exceptional for the era or the colonial context. French examples range from 1830s Algeria to older coastal settlements such as Fort de France in Martinique (1681), Kourou in Guyana (1763) and Saint Louis in Senegal (by 1740) (respectively: Malverti and Picard, 1991; Pinon, 1996; Sinou, 1993, 103-117). In addition, as the French colonisation extended inland, the grid plan followed. The colonial authorities saw it as an efficient, rational way to develop new towns (i.e. the rail *escales*). The development of a rail network across Senegal, intended to facilitate the production and export of peanuts, Senegal's cash crop, involved the expansion of the colonial urban network along the railways. Originally, *escales*, literally commercial 'landings', were trading posts on the banks of the Senegal River served by private French companies prior to the official colonisation of the territory. While the 'planning' of the river *escales* was entirely laissez-faire, the rail-stop *escales* which the French laid out at 10 to 30 km intervals along the railroads were designed according to the prescriptions of military engineering manuals. They had checkerboard street plans, aligned with the rail road and were centred on the rail station and market (Sinou, 1993, part I). [Fig 3]

Most of the peanut trading business in these rail towns was concentrated in the hands of a few large French firms operating out of the coastal ports of Dakar, Saint Louis and Rufisque. As colonial rule evolved, the rail *escales* also served to anchor embryonic colonial civil services and administration such as the tax office, the court house, the post office, and the medical dispensary. The inhabitants of an *escale* were mostly foreign to the area: colonial employees, employees of commercial agencies, and Syrian/Lebanese merchants. Africans were not usually authorised to live in them, so each *escale* was soon paired with an 'African village' – indeed only with the introduction of developmentalist discourse following decolonisation has the derogatory word 'villages' been replaced with a more urbanist terminology. This second neighbourhood extended the *escale*'s grid, albeit often with less regularity and

Figure 3
Plan of the rail-stop escale of Tivaouane in 1888. The *escale* neighbourhood, centred on a market, was the centre of peanut trading for the surrounding villages. It also housed local colonial administrative institutions and, following independence, became a district headquarters (E. Ross' image based on the Quickbird satellite image of Tivaouane-Ndiassane)

Figure 4
A present-day view of 'Place de l'Indépendance' ('Place Protet' in colonial times), the central square planned by Pinet-Laprade as the heart of the gridded colonial city. Enlarged over time, it still stands as the capital's political, administrative and commercial hub (photo by L. Bigon)

Figure 5
Part of one of the 1860's versions of Pinet-Laprade's master-plan for Dakar, showing the drawing of the gridiron lines straight over Ndakarou's villages (Charpy, 1958, 156)

fewer urban amenities (Pheffer, 1975). In the colonial context therefore, the orthogonal plan represented an attempt to discipline a newly conquered territory through the fixation and the definition of space within legislative boundaries. It also conveyed the symbolic dimension of 'domestication' in a 'barbaric' land by carving out a 'civilised' urban space intended for European expatriates (Said, 1978, 35-50).

Though the French historian Roger Pasquier has described the creation of embryonic Dakar as "nothing but a dead city, a chessboard yet to be occupied" (1960, 406), Dakar rapidly grew from its embryonic state. This is with the building impetus following the construction of the Dakar-Saint Louis railway line in 1885, the promotion of the city as the capital of the French West Africa federation (AOF) in 1902, and the accompanied demographic growth. In fact the area covered by Pinet-Laprade's plan, officially named 'Plateau', was not designated for expatriate habitation only. It was also designed as the focal point for political management, economic institutions, and transportation. [Fig 4] On the symbolic level, an explicitly Eurocentric street-naming system was offered by Pinet-Laprade for the city's grid from the start. This system underwent only a few changes and is still dominant today (Bigon, 2016, ch. 2; 2008). Moreover, the master-plan's gridded plots were aligned straight over most of the Lébou villages and their multi-structure residential compounds, which were pushed north-westwards. [Fig 5] This exemplifies the colonialist approach: Dakar, which previously had been called 'Ndakarou' by its Lébou residents, was conceived as a *terra nullius* (an 'empty' land, a land without pre-existing authority). This approach perfectly reflected the contemporary French colonial doctrine of *assimilation*, under which subjugated indigenous cultures were considered *tabula rasa*, only waiting to be lifted up by Western influence (Betts, 1961; Lewis, 1970).

Following a bubonic plague outbreak in summer 1914, a new indigenous quarter, named 'Médina', was planned by the colonial authorities north-west of the Plateau. There, in order to attract Africans the authorities wanted to expel from the Plateau, land-use legislation was lax and the authorities provided low-cost building materials for structures to be erected within the Médina's gridiron lines (ANS, H22; H55, Bigon, 2015). The grid of the Médina rather constituted one of the first colonialist examples of systematic indigenous settlement in Senegal. Dakar's second grid was also a tool for government security and surveillance by facilitating the recapture of deserters from forced labour and military service (Bugnicourt, 1982, 30). [Figures 2, 6] In fact, both gridded plans of contemporary Dakar, those of the Plateau and Médina quarters, exemplified the highly centralised orientation that characterised the

Figure 6
Present-day photo of one of the junctions of the Médina's grid (photo by L. Bigon)

French spatio-political tradition. As in the cases of early French colonial Algiers and Beirut, French master-plans based on gridiron or star-burst shapes were brutally superimposed on the indigenous urban fabric, causing considerable damage to the pre-colonial layer (Çelik, 1997; Davie, 2003).

In contrast to Dakar, an exogamous colonialist creation, the recently researched formalistic genealogy of Touba and other Muslim towns in Senegal demonstrates a long-standing indigenous tradition of gridded urban design (Ross, 2002; 2006; 2012). This does not mean that European and Arab-Islamic influences are irrelevant, but it does mean that these external urban design traditions are not the default sources of African urban form. In this particular regional context, these influences are not sufficient in themselves, let alone primordial, in explaining the grid and diagonal system of urban design noticeable today.

With a resident population of more than 850,000 (2013 census), rapidly-growing Touba is the second largest city in Senegal after the capital of Dakar, with its more than three million (UN-Habitat, 2014, 271). As the holy capital of the Murid Sufi order⁶, Touba was built after the death of its founder Ahmadou Bamba in 1927 by his relatives and successors. Bamba (b. 1853)

Figure 7
(a) Hypothetical model of the Jakhanke town by mid-nineteenth century's Western Sudan; (b) Hypothetical model of the pre-Islamic royal capital (drawing made by E. Ross)

was a religious leader who founded both the Muridiyyah and Touba in the late nineteenth century.⁷ Due to the great economic transformations in Western Sudan following the French imperialist policy and colonial occupation, his foundation of the institution and settlement was a resilient spiritual and social response to these transformations (Robinson, 2000).

The principle organisational element at the hub of the well-laid-out and hierarchically-organised city of Touba is the Great Mosque, which stands in a large public square and is oriented towards Mecca. This orientation creates the city's dominant axis. The spacious sandy square around the mosque is surrounded by the large compounds of close associates in the administration of the Muridiyyah and other relevant institutions. Avenues which lead to other Murid settlements cross the city from several directions and converge on the Great Mosque. Between these, the residential allotments are mostly gridded. [Fig 1] Moreover, each neighbourhood delimited by the avenues' diagonal lines is orthogonal in plan and organised as a mini-Touba, with its own central public square and a mosque, sometimes adjacent to a large tree, and houses of the religious aristocracy (Ross, 1995; 2006, ch.2).

Generally consistent with other Murid towns and villages, this spatial configuration is also clearly apparent in settlements established by Senegal's other modern Sufi orders (e.g., the Layenne, Tijāniyah). Historical sources, both oral and written, and the accounts of Arab and European visitors, show that this grid configuration can be traced to the older Islamic clerical tradition of seventeenth-century Jakhanke towns in Senegambia and Western Sudan. The spatial model of the Jakhanke towns, in its turn, can be traced further back to the pre-Islamic royal capitals of the twelfth century (Ross, 2002; 2006, ch.3). [Fig 7 a,b] There is therefore no need to look to Haussmann for a design model for the Murid city. In fact, even had the Jakhanke clerics followed the early Middle-Eastern Arab city model – indeed a degree of similarity exists in terms of the central public square with a mosque (but without the governor's palace) surrounded by lineage quarters – they still had a regional, physically closer, non-Islamic model at hand in Senagambian royal capitals. Had the orthogonal plan and the central square diffused as modern European urban planning principles, these principles would have effected secular settlements rather than Sufi communities like Touba, inter alia. Yet the layouts of indigenous secular settlements – settlements with no special religious rationale or Sufi affiliation – show none of these supposed Western characteristics while Senegal's Sufi establishments, which were far more resistant than secular ones to the penetration of European principles, are precisely the ones which exhibit orthogonal street layouts.

What is exceptional in these principles of settlement design disseminated in Western Sudan over several centuries, however, is the persistence of the gridded street forms and the central public square. The latter organising element is called *pénc* in Wolof, meaning both a public assembly and the site where such an assembly is being held. It also refers to a small settlement or village where its community is identified with a particular founding father or lineage. In physical terms, the *pénc* of Sufi settlements is focused on the mosque and can house other common facilities such as a quranic school, mortuary, and public wells, with the compounds of the town's founding lineage bordering its western side. In pre-Islamic Senegal and Western Sudan, a large tree (usually kapok, acacia or baobab) stood at the centre of the *pénc* and served as both social and political institution and symbolic civic monument (Ross 2008). While not considered 'sacred' and seldom used for any religious activity, the *pénc* tree operated as a 'palaver tree', under which communal meetings and decisions were taken.

With the Islamisation of the region, the *pénc* has not disappeared as an institution but rather has morphed; the Great Mosque has taken the place of the tree in the middle of the *pénc*. Still today, one or several large trees may stand alongside the mosque on the central squares of Sufi towns and neighbourhoods (Ross, 2002; 2006, ch. 4). In this way, large trees continue to play a major role in the urban configuration of the region, being connected with the socio-political traditions of the Wolof and other ethnic groups (Mandinka, Serrer, Lébou), as well as with the spiritual traditions of the Muridyyah and other Sufi orders. [Fig 8]

Since the colonial era the Sufi orders became mass movements whose principle social purpose was to instil Islamic decorum in public and private life. The creation of towns, villages and neighbourhoods was a means to this end, including the urban planning principles (Ross, 2012). Thus, while French colonisation undoubtedly had a major impact on urbanisation and settlement configuration, the emerging Sufi settlements were also marked by indigenous conceptions of power and place, and by the agency of their institutions.

Gridded entanglements

The argument for the existence of an African tradition of urban grid plans, at least in Senegambia and Western Sudan, one which developed there independently of any European grid-plan tradition, was made in the previous section. This is in the face of the general Eurocentric assumptions in urban studies research and historiography. This section will proceed beyond the linear tracing of the genealogies of each gridded tradition and its accompanied rationale

Figure 8
Diakhao's *pénc*. Diakhao was the capital of the kingdom of Sine from the 16th century to the onset of colonial rule. Diakhao is still the administrative center for an *arrondissement* (or county) and its original *pénc* is still the town's principal public square. Originally, four *mbul* trees stood on the *pénc* and symbolised political continuity during coronation ceremonies. Only one of these trees still stands

and *raison d'être*. It will show that, as a result of the intimate and prolonged encounter between the endogamous and exogamous urban design traditions over the course of the colonial period, there has developed considerable formalistic entanglement between these traditions. This entanglement, which mediates between hybridisation and various levels of cohabitation, will be exemplified through an analysis of the post-colonial dynamism of grid plans in the important Senegalese cities of Dakar and Touba. These prominent contemporary Senegalese cities exemplify the dynamism of the Lefebvrian approach of spatial production with regards to the grid plan⁸, and they overwrite any supposed African-European dichotomy.

The analysis of their contemporary spatial production will take us away from the 'tale of two (parallel) grids' towards a more dialectic approach. The latter calls for a richer and more multicultural understanding of urban grid-plan developments in Senegal at present. From the 'whose heritage?' that differentiates between world civilisations and planning-culture orientations, we travel towards a 'whose heritage' where difference "is not binary (either-or) but whose '*differences*' (as Jacques Derrida has put it) will not be erased" (Hall, 1999, 9). In this way, a 'Senegalese grid' could be re-imagined in a more profoundly inclusive manner. In the words of Stuart Hall: "[t]he popular culture of our society especially has been transformed

by the rich profusion of contemporary hybrid or 'cross-over' cultural forms, which mark the production of 'the new' and the transgressive alongside the traditional and the 'preservation of the past'" (1999, 12-13).

Dakar

Oral evidence as well as early colonial mapping of Ndakarou, the pre-colonial Lébou polity over which colonial downtown Dakar was built, shows that the *pénc* design had been salient there (ANOM, FM SG SEN/XII/12; Ndione, 1993). In the decades following the application of Pinet-Laprade's grid, many of the eleven Lébou villages that composed Ndakarou were gradually transferred, sometimes several times, to the borders of Dakar's Plateau. Another pulse of displacements, this time to the grid of the newly established Médina, was initiated with the bubonic-plague outbreak in 1914 (Betts, 1971; Bigon, 2015). Intended to be comprehensive, however, this expulsion of residents was never completed due to a combination of reasons. Only five Lébou villages were actually transferred to the Médina. During the continuous process of transfer (*déguerpissement*) out of one grid into the other, most of the villages not only preserved their original toponyms, but also recreated their *pénc*-s and re-established their community mosques within the colonial grid.

In some cases, the residential structure of the former villages – each is identified with a particular founding father and certain lineages, memorised in Lébou oral history (Mercier and Balandier, 1952) – has been broken quite arbitrarily by the colonial grid. In many cases too, the displaced Lébou built their new mosque-*pénc*, necessarily orientated along the *qiblah* to Mecca, diagonally askew with regard to the grid's overall orientation. The persistence of the most ancient Lébou toponyms throughout the colonial period until today reveals the strong continuity between past and present spatial practices (Bigon and Hart, 2018). This is true not only regarding the Médina, which was designated for 'Africans', but also for the present-day Plateau, which, since the colonial period, has been regarded as a 'French' city and the most 'western' place in West Africa, in terms of both geography and cultural orientation.

Field observations confirm that most of the Lébou *pénc*-s continue, remarkably, to exist in the Plateau and the Médina quarters under their ancient village names, and that pre-colonial logics of settlement design are still distinguishable beneath the grids of these quarters. [Fig 9] The prominence of certain open spaces in relation to mosques and large trees – the position of these trees and their species are different from Western-style tree-lined avenues

Figure 9
Exemplary mapping of two of the twelve Lébou *pénc*-s in central Dakar: Mbott on the Plateau and Ngaraf in the Médina quarter (drawings made by L. Bigon)

– constitutes the most important identifiers when one is trying to locate such a *pénc* in Dakar's built-up landscape. An exemplary mapping of most of the Lébou *pénc*-s in these two quarters clearly reveals the visibility and the recurrence of such spatial elements as the public square surrounded by the compounds of the community members, the large tree and the mosque. The latter is oriented towards Mecca and thus in many cases it breaks the orthogonal plan by its diagonal position within the allocated square plot.

At the same time, present material expressions of these pre-colonial spatial logics are variegated and innovative, responding pragmatically to gradual developments in terms of demographic pressures, social organisation and building materials. The space of the central square, for instance, has sometimes been entirely built over by multi-storey permanent blocks, or by compounds made from more temporary materials by lineage members (e.g., in Kaye Ousmane Diène and Kay Findiew *pénc*-s, respectively). In addition, some *pénc*-s, and therefore their community life, have been almost randomly sliced into parcels by one or more of the gridded avenues and thoroughfares (e.g., in Dieko). Another example is a *pénc* turned entirely into an institutionalised cement office with several floors, absent its tree (e.g., in Mbakeunda). Sometimes, though increasingly rare in the Plateau, the central square has been preserved unbuilt and recalls the peninsula's sandy dunes, such as in the case of Mbott. Mbott also exhibits an outstanding unification of historical layers of symbolism and function as the mosque encompasses a large tree in its very building – the latter grows right through the ceiling, or rather the ceiling was built around the tree (Bigon and Hart, 2018).

Touba

Though Ahmadou Bamba is Touba's founder, his project for the city was conceptual. Touba is the product of the continuous creative efforts of the entire Murid order. The crucial initiatives and decisions with regard to the city's construction have been taken by the caliph-generals (Sëriñ-s) of the Mbacké lineage, mainly Bamba's sons and grandsons. Other actors, sometimes competing but mostly in consensus, include their appointee shaykhs and caliphs, the municipal administration (under caliphal authority, and influential Murid businessmen. All actors are committed to building the city, in accordance with the desire of its founder. The city we observe today is a collective work, the result of a multiplicity of acts undertaken within the overarching social and spiritual project bequeathed by its founder. A major initiative that marked the second phase of Touba's urban expansion was a master plan for the city devised in 1974 for Sëriñ Abdoul Ahad Mbacké, third Caliph-General of the Muridiyya (1968-1989), who is

remembered today as 'the builder.' Though Touba has been legally autonomous of the state's civil administrative structures and agencies since the colonial era, it was at Sëriñ Abdoul Ahad's invitation that the Department of Urban Planning (Service d'Urbanisme) in Diourbel, the regional capital, conducted an initial survey of the existing gridded fabric and proposed an action plan for development (Guèye, 2002, 327; Ross, 2006, 64-66, 87). It is also significant that the Chef de service of Diourbel's Cadastre Department and the planner of Diourbel's Urban Planning Department, who were instrumental in conceiving and implementing the 1974 master plan, were both members of the Murid order.

As a result, the vast new housing subdivisions that were laid out around the original urban core were ordered along straight wide streets which crossed at right angles – these streets were in line with both the indigenous Sufi planning conceptions and the modern Western ones guiding urban expansion elsewhere in Senegal. Prominent routes – boulevards for transport circulation – they also serve the households who face them, harbouring outdoor domestic activities, neighbourly banter, family celebrations, and the wider community events during Sufi holidays for example.

More recently, a new phase of planning was initiated by Caliph-General Sëriñ Saliou in 1993. Once again, in spite of the city's autonomy from the civil state, the Department of Urban Planning in Diourbel was asked to help with a new master plan, never implemented. At the same time, Sëriñ Saliou turned to one of his disciples, who was working as a private land surveyor in Dakar, asking him to create new residential subdivisions arranged around *pénc*-s and neighbourhood mosques (Ross, 2006, 97-102). Consequently, the clarity of design and coherence of the Touba's earlier grid became confused and more obscure. For example, the orientation of the street grid according to Mecca is no longer universally maintained, and the various subdivisions have acquired multiple grid orientations, independently of each other. [Fig 10] The nature of the grid itself has also changed. The uniform gridiron, almost American in its uniformity, has been abandoned in favour of 'groupings' of lots around small squares (*placettes*). This 'tighter' fabric is said to have been 'imported' from Dakar, where the private land surveyor was practicing. It seems that the lack of an officially recognised and accepted master plan by Touba's authorities and the fact that the surveyor has proceeded on a case-by-case basis, contributed to the incoherence.

Figure 10
Touba conurbation, irregular in form. The orientation of the allotments varies from one subdivision to the next. Master plans were proposed in 1994 and again in 1999, but were not implemented (drawing made by E. Ross partially based on a Quickbird satellite image)

Faced with this incoherence, the Caliph-General realised that a more professional and institutionalised system of urban expansion was required. Here again Murid intellectuals-cum-professional urbanists were involved, such as one of his disciples, Mouhamadou Tafsir Guèye, also a civil engineer who had been working for the Ministry of Urban Planning and Housing in the cities of Kaolack and Dakar; a geographer; an economist; and a GIS database builder working for the government's environmental monitoring agency. The team supervised a street-by-street, lot-by-lot, field survey, with creating a Geographic Information System (GIS) based on officially numbered building lots, completed in 2004 (Ross, 2006, 102-104).

Even though the survey was never officially implemented, each lot in Touba now has its GIS reference number posted on its front door – an example of the use of information technologies for land management system. In this endeavour, the Sufi city of Touba was ahead even of Dakar, Senegal's modern metropolis. It is important to note that this modern, rational initiative in urban management was enacted by a mystical religious institution in a city it administered independently of State structures. It emanated from the order's

supreme authority (the Caliph-General), and was implemented by rank-and-file Murid technicians, engineers and intellectuals, some of them also civil servants. While seemingly contradictory from a cut-and-dry *de jure* perspective, the collaboration exemplifies a de facto complementarity and symbiosis, modern, rational, technocratic urban planning cross-fertilised with mystical acts of devotion.

Conclusion

This article shows that the gridded settlement design traditions of contemporary Senegal are hybrid in origin and development. That is, the French colonial grid-plan configuration, which reflects Western genealogies of urban planning culture, and which is exemplified by Dakar (and the rail *escales*) – constitutes a later patina overlaying a well-established indigenous tradition of gridded settlement design which preceded the colonial by at least six hundred years. This blurs prevalent Eurocentric presumptions in urban studies research that generally overlook or ignore the existence of historic urban design traditions or principals in sub-Saharan Africa.

The indigenous formalistic roots of grid-plan traditions in Western Sudan have been examined in light of the Sufi city of Touba. Also, the formalistic roots of the French colonial planning culture were examined as well, in light of the city of Dakar’s Plateau and Médina quarters. Then, the second section of the article has dealt with the hybridisation of the exogamous and the indigenous grid-plan cultures in the postcolonial period. Rather than placing one planning corpus and its accompanied relevant historiography in some binary opposition to the other, we have examined the contemporary entanglement of these heritages. This enables a more nuanced understanding of gridded designs in Senegal. Beyond dichotomist essentialism, this dynamic process of entanglement and hybridisation of gridded designs reflects not only practical functionalism or gradual accommodation of day-to-day urban experiences. It also reflects a more inclusive and dialectic approach to the question of ‘whose heritage?’ in the postcolonial present.

Notes

1. First classes in architecture schools still open with Hippodamus of Miletus and his constitutional grid-plan (see Mazza, 2009). In addition, ancient Asian grid systems are acknowledged in Western historiography, particularly the Indus Valley city of Mohenjo-daro, 2154 BCE (see Stanislawski, 1946; Kostof, 2001, ch. 2 entitled ‘The Grid’; and Higgins 2009, ch. 3 entitled ‘Gridiron’). Yet these three important surveys are chronological, and following this passing reference to these well-known non-Western ancient grid-plan designs, the discussion as it develops in time and space is exclusively Euro- and Americo-centric.

2. Rousseau’s idealistic and somewhat romanticist philosophy contrasts the ‘humanity’ of the indigenous ‘villages’ to the ‘developed’ West – a view that was later embraced by urbanists such as Hull (1976), among others. Hull contrasted the semi-rural towns of the past to the ‘anti-nature’ features of the industrial metropolis (for more: Coquery-Vidrovitch, 2005, 12). In addition, it is difficult to understand from contemporary European colonial accounts whether a sub-Saharan settlement was a ‘village’ (often depicted and designated as such) or rather a ‘town’/‘city’ (rarely designated as such) (e.g., Cristofaro, 2017).

3. For instance, in order to make their surveys ‘global’, Grant (2001); Kostof (1992); and Smith (2007) use one of the most researched examples of urban culture in sub-Saharan Africa, the Yoruba culture, exclusively (Grant; Kostof) or almost exclusively (Smith). By this common, repetitive and ‘facile’ borrowing, the richness and variety of other urban cultures in Africa is clearly ignored.

4. Notice that while only a small part from Kostof’s broad section on the grid appears (with translation) in the current theme journal, this argument is true for this excerpt as well.

5. There is no space here, nor academic legitimacy or interest, to repeat previous research by narrating the origins of the orthogonal design to Hippodamus of Miletus (or much earlier, to Mohenjo Daro in present-day Pakistan) via the Renaissance and Portuguese and Hispanic colonisation of the New World. Rather, site-related circumstances in Senegal are emphasised.

6. A Sufi ‘order’ or ‘way’ (literally from *tariqa* in Arabic, sometimes translated as ‘brotherhood’/ *confrérie*) means a ‘path’, which, in the Sufi tradition, is connected to an idealistic search after ultimate knowledge of God. A Sufi order is a religious institution, with lay members and spiritual leaders.

7. The Senegalese Muridiyyah is a Sufi order established by Cheikh Ahmadou Bamba Mbacké (1853–1927). Its name derives from the word *murid* in Arabic (literally ‘one who desires’) – a term designating a disciple of a spiritual guide. The virgin site chosen by Bamba, who led a pacifist struggle against the French colonial regime in Senegal, for the new settlement of Touba was advantageous in its relative distance from any direct possible colonial surveillance

8. By ‘Lefebvrian’ we mean the recognition that social space is a social product, that every society produces its own space, and that ‘real’ space reflects mental space, including its associated images and symbols. Hence, the ‘object’ of interest must be expected to shift from ‘things in space’ to the dialectic process of the actual ‘production of space’ (Lefebvre, 1991 [1974], esp. 14, 36–39).

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