

The Modern Avenue:

Avenue des Champs-Élysées,
Regent Street and
Avenida da Liberdade

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Abstract

What is an *avenue*? When and why did avenues emerge in the landscape? When and how did avenues become urban routes? Which physical features relate early seventeenth century avenues to their nineteenth century descendants? The present research set out to answer these questions.

Published literature regarding the urban type *avenue* was either too general, neglecting thorough examination of case studies, or too particular, focusing solely on idiosyncratic traits. The methodology chosen to pursue this research was to change focus from individual cases to urban type; nevertheless, conclusions were founded on the comparative analysis of three case-studies in order to avoid generalist preconceptions. The three case-studies were chosen because of their iconic stature: Avenue des Champs-Élysées (Paris), Regent Street (London), and Avenida da Liberdade (Lisbon). The detailed account of why and how the three chosen case-studies were commissioned, conceived and built provides an illustrated sequence of how the *avenue*, as an urban type, was used in the seventeenth, nineteenth and twentieth centuries. The comparative methodology introduced by this thesis can be applied to future research focusing on avenues or on any other urban type.

Through the use of original comparative methodology, this research has led to two fundamental theses which differ from established understanding.

First, as may have been guessed by those who have walked through Regent Street, this thesis challenges the generalist understanding of an avenue as a tree-lined pathway of arrival. This definition will be replaced by a broader understanding of the avenue as a public space celebrating arrival within a transport network, but conceived to physically merge landscape and cityscape in the same geometric composition, as is presented in this thesis with Avenue des Champs-Élysées. This first thesis opens up the possibility to examine avenues according to principles emerging in landscape architecture, without reducing the definition of the avenue to a physical trait.

Second, this research does not endorse the understanding of the Nineteenth century urban *percée* (or avenue piercing through built core requiring for that purpose an

exhaustive programme of expropriations and compensations) as a type created by enlightened absolute power, as is often suggested by reviewed literature. This thesis presents the nineteenth-century avenue as a type emerging with (and because of) a society founded on economical and political liberalism.

The final chapter explores the avenue's design potential: the avenue has both an all-inclusive, multifunctional, nature and the ability to become a meaningful public space, symbolizing the nation.

Any study related to the urban realm embraces many disciplines; nevertheless, this research has chosen as primary field of research the physical development of urban space and has been framed within Urban Critical and Historical Studies.

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List of Accompanying Material (1 book):

- Morais and Roseta (2005) *Os Planos da Avenida da Liberdade e seu prolongamento*.
Lisboa: Livros Horizonte.

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Author's Declaration

1. During the period of registered study in which the thesis was prepared the author has not been registered for any other academic award or qualification.
2. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

Filipa Roseta Vaz Monteiro

April 2009

1. Introduction

1.1. *Why the modern avenue?*

This research is focused on understanding the emergence and specificities of an urban type, the avenue. Today, reviewed sources¹ are consensual in stating that the avenue, as a physical public space, did not exist in the medieval city. Avenues emerged and developed alongside modernity's scientific methodology and consequent discoveries. The relevance of presenting, today, a research focusing exclusively on the avenue as an urban type is that, to the best of my knowledge and considering all reviewed sources, it has not been done before. There is no prior research focusing solely on the definition and development of the avenue, despite its most relevant condition of being an urban type which emerged alongside scientific methodologies.

Reviewed published literature referring to the *avenue* as an urban type is either too general, neglecting a thorough examination of case studies, or too particular, focusing solely on individual cases. On one hand, generalist published literature referring to the avenue as an urban type tends to crystallize the avenue as a tree-lined pathway of arrival (Merlin and Choay, 1996, p.94) prone to absolute power due to its monumentality (as suggested by Kostof (1991, p. 217) and Lawrence (1988, pp.355-74)). On the other hand, extensive published literature reviewed regarding specific case-studies lacks the comparative analysis required to challenge this generalist definition of the type.²

The original path I have chosen for this research was to change focus from individual cases to urban type, but to anchor conclusions on the comparative analysis of iconic case-studies. Three case-studies have been chosen to present what, confronted with all reviewed sources, I have elected as the three most relevant stages of the avenue's development, namely: the seventeenth-century emergence of the avenue as a physical space uniting city and landscape; the nineteenth-century use of the avenue as a tool to regenerate, or improve, urban core; and the twentieth-century use of the avenue to expand pre-existing core. The three case-studies chosen were: Avenue des Champs-Élysées (Paris), Regent Street (London), and Avenida da Liberdade (Lisbon).

¹ Cf. Kostof (1991, pp.211-212, 246), Merlin and Choay (1996, p.94) and Lawrence (1988).

² Published literature concerning specific case-studies is too extensive to be reviewed in this introduction but its shortcomings derived from the lack of comparative analysis are indicated in later chapters.

1.2. On Method

“The ‘heart’ as *lived* is strangely different from the heart as *thought* and *perceived*.” Henry Lefebvre (1991, p.40)

This research has been framed by Urban Critical and Historical Studies, which necessarily embrace many disciplines; however, this research has been focused on the configuration of physical space. Nevertheless, I endorse a broader understanding of urban space's production as a result of tensions and empathies generated within the triad of *perceived* space, *conceived* space and *lived* space, as presented in Henry Lefebvre's (1991) *Production of Space*. Perceived space relates to *physical* space, or to the space built and experienced by the senses. Conceived space relates to the *mental* space, or to the model space as it is designed by an author's ideal. Lived space is the *social* space, or the cultural, political and economical spaces set in place stimulating (or stalling) further space production. As will be presented throughout all chapters, both the origins and the subsequent developments of the avenue as a physical space are closely related to changes occurring in social and mental space.

The research method and research limits determined to understand the avenue as a physical space were to survey urban plans and projects conceived for these monumental spaces, dissecting motivations driving each project. In order to do so, I chose to take particular notice to the words of: (1) practitioners who conceived these urban spaces and (2) clients who commissioned the plans and projects. The goals and limits of the chosen methodology were to locate, in archives or in printed primary sources, the *intentions* driving the practitioners and the clients who designed and commissioned the three selected urban spaces. Critics contemporary to the projects were also reviewed during the course of this research even if critics' opinions had to be handled with caution due to personal motivations driving the criticism.

Focusing on the practitioners' ideas and on the clients' intentions, instead of focusing solely on physical resemblances, has allowed me to detect extraordinary conceptual similarities between apparently different physical spaces such as Avenue des Champs-Élysées and Regent Street. As this thesis argues, early seventeenth century avenues, as Avenue des Champs-Élysées, were conceived and built with the explicit design intention of overcoming the division between the city and landscape in the city's surrounding outskirts. This research found this same design intention in the project description written by the architect who conceived Regent Street, John Nash:

By the straight direction of this street Mary-le-bone Park is brought nearer to the houses of Parliament, Courts of Law, the Treasury, Admiralty &c. than many

other parts of the town...Such are the advantages of a direct street; and if, as the late Surveyor General observes, "distance is measured by time", Mary-le-bone Park, being without impediments and interruptions of turning corners, and crossing streets, will be nearer to the Houses of Parliament, Courts of Law, and Public Offices, then four parts out of five of the principal residences in the west and north-west ends of the town. (Nash cit. in White, 1814, pp.li-iii)

Based mainly on both Nash's project description and on White's early nineteenth-century description of the "New Street" (Regent Street) as an "avenue"³ (White, 1814, p.39), but also on popular histories which today name Regent Street "an avenue of superfluities" (Hobhouse, 2008,p.74), this thesis will argue that Regent Street was conceived and built to become a British avenue. By including Regent Street as a case-study, this research aims to broaden the meaning of the word *avenue*, providing an original understanding of the avenue as an urban type which differs from the "tree-lined pathway of arrival" described by Merlin and Choay (1996, p.94).

By choosing three different case-studies conceived in three different periods, the research aimed to understand the avenue in three moments: in its early seventeenth-century emergence, in its nineteenth-century usage as tool of urban regeneration and in its early twentieth-century usage as the structure of urban expansion. However, this research does not aim to provide a history, nor does it aim to be a thorough insight regarding urban historiography. The aim of this research is to understand a concept, the *avenue*, and particularly to explore how this concept emerged from modern reproducible principles and yet, as it was applied to specific sites, managed to incorporate the unique iconic traits of each place.

1.2.1. Limiting the Field of Research

Choosing case-studies was an operative requirement to limit the field of empirical research. Both Paris and London were mandatory for a research regarding the modern avenue, due to the French origins of the type and to London's pioneering position in the nineteenth-century age of urban improvement. Lisbon was further chosen to present how the avenue was a reproducible type imported to improve the cityscape. By choosing Lisbon as a third case-study, my choice to limit the research was to focus on the European capital city. Within London, Paris and Lisbon, the three particular case-studies were chosen due to their singular position within the cityscape and to their ability to represent the city. A further operative argument supporting the choice of these

³ "The current remark, that the New Street is merely an avenue from Carlton House to the Regent's Park is scarcely worthy of notice, as it can by no means be expected that future kings would choose a palace on so limited a scale for their royal residence." (White, 1814, p.39)

three case-studies as research limit was my fluency in the Portuguese, English and French languages which proved to be fundamental for archive research and for a thorough review of specific published literature. An affective argument was that Paris, London and Lisbon have been my home.

1.2.2. Approach to Sources and Established Understanding

Since this thesis aims to understand a type, the avenue, through the analysis of the *intentions* driving the projects, the sources considered *primary sources* were those written by the practitioners who conceived the spaces or by the clients who commissioned them. In order to limit and survey sources thoroughly, I established the following approach: firstly, I attempted to locate the original project, the project's description, and the client's intentions; secondly, when locating primary sources proved to be impossible⁴, I tried to locate printed secondary sources which had analyzed the project or had reproductions of the project; thirdly, I reviewed all studies and published literature regarding the chosen case-studies in order to frame what the established understanding regarding these spaces was; fourthly, I reviewed studies and published literature regarding practitioners in order to detect how the selected case-studies had been influenced by other projects; fifthly, I reviewed generalist urban histories, but I focused on those histories which regarded typological analysis. Whenever I found an incongruence in between sources, I chose to follow: first, primary sources and second, secondary sources indicating a direct reference to primary sources.

Where this research differs from all sources and literature reviewed is in the use of the comparative methodology in order to establish the definition of an urban type. This difference in methodology leads to a different definition of avenue.

Firstly, as the reader who has walked through Regent Street may have guessed, this research is not aligned with the understanding of an avenue as a tree-lined pathway of arrival. This pre-conceived definition is, in this research, replaced by a broader understanding of the avenue as a public space, celebrating arrival within a transport network, but conceived to unite physically landscape and cityscape within the same geometric composition. As will be presented by this thesis, the origins of the avenue can not be simply traced to the use of trees, but to the explicit design intention to unite cityscape and landscape within the same geometric composition. This first thesis opens up the possibility of examining spaces according to principles emerging in landscape architecture, without reducing the definition of the avenue to a physical trait.

⁴ Particularly regarding Avenue des Champs-Élysées (see Archive Review)

Secondly, this research argues against the nineteenth-century urban *percée* (or avenue piercing through built core requiring for that purpose an exhaustive programme of expropriations and compensations) as a type created by enlightened absolute power as is often suggested. This thesis will present the nineteenth-century avenue as a type emerging in a society founded on economic and political liberalism.

Thirdly, what this thesis aims to argue, today, is that the *avenue*, despite being conceptually grounded on modern reproducible principles, displays the ability to absorb and adapt to local characteristics; hence, this most modern tool has the ability to become an idiosyncratic physical space impregnated with a city's iconic character.

1.2.3. On the structure of this thesis

This introduction will further present a survey of the word's etymology and a definition of *avenue*, as indicated by reviewed literature. The introduction will be followed by three chapters which will present the three stages of the avenue's development as described above. Each chapter is preceded by a chapter introduction summarizing the main arguments presented and defended throughout that chapter. The conclusion will summarize the main points established by this research and will further clarify how this original contribution to knowledge has opened up new research questions which may be explored by future researchers.

1.3. What is an avenue?

1.3.1. Arrival

The origins of the word *avenue* can be found in the Oxford English Dictionary (1989) and in etymological dictionaries of the French (Dubois, c2001) and Latin languages (Lewis, 1966). The Oxford English Dictionary places the earliest English use of *avenue* in the early seventeenth century.⁵ The sixteenth century French word *avenue* can be traced back to Rabelais' *La Schiomatiche* (1549) "*L'advenue de la grande porte du palais (...)*" (Lewis, 1966). The word *avenue* derived from the Latin word *advenire* (from *ad-* 'towards' + *venire* 'come'). Both in old French and Latin, the word's original meaning was related to *arrival*.

Remembering a word's origin unveils nothing more than the reason why the word needed to be.

1.3.2. Noble Path

A specialized dictionary of urbanism provides an urban understanding of *avenue*. As indicated by this Dictionary, *avenue* means 'path of arrival to a place or destination'. This same dictionary provides an historical evolution of the term's use. According to this dictionary, *avenue* was initially used to designate an alley of trees leading to a *château*, and later, a wide urban route lined with trees. Considering its original relation to castles and other noble places, the term *avenue* carried a tradition of prestige which was exploited by nineteenth-century planners. In the American continent, *avenue* generally designated wider routes that opposed narrow streets. (Merlin and Choay, 1996, p.94)

Many questions arise from this synthetic dictionary entry. When and why did avenues emerge in the landscape? When and how did avenues become urban routes? What physical features relate early avenues to their nineteenth-century descendants? This research aims to answer these questions.

1.3.3. The Avenue, Merging City and Landscape

Henry W. Lawrence (1988) published an article in *The Geographical Review*, with the specific goal of establishing the origins of the nineteenth century tree-lined "boulevard".

⁵ The Oxford English Dictionary (1989) indicates the following early uses of the word *avenue*: 1639 – "The first heate you raise by your avenues and addresses will coole" ...; ...1603 – Holland/Plutarch "I have prevented thee (ô fortune) I have stopped up all thy avenues"...1600- Holland "Hermeum, where is the advenue [transitus] out of Boeotia into the Island of Euboea."

The article's broader purpose was to "investigate the use of trees in urban areas prior to the nineteenth century and to offer a typology of the forms for an analysis of the spatial evolution of cities" (Lawrence, 1988). With this purpose in mind, Lawrence creates a systematized historical evolution of tree-lined urban types. Of all literature reviewed, this article is the most specific and coherent systematization of tree-lined urban types' historical evolution.

As argued by Lawrence, the use of trees within the cityscape had been limited before the eighteenth century in Europe and almost absent before the seventeenth. Lawrence's historical evolution of types, leading to the nineteenth-century boulevard, is presented as a sequence of nine different tree-lined types: (1) garden *allée*, (2) wall promenade, (3) waterside promenade, (4) *mall*, (5) *cours*, (6) exterior avenue, (7) place promenade, (8) baroque boulevard, and (9) interior avenue.

What this thesis will argue to be most interestingly suggested by Lawrence's historical evolution of types failed to be noticed by Lawrence; hence, it is not stated in the article. This thesis will argue that early avenues appeared with the merger of landscape and cityscape which occurred when, and because, city walls crumbled. As Giedion suggests (1982, pp.711-712): "Space is necessary if houses face greenery. Such space was impossible in the old walled towns."

Before the introduction of avenues in the seventeenth-century cityscape, most European capital cities had very clear physical limits determined by fortified walls. The city's fortified walls were a necessary protection during turbulent eras of warfare strategy, involving direct assault on cities by potential occupiers. A city's fortified wall kept tree-lined spaces outside the cityscape or bordering to the wall, with the occasional exception of private (walled) gardens. For reasons which will be discussed in later chapters, capital city fortifications became obsolete and were either rebuilt or torn down. When fortifications were torn down, trees-lined types were allowed to, literally, penetrate European cityscape allowing cityscape and natural landscape to merge.

Lawrence's earliest examples of tree-lined spaces were either walled or protected by city fortifications. The earliest tree-lined type was the *garden allée*, a tree-lined path in a private garden, dedicated to promenade and leisure and almost always enclosed by walls to guarantee the garden's private status. The wall promenade and the waterside

promenade were tree-lined walks along city wall or waterfronts⁶. Waterfronts were a type of city limit or city border; thus, trees were embellishing or improving walks along those borders.

The *mall* and the *cours* were no longer walled. Lawrence describes them as “recreational variants” of the garden *allée*. The mall was a place for the *pal mall*, or *jeu du mail*, a game which involved hitting a ball across a stretch of lawn with a mallet, while the *cours* was for recreational carriage driving and horse riding. Lawrence rightly detects the extraordinary relevance of these two types of recreational spaces: even if separated from the city’s system, the *cours* and *mall* were public spaces.

A mall and a *cours* added something new to European landscape: recreational areas outside garden walls usually accessible to the elite. They formed part of the urban milieu rather than being restricted to a semi-private garden or country estate. The *cours* was especially important because it transformed the garden *allée* into a place for vehicles albeit one not yet integrated into the city’s street system (Lawrence, 1988).

After the *cours*, came the avenue. Lawrence introduces the *avenue* in his sequence of types as “exterior avenue”; hence, distinguishing between inside and outside city walls. Lawrence also determines the avenue to be the *allée*’s sequel. The difference being that the exterior avenue was used outside garden walls; while the *allée* was enclosed within a private garden.

The exterior avenue made two particularly important contributions to the development of the tree lined boulevard. This type of avenue served as a model in the large scale spatial planning by later urban designers, and the gradual encroachment of expanding city in subsequent years turned many tree-lined country roads into tree-lined city streets (Lawrence, 1988).

Lawrence differentiates between “exterior avenue” and “interior avenue”, the latter being the result of “gradual encroachment of expanding city”. Thus, from reading Lawrence’s article, what can be concluded is that “exterior” became “interior” due to the

⁶ Lawrence (1988) claims Antwerp to have built the first tree lined canal (1570s-1580s) and Amsterdam’s 1615 expansion (“3 canal plan”) to be a pioneer experiment in the composition of urban space using buildings, trees and traffic. The “3 canal plan” remained, according to Lawrence, an isolated example which did not serve as model or influence to other capital cities.

city's natural expansion, in other words, that the "exterior avenue" was absorbed by city expansion, thus, introducing tree-lined types into the city's physical space.⁷

An alternative thesis, more accurate than Lawrence's "gradual encroachment", emerged with this research through the detailed study of the Avenue des Champs-Élysées. This thesis argues that early avenues emerged when, and because, city walls crumbled. Hence, city and landscape could be merged by one common type, the avenue.

1.3.4. Boulevard or Avenue?

In the article (Lawrence, 1988), the 'baroque boulevard' rightfully refers to Louis XIV's destruction of Paris' fortifications. Paris' fortifications came down to be transformed into shady, leisure-oriented, tree-lined spaces. Lawrence's concern with tree-lined space typology obscures what could have been his article's most interesting conclusion regarding the boulevard's origins, namely, the fact that with the baroque boulevard the city's physical limit suddenly disappears.

This research's thorough analysis of the Champs-Élysées is presented in later sections, will clarify that the seventeenth-century physical city limit dividing Paris' exterior from interior did not disappear gradually, but occurred at a very precise moment for a very precise reason: city fortifications were demolished and transformed into shady promenades. When seventeenth-century fortifications crumbled and gave place to tree-lined leisure boulevards, the physical limit dividing the interior from exterior, dividing city from natural landscape, disappeared, and allowing trees to become part of the cityscape.

Lawrence does not place great relevance on the baroque boulevard, because his article's goal is to locate the origins of the "Nineteenth century Boulevard", referring directly to a type which became a widespread urban model after Haussmann's regeneration of Paris. Lawrence describes this nineteenth-century boulevard to be

...a boulevard a modern eye could recognize: a wide crowned pavement flanked by gutters, curbs, and sidewalks with rows of trees along their edge.
(Lawrence, 1988,)

⁷The Place Promenade, or a square with a promenade of trees, was but a variation of the promenade which confirmed the practice of embellishing interior city spaces (a square) with lines of trees. (Lawrence, 1988)

Lawrence's description of a boulevard could easily be an avenue's description, so how can an avenue be differentiated from a boulevard? Lawrence does warn that most of these terms (*allée, cours, promenade, and avenue*) can be used, and were often used, in an interchangeable manner. Identical physical features seem to make *avenue* and *boulevard* synonymous to "the modern eye". Even Haussmann used both *boulevard* and *avenue* interchangeably (Merlin and Choay, 1996, p.115). However, each term has a different etymology; hence, I believe, a distinct definition of each can and should be discernible.

As stated by Lawrence and Merlin and Choay, the word *boulevard* derived from the German word *bollwerk*, or bulwark. *Boulevard* initially related to the site occupied by ramparts and later to shady tree-lined spaces built on the fortifications' demolition sites. In Germanic countries, boulevards were later named *Ring*, given their orbital configuration inherited from demolished fortifications; such was the case of Vienna (Merlin and Choay, 1996, p.115).

A most immediate method I use to detect whether a present day urban space is a boulevard or an avenue is to analyse the position of that space regarding the historical centre. *Boulevards* inherited orbital configurations from demolished fortifications. Early *avenues* were mostly radial, connecting city to natural landscape. Conclusions arising from this immediate analysis may be precise, but must be validated by a thorough survey of historical maps.

Through this research, I chose to use the words *avenue* and *boulevard* considering the terms' etymology and historic origins; hence, only if a given urban space case owed its configuration and location to the ruins of demolished city fortifications will it be named a *boulevard*. The purpose of respecting the terms' etymology and historic origins is to use words with their fullest and most precise meanings. The historically accurate use of each term can, just by naming a space *avenue* or *boulevard*, invoke centuries of history leading to that space's physical formation.

According to the historically accurate use of each term, most of Haussmann's nineteenth-century *boulevards* were, in fact, *avenues*. Haussmann's great axes meant to connect precise urban locations and train stations; hence, emphasizing the concept of arrival from which the word *avenue* derived. Haussmann's nineteenth-century regeneration of Paris was so profound that, not only Lawrence (1988), but other

reviewed historians⁸, feel the need to focus on Haussmann when referring to avenues (or any other type of urban regeneration.) Today, when reading through histories of nineteenth-century of urbanism, Haussmann, like the closest star, shines so brightly through every word and idea that the farthest and most ancient stars become faded to near oblivion.

The present research will start by travelling to those farthest stars, before boulevards replaced fortifications and before avenues became the only type which could speak the language of both city and landscape. It was the era of Leonardo da Vinci (1452-1519), Descartes (1596-1650) and the onset of global emperies. It was the dawn of the modern era.

⁸ Cf. Rodrigues (1979) and Olsen (1986)

2. Landscape Architecture, Avenue des Champs-Élysées

2.1. Chapter introduction

Throughout the sixteenth and seventeenth centuries, royal courts were a powerful vehicle of knowledge transmission. War, social upheavals and alliances sealed by royal marriages moved royalty from their city of birth to foreign cities. There were French consorts born in Florence, English monarchs seeking refuge in royal French family's homes and a French king invading Rome. This interchange of monarchs carried the Renaissance over borders and overseas, encouraging Florentine masters and inventions to travel from city to city, while reinventing themselves and their tools in the presence of different landscapes and different wills. Early avenues, namely the Avenue des Champs-Élysées, arose in the midst of this fecund royal interchange.

Through the historical development of Avenue des Champs-Élysées, this research will present the thesis that early avenues were the physical expression of two different sixteenth-century phenomena combined: an intensification of hunting habits driven by absolute royal power, changing lived space; and a mature manipulation of perspective, altering practitioners' conceived space.

Landscape's configuration was changing due to a growing popularity of hunting as a sport central to court life. Royal hunting itineraries and habits had major impacts on the physical landscape which made way for the avenue: the enclosure of forests as hunting parks, the emergence of hunting ground *allées* in parks and, most importantly, the emergence of a regional road network, open to all, but functionally connecting noblemen and monarchs to distant estates and (much appreciated) hunting grounds. It has been noted by published literature that hunting as a royal habit was changing the sixteenth and seventeenth century landscape both in France and England, namely by Noirmont (1867), Weill (1983), Williams (1998), and Steenbergen and Reh (2003). What has failed to be noted by reviewed literature is that early avenues, albeit belonging to an emergent regional road network, became unique within the network. While other roads provided a path, early avenues, as the 'paths of arrival' connecting other roads directly to the lodge, castle or palace, provided both a path and a clear physical configuration. Despite miles of road separating early avenues from each other, the repetition of a clear physical configuration allowed early avenues to imprint a sense

of unity on a vast regional scale. The 'path of arrival', greeting travellers into Western Paris, was physically similar to the path through which Versailles had been left behind.

The reproduction of the avenue as a physical space signalling arrival was only made possible with a mature understanding of Florentine modern perspective as a design instrument able to control landscape's grand scale. It has been noted by reviewed literature that perspective was a tool used to manipulate the landscape's grand scale, namely by those concerned with Landscape Architecture, such as Steenbergen and Reh (2003), or by those focused on the work of André Le Nôtre, such as Brix (2004). What has failed to be noted, and will be presented by this research, is that the reproducibility of perspective fostered not only the emergence of the avenue as a physical space, but further sustained the avenue's ability to be reproduced as a physical space within a regional network. I will present Grand Plan de Jouvin de Rochefort (1672-1674) (fig.12 and fig.14) as primary evidence of the avenue's reproducibility. Although this map has been published before in a compilation of historical maps of Paris (Pinon and Boudec, 2004, pp.70-71), its potential contribution to the history of the avenue had not been noted.

I have divided the Avenue des Champs-Élysées' historical development into three different stages, corresponding to three different spatial entities (and three different subchapters):

- 1) Enclosed Gardens: the Champs-Élysées had its origins in a late sixteenth-century enclosed royal garden,
- 2) Regional Road Network: Using perspective to lead Parisian views into infinite landscape, the Champs-Élysées became an avenue in the seventeenth century, part of an emergent regional road network, and
- 3) Urban Road Network: In the nineteenth century, the Champs-Élysées had its seventeenth-century infinite landscape views and regional scale disrupted by both the Arc de Triomphe and rebuilt city walls. Henceforth, the Avenue des Champs-Élysées became part of Paris' urban transport network, where it remains to the present day.

2.2. Enclosed Royal Gardens

2.2.1. Royal Atmosphere

Until the twelfth century, the site where today stands “*plus belle avenue du monde*” was but a vision of swampy lands and a forest of oak trees (Forêt de Rouvray). Hundreds of the forest’s hectares were later cut to plant vineyards (Ariste and Arrivetz, 1913, pp.iii-iv).

Western Paris’ royal atmosphere was mostly determined by François I’s decision, in 1528, to establish a royal residence in the city⁹. The place chosen by François I (1494-1547) to become his royal residence was the present-day Louvre. The Louvre was initially part of a city fortification built by Phillippe Auguste. By the sixteenth century, Phillippe Auguste’s fortified wall had been absorbed into the city’s core by a new surrounding wall, built from 1365, under Charles V’s orders, to 1420, under Charles VI (Chadych and Leborgne, 2007, p.40).

By the end of the sixteenth century, noble estates and other relevant properties¹⁰ had been built in Paris’ western outskirts, namely in Chaillot (fig.1). These estates and properties caused the emergence of considerable traffic of carriages, *promeneurs*, and *porteurs de chaises* between Paris and its western outskirts. This same East/West route along the Seine, between Saint Honoré and Chaillot, connected Paris to Versailles (Ariste and Arrivetz, 1913, p.11).

2.2.2. Landscape Views for the Florentine Consort

The Louvre, as royal residence, did not please the Florentine Catherine de Medici (1519-1589). Catherine was consort to François I’s successor, Henri II (1519-1559). In 1564, Catherine de Medici, by then widow and regent to 10-year-old Charles IX (1550-1574), decided to build the Tuileries Palace and Gardens.

Catherine de Medici wished for a residence with an adjacent leisure garden, able to provide landscape views, which the Louvre, within the city walls, could not possibly

⁹ “*Notre intention est de dorénavant faire la plupart de notre demeure et séjour en notre bonne ville et cité de Paris et alentour plus qu’en autre lieu du Royaume, connaissant notre château du Louvre être le lieu le plus commode et à propos pour nous loger. À cette cause avons délibéré faire réparer et metre en ordre le dit château et faire clore la place étant devant celui-ci.*” François Ier, 15 March 1528 (Chadych and Leborgne, 2007, p.54)

¹⁰ These properties were: Abbaye de Bons-Hommes; Manoir de Nijon; Chaillot’s Castle for Catherine de Médicis; and Manufacture Royale des Tapisseries (1604) (Ariste and Arrivetz, 1913, p.8).

provide. The chosen site for Catherine's palace was 500 metres away from the Louvre (Steenbergen and Reh, 2003, p.201).

The site was an old tile-making yard (Steenbergen and Reh, 2003, p201); hence, palace and garden were named *tuileries* (or tiliary). This site, adjacent to, but outside the city's fortified walls, granted Catherine proximity to her desired landscape and was later connected by a gallery to the Louvre (*Galerie du Bord d' Eau*).

Avenue des Champs-Élysées' present-day atmosphere, location and (almost) precise direction can be traced back to the sixteenth century's design of Tuileries Gardens.

2.2.3. Tuileries Gardens: Flat Grounds are not Florence's Hills

An overview of Paris' historical maps places the origins of the Tuileries Gardens on the transition of the sixteenth to the seventeenth century. The Tuileries Gardens made a first appearance on both maps of 1609 (*Plan de Vassalieu, dit Nicolay* (fig.5) and *Plan de Quesnel* (fig.7)), while remaining absent on the previous map of 1572 (*Plan de Belleforest* (fig.3)). There are slight differences between both maps of 1609¹¹ in what concerns the exact configuration of the gardens; nevertheless, both maps present the same structure regarding the Tuileries Gardens' original layout. The Tuileries Gardens' original layout was simply an irregular rectangular space, enclosed by four walls.

The grid-like layout of the Gardens seems, today, to have been a stiff layout, similar to its predecessor *châteaux* gardens. Newton (1971, p.160) describes the gardens planted next to the *châteaux* as "rather tedious flat expanse of checkerboard beds with nothing but typically child-like mechanical patterns of hedging". Newton, however, stresses that, unlike its predecessor *châteaux* gardens, Tuileries Gardens were a valuable and pioneer experiment on "colourful splendour"¹² achieved through floral richness.

Even if the gardens became a colourful splendour, the initial layout of the Tuileries Gardens did not inaugurate an innovative spatial proposal, as noted by both Newton (1971, p.160) and Steenbergen and Reh (2003, p.201). Geometry, flat grounds, and

¹¹Pinon and Boudec (2004, p.40) find no definite reason for the existence of two city maps with the same date (1609); however, they warn the *Plan de Vassalieu, dit Nicolay* exaggerates the buildings' heights and, despite having an accurate topographical survey, can not be accounted for in matters of detail. Thus, the relationship between Palace and Garden can best be trusted in *Plan de Quesnel*.

¹²Newton (1971, p.162) suggests improvements were made with floral embroidery, transforming the Tuileries Gardens into a "colourful splendour". Newton believes the Tuileries was a predecessor in this "colourful splendour" which "was eventually considered the chief characteristic of French landscape architecture." Newton supports his findings in engravings contemporary to the improvements.

proximity to the palace kept the gardens subservient to the building's views. The Tuileries Gardens were trapped by the layout of the grid and, mostly importantly, by surrounding walls. Using colour, as suggested by Newton (1971, p.162), was indeed, one positive way of benefitting from the moderate French climate; nevertheless, the Parisian flat topography enclosed the gardens within a 'roofless' space, overseen by the palace.

By the sixteenth century, when the Tuileries Gardens were conceived, the 'enclosed garden' type was far from innovative. Furthermore, within the 'enclosed garden' type and despite their "colourful splendour", Tuileries Gardens were far from being a most interesting example, paling in comparison to its fifteenth-century Florentine predecessors.

Orsenna (2000, p.18) suggests Catherine de Medici probably had Florence's Boboli Gardens¹³ of her childhood in mind. However, the Boboli Garden's Florentine hill, with a spectacular 15 kilometres-deep panorama, could simply not be reproduced on the Tuileries' flat grounds. As noted by Steenbergen and Reh (2003, p.51), Boboli Gardens, and other gardens of the villas surrounding Florence, benefited from the dramatic possibilities of hilly sites, creating terraces which expanded horizons to the most extraordinary landscape views.

The flat ground setting of the Tuileries trapped the Parisian gardens within their four wall confinement. This flat ground setting did not allow experiments with distant landscape panoramas to occur. As Steenbergen and Reh (2003, p.204) point out, the only possible depth, on the flat grounds of the enclosed gardens, was culminating the garden's central axis with a small circular apse for musical events.

If Catherine de Medici had hoped to recapture the impressive Florentine landscape views from within the Tuileries Gardens, the result must have seemed quite disappointing. Nevertheless, as Orsenna (2000, p.18) proposes, the Tuileries were "a bit of Tuscany under the skies of the Île de France"¹⁴, and in these gardens "Catherine recovered the pleasure of living"¹⁵.

¹³ For a detailed description and analysis of Boboli Gardens see Steenbergen and Reh (2003, pp.44-51).

¹⁴ Transl. FR "*un morceau de Toscane sous les cieux de L'Île de France*»

¹⁵ Transl. FR "*Catherine a retrouvé le goût de vivre* »

Almost three decades after Catherine de Medici's death, another Florentine and Medici consort, Marie de Medici (1575-1642) would cover French (flat) grounds with memories of Tuscany.

2.2.4. From Enclosed Leisure Garden to Enclosed Leisure Promenade

Marie de Medici (1575-1642) ordered, in 1616, the design of the *Cours-de-la-Reine*. Once again, a Florentine consort, by 1616 widow to Henri IV (1553-1610) and regent to young Louis XIII (1601-1643), brought to Paris memories of her hometown. Marie de Medici also longed for the Boboli gardens of her childhood¹⁶ and Florence's *corso* along the Arno (Steenbergen and Reh, 2003, p. 202). The French name *cours* derived from the Florentine *corso* (meaning promenade) (Ariste and Arrivetz, 1913, p.29); thus, imprinting Florence's influence on French toponymy.

While Tuileries Gardens were conceived as one enclosed leisure space, adequate for walking; *Cours-de-la Reine* was designed for leisure rides. The Tuileries Gardens were very much like an indoor space with no roof. *Cours-de-la-Reine*, despite being surrounded by a moat and railings, as seen in the illustration (fig.29), was an axis (1500 metres long) appropriate for riding and adequate to connect¹⁷ pre-existing places, namely to connect Tuileries and Chaillot.

Chadych and Leborgne (2007, p90) suggest *Cours-de-la-Reine* became the most prestigious place for promenade and further provide a definition of *Cours*, according to *Dictionnaire universel*, 1690:

The Cours is a pleasant place where beautiful people meet for promenade at certain hours of the day, and much is said about both place and gathering crowd.¹⁸

A mid seventeenth-century description of *Cours-de-la-Reine* corroborates this definition, presenting a lively atmosphere of promenade and leisure:

¹⁶Penelope Hobhouse (2004, p148) suggests the Boboli gardens, where Marie de Medici spent her childhood, were an inspiration for the Luxembourg Palace and gardens, in Paris, which were ordered by the consort at the same time she was commissioning "Cours-de-la Reine". The same can be said about "Cours-de-la-Reine".

¹⁷ Even if Marie de Medici's inspiration might have been her hometown's *Corso*, Ariste and Arrivetz (1913, p.8) suggest Marie de Medicis might have been instigated by Maréchal de Bassonpierre who, at the time, owned Chaillot's castle and wished to improve the route leading to his castle, so as to increase his propriety's value.

¹⁸ Transl. FR "Le Cours est un lieu agreeable où est le rendez-vous du beau monde, pour se promener à certaines heures, et se dit tant du lieu que de l'assemblée qui s'y trouve»

We find along this river four grand *allées* so large, so straight and so sombre due to the height of the trees forming those *allées* that we cannot think of a more pleasant promenade. It is also the place where all ladies go in the evenings with their small open-topped carriages and all men follow riding horses...this promenade is both promenade and conversation, and is, with no doubt, quite entertaining...they turn the grand *allées*, which are filled with painted and golden small open-topped carriages carrying the most beautiful ladies ...an infinite number of quality men, riding admirably and magnificently dressed, come and go saluting [the ladies].¹⁹

Even if this promenade was used by many to connect relevant places, it remained enclosed by railings, reminding all of its private nature. Ariste and Arrivetz (1913, p.30) suggest *Cours-de-le-Reine's* moat and railings were eventually removed, but were soon reinstated by an order given on 23 June 1766. This order mandated gatekeepers not to open the gates "...with the exception of princes by blood and authorized people or risk losing their position". This discrimination extended to transport modes as gatekeepers allowed entrance to "every horse-drawn coach belonging to either a qualified person or a bourgeois, hackneys and charge vehicles passing only by the bank"²⁰.

Comparing *Cours-de-la Reine* as presented on a 1648 map of Paris (*Plan de Boisseau* (fig.11)), to its presentation on a 1672-1674 map of Paris (*Grand Plan de Jouvin de Rochefort* (fig.13)), the first does seem to portray a moat which is absent in the latter. That same moat appears again on a 1692 map (*Plan de Nicolas de Fer* (fig.18)) and is definitely represented as a continuous barrier on a 1763 map (*Plan de Deharme* (fig.24)). Both maps and written sources indicate a variation in the *Cours-de-la-Reine's* degree of exclusiveness and confinement, throughout the seventeenth and eighteenth centuries; nevertheless, it seems safe to assume the *Cours-de-la-Reine* kept a private character and was mostly for the upper classes, enforcing exclusivity when those same upper classes faced any kind of threat.

¹⁹From *Le Grand Cyrus*, 10 volumes from 1649 to 1653 (Ariste and Arrivetz, 1913, p.29). Transl. FR "...on trouve le long de ce fleuve quatre grandes allées si larges, si droites, et si sombres par la hauteur des arbres qui les forment, que l'on ne peut pas voir une promenade plus agréable que celle là. Aussi est-ce le lieu où toutes les dames vont le soir dans des petits chariots découverts, et où tous les hommes les suivent à cheval;...cette promenade est tout ensemble promenade et conversation, et est sans doute fort divertissante...Ils virent ces grandes allées toutes remplies de ces petits chariots peints et dorés, dans lesquels les plus belles dames...étaient; et auprès de qui un nombre infini d'hommes de qualité, admirablement bien montés et magnifiquement vêtus, allaient et venaient en les saluant »

²⁰Transl. FR « qu'au princes du sang et aux personnes autorisées sous peines de perdre leur place"... "tout carrosse, soit de personne qualifié, soit de bourgeois, les fiacres et les voitures de charge devant passé uniquement par le quai »

In 1628, Marie de Medici ordered another promenade, a most relevant promenade for this research and for the history of urban design. This promenade, named the *Grand Cours*, was for Marie de' Medici's son, Louis XIII (1601-1643). *Grand Cours* provided comfortable rides to and from Versailles, where a stone hunting lodge for the monarch had been built, in 1624 (Newton, 1971, p172).

The *Grand Cours* is presented by Ariste and Arrivetz (1913, p.29) as the direct predecessor of Avenue des Champs-Élysées' grand axis; however, *Grand Cours* is curiously absent from maps of Paris which could have displayed it, like *Plan de Boisseau* (1648) (fig.11); thus, no representation reviewed can testify to *Grand Cours*' original configuration. According to Ariste and Arrivetz (1913, p.37), there were few plantations along *Grand Cours*, presenting a desolate scene of dusty landscape filled with ruts. Four decades later, the Sun King and his gardener, André Le Nôtre (1613-1700), transformed this desolate scene into today's world-famous Avenue.

2.3. From Enclosed Gardens into Infinite Landscape; or the Emergence of a Regional Road Network

2.3.1. André Le Nôtre and Creation of Paris' Grand Avenue

On August the 24th, 1667, André Le Nôtre was given an order by Louis XIV's minister of State and Economy, Colbert (1619-1683), to plant the Champs-Élysées' elm trees up to the present-day Rond Point. In an account of the Champs-Élysées' history published in 1913, Ariste and Arrivetz (1913, p.38) describe Le Nôtre's commission as "tree planting", undermining its extraordinary relevance. This relevance is quite well portrayed by later published sources, namely by Steenbergen and Reh (2003, pp.201-208)'s diagrammatic account, Devillers' (c1959) enthusiastic ode to "*l'axe de Paris*", and Chadych and Leborgne's statements (2007, p.75):

Le Nôtre united the Cours-la-Reine and the Tuileries Gardens, conceived separately, then completed them with a structured tree plantation and a magnificent perspective, Avenue des Champs Élysées. His brilliant work gave a decisive impetus to the capital's Western growth.²¹

²¹Transl. FR « *Le Nôtre réunit donc la Cours-la-Reine et le jardin des Tuileries, conçus séparément, puis les compléta par un bois structuré et une magnifique perspective, l'avenue des Champs Élysées. Son oeuvre géniale donna une impulsion décisive au développement de la capitale vers l'ouest* »

By “planting trees”, Le Nôtre unified three elements: the Tuileries Gardens, the *Cours-de-la-Reine* and the *Grand Cours*. These three elements were, originally, conceived as separate entities and were united, by Le Nôtre’s plan, into a single design composition. The task was as remarkable as taking three autonomous and different stories and managing to rewrite all three stories as one single grand narrative, which, in turn, becomes clearer and more concise than its predecessors.

For his grand scheme, Le Nôtre chose as axis of symmetry the central axis of the Tuileries Gardens. As the Gardens were structured by a grid with no predominant axis, Le Nôtre had to redesign the Gardens, widening a central axis (fig.30) and introducing four fountains with the purpose of reinforcing the symmetry. Judging by an overview of Paris’ historical maps, the grand axis replanted by Le Nôtre, was located precisely as an extension of the Tuileries Gardens’ axis of symmetry. Thus, the visual focal point of a visitor walking through the Gardens’ central axis extended into infinite landscape.

The *Cours-de-la-Reine* became part of this grand composition as a diagonal meeting the *Grand Cours* by Tuileries Gardens’ Western gates. The whole scheme was supposed to have a third axis, a new diagonal, which would mirror the *Cours-de-la-Reine* to the North, using the *Grand Cours* as a axis of symmetry. Three grand axes would be united at the Tuileries Gardens’ Western gates as a *patte d’oie* (meaning literally crow’s foot or three-pronged road). This third grand axis, however, was never possible. Properties North of Champs-Élysées had been bought, and on these properties, luxurious *hôtels* had been built. Ariste and Arrivetz (1913, p.31) register Colbert’s lament:

...by neglect, land plots were allowed to be bought by different landowners who built magnificent *hôtels* with large gardens adjacent to Champs-Élysées; hence, it is almost impossible to achieve the grand design.²²

All reviewed literature refers to this succession of interventions as if there was a sequential construction along one axis, most of the time (with the exception of Steenbergen and Reh, 2003, pp.201-224) failing to stress the substantial conceptual leaps taken in between spatial proposals: from the Tuileries’ enclosed Gardens to the *Cours*’ enclosed road; from the *Cours*’ enclosed road to the King’s *Grand Cours*, and

²² Transl. FR « on a eu la négligence de laisser acheter ces terrains par différents particuliers qui y on fait des *hôtels* magnifiques avec des grands jardins qui donnent sur les Champs-Élysées de sorte que l’achèvement de ce grand dessein et devenu presque impossible »

from an addition of adjacent leisure spaces to one composition centred on an emphatic grand avenue.

All failed to point out that only after Le Nôtre's intervention was Avenue des Champs Élysées firstly named Avenue (in 1680).²³ Not yet Champs Élysées, but *Avenue du Palais de Tuileries* duly respecting its royal affiliation. Until 1680, names chosen for such leisure spaces were related to the act of moving (*allée*, *corso*, and *promenade*). From Le Nôtre's intervention onwards this baptism, *avenue*, most accurately designated the *arrival* into Paris. If on one of its ends the axis arrived into Paris, on the other, the avenue both visually and physically burst the introspectiveness of a former walled city into infinite landscape, leading the viewer's focal point to what appeared to be an ever-unreachable destination.

Today, André Le Nôtre deserves to be remembered as the one who traced the exact location of, present day, Avenue Champs-Élysées. However, in spite of Le Nôtre deserving all of his biographers' many praises, Champs-Élysées' emergence as an early avenue required much more than individual talent.

This research will originally present Champs-Élysées' transformation, from *cours* and *allée* into *avenue*, as a result of the simultaneous occurrence, in Paris, of three factors: a social habit, a political event, and a conceptual invention. The social habit, promoted since early sixteenth century, was the affirmation of *hunting* as a noble habit central to court life. The political event was Louis XIV's historic decision to *tear down Paris' fortified walls*. The conceptual invention was *modern perspective*, a geometric tool imported from Florence.

2.3.2. Hunting and the Changing Landscape

The promotion of hunting to central leisure habit affected sixteenth-century landscape in two ways which, this research believes, promotes the avenue's emergence: 1) forests and hunting parks were increasingly organized with hunting ground *allées* and clearings, and 2) the court's hunting itineraries expanded through vast regions promoting the emergence of regional networks of roads linking distant estates.

²³ Names given to, present day, Avenue des Champs-Élysées (in between Rond Point et Étoile, determined by decree in 1812) were: 1670 – Grande Allée du Roule, 1680-Avenue du Palais de Tuileries; 1740-Grande Avenue des Tuileries (until Pontd'Antin); 1744 – Avenue de la Grille Royale (until grille de Chaillot) and Avenue de Neuilly (beyond grille de Chaillot) ; 1753 – Avenue de Tuileries; 1763-Grand Allée des Champs Elysées (until grille de Chaillot) ; 1767- Grande Avenue de Neuilly (beyond grille de Chaillot); 1777- Grande Avenue des Champs Élysées; 1784-Route de Saint Germain; 1789 – Avenue des Champs Elysées (Ariste and Arrivetz, 1913, p.236)

To understand the relevance of hunting, in the early sixteenth century, and to detect how hunting habits could be affecting the landscape, two core editions were considered, by this research, as valid sources (due to the quantity of sixteenth-century sources surveyed): Noirmont's (1867) history of hunting in France; and Williams' (1998) PhD thesis, regarding hunting in early modern England. The history of hunting in France provided, for this research, a context closely associated to Champ-Élysées, and Williams' (1998) account of hunting in sixteenth-century England demonstrated how hunting habits were not exclusive to the French courts. Additionally, early hunting manuals, popular amidst sixteenth-century court life, were reviewed.

2.3.2.1. *Hunting, a habit central to court Life*

In England, the sixteenth-century popularity of hunting manuals can be testified by the number of editions. At least, four of these manuals were printed in between 1586 and 1599, including the re-edition of *The Gentlemans Academie or the Booke of St. Albans : Containing three most exact and excellent Bookes : the first of Hawking, the second of all proper terms of hunting and the last of Armorie* (M.G.,1595), printed originally in 1486. Thomas Cockaine's (1591) hunting treatise, "*compyled for the delight of Noble men and Gentlemen*" (Cockaine,1591) introduces the sport in the following manner:

To the Gentlemen readers,

...

I find (gentlemen) by my owne experience in hunting, that hunters by their continuall trauaile, painfull labour, often watching and enduring of hunger, of heat, and of cold, are much enabled above others to the service of their Prince and Countrey in the warres, having their bodies for the most part by reason of their continuall exercise in much better health, than other men have, and their minds also by this honest recreation the more fit and the better disposed to all other good exercises...

I could here say much more in praise...but disport being of it selfe sufficiently commendable and able to say for it selfe, against all carpiry speches of the enemies thereof ...I bid you all farewell, with this caution that disport of hunting bee used by you only as recreation to enable both your bodies and minds thereby to better exercises, & not as an occupation to spend therein daies, months and yeres, to the hinderance of service of God, her Maiestie or your Countrey (Cockaine, 1591)

Sources, as early as Xenophon's hunting treatise from 4 B.C., indicate hunting had always been practised as a sport to entertain and strengthen potential warriors in times of peace (Noirmont, 1867, Vol. I pp. 5-13). However, according to Noirmont (1867, Vol. I p.152), the art of hunting, in France, saw its "*beau age*" in the sixteenth century, particularly with François I. According to Williams' thesis (1998), Henry VIII also reinforced hunting as a royal habit, central to sixteenth-century court life, in England. Thomas Cockaine's (1591) note of caution, quoted above, further suggests that, in the sixteenth century, the sport became, at times, so central to some gentlemen's lives that risked 'hindering' other more important matters.

The sixteenth-century promotion of hunting as royal habit, central to French and English court life, can also be confirmed by a set of royal decrees and *ordonnances* regulating tighter rules for hunting. In France, in a 1515 *ordonnance*, the Valois dynasty declared the *droit des chasses* belonged to the king; hence, only the king could hunt or provide concessions for his subjects to do so (Noirmont, 1867, Vol. III, p28). In England, where Norman Kings' Forest Law had already established that all forest animals belonged to the king, Henry VIII enforced a set of tighter rules (Game Laws of 1523, 1539, 1540) which included increased penalties (namely death penalties) for trespassers (Williams, 1998).

What all reviewed sources clearly point to is that hunting did emerge, in early sixteenth-century France and England, as a most regarded noble sport to which monarchs dedicated a relevant amount of their time. Ambassador Lorenzo Corterini writes, in 1552,

[Henri II] takes infinite pleasure in hunting all kinds of animals, as his father did, particularly stag, [Henry II] goes hunting two to three times a week, risking not only exhaustion, but also his own life.²⁴ (cit in Noirmont, 1867, Vol. I, p166)

François I, known as *Père de véneurs* (father of hunters), had magnificent *equipages*, as never seen before in France, to proudly impress visiting foreign princes. (Noirmont, 1867, Vol. I. p.159) François I's obsession with hunting was said to be such that, as an older man, the monarch followed expeditions riding a mule, and stated,

²⁴ Transl. FR "[Henri II] se complait infiniment à la chasse de tous animaux, comme faisait le père, et surtout à la chasse du cerf, à laquelle il va deux et trois fois la semaine, au risque des plus grands fatigues, non moins qu'au péril de sa vie"

When I can no longer move, I will asked to be carried... and perhaps after I die I will desire to go in my coffin²⁵ (Noirmont, 1867, Vol. I, p.163)

2.3.2.2. Emergence of a Regional Road Network

Williams (1998, pp.148-170) provides a clear description of how hunting affected English landscape under Henry VIII. The Dissolution of the Monasteries provided Henry VIII with land for the English monarch to establish hunting parks where he best pleased; thus, the Crown was the biggest landowner in the kingdom with as many as 400 game parks. Henry VIII hunted in a large number of these parks; therefore, most were prepared for the occasion. According to Williams:

The basic itinerary of the court from 1524 was increasingly determined by the location of Henry VIII's own houses and opposed to Henry VII which had been determined by noble houses and monastic geography. ...although there is continuity... old monasteries were transformed with a rationalization... and royal game reserves seem to have held prominent position of this policy. Frequency of the houses provided stopping points with manageable distances between them....

From 1520's to 1540's a network emerged. Lodges were built to stay with a central like Windsor surrounded by satellites lodges within the forest of Windsor providing places to stay after hunting. (Williams, 1998, pp-163-170)

The emergence of this 'network' was not specific to English landscape; it is also indicated by Steenbergen and Reh (2003, pp.134,174) regarding France's Seine valley region, even if almost a century later. During the first half of the seventeenth century, properties located in Seine region were rebuilt and expanded. Connecting these properties, a regional network of road transport emerged.

According to Weill (1983, p.65), the emergence of roads in France was preceded by Louis XI's decision, in 1464, to establish *Postes*. A 'royal road' started to emerge according to the location of postal relay sites. One century later, in 1599, Henri IV created the post of *Grand Voyer de France*, subordinating all roads to royal administration. Weill believes Henri IV was the first to wish for a more comfortable and certain ride in between Paris and the Château de Saint-Germain-en-Laye, which

²⁵Transl. FR « *Quand je ne pourrait plus me mouvoir, je m'y ferai porter...et peut-être après ma mort voudrai-je y aller dans mon cercueil* »

became a favourite residence to French monarchs, increasing the need to circulate in between Saint-Germain-en-Laye and the capital.

Three schemes (fig.31, fig.32, and fig.33) presented by Steenbergen and Reh (2003, pp134,174) visually display how a network of roads gradually dominated the landscape along the Seine valley, south-west of Paris, from the seventeenth to the eighteenth century. Axes (roads) outside estates connected to avenues which connected to residences and to large-scale hunting forests. The three schemes show the gradual emergence of a regional network for noblemen, connecting noble residences to each other and to hunting grounds.

The vast scale of this regional network is furthermore imprinted on the *Grand Plan de Jouvin de Rocherfort* (fig.12 and fig.14) from 1672-1674. As Pinon and Boudec (2004, p.48) point out, this Grand Plan was the first to portray Paris' nearby outskirts with realism. For this research, I believe a most interesting feature of this seventeenth-century map is the map's border, which includes distant noble estates, drawn in perspective to accentuate emphatic entrances. Versailles, Marly, Trianon, Clagny, Meudon, St. Germain-en-Laye and Fontainebleu were represented on this map, thus representing the idea of a 'greater' Paris, emphasizing the capital's regional expansion. A cross reading of Steenbergen and Reh's (2003) schemes (figs.31-33) and this seventeenth century map points to the growing relevance of a regional road network in France.

Despite not referring to England, Steenbergen and Reh (2003,p.135) further add this regional scale was precisely what separated France's landscape design from its Florentine predecessors. There had been a regional dimension to the villas. Noble classes divided their time between an active life of *negotium* at their *villa urbana* and a contemplative life of *otium* at their *villa rustica*. This seasonal habit could be traced back to the Roman Empire (Steenbergen and Reh, 2003, p.21). However, according to Steenbergen and Reh, in Florence, garden design was kept closely related to the Villa, while in France

Themes of the landscape architectonic treatment are extended to the regional landscape and the city. (Steenbergen and Reh, 2003, p.135)

The Avenue des Champs-Élysées' axis was a remarkable announcement of this regional road network's emergence. From within Paris, a visitor to the Tuilleries' Gardens was constantly reminded by infinite horizon of a regional control of landscape.

As imprinted in the seventeenth-century *Grand Plan de Jouvin de Rocherfort*, emphatic entrances, or avenues, brought together all estates by providing a similar path of arrival for all. A traveller arriving into any estate would be reminded of the estate left behind by a similar spatial experience. By providing a similar path of arrival, avenues united all estates of the regional network by a common spatial experience.

2.3.2.3. *Origins of the Hunting Ground Allée*

As stated in a previous section, Lawrence (1988) traced avenues back to tree-lined *allées*. He refers specifically to tree-lined urban types; hence, refers mostly to private garden *allées*. There was an earlier type of *allée* outside the urban realm: the hunting ground *allée*. I propose that the hunting ground *allée* was the closest predecessor to the avenue's origin. Hunting ground *allées* were long roads piercing through dense forests or hunting parks. Of the tree-lined types preceding the avenue, the hunting ground *allée* was a type which shared many of the avenue's physical features. The hunting ground *allée* had longer extensions than the private garden *allée* and was appropriate for riding, while the garden *allée* was appropriate for walking.

According to Newton (1971, p.156), the origins of "the of cutting long straight swaths through the forest in various directions with great circular clearings, or ronds points, at crossings" can be traced back to the following hunting custom: ladies of the court would picnic on forest clearings, while noblemen chased boar and stag, eventually emerging in the *allée* for the ladies "to observe them and utter the expected exclamations of praise and wonder" (Newton, 1971, p.156). Even if Newton's description is too simplified, this hunting custom can illustrate how the sixteenth-century hunting ground *allées* were changing sixteenth-century landscape. Long axes cut through dense forest allowed visual control along great extensions.

Both Newton and Kostof (1991, p.226, 240) refer to the emergence of *allées* piercing dense forest and leading to clearings without referring a precise source from which their conclusions could have been withdrawn. Newton (1971, p.156) dates the origin of these hunting customs to the sixteenth century, sometime after François I's decision to build Chambord in the Loire (in 1519). Kostof (1991, p.240), on the other hand, indicates Chambord to be the first garden featuring circular clearings (or *ronds points*) and *allées* for hunting purposes. Even if neither Newton nor Kostof refer to primary sources regarding the origins of the *allée*, the later *Carte des Chasses du Roi* (fig.27 and fig.28) (royal hunting map), surveyed and developed from 1764-1807, does present *allées* and clearings throughout all represented royal hunting parks.

The *Carte des Chasses du Roi* leads to the conclusion that *allées* and clearings organized parks and forests; however, the reason why hunting ground *allées* came about is not consensual and Newton's proposition of ladies sitting in *rond-points* to observe noblemen and "utter the expected exclamations of praise and wonder" is historically inaccurate. This sixteenth-century hunting custom referred by Newton (1971, p.156) and Kostof (1991, p.240) is not referred by other reviewed sources, such as Steenbergen and Reh (2003). Furthermore, the gender typification (suggested not only by this custom, but by Cockaine's (1591) above-quoted introduction to the hunting treatise ("To Gentlemen readers...")) does not seem accurate, according to Noirmont's research into primary sources. Noirmont (1867, Vol.I, p.164, 286-309) referring to sixteenth-century personal letters presents French queens and ladies of the court as fierce and enthusiastic hunters hardly likely to sit out of every chase.

Romance, according to Noirmont and Williams, was indeed part of hunting expeditions. Kings did take their favourites along and queens feared being left behind. The kings' purposes might have been far less subtle than watching from afar. Williams adds that medieval poetry frequently associated hunting with sex, presenting the following example,

... huntsmen wash themselves and in the absence of towels
They borrow the ladies' white chemises
and put their hand
on many a white thigh.
(Williams, 1998, p.8)

In spite of romance being a part of hunting, the hunting custom indicated by Newton and Kostof as the origin of the hunting ground *allée* seems at best simplified (at worst romanticized). Noirmont (1867, Vol.I, p.295) states that Louis XIV hunted from moving carriages, hence, the *allée* and *rond-point* might have been a network emerging to allow this type of hunting to occur. However, it is conceivable that clearings in hunting parks could have emerged as sites where hunting expeditions could picnic and rest. *Allées* would have allowed hunters to see through dense forest, into infinite landscape, and possibly catch sight of a fleeing deer.

In Williams' (1998) description²⁶ of England's sixteenth-century changing landscape, it is possible to trace hints of a more sustained explanation for the emergence of hunting

²⁶ Fully expanded in Williams (1998, Chapter IV)

ground *allées*. The difficulty of detecting Game Law trespassers led Henry VIII to promote enclosed smaller hunting parks, instead of open larger forests. Open forests were difficult to control and deer difficult to count; hence, forests were divided into parks, frequently enclosed and treated to receive Henry's elite.

According to Williams (1998, p.153), vast sums of money were required to treat royal hunting parks. Spending was such that, by 1550, the Crown was in need of a financial reform. The maintenance of the king's game parks was one of the most expensive Crown expenditures. Henry VIII had to sell land, as he could not afford its maintenance. Within the parks, further enclosures²⁷ were determined and

...careful attention was paid to the transport infrastructure of the Henrician game park. Roads, bridges and gates were all routinely maintained. Roads that are mentioned are gravelled (in 1526-1527). Most references however are to roads leading to the park lodge. (Williams, 1998, p.158)

In 1526-1527, *avenues* did not exist. The word *avenue*, itself, is said (on etymological dictionaries) to have first appeared in print in 1549. However, Williams' description of Henry VIII's game parks is a clear suggestion of where avenues might have originated. Roads were piercing sixteenth-century hunting parks and the road leading to the park lodge had a different treatment. Most importantly, this conclusion arising from comparative research allows this thesis to suggest that treating the 'path of arrival' was not exclusive to France.

There was, however, more to early avenues than a gravelled path. This thesis argues that avenues differed from roads because avenues were both roads and clear reproducible spatial proposals. Henry VIII's gravelled paths lacked that spatial sense; hence, they were regarded as 'improved' roads. As the word's etymology suggests, early avenues emerged in France. This thesis argues that the reason for the avenue's French origin can be traced to the possibilities of manipulating Florentine modern perspective on France's flat ground landscape. Furthermore, the chosen case-study for this research, the Avenue des Champs-Élysées, owed its emergence to a French political event, namely to Louis XIV's destruction of Paris' fortified walls.

²⁷ "Enclosure called a course, clearly from coursing deer and other animals" (Williams, 1998, p.162)

2.3.3. Paris, from sixteenth-century walled city to seventeenth-century “open city”

Paris' geographic location in the European continent set the city up for a turbulent sequence of invasions (the latest of which was the twentieth-century Nazi occupation). Hence, until the early twentieth century, Paris' limits were almost always determined by fortified surrounding walls. From the thirteenth century to the nineteenth century, Paris had six different limits, most of which were fortified for defensive purposes. During this six centuries' time span, Paris' area increased almost thirtyfold, from 272 hectares in 1215 to 7802 hectares in 1860.²⁸

All literature reviewed regarding the Champs-Élysées refers to the historic fall (and rise) of Paris' fortified walls and Giedion (1982, pp.109,140,143) further refers to the inclusion of “highways” or of a “highroad” in the composition of the landscape. The relevant fact that fails to be mentioned by all is that Champs-Élysées was only named *avenue* (in 1680) precisely after the city walls crumbled (1670s).

This thesis will argue that the relationship between the Champs-Élysées' grand axis and the expanding city can hardly be described as that of an 'exterior' avenue becoming 'interior' due to the city's gradual expansion, as suggested by Lawrence's (1988) typological history. Firstly, the Parisian avenue's grand axis can be traced to the Tuileries Gardens. These Gardens were designed within planned city borders. Hence, the grand axis started 'inside' the city, even if it expanded into the landscape. Secondly, the Parisian avenue was thus named precisely when, and possibly because, city walls were demolished (even if its western end remained outside Louis XIV's invisible fiscal limit).

What I believe the Avenue des Champs-Élysées' history can best testify is that the avenue, as an urban type, emerged as a space of both city and landscape, dissolving previous physical borders in between. As Paris' area expanded, the grand western axis, the present-day Avenue des Champs-Élysées, just kept getting longer. As seen in Steenbergen and Reh's (2003) scheme (fig.34), what, looking retrospectively, seems to be the hesitant growth of a grand axis was very clearly related to the city's changing borders.

²⁸ Areas according Chadych and Leborgne (2007, pp. 8, 32,158).

2.3.3.1. Paris' rise and fall of Fortified Walls

Both the *Grand Plan de Moithey*, from 1774 (fig.35) and Chadych and Leborgne's scheme (fig.36) provide a clear visual development of Paris' changing limits.

The construction of Phillippe Auguste's fortification (highlighted in yellow in fig.35 and in purple in fig.36) started in 1190 and was concluded by 1215. The purpose of Phillippe Auguste's wall was to defend the city from the English established in Normandy. The wall surrounded houses and pastures, thus allowing the city to survive a siege. Abbeys with surrounding *faubourgs* outside the wall were fortified areas themselves. Chadych and Leborgne (2007, p.32) suggest this wall was very important to create community ties, and ultimately, a Parisian identity *intra-muros*. The Louvre was built as part of the fortified system to defend one of its weakest defensive positions, the Seine (Chadych and Leborgne, 2007, pp. 32-33).

Military tactics used in the Hundred Years' War (1337-1453), particularly the trebuchet, rendered Phillippe Auguste's fortification obsolete. The trebuchet could launch stones, burning projectiles and even bodies infected with epidemic diseases over Phillippe Auguste's fortification despite its six to eight metres height and two to three metres width. In 1356, after the French King Jean II (1319-1364) was defeated and captured by England's Black Prince, Edward (1330-1376), a moat was hastily built around Phillippe's fortification to place the city out of the trebuchet's 50 metre reach. Jean II's successor, Charles V (1338-1380), ordered the construction of a new surrounding wall (highlighted in orange in fig.35 and in green in fig.36) which was started in 1356 and finished by 1420. Charles V's fortified wall and water-filled moat were as wide as 90 metres. The city area, *intra-muros*, enlarged from 272 hectares to 430 hectares. (Chadych and Leborgne, 2007, pp.40-41) The Louvre was absorbed into the city by Charles V's fortification. As stated in previous sections, François I's sixteenth-century decision to establish his residence in Louvre was an historic fact which stimulated a noble atmosphere in western Paris.

Charles V's surrounding wall was upgraded by a new wall, named *Fossés Jaunes* due to its colour (highlighted in orange in fig.35 and in yellow in fig.36). *Fossés Jaunes* was built on the right side of the Seine (*Rive Droite*) from 1634 to 1647. By then, the population of Paris was growing, and new *faubourgs* had been built outside Charles V's fortified wall. (Chadych and Leborgne, 2007, p.66)

Estimated figures refer to a population in Paris of 275,000 in 1365, two thirds of the population in 1637, 415,000. These figures, even if not taken as precise due to the absence of exact surveys, indicate a density (64 habitants per Km², in 1365, to 96 habitants per Km², in 1637) to which Paris never even came close to until present day. (www.recensement.insee.fr and www.demographia.com)

Henri II prohibited further building in 1548 but, unable to enforce his *ordonnance*, dismissed it in 1550 (Chadych and Leborgne, 2007, p.60).

Chadych and Leborgne, (2007, p.66) state the *Fossés Jaunes* wall was ordered by Richelieu, in 1631, fearing the Habsbourg menace. Charles V's fortification needed to be rebuilt where it had been torn down. Bastions to receive cannons were included. City limits were expanded to include Montmartre, Saint Honoré, and particularly Catherine de Medici Tuileries Palace and Gardens (as noted by Pinon and Boudec (2004, p.38)).

Steenbergen and Reh's (2003) schemes (fig.34) present Tuileries Gardens as emerging outside city walls. However, city walls were represented on both maps of Paris dated 1609 and 1615 respectively; furthermore, Chadych and Leborgne (2007, p.80) suggest the *Fossés Jaunes* wall had been planned as early as 1566. Hence, Catherine's decision to have a palace removed from such extreme urban densification did not imply Catherine wished to be outside the city walls. As Pinon and Boudec suggest (2004,pp.38,44), such was the relevance of the newly planted Tuileries Gardens that, as both palace and gardens were conceived, a new fortified wall was required to embrace both into the city's protection, along with *faubourg* Saint Honoré.

2.3.3.2. "Open city"²⁹ or Regional Network?

With two *ordonnances* from 1670 and 1676, Louis XIV ordered Paris' surrounding wall to come down in order to become a boulevard, *Le Nouveau Cours* (fig.38). The boulevard was 37 metres wide and the *Conseil d'État* was clear in indicating the boulevard's aim to provide promenades ³⁰ (Chadych and Leborgne, 2007, p.86). On both sides of the 20 metre wide pavement ran a double range of trees. Nouveau Cours was adorned with triumphal arches which had no purpose other than echo the medieval gates and glorify Louis XIV victories. Furthermore, the monarch established a new city limit

²⁹The expression 'open city' is used by Chadych and Leborgne (2007, p.86) to characterize Louis XIV's destruction of the walls.

³⁰ "...à procurer des promenades aux bourgeois de la ville" (Chadych and Leborgne, 2007, p.86).

(highlighted in pink in fig.37) including the *faubourgs*, in 1674 (Chadych and Leborgne, 2007, p.87).

The 1674 city limit was not physically delimited by a fortified wall. Its purpose was to constitute a boundary beyond which building was prohibited (Chadych and Leborgne, 2007, p.87). The growth of extreme density, which prior monarchs had attempted to control, was thus controlled by Louis XIV. The city's limit, once destined to protect citizens from invasion, was, by Louis XIV, established to control urban expansion.

As Louis XIV ordered Paris' fortified walls to come down, three hundred fortifications were being built along the country's borders (Chadych and Leborgne, 2007, p.86). Pinon and Boudec (2004, p.50) believe a change in defensive strategy was reorganising defensive borders, moving city limits to country limits "against the English, on the coast, and against Spanish and German on the plains and mountains".³¹ One of the reasons for tearing down Paris' walls could have been attributed to Louis XIV's different military strategy including a better ability to control the Seine region. In Florence, Steenbergen and Reh (2003, p.21) suggest that "the possibility of building villas arose at a time when control of the hinterland by the cities rendered fortified rural settlements unnecessary." When villas and other rural properties did not have to be defensible, they could be transformed to fulfil leisure-oriented stays.

I believe London's seventeenth-century history can provide another reason to tear down fortified walls. Unlike Paris, London's geographic situation offered natural protection from foreign invasions; hence, since the Middle Ages, London managed to remain, almost always, without fortified walls. As stated by Whitfield (2006, p.47), Londoners did built a fortified wall in the seventeenth century after Cromwell's revolution. As London's revolution can best testify, in the seventeenth century, threats were not coming necessarily from outside city walls, threats were also coming from within.

London's fortified wall was ordered by Parliament in 1642-43 with the purpose of keeping overtaken monarchists at bay. No trace of this wall can be seen today, with the exception of the project (fig.39); however, as Whitfield reports (2006, p.47), the wall was said to have been built in six months by 20,000 volunteer (unpaid) Londoners.

³¹Transl.FR "contre les Anglais, sur les côte, et contre l'Espagnol et l'Allemand sur les plaines et les montaignes »

In Paris, Louis XIV also faced social tensions when he, still a child, was coming to power. In a (very) distant echo of what was occurring in London, French *Parlementiers*, unwilling to accept the king's full powers, barricaded the streets and rebelled within Paris' fortified walls. Paris had to be controlled to impose the crown's power. Unlike the English Revolution, Richelieu crushed *la Fronde* and bent noblemen to accept a powerful ruler. Louis XIV was observing the internal social unrest through a child's eyes. Some, like Castries (1979, p.218), suggest Louis XIV might have been severely affected by his childhood memories of a violent *Fronde* forcing him to flee Paris, remaining always suspicious of events unravelling in the capital city.

Even if Pinon and Boudec (2004, p.50) suggest Louis XIV demolished walls to best defend the city against *external* menaces, I believe it seems conceivable to assume this decision also reflected the monarch's desire to control emerging tensions *within* the capital's social fabric, particularly considering: 1) Louis XIV's ordinances from 1670/1676, ordering the wall to crumble, came at a time when the king was ready to envision Versailles as the permanent royal residence; 2) as noted by Castries (1979, p.208), to control noble power and the rebellion arising from religious dissent, Richelieu had previously used the strategy of destroying fortified estates which could be used by dissenters as defensible fortresses; 3) Paris had previously shut its doors on the protestant Henri IV, who, unable to take the capital by siege, was forced to comply with the capital's wishes, namely that the king converted to Catholicism in order to become the French Monarch. Reportedly, as he embraced the Roman Catholic religion, Henri IV stated "Paris is well worth a Mass"³² (Castries, 1979, p.198)

Louis XIV's destruction of the walls and imposition of an 'open city' reminded all, in the king's absence, of a regional noble scale. As, I believe, *Grand Plan de Jouvin de Rocherfort* (fig.12) can best testify, the similar emphatic entrances into estates, represented on the map's border, were the common spatial entity unifying all distant properties into one regional network.

The conceptual leap in between Henry VIII's early sixteenth-century "gravelled...roads leading to park lodges" (Williams, 1998, p.158) and these seventeenth-century emphatic entrances, or the conceptual leap between roads and avenues, was made possible with a mature understanding of modern perspective, a Florentine invention unleashed on French flat grounds.

³² Transl. FR "*Paris vaut bien une messe* ».

2.3.4. Modern Perspective, from fifteenth century painting to sixteenth century landscape

... in the first place, make yourself a master of perspective. (Leonardo da Vinci in da Vinci, 2005, p.73)

This research aims to establish geometric perspective as a fundamental instrument and idea required for the creation of the 'avenue'; hence, this section aims to present which fundamental design concepts were introduced by this geometric tool and how these concepts were applied in landscape design.

2.3.4.1. What is Modern Perspective?

Modern perspective is a geometric tool invented in the Renaissance. For practitioners, the purpose of perspective was, as it still remains today, to represent, with rigour, three-dimensional spaces on two dimensional surfaces. In essence, I believe modern perspective can be described as the art of illusion, since it has, as defining principle, the intent to present depth visually on a physically flat surface (fig.40). In spite of being guided by the purpose of building illusions, perspective is scientifically rigorous, allowing anyone who has been educated in the method to reproduce its steps and achieve similar results. To achieve these scientifically rigorous illusions, early perspectivists had to both choose a view point from which to organize the entire composition and to accept what appeared to be an illogical postulate: parallel lines eventually meet.

Panofsky (1999) presents a thorough essay³³ on historical ideas and events which led to the creation of modern perspective, starting in Ancient Greece to the fifteenth century's 'correct' perspective (*costruzione legittima*). Even if in Ancient Greece the notion of perspective was already present, the geometric *costruzione legittima* is said to have originated with Leonardo da Vinci (fig.42) (Damish, 1994, p.xvii). The invention of linear perspective as a design concept is, however, attributed to the architect Brunelleschi (1377-1446), even if it was disseminated and best systematized

³³ In the introduction of *Origins of Perspective*, Hubert Damish (1994, ppxiii-20) discusses Panofsky's (1999) *Perspective as Symbolic Form*, first published in 1924-1925, essay describing the criticism it has been subjected to since its first edition. Damish (1994, pp.5-6). points out Panofsky's errors and *naïvetés* concerning curvilinear perspective and vision; however, Damish defends Panofsky's essay to be "the inescapable horizon line and reference point for all inquiry concerning this object of study and all related matters" particularly "the sections...devoted to the genesis of the perspective construction with a single vanishing point...a model of analysis as yet unsurpassed... [demonstrating] how art was able...to serve as both site and instrument of an intellectual project..."

by Alberti's (1404-1472) writings (Panofsky, 1999, pp.58-60 and Damish, 1994, pp. 58-73).

...the canvas [or two dimensional surface of representation] should be a section of the visual pyramid. (fig.41) Alberti cit in Panofsky (1999, p.59).

I will argue throughout this thesis that modern perspective is most relevant to a present day research regarding avenues, even if it is ignored by Lawrence (1988) and (Merlin and Choay, 1996). As Panofsky suggests, perspective systematized, in fifteenth-century painting, three concepts: (1) the concept of subordinating all things to the *viewer's eye*; (2) the concept of framing *infinity* within the geometric composition; and (3) the concept of understanding *space* as an object or, as best quoted by Panofsky (1999, p.61):

[space] as a continuous quantity composed of three physical dimensions, existing, by nature, before and beyond all bodies, receiving everything indifferently.

I will demonstrate that these three concepts also lie at the core of an avenue's configuration.

Panofsky's (1999) essay focuses on the art of painting, comparing fifteenth-century painting to paintings predating the invention of modern perspective (fig.43 and fig.44). The essay's comparative analysis makes abundantly clear how fifteenth-century painters were most interested in this powerful tool of illusion, embracing the idea of space and confronting the viewer's eye to vanishing point.

Leonardo da Vinci's (da Vinci, 2005) writings (and paintings) provide further evidence establishing linear perspective, as the fifteenth-century 'correct' method of representation, condemning other practices:

The universal practice which painters adopt on the walls of chapels is greatly and reasonably to be condemned. Inasmuch as they represent one historical subject on one level with a landscape and buildings, and then go up a step and paint another, varying the point [of sight], and then a third and a fourth, in such a way as that on one wall there are four points of sight, which is supreme folly in such painters. We know that the point of sight is opposite the eye of the spectator of the scene;... (da Vinci, 2005, p.76)

Viewer's eye, infinity, and space were three design concepts introduced by perspective in painting which, throughout the fifteenth century, were mastered by painters. Throughout the sixteenth and seventeenth century, as this thesis will argue, these three concepts were used to manipulate (or reconfigure) landscape and the city; thus, supporting the emergence not only of avenues, but on a broader scope, the emergence of landscape architecture and urban design.

2.3.4.2. *Leonardo da Vinci, François I and the Hunting Ground allée*

This thesis will argue that the avenue emerged in France because of a conjunction of many factors. French flat grounds were being changed by an increasing hunting royal habit which pierced forests with *allées*. Furthermore, a fact that is neglected by all published literature concerning avenues, but I believe to be relevant, is that a Florentine master of perspective lived within the French court's milieu.

Leonardo da Vinci, undisputed master of perspective's abilities and shortcomings, was living amidst François I's court life when hunting was at its peak as a time-consuming royal sport³⁴ and when early hunting *allées* were piercing hunting ground forests.

As indicated by Panosfky (1999, p.31), Dürer presented the word *perspective* as derived from a Latin word meaning 'see through'.³⁵ Inside the forest *allée*, the viewer's sight, on one end of the *allée*, was led by two framing parallel 'walls' of trees to a vanishing point on the horizon line. As in linear perspective, in *allées*, the viewer's eye and vanishing point faced each other and all parallel lines evidently tended to the same point in the horizon; thus, viewer faced infinity where parallel lines seemed to meet.

Leonardo da Vinci lived in France from 1517 until 1519 (the year of his death), serving (precisely) François I, *Père des Vénéurs*, with designs of a palace and gardens, (precisely) for the Loire region (Nicholl, 2004, p.531). The personal relationship between the French monarch and the Florentine master was very close. Contemporary accounts report François I (an educated monarch) to have been *innamorato gagliardissimamente*, or completely overwhelmed, by Leonardo's knowledge of sculpture, painting, architecture, and philosophy (Nicholl, 2004, pp.524 and 531).

Leonardo was designing plans for Romorantin, a new royal palace and gardens, in the Loire. The project was abandoned with his death, but Leonardo's drawings and notes,

³⁴ As stated in previous sections.

³⁵ The word *perspective*, related to the Latin word, *perspicere*, could be related to the meaning "see through" but also to the meaning "see clearly" (Panofsky, p.69).

regarding Romorantin have survived and can be reviewed, today, in his Codex Atlanticus.³⁶ Pedretti (1972) published a detailed account of Leonardo's project for a royal palace at Romorantin. According to Pedretti,

...the plan is strictly organized along a longitudinal axis. It is just conceivable that it was intended as a building to be erected *ex novo* somewhere in the vast park of the XV century château and to be linked to that chateau by a geometrical sequence of gardens. It is also conceivable that the old château was to be conveniently modified to fit the program for a great royal residence. The emphatic axis would have become the invitation or a glorious promenade through architectural marvels. (Pedretti, 1972, p.94)

Had Leonardo lived longer, would he have built this glorious promenade *linking* two royal chateaux through a geometrical sequence of gardens? Could this glorious promenade have become the first modern avenue? In what regards the present research, the historic relevance of Romorantin's drawings and notes is beyond these questions.

Architecture and landscape were, in the early sixteenth century, treated as separate entities.³⁷ Leonardo treated them as one geometrical composition. What can be concluded from Romorantin's notes and drawings is that Leonardo was subjugating all elements of his design composition (space, architecture and landscape) to the same geometric scheme based on an "emphatic axis" for promenade (Pedretti, 1972, pp.94, 119).

I believe it is also conceivable that this geometrical composition along "a glorious promenade" based itself on the viewer's eye. For any painter, it would have been obvious to treat all elements as part of the same composition. For this particular painter, it would have been "supreme folly"³⁸ not to subjugate all elements to the viewer's eye.

The spatial and chronological proximity relating Leonardo, François I and the emergence of *allées* in hunting grounds supports the thesis that avenues could have originated from the *conscious* use of perspective as a design instrument exported from painting to the design of landscape.

³⁶ The plans for Romorantin and the numerous drawings regarding perspective included in Leonardo da Vinci's Codice Atlanticus can be accessed online (www.ambrosiana.it, accessed Oct 2008).

³⁷ As will be discussed on a later section.

³⁸ Reference to Leonardo da Vinci's quote on section 2.3.4.1.

When applied to landscape, perspective: (1) allowed practitioners to master in three dimensions what they had already mastered in two, namely bringing all elements under the same geometric composition subjugated to the *viewer's eye*; (2) framed the vanishing point within lines of trees; thus, trapping *infinite* space in the composition (3) inverted the relationship between empty spaces and built space, whereas before buildings were seen as objects and space as what was left in between buildings, with *allées* cutting through dense forest, *space became itself the object* while dense forest was what remained in between spaces.

Romorantin's sketches are few, thus cannot prove Leonardo invented yet another modern tool, the avenue; nevertheless, Leonardo was a most appropriate ambassador of Florentine know-how in France.

By the early sixteenth century, the Florentine relationship established in between the villa's terraces and distant panoramas had already been subjected, according to Steenbergen and Reh (2003, p.27), to early experiments with perspective, allowing foreground to be framed or disconnected from the garden's design. However, Florentine perspective required flat grounds to unleash grand scale design. Unlike Florentine hills, where *existing* landscape could simply be captured in a frame, French flat grounds allowed for *grand scale design of landscape*.

Did Leonardo grasp the French flat landscape's potential for generating infinite perspectives as opposed to the interruption caused by Florentine hills? Maybe the answer resides in this isolated note:

When I was once in a place on the sea, at an equal distance from the shore and the mountains, the distance from the shore looked much greater than that from the mountains. (da Vinci, 2005, p.41)

Even if Leonardo did not get to build Romorantin, he most certainly influenced the court's artistic and intellectual milieu with his insights. What Leonardo might have achieved with Romorantin's unbuilt palace and gardens was accomplished, more than a century later, by André Le Nôtre.

2.3.5. *André Le Nôtre, and the emergence of landscape architecture*

2.3.5.1. *Understanding Space, Controlling Infinite Landscape and designing from Inside*

André's father, Jean Le Nôtre, worked as gardener to the king in the Tuileries Gardens under Claude Mollet's supervision (Madame Mollet was André's godmother). (Orsenna, 2000, p.40) André grew up at his father's side, in the Tuileries Gardens, close to *Galerie du bord d'Eau*. Henri IV had offered studios and lodges in *Galerie du bord d'Eau* to the most reputed artists and artisans. In André's formative years, Jean sent his son to Simon Vouet's studio in the Louvre, where he studied for six years, in order to gain knowledge of the arts. Hence, Le Nôtre was trained as both painter and gardener (Orsenna, 2000, pp. 36-37).

Le Nôtre inherited his father's position, in 1637, at the age of 24, one year before *Roi-Soleil's* birth (Orsenna, 2000, p.39). In 1648, André became *dessinateur des plants et jardins du roi*, and, in 1656, *contrôleur des bâtiments*. (Orsenna, 2000, p.43) When, in 1667, Le Nôtre was commissioned to design the Champs-Élysées, he had already traced what reviewed literature is consensual to acclaim as his masterpiece, Vaux-le-Vicomte³⁹. Steenbergen and Reh (2003, p.167) go as far as stating that with the prototype created at Vaux-le-Vicomte "landscape architecture (in the person of Le Nôtre) has become an independent discipline".

Vaux-de-Vicomte preceded what remains, to this day, Le Nôtre's largest and most widely-known work, Versailles. Work in Vaux began in 1656. Louis XIV (1638-1715) witnessed what is said to have been Vaux-le-Vicomte's breathtaking opening on the 17th of August 1661. Shortly after the event, the absolute *Roi-Soleil* ordered the arrest of Vaux's owner (Minister of Finance, Nicholas Fouquet) on grounds of embezzlement. The *Roi-Soleil* further ordered that Vaux's gardener, Le Nôtre, should accomplish bigger and better at Versailles (Brix, 2004, pp.150-160).

Work in Versailles began immediately, during the winter of 1661-1662. Today, figures are still impressive: over ninety sculptors, twenty acres of kitchen gardens, three thousand orange trees imported from Italy, and the army so frequently used as labour that the *Pièce des Suisses* was thus named after the Swiss Guards who dug it. Louis XIV eventually moved his residence from Paris to Versailles and the court followed. It is

³⁹Vaux-le-Vicomte is quoted as Le Nôtre's best work in: Brix (2004), Newton (1971, p.165); Hobhouse (2002); and Steenbergen and Reh (2003, p.167)

presumed that ultimately 5000 people resided in the Palace and 15000 in the town which developed around it. The gardens became so vast that, by 1668, Louis XIV decided to enlarge his father's hunting lodge to build a palace worthy of the surrounding landscape architecture.⁴⁰ Unlike most situations, in Versailles, landscape architecture preceded architecture itself, with the gardens assuming autonomy from the buildings. Most of Le Nôtre's greatest achievements had, however, already been conceived at Vaux (Newton, 1971, p.172-173).

The "spatial unity" in between all elements is recognized as one of Le Nôtre's achievements, which separates his work from his predecessors' (Brix, 2004, p40). As can be admired, today, at Vaux (fig.45 and fig.46), palace and gardens are united by a strong spatial unity, not only between gardens and building, but among all parts of the garden.

Vaux's spatial unity was delimited and reinforced, by Le Nôtre, with a forest surrounding palace and gardens like a fortified wall. As in hunting ground *allées*, this 'forest wall' subjugates object (namely dense forest) to empty space, because space is placed as the unifying element of the composition. I believe the Champs-Élysées' seventeenth-century plan can be said to have had the same defining principle: the unifying element of the composition were axes (hence, empty space), while trees were planted to give shape to, or configure, those axes. In both cases, a forest wall was the frame, space became the picture.

Furthermore, in Vaux, the forest wall was meant to separate both palace and gardens from the existing landscape. As noted in Steenbergen and Reh (2003, p.166), unlike Florentine villas, Vaux was completely cut off from the surrounding agrarian context, creating an autonomous world of its own.

As a painter, Le Nôtre would have built a canvas to determine a frame, as a gardener Le Nôtre determined clear boundaries to his landscape work. Boundaries were already present in enclosed gardens (like Catherine de Medici's Tuileries Gardens). The difference is that Le Nôtre's composition was subjugated, by perspective, to the viewer's eye. Le Nôtre was not conceiving and designing *in front* of the painting but *inside* the painting.

⁴⁰ Presumably for affective reasons, the lodge remained untouched inside Palace's final layout. (Newton, 1971, p.173).

By creating strong boundaries and placing himself 'inside' those boundaries, Le Nôtre managed to trap infinity. The infinite was brought into the composition by controlled breaches (at Vaux) or grand axes (at Champs Élysées) on dense forest walls. In Florentine panoramas, where there was no surrounding 'wall', infinite landscape was seen as scenery, becoming almost a two-dimensional stage set placed behind the garden where the viewer was. With forest *allées* and grand avenues, the distant horizon line could be 'seen through' tree-lined spaces. Trees decreased in size as they approached the vanishing point in the horizon line; hence, trees provided both depth to the composition and frame for the infinite landscape beyond.

There was more to Le Nôtre than understanding space, controlling infinite landscape's infinite scale and designing as viewer from within the composition. As is well presented by Brix's study (2004), with full understanding of perspective's geometrical rigour, Le Nôtre manipulated perceived space, leading visitors into a realm of illusion where no distance was what it appeared to be.

2.3.5.2. *Using Perspective to 'Correct' Perceived Distortions*

As noted by Brix (2004, p.91), Le Nôtre understood that with landscape's grand scales, the viewer's sight line and the flat ground are always separated by a very small angle. This small angle distorts physical distances; hence, perceived distances are different from physical (measurable) distances; furthermore, perceived distances change as the viewer moves through space.

The idea that small angles distort perceived images was present in painted anamorphic compositions which interested "certain artistic and scientific milieus in the 1630s-1640s".⁴¹ Anamorphic compositions presented images which looked distorted from all viewpoints but one (fig.47 and fig.48). Anamorphosis explored the idea that only from a particular point of view could the painted perspective be seen as 'correct'. According to Brix (2004, p.91), these compositions were particularly studied within the *Ordre des Minimes* and a treatise was published, in 1638, by a Minime friar, Jean-Francois Niceron. Brix further suggests Le Nôtre knew Niceron's paintings and treatise.

There is, however, a difference between Le Nôtre and anamorphosis. While, anamorphic painting used small angles to present distorted images, Le Nôtre had no choice but to work with small angles, due to the landscape's grand scale. As Brix (2004, p.88) points out, Le Nôtre manipulated perspective to 'correct' perceived

⁴¹Marguerite Charageat cit in Brix (2004,p.88) Transl. FR

distortions. Le Nôtre understood that landscape could not be admired as a geometric harmonious composition designed as a plan (or as a two-dimensional drawing). The use of harmonious plans would result in perceptually disproportionate gardens.

Le Nôtre corrected perceived distances by either delaying or accelerating perspective. When perspective was delayed, physical distances were perceived as shorter. When perspective was accelerated, physical distances were perceived as longer. Perspective's delay decreased perceived depth. Perspective's acceleration increased perceived depth.

I believe it can be argued that the overall design strategy used by Le Nôtre in both Vaux and the Avenue des Champs-Élysées was to bring the adjacent gardens closer to the palace and to distance the landscape. The vastness of the overall perceived area was increased twofold: by increasing the perceived area which could be visually controlled from the palace and by increasing the perceived distance in between palace and landscape. To achieve this design strategy, Le Nôtre delayed perspective in between palace and the farthest limit of adjacent gardens, while accelerating perspective in between palace and distant landscape. In other words, horizon line and vanishing point seemed farther, while the most distant parts of adjacent gardens seemed closer.

The delay in perspective was mostly accomplished with the following design artifice: the farthest elements of a sequence were designed with larger dimensions as compared to the closest. As such, distances seemed smaller than they were and farthest elements were brought closer, as if by 'telescope', as stated by Steenbergen and Reh (2003, pp.202-204).

A most evident example of delaying perspective was the sequence of water basins. In the Tuileries Gardens, the circular water basin closest to the palace was designed with a smaller diameter (less than half) than the farthest water basin's diameter. (Steenbergen and Reh, 2003, p.207) (fig.49 and fig.50). At Vaux, as seen from the palace, the four water basins also appear to have the same dimensions and similar distances in between each other. The plan, however, reveals the farthest basin to be eight times larger than the closest, and the three circular basins to be, in fact, one circular and two elliptical basins (fig.45 and fig.46). Another example, at Vaux, is the sequence of sculptures: the sculptures placed near the Palace are three times smaller than distant sculptures (Brix, 2004, p.86).

The principle of delaying perspective, in gardening, preceded Le Nôtre's work at Vaux. Château Richelieu's (fig.51) *parterres*, planted by 1630, already followed this principle. (Brix, 2004, p.42) However, Richelieu's gardens were modest in scale when compared to Le Nôtre's grand schemes thus, remaining subservient to the *château's* views. As seen in the illustration, Richelieu's gardens were still conceived as enclosed gardens, trapped, like Catherine de Medici's Tuileries gardens, by wall and flat grounds.

The concept of delaying perspective, in gardening theory, was written and published by André Mollet in *Le Jardin de plaisir*, in 1651:

For this effect, it must be noted that the most distant *parterres* must have a greater volume than those closest, with the purpose of becoming more pleasurable to the eye and appear to have better proportions. (Mollet cit in Brix, 2004, p.80)⁴²

Romoratin's plans designed by Leonardo da Vinci also portray distances along the "emphatic" visual axis as longer than distances perpendicular to that same axis. Hence, even if no reviewed source refers to this, it is conceivable that Leonardo (as Le Nôtre) might have understood the principle of delaying perspective, or the principle of 'correcting' views along an emphatic axis, to please the viewer's desire for harmony.

In the Champs-Élysées' design, the avenue's grand axis was the mechanism used by Le Nôtre to accelerate perspective. At Vaux, long *allées* cutting through the dense forest wall were used for the same purpose. I believe it can be argued that Le Nôtre's intention to accelerate perspective through long tree-framed axes is best revealed on Vaux's earlier plan (fig.52). The forest wall was breached by long axes, which sought the longest possible route to intensify distance; thus, landscape outside the 'forest wall' seems farther. When these diagonals were too short, Le Nôtre designed the farthest end narrower; thus, making the route longer than it actually was.

Most importantly, in the Avenue des Champs-Élysées, as Steenbergen and Reh (2003, pp.204-208) point out, Le Nôtre offered no object, or focal point, on the opposite end of the grand perspective. The effect of this absence of focal point framed the horizon line at the farthest end, becoming the horizon itself the focal point. Working with the horizon as focal point, Le Nôtre introduced yet more depth (infinite depth) to the already 2

⁴²Transl. FR « Pour cet effet, il est à noter premièrement que les parterres les plus éloignés de la vue doivent être mis en plus grand volume que ceux qui en sont plus proches, afin de paraître plus agréables à l'oeil et mieux proportionnés. »

kilometres long axes. As seen by Champs-Élysées' section (fig.53), the visual axis culminated on a small hill top (present day Étoile). Those who reached the top of the hill could appreciate a most extraordinary panorama of Paris' outskirts. To those looking from the Palace, the hill was a further mechanism to block out surrounding landscape and accelerate the avenue's depth.

Reviewed literature regarding Vaux and the Champs-Élysées neglects another design mechanism used to provide more depth to the entire composition: the use of colour and details in the Gardens closest to the Palace. As painters well knew, manipulating perspective was not only accomplished by changing objects' magnitude. As stated by Leonardo:

The first thing in painting is that the objects it represents should appear in relief, and that the grounds surrounding them at different distances shall appear within the vertical plane of the foreground of the picture by means of the 3 branches of Perspective, which are: the diminution in the distinctness of the forms of the objects; the diminution in their magnitude; and the diminution in their colour. (da Vinci, 2005, p.37)

Le Nôtre was educated in the art of painting. I believe it is important to note that Le Nôtre's compositions illustrate Leonardo's three branches of perspective. As stated above, the water basin sequence is a clear example of manipulating object's magnitude. Relief was intensified with an increase of detail and colour in the gardens closer to the palace. The Tuileries Gardens' *parterre de broderies* and "colourful splendour"⁴³ contrasted with the horizon's natural absence colour and definition; thus, further increasing distance between viewer and horizon.

According to his biographer Orsenna (2000, p.92), Le Nôtre did not leave personal *memoires*, original writings, notes or precise drawings to be examined today, as he was a "man of the land" Orsenna (2000, p.133), a gardener. The resonance of Le Nôtre's artifices in André Mollet's written words, quoted above, proves his design principles were shared by a gardening community. André Mollet was son to Le Nôtre's godmother and to Le Nôtre's tutor, Claude Mollet; thus, they had a close relationship. (Hobhouse, 2004, p.149) Mollet's words date from 1651 and primary sources date Le Nôtre's initial work, at Vaux, from 1652 (Brix, 2004, p.22). These design principles were

⁴³Brix refers to Vaux's parterres as belonging to the universe of women. Brix bases this statement on two arguments: 1) Duc Saint Simon wrote that Le Nôtre used to say the *parterres* were only for childminders who, forced to stay with children, *promenaient* the eyes admiring the *parterres* from the second floor and 2) the only richly flowered parterre in Versailles was under the queen's apartments. (Brix,2004,p.73)

not only shared by a gardening community, but also travelled to other countries where this same gardening community served foreign monarchs. As can be seen today in a volume of prints presenting several options of garden plans kept in the British Museum's Prints and Drawing archives, in the seventeenth century, gardens and garden types were presented as a catalogue (*Plans et Dessins Nouveaux de Jardinage*) from which a patron could choose (BM, 161.c.26) (fig.55).

As indicated by Penelope Hobhouse (2004, p.149), André Mollet worked for Queen Christina of Sweden, Queen Henrietta of England before the Civil War, and after the Restoration, for Charles II, advising him on St. James's Park. Le Nôtre, himself, is said to have travelled to England in 1662 where he worked for James II on Greenwich's Gardens (Guiffrey, n.d., p.69). Orsenna (2000, p.111), on the other hand, attributes Greenwich's gardens to Le Nôtre, but believes most of Le Nôtre's accounted travels to be legends, stating the royal gardener only left France to visit Italy.

2.3.5.3. *Patte d'oie and the Regional Road Network*

When comparing Le Nôtre's plans of Vaux, Versailles and the Champs-Élysées, (fig.52, fig.53, and fig. 56) a most obvious relevant element is common to all three: the *patte d'oie* (crow's foot or three pronged junction) using the architecture (or the palace) as focal point and dispersing three axes into the landscape.

At Vaux, the central axis in front of the palace assumes a greater stature, and the *patte d'oie* is relegated to the forest at the back of the palace. There is, however, a strong resemblance between Versailles Palace's *patte d'oie* and the Avenue des Champs-Élysées' *patte d'oie*. It seems strange that not one of the published sources reviewed stresses this resemblance. Le Nôtre worked on both designs at approximately the same time, or, at least, during the same decade (1660s). By the end of this decade, the *Roi-Soleil* had already ordered the construction of a monumental palace in Versailles, and could already possibly envision moving to Versailles not only his permanent residence but also court life.

I believe it is conceivable that Le Nôtre was consciously providing the arrival paths into Paris and Versailles with the same spatial configuration. The *Roi-Soleil* would leave Paris behind through a physical space of which he would find a mirror upon arrival at Versailles. With the use of avenues as arrival paths, roads would be affirmed as one entity, one regional network, as opposed to the sum of many paths. In light of this reasoning, tearing down the fortified wall of Paris was a prerequisite to establish the regional road system as one unifying network.

The *patte d'oie* did not originate with Le Nôtre. Kostof (1991, p.235) provides a useful background history for this design element. Kostof believes the *patte d'oie* has "no exact precedent in antiquity or the Middle Ages", arguing that the three-pronged road originated during the first half of the sixteenth century, in Rome (fig.57 and fig.58). Honouring this Roman origin, Kostof refers to the three-pronged road as a *trivium*. The two first intentional sixteenth century *trivia* were in Rome: the Banchi trivium and the Piazza del Popolo. Both Roman *trivia* were placed with the focal point on a city gate expanding the three axes to the *inside* of the city.

An echo of Rome's *trivia* appears in Henri IV's unbuilt project for Paris which preceded Le Nôtre's work: the project for the Place de France, of 1609 (fig.59). As in Rome's *trivia*, in Henri IV's plan, axes expand to the *inside* of the city and are seen to meet on an open space in front of the city's gate. Christopher Wren's unbuilt project for post-fire London, in 1666, shared this same principle (fig.60). All these plans were enclosed within the city. As indicated by reviewed sources (Kostof, 1991 pp.236-240 and Chadych and Leborgne, 2007, p.65), on all these plans, the purpose of the long urban axes was simultaneously to improve circulation *within* urban space and to provide a recognizable and harmonious physical space *after* entering city gates.

I believe the Champs-Élysées' *patte d'oie* differs considerably from its predecessors (built) Roman *trivia* and the (unbuilt) Place de France. It is also differs considerably from Wren's plan despite the fact that Wren, according to Whitfield (2006, p.67), had visited both Paris and Versailles and was influenced by Le Nôtre's designs. While all others kept the focal point on the city gate and expanded the axes into the city, with Avenue des Champs-Élysées, Le Nôtre kept the focal point on an *intra-muros* palace and expanded diagonals to the *outside* of the city.

Both Versailles' *patte d'oie* and the Champs-Élysées' became increasingly urban. Adjacent land was divided into plots and construction emerged along the grand axes. Despite being designed as both ends of the same road, there was a difference between Versailles' *patte d'oie* plan and Champs-Élysées'. At Versailles, as noted by Steenbergen and Reh (2003, p.194),

The *patte d'oie* split the town into two parts. The central triangle was aligned with the château, while the palace, with its elongated wings, screened off the landscape behind.

As proposed by this research, on the Champs-Élysées' plan, the *patte d'oie* was rooted within the city and burst through the city walls to reach infinite landscape; thus, while Le Nôtre's plan for Versailles established with the palace a screen between the town and the palace's gardens, the Avenue des Champs-Élysées's plan united city and landscape through a grand visual axis.

Le Nôtre's *patte d'oie* was connected to the Tuileries' gates with a square (a *place*), the building of which Le Nôtre did not live to see: the present day Place de la Concorde. The intention to build this *place* was imprinted in *Plan de Bullet et Blondel* of 1676 (fig.15 and Fig.16). On this map, ordered by Louis XIV, *Le Nouveau Cours* (or the surrounding boulevard replacing fortified walls) appeared only as a plan, parts of which would not be built. What can also be seen on this plan is the design of a *place*, receiving Le Nôtre's *patte d'oie* in front of Tuileries Gardens. Later maps of Paris of 1692 (fig.18), 1714 (fig.20) and 1716 (fig.22) suggest this *place* was not built under Louis XIV, but (only) under his great-grandson, Louis XV, in the mid eighteenth century.

2.4. From Infinite Landscape to Enclosed Urban Network

2.4.1. Place Louis XV, Place de la Révolution, Place de la Concorde

Louis XV, Louis XIV's successor, played a part in strengthening the development Paris' infinite grand axis with the Place Louis XV (the later *Place de la Revolution* and present day, *Place de la Concorde*); nevertheless, the *place*'s plan placed an equestrian statue on the grand visual axis. As noted by Steenbergen and Reh (2003, p.208), this equestrian statue was the first monument to disturb Le Nôtre's infinite perspective which united city and landscape.

In 1748, a competition challenged all participants to select a public space meant to stage Louis XV's equestrian statue. Of the many possible locations proposed by competitors (fig.61), Louis XV chose the *Place de la Concorde*.

We have determined as most convenient to the city's embellishment, to the public good, and to the comfort of the city's habitants the site which belongs to us, in between the moat which limits the garden of our Tuileries Palace, the ancient gate and *faubourg* Saint-Honoré, the *alleés* of the ancient and of the

new *Cours*, and the river bank.⁴⁴ (Louis XV, 1757, cit. in Ariste and Arrivetz, 1913, p.12).

The site was indeed most convenient to resolve the (unresolved) barrier blocking the continuity between Tuileries Gardens and the Grand Avenue des Tuileries (present day Avenue des Champs-Élysées). A further convenience of the chosen site was the landowner: most of the propriety belonged to Louis XV himself, who donated it to the city of Paris, thus, avoiding expropriations required in all other competition proposals located within the city's consolidated core (Pinon and Boudec, 2004, p.66).

After a second, more restricted, competition, in 1753, the project was finally commissioned from the architect Ange-Jacques Gabriel who was asked to design a synthesis of the best projects submitted (Pinon and Boudec, 2004, p.66) (fig.62). As seen in the print (fig.63), Gabriel designed a 4-sided moat (22 / 24 metres wide and 5 metres deep) surrounding the equestrian statue with four bridges connecting all sides of the square. *Place Louis XV* remained open to the river front and to Champs-Élysées's grand view. The other two sides of the square were delimited by the Tuileries Palace and two other buildings included on Gabriel's plan. *Baraques*,⁴⁵ cabarets, theatres, fairgrounds and a billiard room were established inside the 5 metre deep moat and could be reached by stairs placed in the corners of the square.

Almost a century after Le Nôtre's proposal, Gabriel's project finally physically connected the Tuileries Gardens with the present-day Avenue des Champs-Élysées. Nevertheless, as noted by Steenbergen and Reh (2003, p.208), Louis XV's equestrian statue, placed precisely on the grand visual axis, fixed perspective's focal point on itself, thus disturbing Le Nôtre's infinite perspective as seen from the Tuileries Gardens.

According to Chadych and Leborgne (2007, p.98), Louis XV specifically wanted his equestrian statue not to mask either Champs-Élysées' grand perspective or the view from Tuileries' terrace. However, as Steenbergen and Reh (2003, p.208) point out, by placing the statue on the intersection of the Madeleine's visual axis and the Champs-

⁴⁴Transl. FR "Nous avons déterminé comme le plus convenable à l'embellissement de notre dite Ville, au bien public et à la commodité de ses habitants, l'emplacement qui nous appartient, entre le fosse qui termine le jardin de notre palais des Tuileries, l'ancienne porte et faubourg Saint-Honoré, les allées de l'ancien et du nouveau Cours et le quai qui borde la rivière». Louis XVI 21st June 1757 (Ariste and Arrivetz, 1913, p.12).

⁴⁵Baraques intended for the leisure of *promeneurs* remained after the revolution some with quite bold displays, such as ferocious animals (1797), or a foreign bull and a skeleton belonging to some sort of maritime monster (1799). (Ariste and Arrivetz, 1913, p.19).

Élysées' axis, Gabriel was taking up "the most important viewpoints with monuments", thus fixing Le Nôtre's infinite perspective on the square.

Further embellishments and developments were undertaken on the Champs-Élysées during Louis XV's era. These embellishments and developments were recorded on the map of Paris of 1765 (*Plan de Lattré*) (fig.26) which included L'Étoile and the Avenue de Neuilly.

Most importantly, during the time of Louis XV, the area surrounding the grand axis would establish itself as a noble residential area. The increase in construction can be confirmed by a comparison of Paris' maps of 1716 (fig.22) and 1763 (fig.24). Ariste and Arrivetz (1913, p.iv) add that the Champs-Élysées' character started to change in 1754, when Louis XV offered an *hôtel* to his favourite *courtisan*, Madame Pompadour.⁴⁶ From that moment onwards, the Champs-Élysées became fashionable and the place of many leisure establishments. Chadych and Leborgne (2007,p.98), on the other hand, state that the emergence of *hôtel particuliers*, built by noble and financial landowners, started earlier than 1754. According to Chadych and Leborgne, this emergence occurred from 1718 to 1724 due to the Rue Faubourg-Saint-Honoré's privileged geographic location and proximity to the Louvre, the Tuileries and the Palais-Royal (where the regent lived). Building was prohibited from 1724 to 1765, after which many more elegant *hôtels* confirmed the Champs-Élysées' noble status.

On 23rd April, 1785, Louis XVI ordered the construction of the *Fermiers Généraux*. It was the beginning of the end for both Le Nôtre's infinite perspective and the Bourbon's two century long dynasty.

2.4.2. The rise of a fiscal wall

The *Fermiers Généraux* (highlighted in blue on both fig.35 and fig.36) was a physical limit surrounding the city built to discipline taxation on merchandises entering Paris (namely wine and other drinks, livestock, straw, wood, charcoal, cooked fruit, meat, game and poultry). The *Fermiers Généraux* aimed to clarify the limit beyond which taxes needed to be paid. Taxes within Paris' fiscal limit were three times higher than taxes outside Paris' limit. Two thirds of these taxes reverted to the State, one third to the city. With unclear limits, fraud was abundant. Wine merchants and cabaret owners

⁴⁶Madame Pompadour's *hôtel*, present day Palais de L'Elysée, has been the residence to Presidents of the Republic since 1877 (with Patrice Mac-Mahon). Chadych and Leborgne (2007,p.98) say that Madame Pompadour bought the propriety and later bestowed it to Louis XV with the purpose of receiving foreign ambassadors.

even organized underground tunnels through which liquid substances could illicitly flow, thus avoiding taxation. (Chadych and Leborgne, 2007, p.114)

According to Chadych and Leborgne (2007, p.114), the *Fermiers Généraux* was a 3.4 metres high wall which included a patrol route (11.69 metres wide) on the inside and a boulevard (58.47 metres wide) on the outside. All construction was forbidden within 97.45 metres of the wall. The wall was interrupted by customs offices which collected taxes on goods entering Paris. Claude Nicholas Ledoux designed (around fifty) of these customs offices as monumental buildings. A pair of Ledoux's monumental customs offices was built on the Étoile (fig.64). Parisians disliked both wall and monumental offices which ran considerably over initial budgets. An epigram reported Parisian discomfort

*Le mur murant rend Paris murmurant.*⁴⁷ (Chadych and Leborgne, 2007, p.114)

Despite emerging tension, a traveller's guide of 1787 describes Champs-Élysées' atmosphere as fashionable and lively:

Grand Cours, otherwise named Champs Élysées, offers a charming promenade, planted in 1765 with a lot of regularity is treated with great care. This delicious place, separated from the Tuileries by nothing but *Place Louis XV*, is quite busy [...]. *Le beau monde* comes to promenade on public holidays and Sundays keeping to the area bordering the gardens and the superb hôtels of faubourg Saint-Honoré Thiéry, *Guide des amateurs et des étrangers voyageurs à Paris* cit. in Chadych and Leborgne (2007,p.98).⁴⁸

There were, however, different opinions, as with the Marquis de Villete describing the Champs-Élysées as,

... a torrid and icy area, a field of mud and dust with rough and uneven ground, that damages the most solid coaches, exhausts the most robust horses, exhausts the unfortunate pedestrian who risks to wander about with the

⁴⁷ Transl. FR " the surrounding wall fills Paris with rumours"

⁴⁸Transl. FR "Le grand Cours, autrement nommé les Champs Élysées, offre une promenade charmante, plantée en 1765 avec beaucoup de régularité et dont on a le plus gran soin. Ce lieux délicieux n'étant séparé des Tuileries que par la place Louis XV, est aujourd'hui très fréquenté [...]. Le beau monde qui s'y promène les fêtes et les dimanches, se tient dans la partie qui borde les jardins des superbes hôtels du faubourg Saint-Honoré"

extravagant idea of walking to the woods.⁴⁹ (cit. in Marquis de Villete in Ariste and Arrivetz, 1913, p.39)

A 1778 document further describes Place Louis XV's moat as a "dangerous cesspit in winter and filled with dust in the summer"⁵⁰ (Ariste and Arrivetz, 1913, p.18). Leisure establishments had sparked the need for guards to prevent crime. As Ariste and Arrivetz (1913, p.19) conclude, by 1789, the Champs-Élysées' safety left much to be desired.

On 5th October 1789, the people of Paris, most famously, walked through the Champs-Élysées in procession, reaching Versailles to ask for bread (Ariste and Arrivetz, 1913, p.49). After the Republican Revolution of 1789, the *Place Louis XV's* stench became even more ghastly as it was the site chosen to place the guillotine, from 21 January, 1793, to 3 March, 1795. A total of 2790 people were beheaded on this site. The smell of blood was said to be such that a pack of bulls refused to cross the, appropriately named, *Place de la Revolution* (Ariste and Arrivetz, 1913, p.20).

Amongst the beheaded on the *Place de la Revolution* was Louis XVI. On 21 January of 1793, a few years after he ordered the *Fermiers Généraux*, Louis XVI ironically faced Le Nôtre's infinite perspective before meeting his bitter end. The French monarch's execution was thus reported in London on a broadside published by William Lane:

The guillotine was erected in the middle of the square directly facing the gate of the Garden of Tuleries, between the pedestal on which the grand father of Louis was standing before 10th August and the views which lead to the groves called the Elysian Fields. (BM, Prints and Drawings, 8306 (cf), 1793)

Guitry's (1940) romanticized version of the history of the Champs-Élysées⁵¹ adds a soundtrack to this royal execution (presumably) sung by the assisting crowd,

The King's not going to live much more,
His noble destiny's ended.

⁴⁹Transl. FR "une zone torride ou glaciale, un champ de boue et de poussière au terrain rude et inégal, qui disloque les plus solides carrosses, éreinte les chevaux les plus robustes et anéanti l'infortuné piéton que se risque dans les parages et nourrit l'idée extravagante d'aller à pied jusqu'au bois "

⁵⁰ Transl. FR « cloaque dangereux en hiver, et fournit une poussière excessive en été ».

⁵¹Sacha Guitry's historic novel, filmed in 1938, *Remembering the Champs-Élysées*, is an alternative history of Avenue des Champs-Élysées. The novel is "a story of the Champs-Élysées from 1617 to 1938. It is a true and sometimes a likely story." (Guitry, 1940, p.9) Even if Guitry has been questioned about the veracity of his narrative (Pozzo, 1997, p.50), this novel is a pleasurable insight into the extraordinary position this Avenue has, today, in French culture.

Weep, O you robber, weep, you whore,
You'll soon go unbefriended. (Guitry, 1940, p.87)

With the construction of Louis XVI's *Fermiers Généraux*, the Avenue des Champs-Élysées had become part of the interior of the city. Furthermore, Ariste and Arrivetz (1913, p.293) report that when, in 1788, Ledoux's monumental offices were built, visitors complained about obstructed views. However, as seen in the print (fig.64), both Ledoux's buildings were placed laterally to the visual axis; thus, not directly obstructing Le Nôtre's infinite perspective.

The definite obstruction of the grand visual axis would occur with the erection of yet another monument which, as most present day tourist photographs can confirm, fixed Champs-Élysées' focal point up to the present: Étoile's *Arc de Triomphe*.

2.4.3. Closing infinite perspective with Étoile's Arc de Triomphe

Prior to seventeenth and eighteenth-century intervention, Étoile⁵² was a hunting ground, a *rendezvous de chasses*, known as the *Carrefour du Bois de Bologne*. It was a hill, steep hence difficult to ride through. (Ariste and Arrivetz, 1913, p.291)

As can be seen on Steenbergen and Reh's (2003) sections of the avenue (fig.53) and on the prints (fig.54) Étoile's hill blocked out the surrounding landscape from Le Nôtre's grand composition. Le Nôtre's Champs-Élysées' infinite visual axis culminated on the hill's slope; thus, as Steenbergen and Reh's (2003, p.206) note, the axis was not closed or fixed by a focal point, but its depth accentuated. The visual axis continued up the hill's slope, raising the horizon line to undisturbed heights.

The use of the hill to accelerate perspective and block out 'uncontrolled' landscape, revealed Le Nôtre's ability to understand and work with existing landscape, which, at times, may have been forgotten due to Versailles. As noted by Steenbergen and Reh (2003, p.187), at Vaux, the design was also adjusted to the landscape as carefully implanted design decisions kept excavation to a minimum. The slope of the valley, for instance, favoured use of the river for water works. At Versailles, on the other hand, design was imposed on the landscape. At Versailles an entire hill was dug out to allow for an infinite vista. Versailles' extravagance was certainly related to Louis XIV's unconditional financial support (Steenbergen and Reh, 2003, pp.185,187).

⁵²The name Étoile dates from 1863 (Ariste and Arrivetz, 1913, p.298)

Étoile's hill top was eventually flattened in the eighteenth century; however, the reason for flattening Étoile's hill top was not to extend the vista. The reason to flatten the hill top was, according to Weill (1983, p.67), to improve circulation.

As seen in a 1675 plan (fig.65), a long axis had been planned in the seventeenth century to ease rides to Saint-Germain-en-Laye. Since the sixteenth century, the monarchs had selected Saint-Germain-en-Laye as a most favoured residence outside Paris because of its large hunting forest (Weill, 1983, p.67). Routes to reach this residence were dirt paths, often flooded. The reason for not building this axis in 1675 can be attributed to Louis XIV's decision to focus on Versailles.

In 1724, with duc d'Antin as *surintendant des Bâtiments du roi*, the Avenue des Champs-Élysées, thus far planted until *rond-point*, was planted to reach the hill top of, present-day, *Place Charles de Gaulle Étoile*. From 1757 to 1767, with Marquis de Marigny as *directeur general des Bâtiments*, new trees were planted (Chadych and Leborgne, 2007, p.98). In 1768, Engenier Perronet designed plans to improve circulation into the outskirts by both flattening the hill and building the Pont de Neuilly (Ariste and Arrivetz, 1913, p.291). Marigny ordered, in 1770 and 1772, the grand axis to continue after Étoile into Neuilly, and work on flattening Étoile's hilltop to begin (Chadych and Leborgne, 2007,p.98). Furthermore, on top of the hill, from 1772 to 1777 a circular platform was arranged, allowing all to enjoy the panorama. According to a description from 1786: "Each day, we see most distinguished people coming to enjoy both the view and good air"⁵³ (cit. in Ariste and Arrivetz, 1913, p.293)

What, in plan, seems to have been an extension of the Tuileries' grand visual axis, was not. Étoile's hill concluded the grand Avenue des Champs-Élysées. The extension of the axis was the start of another avenue (the *Avenue de Neuilly*) using the same direction. Despite works flattening the hill top, Étoile's hill still divided (as does today) the grand visual axis in two.

Ariste and Arrivetz (1913, p.296) propose that the intent to crown Étoile's hill top with a monument can be traced to the end of the eighteenth century. A most bizarre proposal was the plan to build a ball room shaped as a giant elephant. Today, the idea of placing an *Arc de Triomphe* is attributed to Napoleon I. On July 14th 1801, a wooden arch was built on the hill top to celebrate the Republic's 30 victories. Later, in 1810, another wooden arch (already a model of a planned arch) was built for Napoleon's and Marie

⁵³ Transl. FR "Chaque jour, on y voit des personnes de la première distinction venue pour y jouir du double avantage de la vue et du bom air "

Louise's wedding celebrations. The empress was to enter the Avenue de Champs Élysées through the arch.

The present-day, monumental *Arc de Triomphe*, 49.54 metres high and 44.82 metres wide, was only built with the *Restauration* even if it had been conceived by Napoleon I (Ariste and Arrivetz, 1913, p.297); nevertheless, as the image of Napoleon's empress entering the city through the arch illustrates, the *Arc de Triomphe's* location determined a gate separating Paris from its surroundings.

Thereafter, the Avenue des Champs-Élysées became an urban avenue. Enclosed *intra-muros* by a monumental gate placed on a hill top (fig.66), the nineteenth-century Avenue des Champs-Élysées was no longer part of both city and landscape.

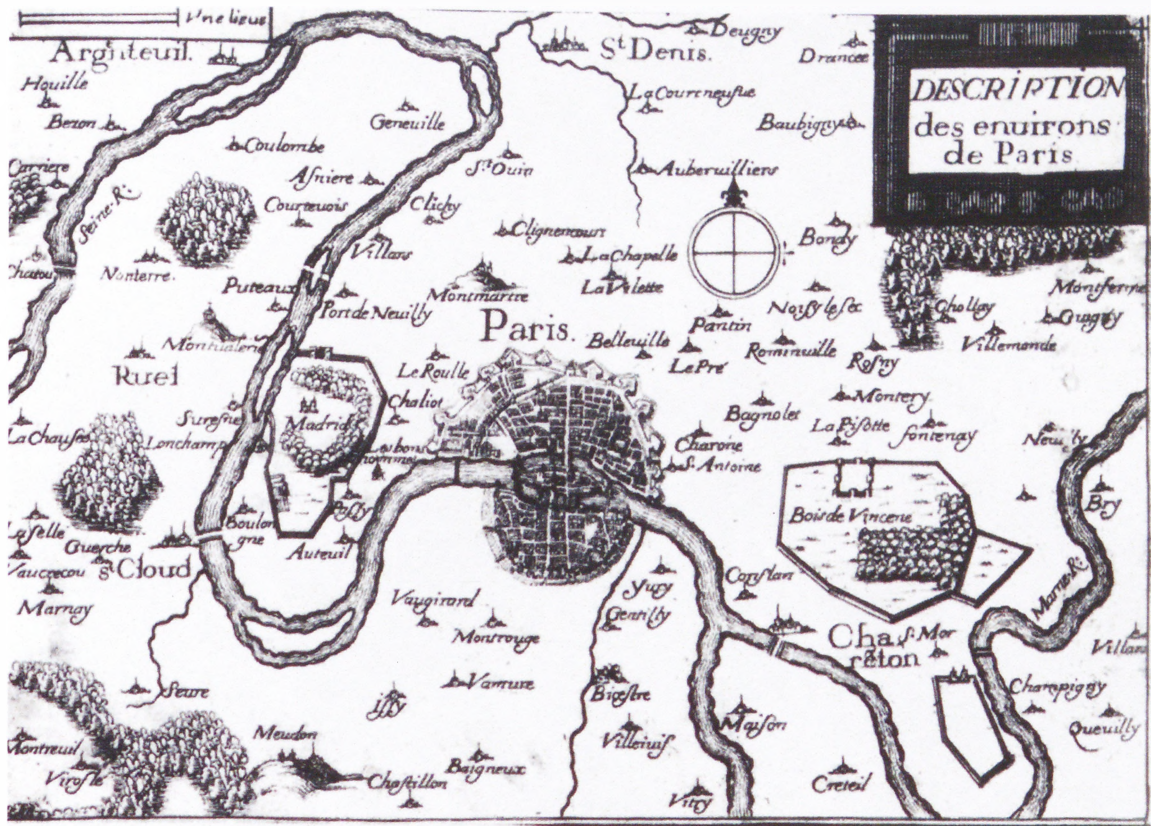


Fig.1 Ile de France and bridges over the Seine, 1633 (Weill, 1983, p66)



Fig.4 Plan de Vassalieu, dit Nicolay, 1609 (Pinon and Boudec, 2004, p39)



Fig.5 Detail of the Tuileries Gardens Plan de Vassalieu, dit Nicolay, 1609 (Pinon and Boudec, 2004, p39)

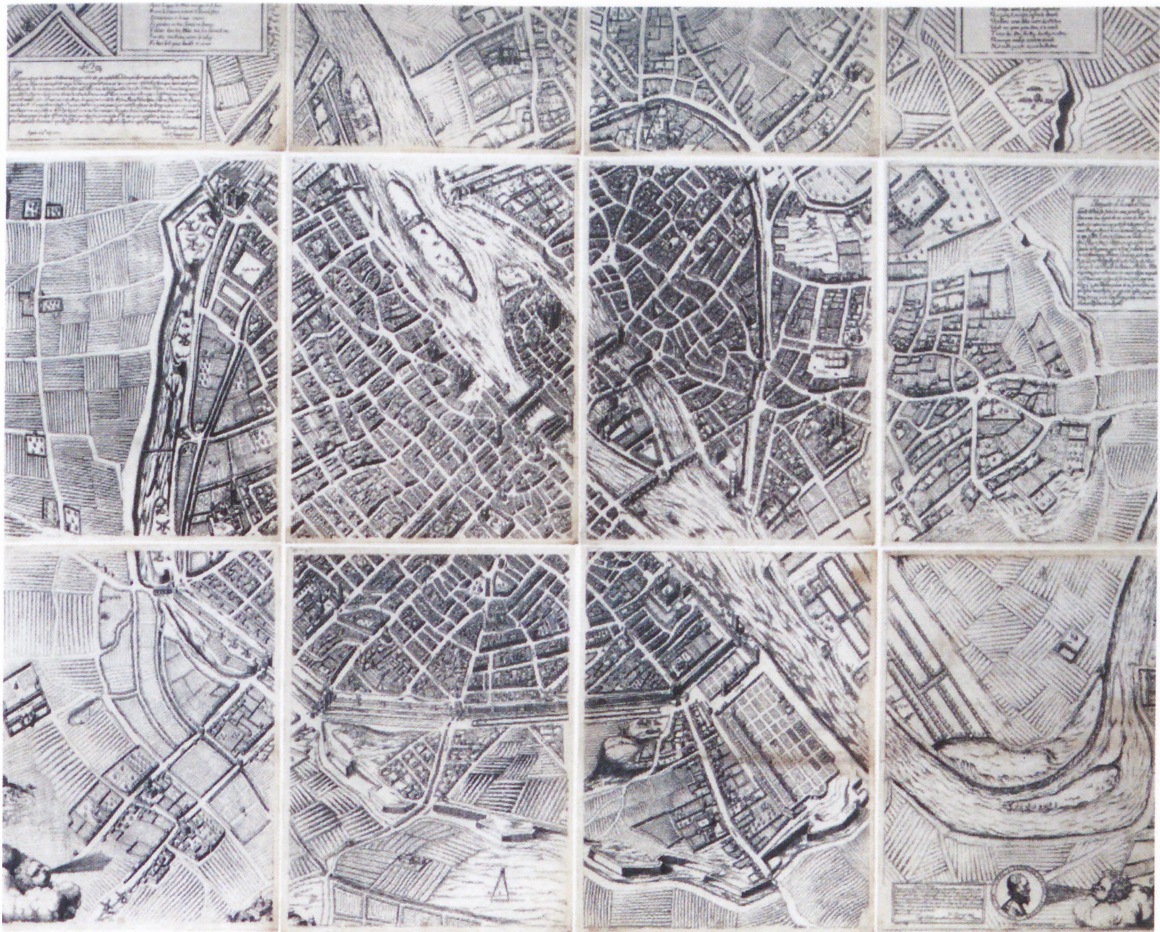


Fig.6 Plan de Quesnel, 1609 (Pinon and Boudec, 2004, p41)

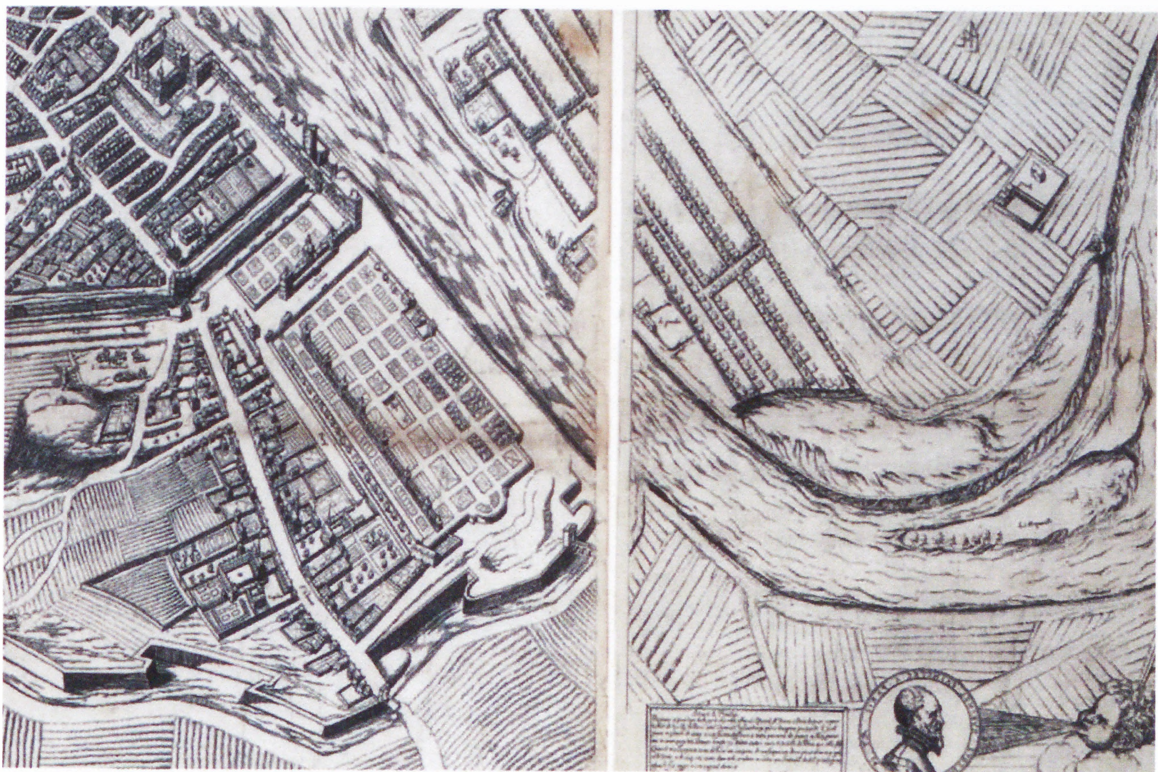


Fig.7 Detail of Plan de Quesnel, 1609 (Pinon and Boudec, 2004, p41)



Fig.8 Plan de Merian, 1615 (Pinon and Boudec, 2004, p43)

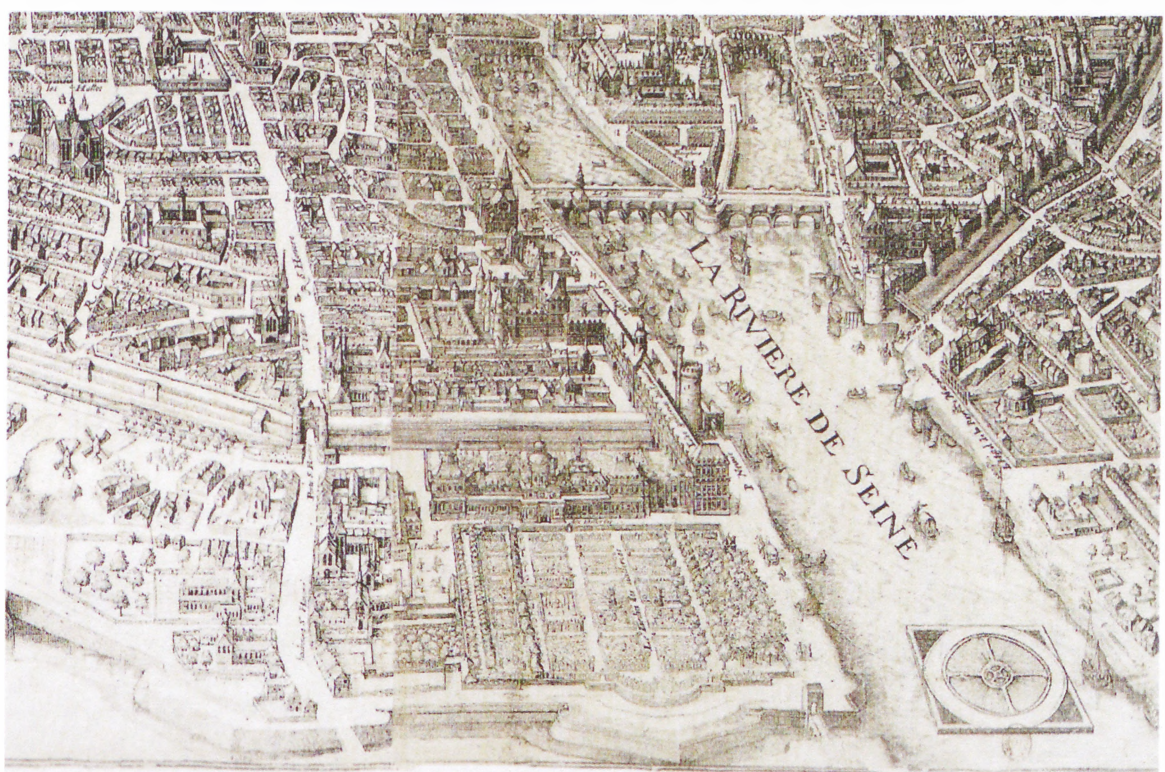


Fig.9 Detail of Plan de Merian, 1615 (Pinon and Boudec, 2004, p43)

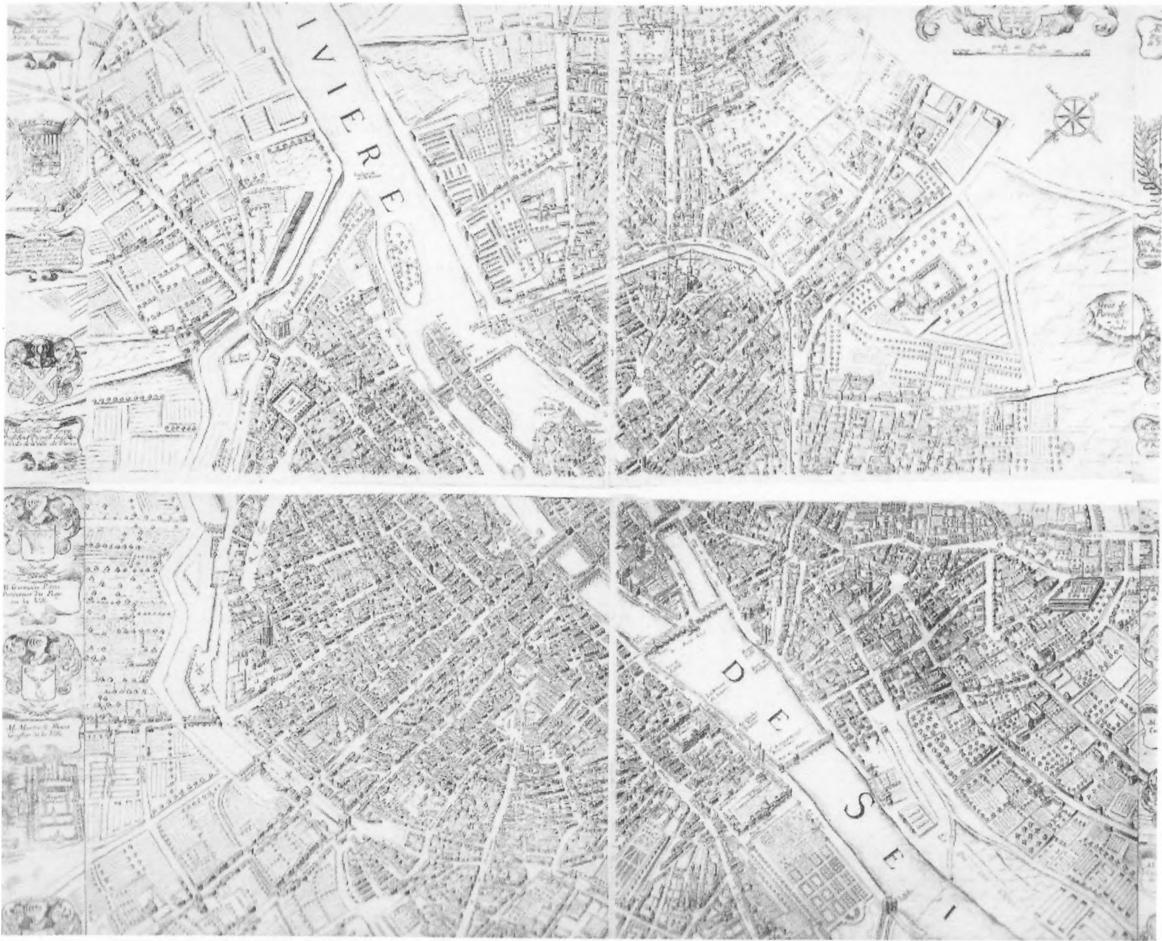


Fig.10 Plan de Boisseau, 1648 (Pinon and Boudec, 2004, p45)

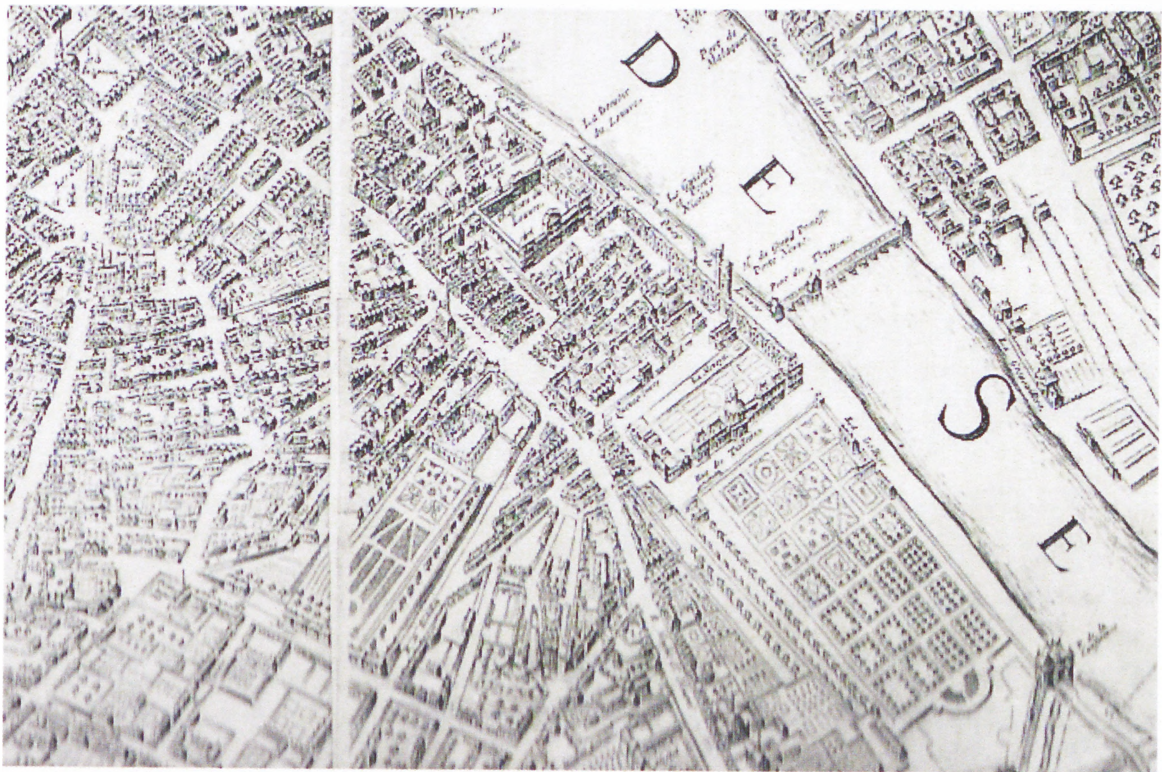


Fig.11 Detail of Plan de Boisseau, 1648 (Pinon and Boudec, 2004, p45)

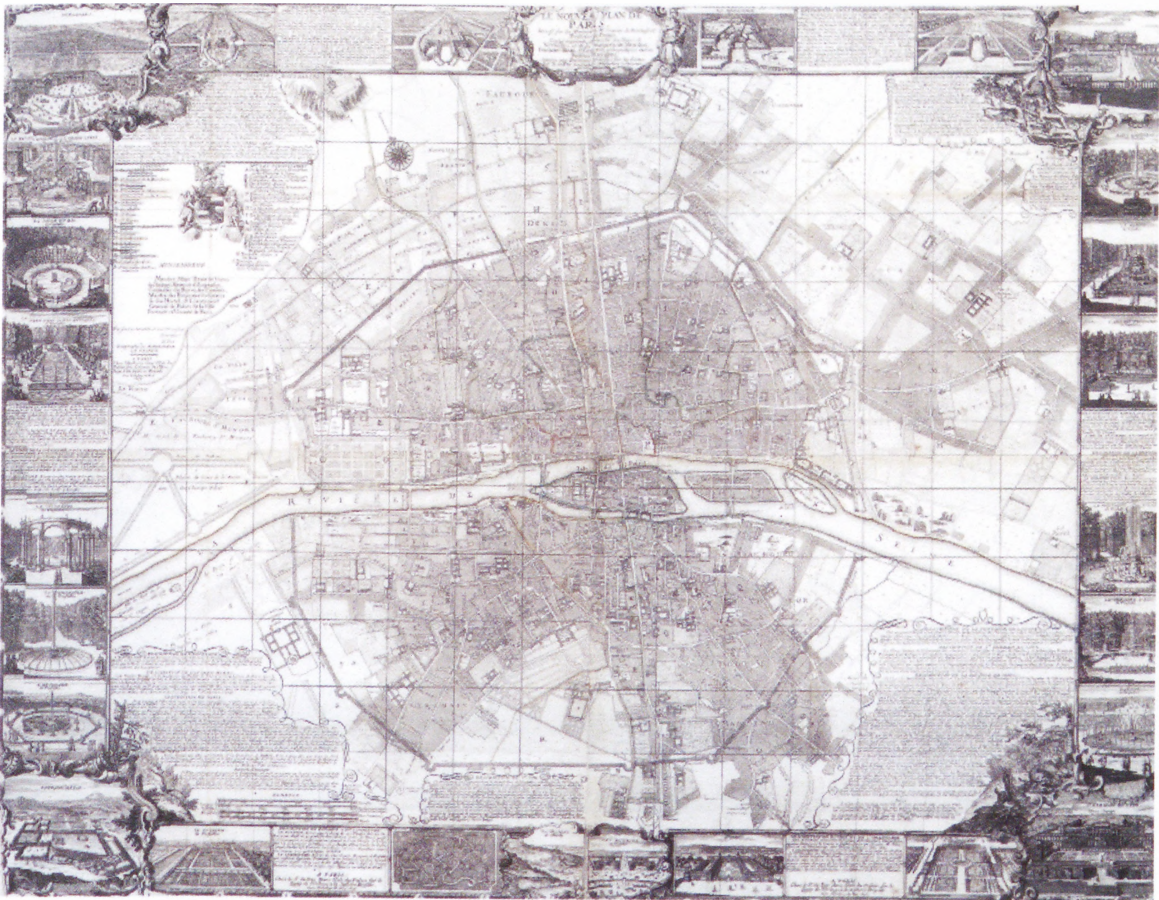


Fig.12 Grand Plan de Jouvin de Rochefort, 1672-1674 (Pinon and Boudec, 2004, p49)

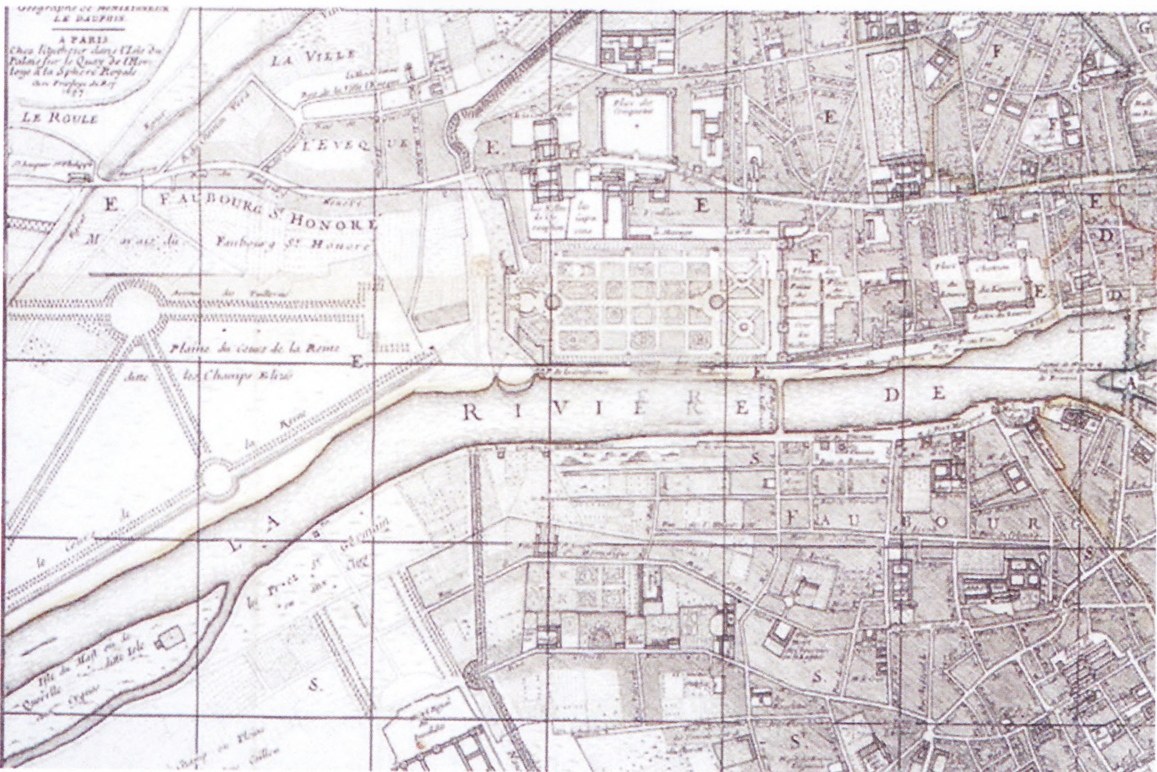


Fig.13 Detail of Grand Plan de Jouvin de Rochefort (Pinon and Boudec, 2004, p49)

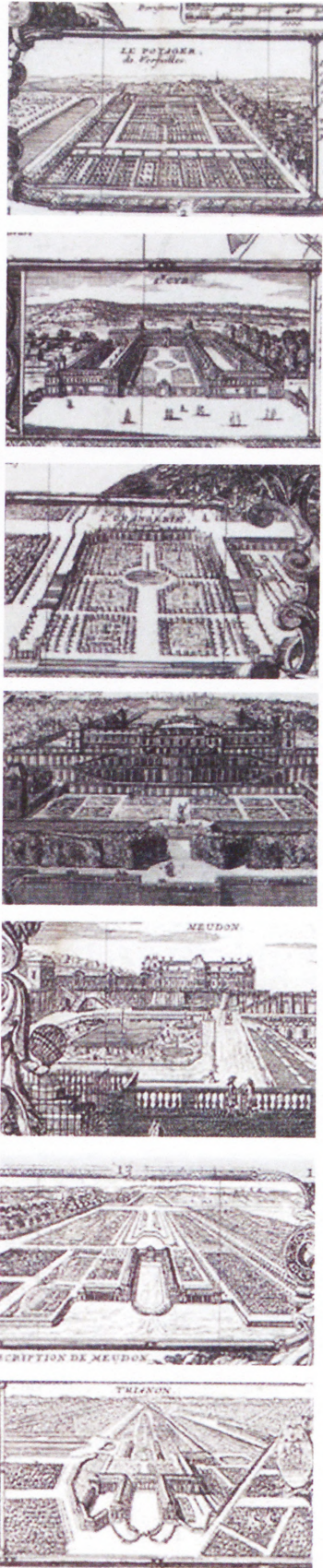


Fig. 14 Details of Grand Plan de Jouvin de Rochefort, 1672-1674 (Pinon and Boudec, 2004, p49)



Fig. 15 Plan de Bullet et Blondel, 1676 (Pinon and Boudec, 2004, p51)



Fig. 16 Detail of Plan de Bullet et Blondel, 1676 (Pinon and Boudec, 2004, p51)



Fig.17 Plan de Nicolas Fer, 1692 (Pinon and Boudec, 2004, p53)



Fig.18 Detail of Plan de Nicolas Fer, 1692 (Pinon and Boudec, 2004, p53)



Fig.19 Plan de la Caille, 1714 (Pinon and Boudec, 2004, p55)

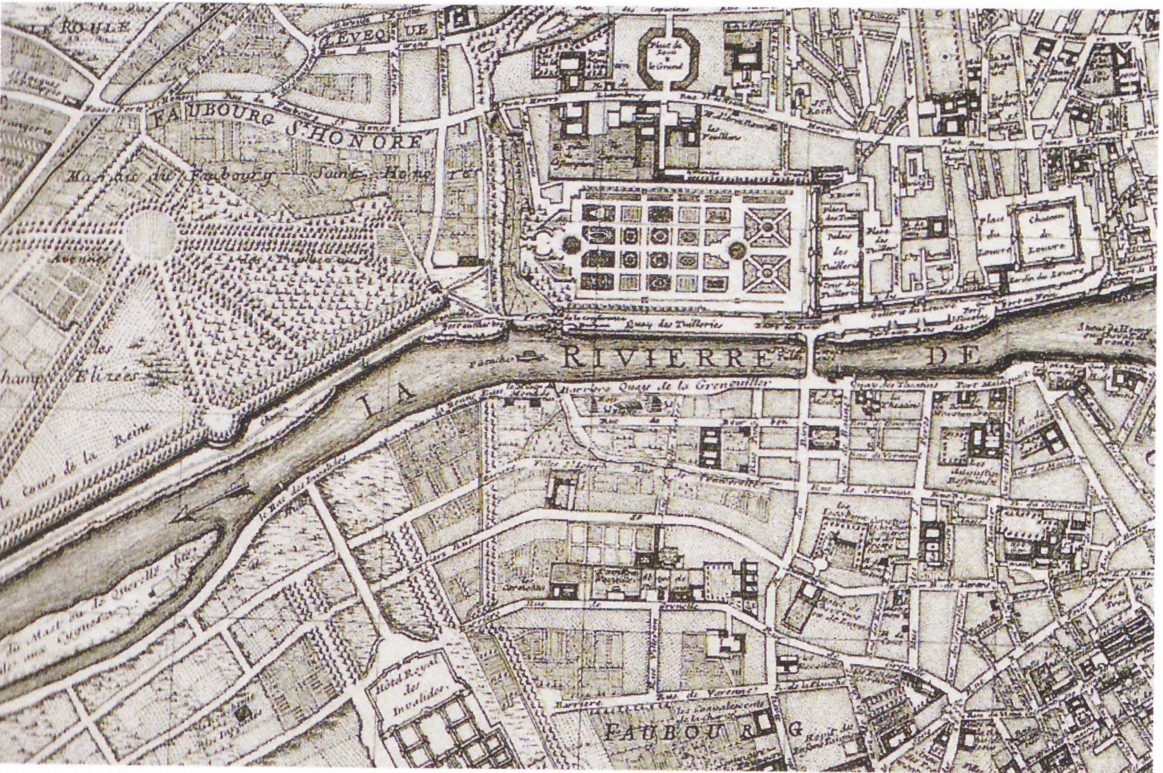


Fig.20 Detail of Plan de la Caille, 1714 (Pinon and Boudec, 2004, p55)

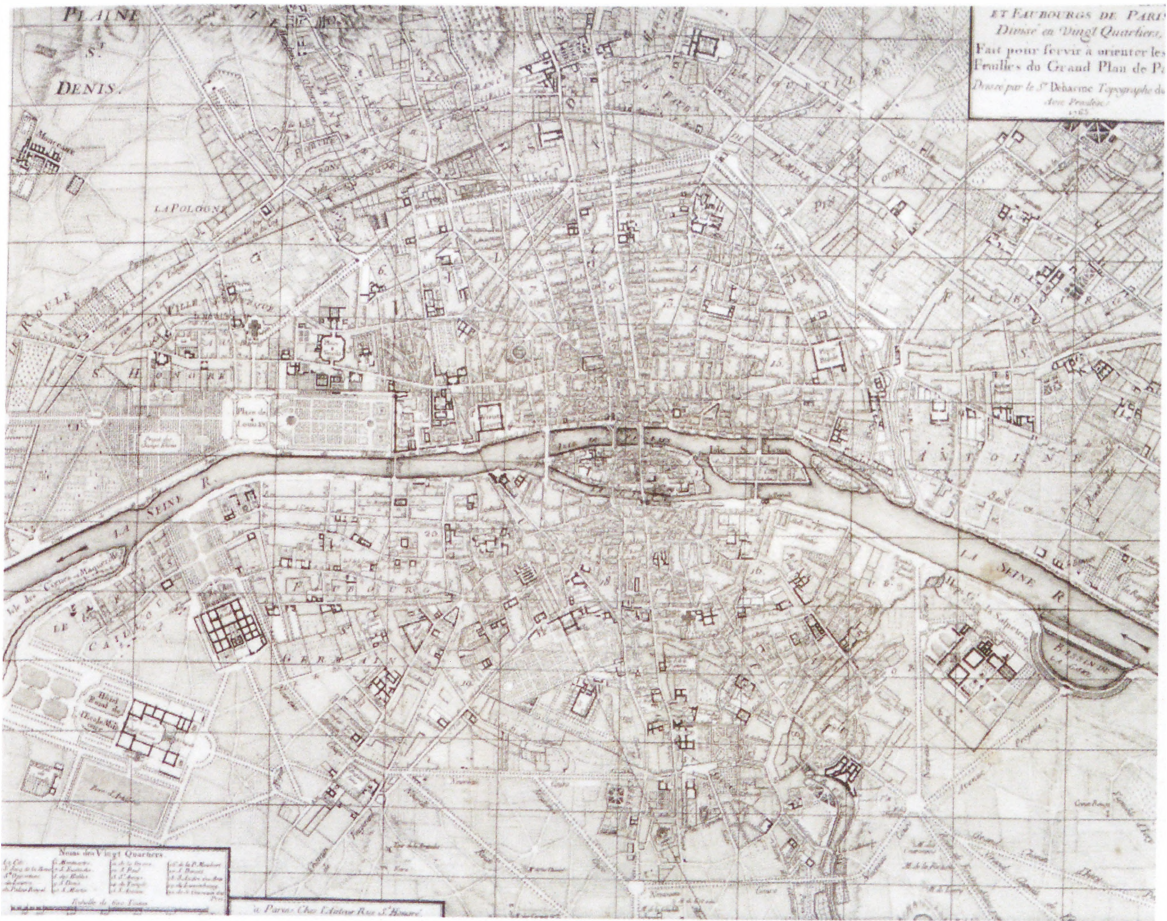


Fig.23 Plan de Deharme, 1763 (Pinon and Boudec, 2004, p65)



Fig.24 Detail of Plan de Deharme, 1763 (Pinon and Boudec, 2004, p65)



Fig.25 Plan de Lattré, 1765 (Pinon and Boudec, 2004, p69)

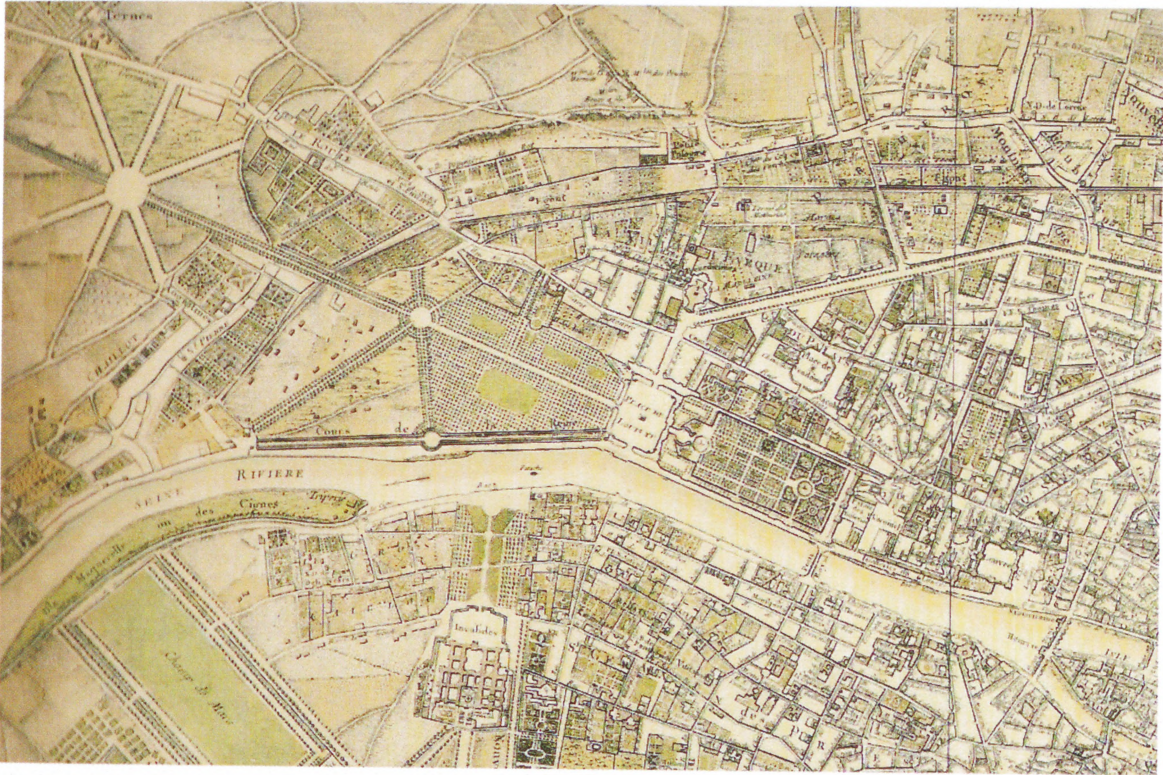


Fig.26 Detail of Plan de Lattré, 1765 (Pinon and Boudec, 2004, p69)



Fig.27 Carte des Chasses du Roi, 1764-1807 (Pinon and Boudec, 2004, p71)



Fig.28 Detail of Carte des Chasses du Roi, 1764-1807 (Pinon and Boudec, 2004, p71)

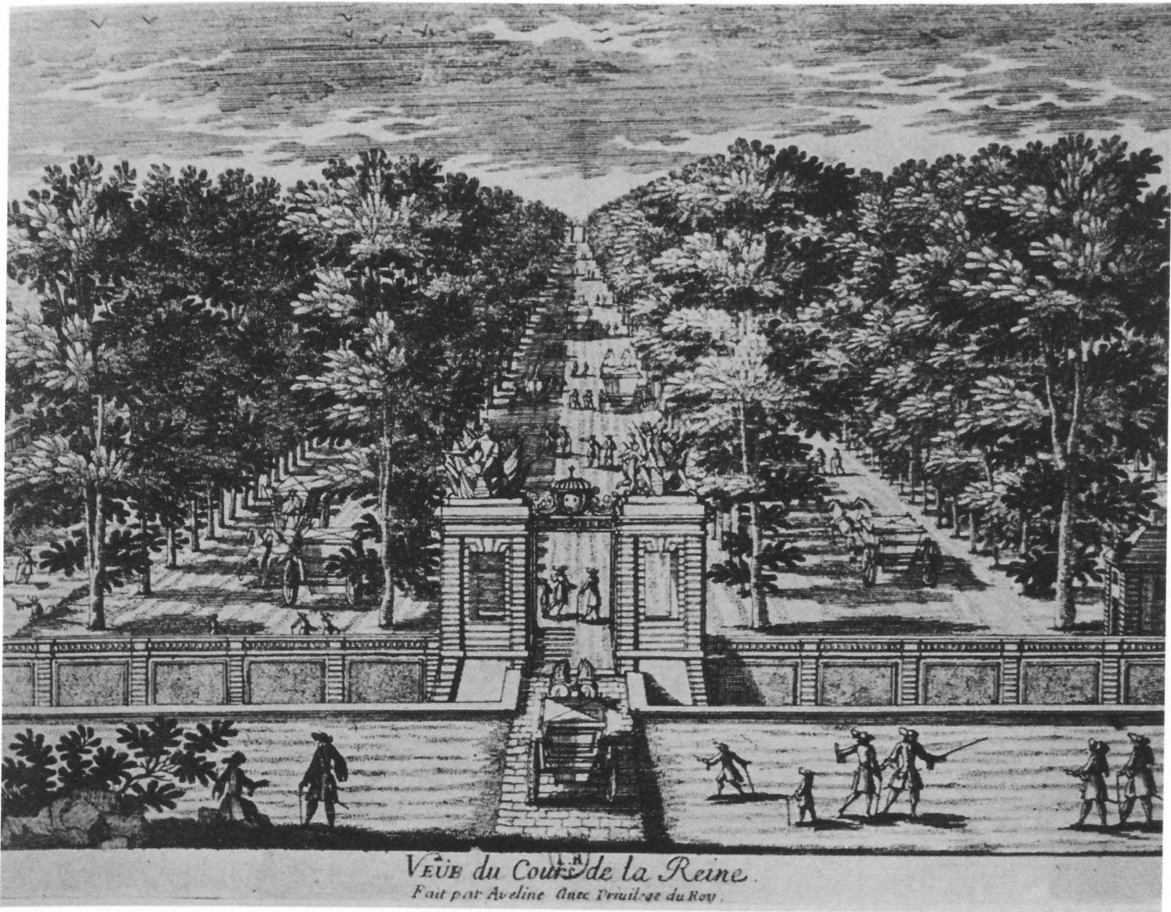


Fig.29 Cours-de-la-Reine, gravure d'Aveline (Ariste and Arrivetz, 1913)

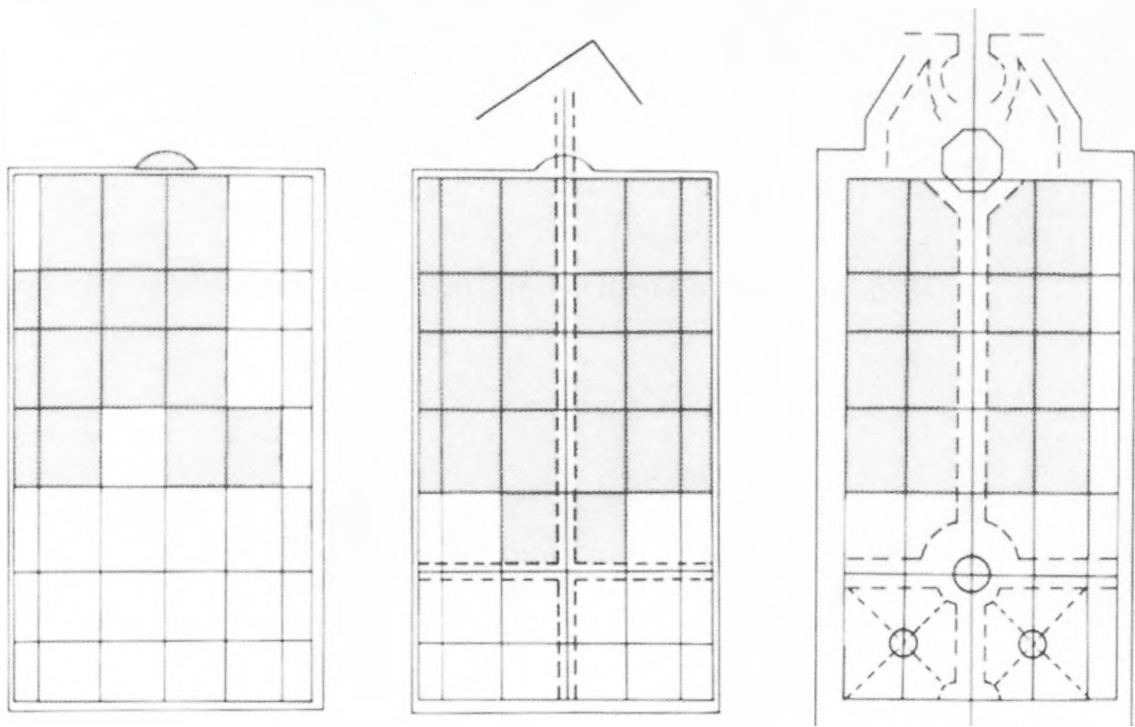
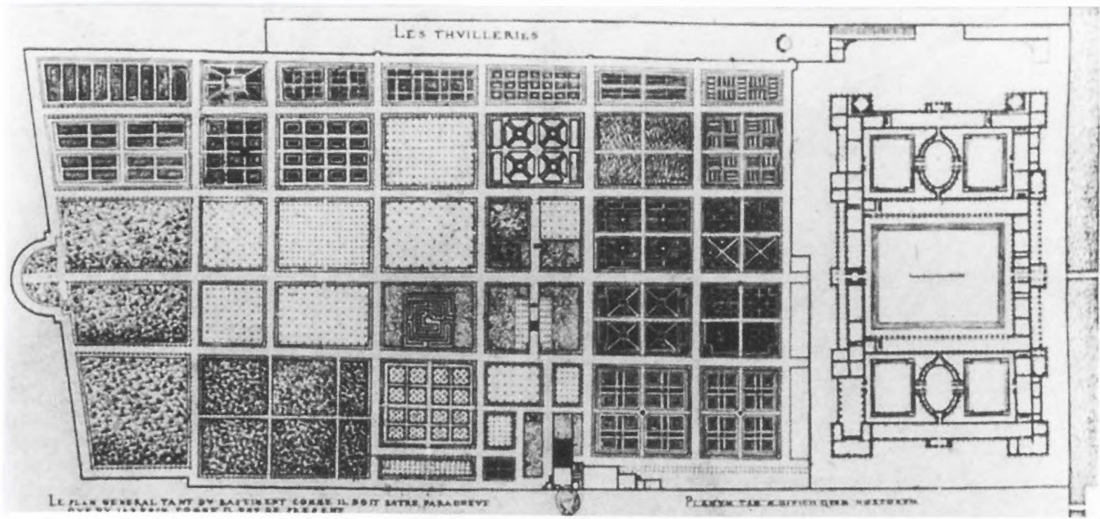


Fig.30 Diagram explaining Le Nôtre's transformation of the Tuilleries Gardens (Steenbergen and Reh, 2003, p202)

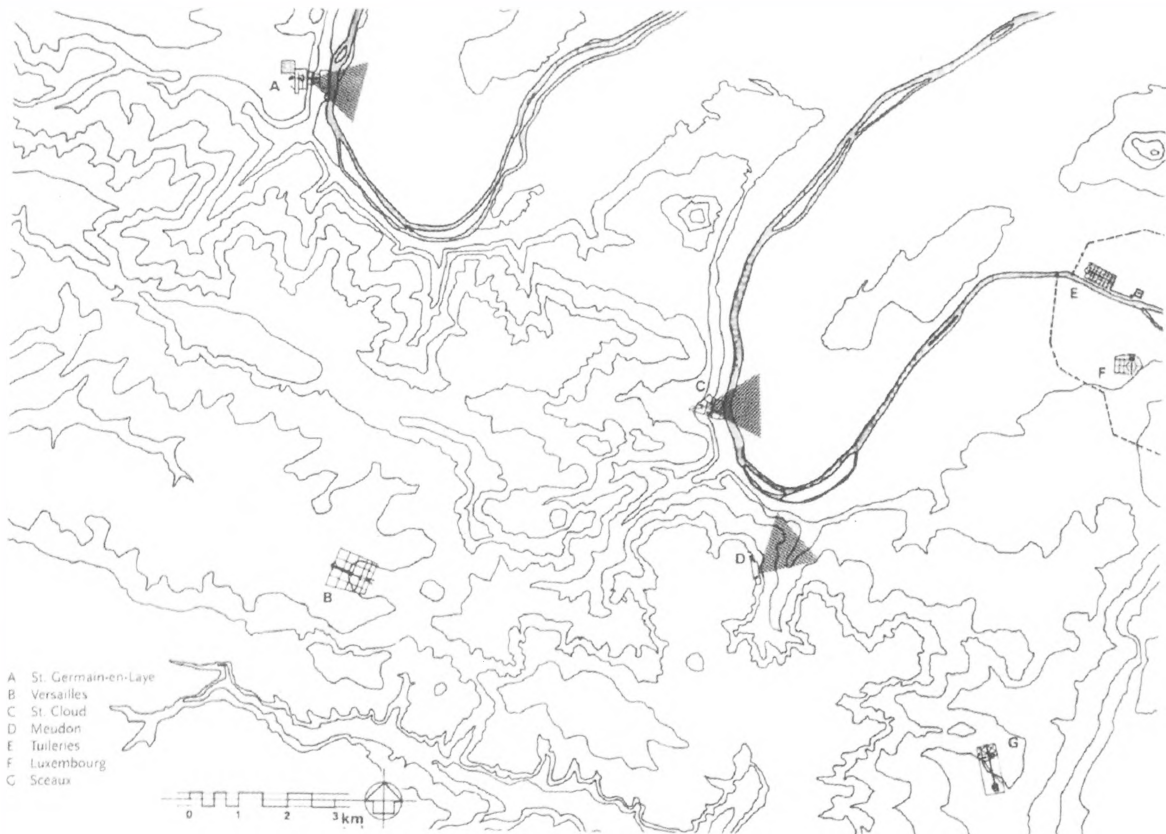


Fig.31 Seine landscape, about 1650 (Steenbergen and Reh, 2003,p134)

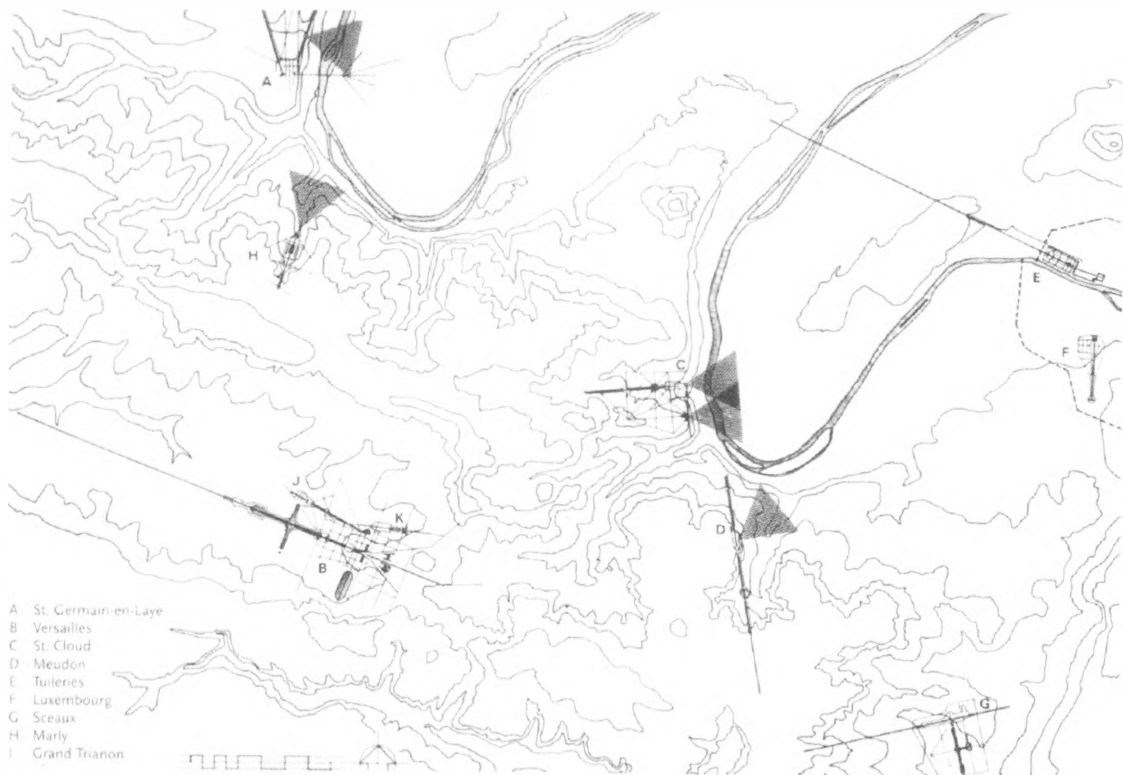


Fig.32 Seine landscape, after Carte des Chasses du Roi, 1764 (Steenbergen and Reh, 2003, p174)

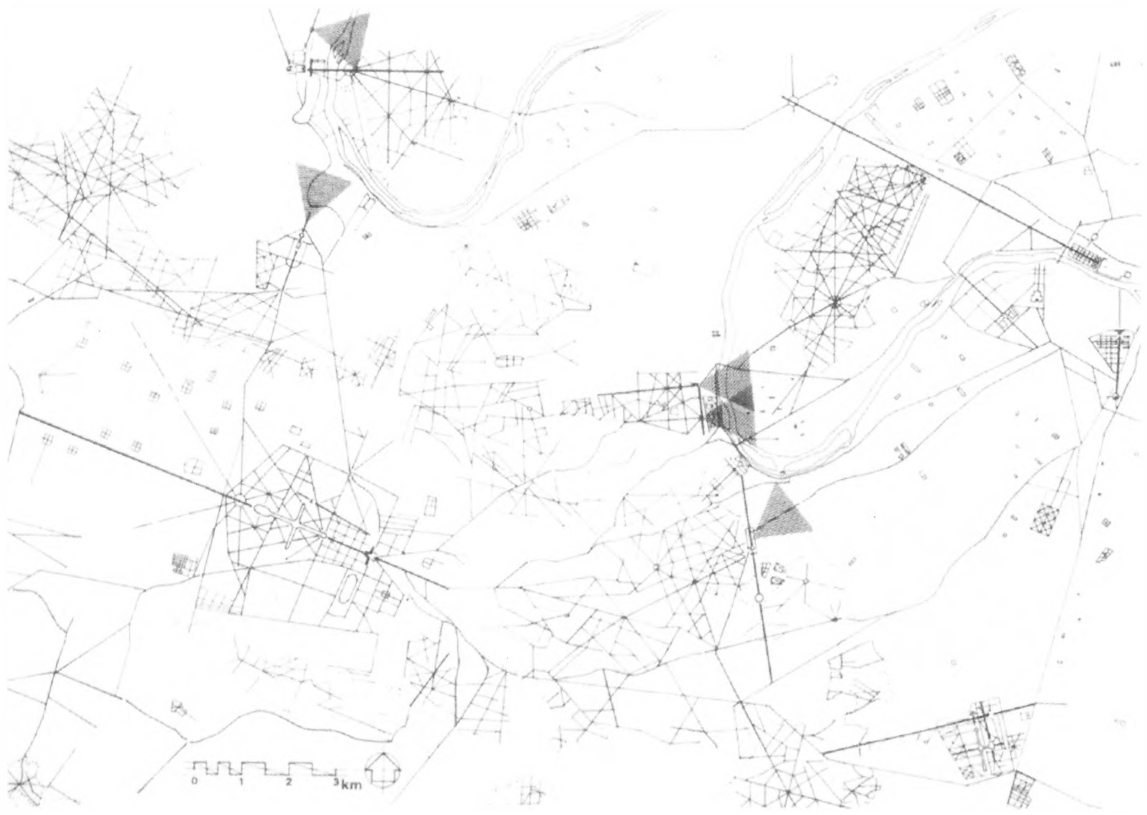
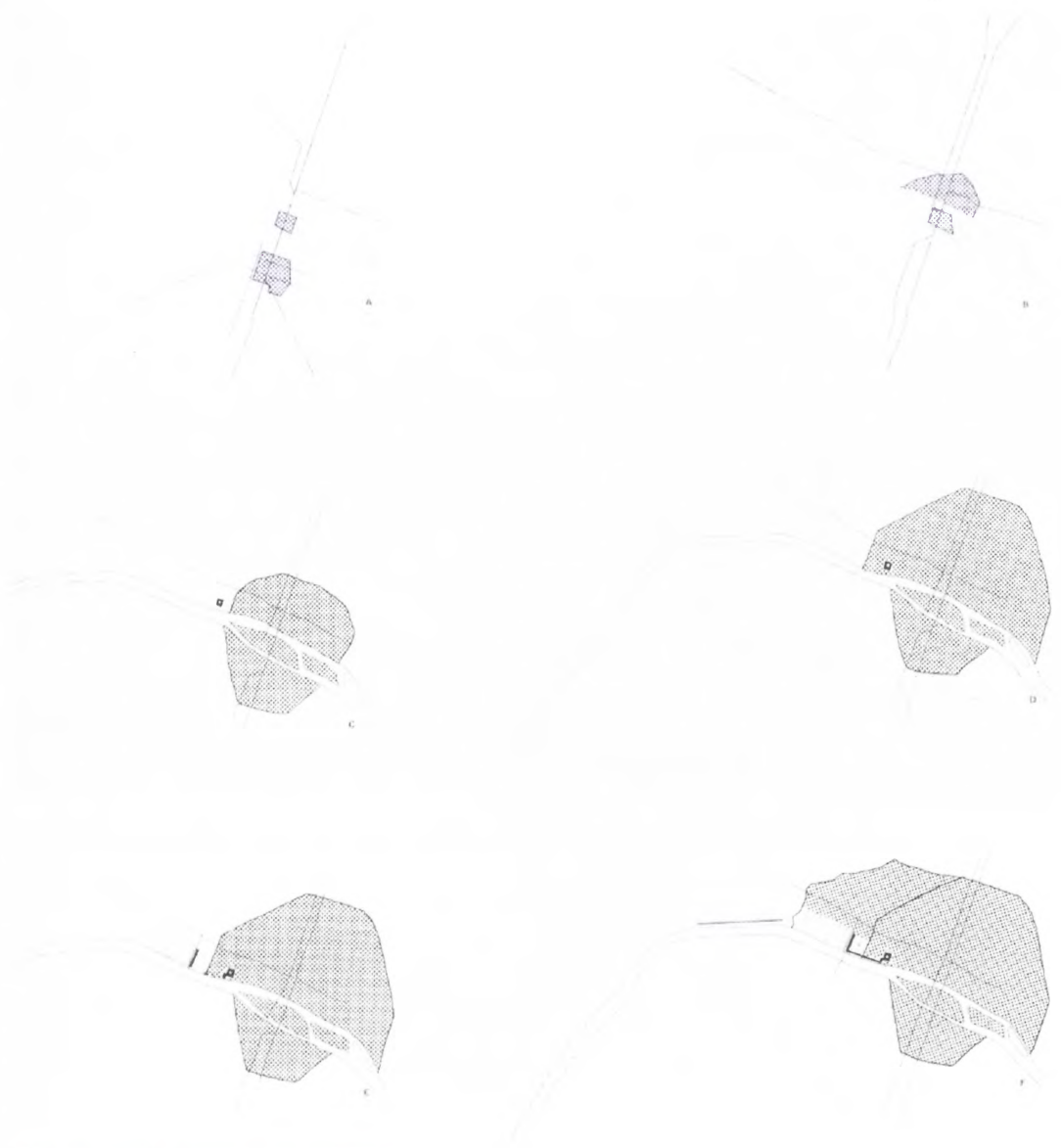


Fig.33 Seine landscape, about 1700 (Steenbergen and Reh, 2003,p174)



The Louvre and the Tuileries as Paris expanded.

- A From 52 B.C. (the Roman city)
- B 1180 (the medieval city)
- C 1210 (the old Louvre as a fortress outside the city)
- D 1400 (the remodelled Louvre inside the city walls)
- E 1560 (the Tuileries outside the city)
- F 1620 (the Tuileries within the city walls, the Cours-la-Reine outside)
- G 1700 (Le Nôtre's spatial axis)

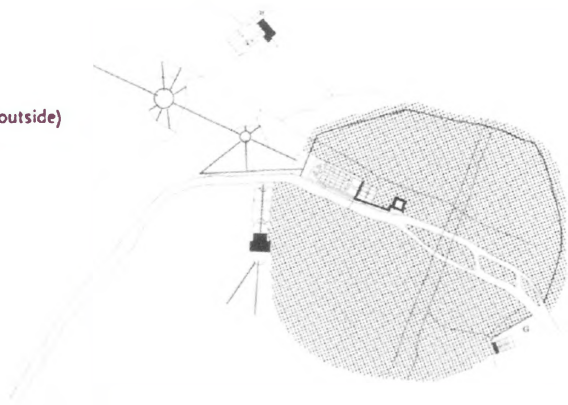


Fig.34 Diagram displaying the growth of the axis (Steenbergen and Reh, 2003,p203)



Fig.35 Grand Plan de Moithey, 1774 (Pinon and Boudec, 2004, p74)



Fig.36 The growth of Paris indicating its changing limits (Chadych Leborgne, 2007, p8)



Fig.37 Paris, *Nouveau Cours* and city limit established in 1674 (Chadych Leborgne, 2007, p87)



Fig.38 An eighteenth century perspective of Nouveau Cours must have looked like, Boulevard Saint-Antoine, the present day Boulevard Beaumarchais, (Chadych Leborgne, 2007, p87)

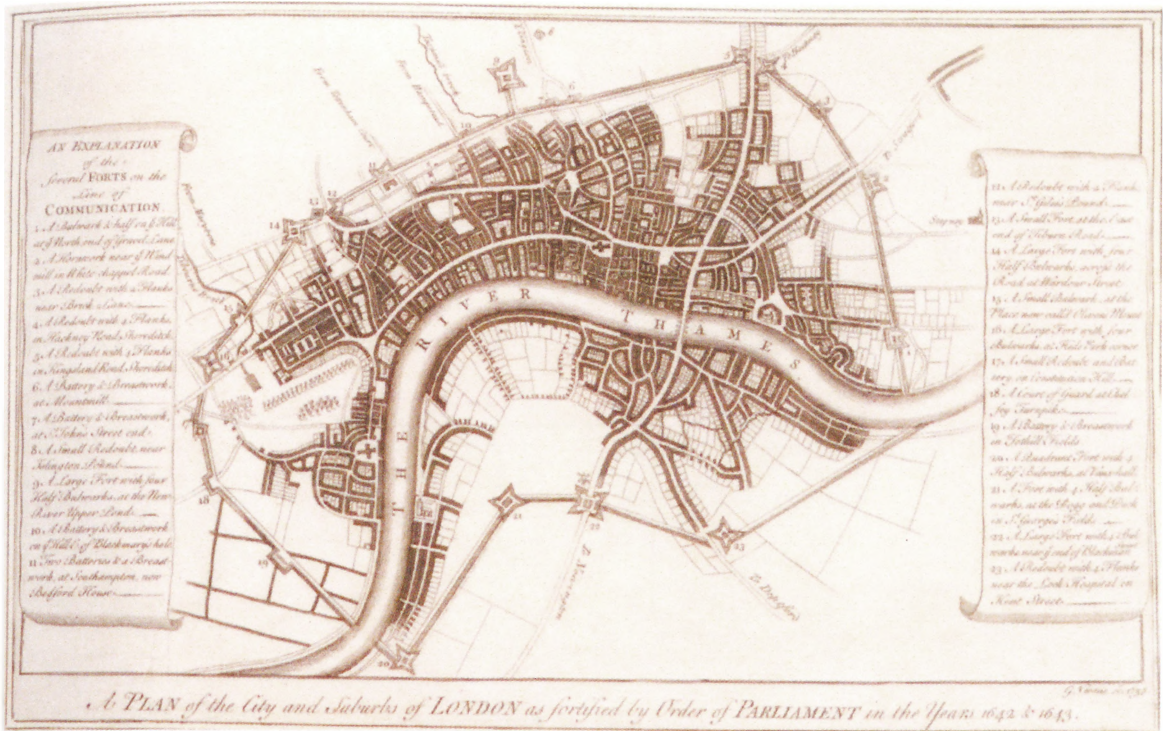


Fig.39 Plan of the fortifications built by order of Parliament in 1642-43 (Whitfield, 2006, p46)

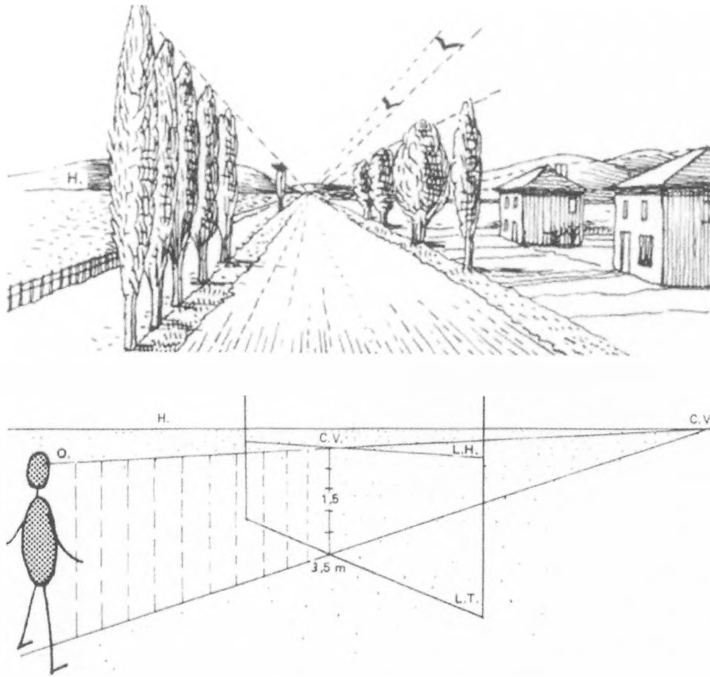


Fig.40 Modern Perspective (White, 1968, p 16-17)

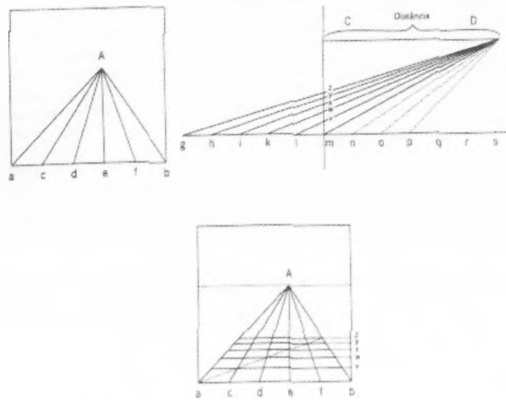


Fig. 41 Perspective according to Leon Battista Alberti (Panofsky, 1999, p60)

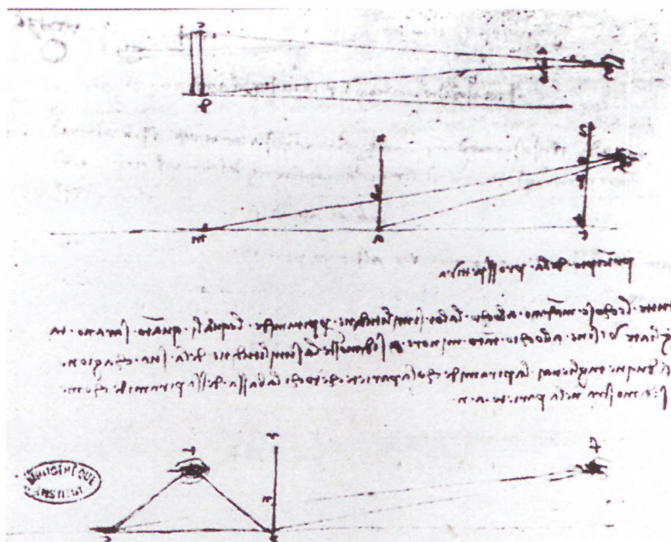


Fig.42 Leonardo Da Vinci, schema of the perspective construction of the distance point (Damisch, 1994, p109)



Fig.43 Andrea Bonaiuti, c1365-1376, fresco in Santa Maria Novela, Florence. Painting without linear perspective (Toman, 2000,p82)



Fig.44 Leonardo da Vinci, 1495-98. Painting with linear perspective (Toman, 2000, p372)



Fig.45 Vaux le Vicomte, photograph (Brix, 2004, p41)

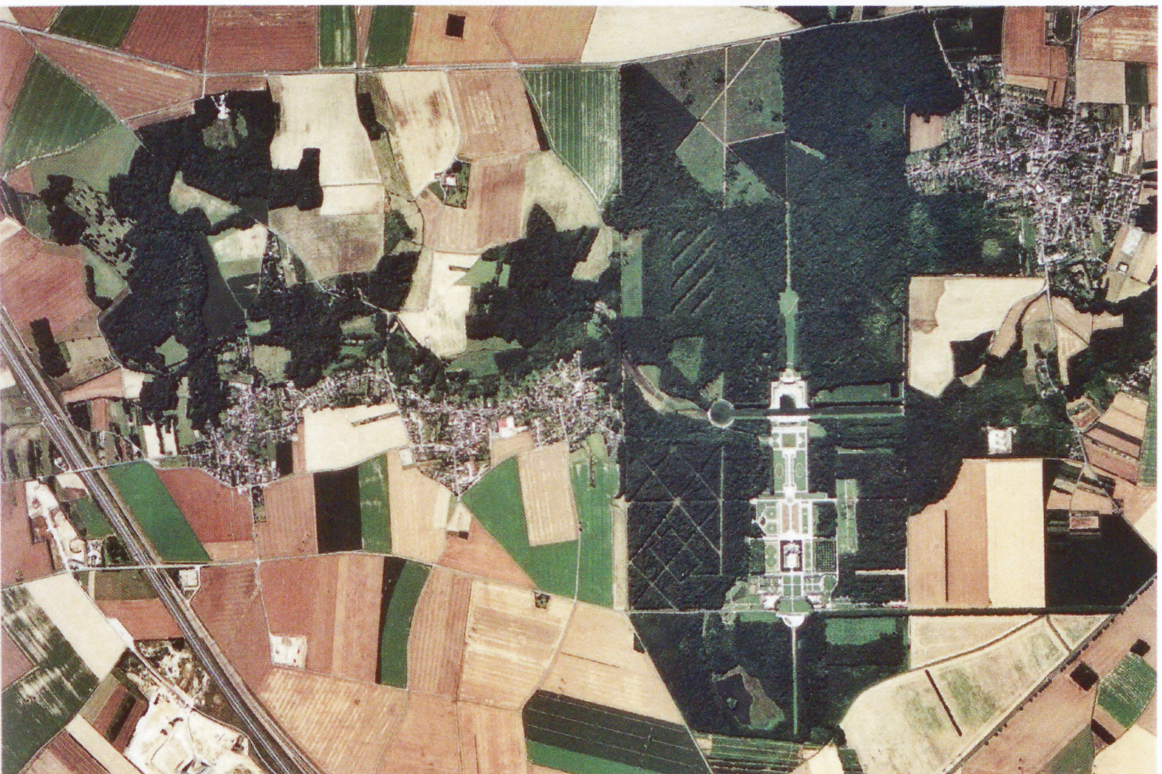


Fig.46 Vaux le Vicomte, photograph (Brix, 2004, p19)

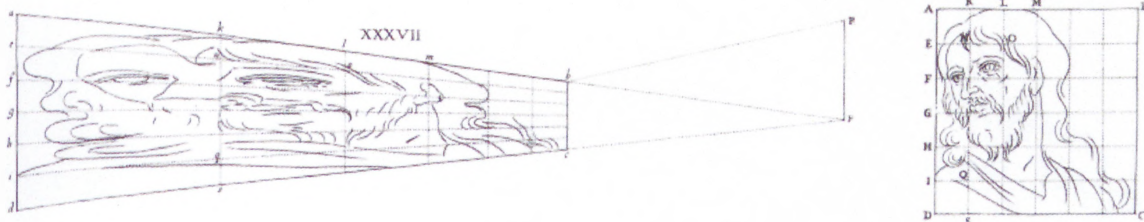


Fig.47 Anamorphosis, scheme by Jean-François Nicéron (Brix, 2004, p90)



Fig.48 Saint François de Paule, fresco anamorphic in Trinité-des-Monts, Rome, 1642, Emmanuel Maignan (Brix, 2004, p89)

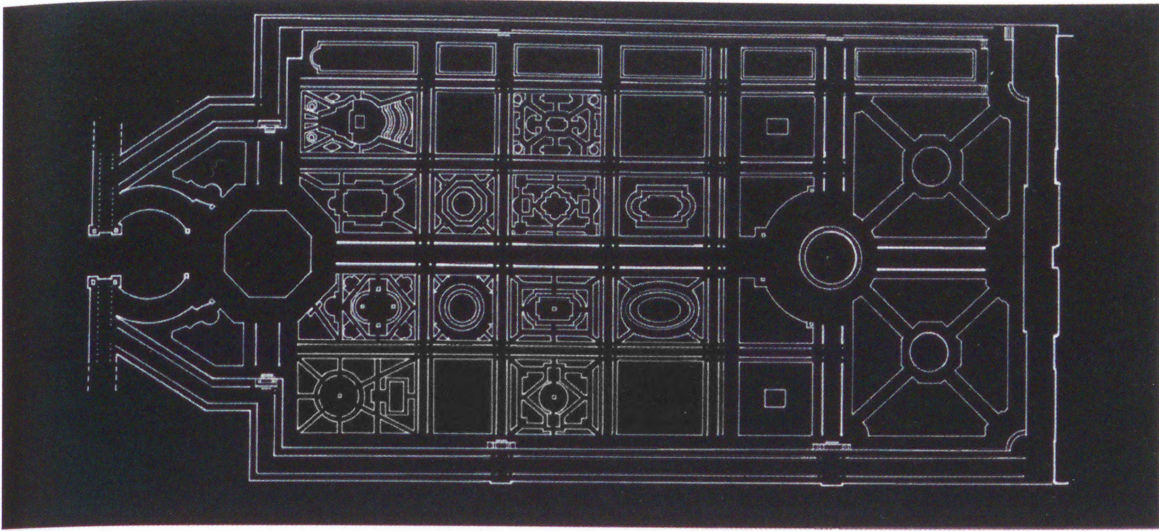


Diagram of Le Notre's plan for the Jardin des Tuileries

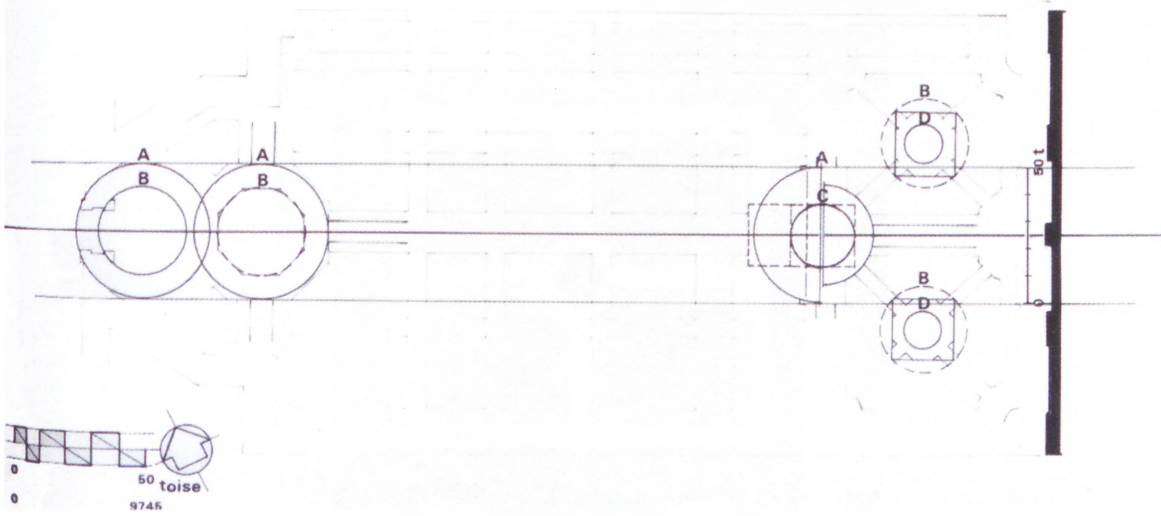


Fig.49 Tuileries Gardens, circular water basins (Steenbergen and Reh, 2003, p207)

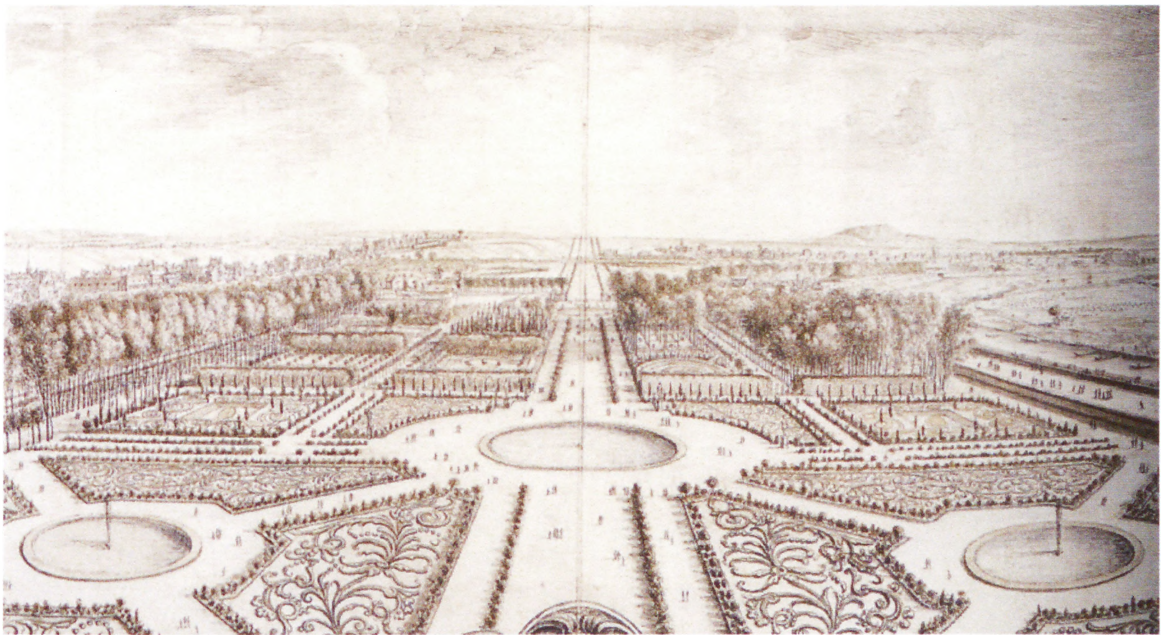


Fig.50 View from the Tuileries Gardens, Israel Silvestre (Chadych and Leborgne, 2007, p74)

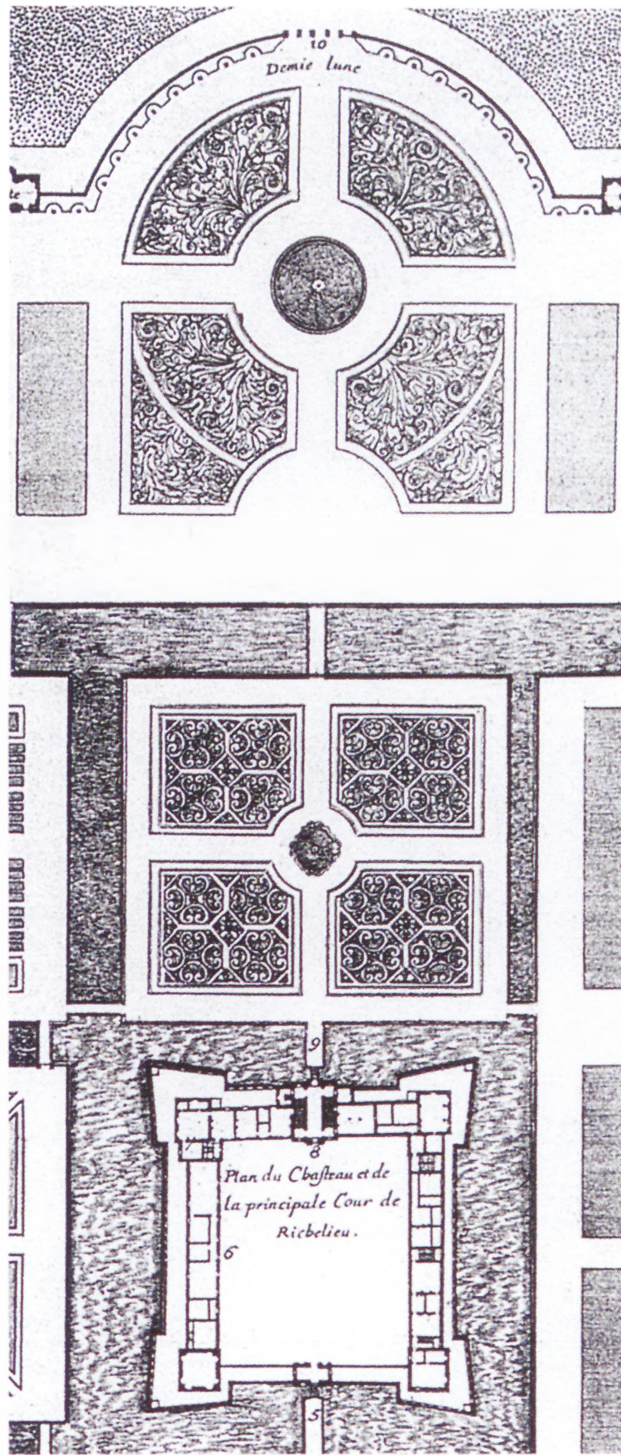


Fig.51 Château Richelieu's parterres, 1630 (Brix, 2004, p42)

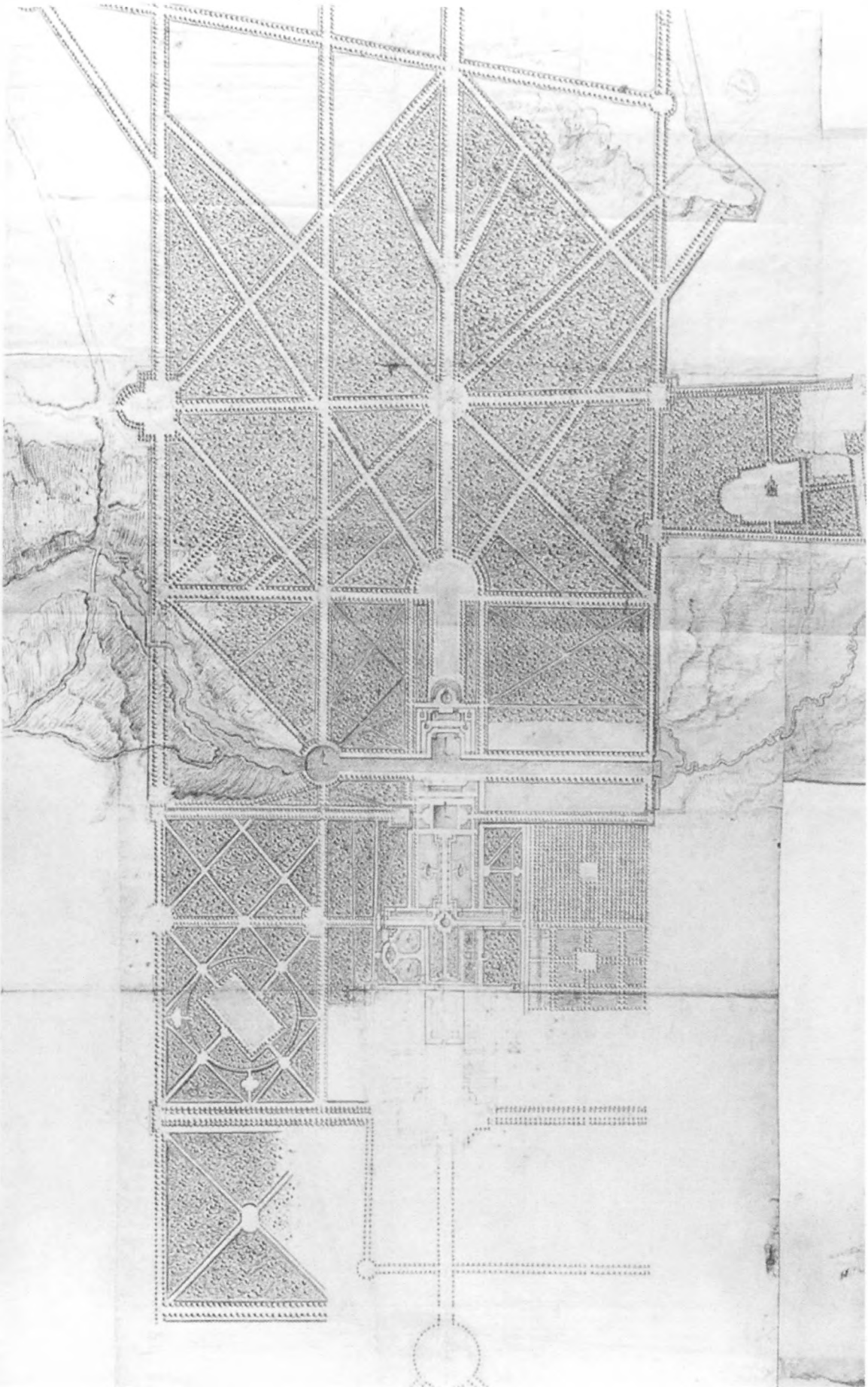


Fig.52 Vaux le Vicomte plan, 1658-1659 (Brix, 2004, p56)

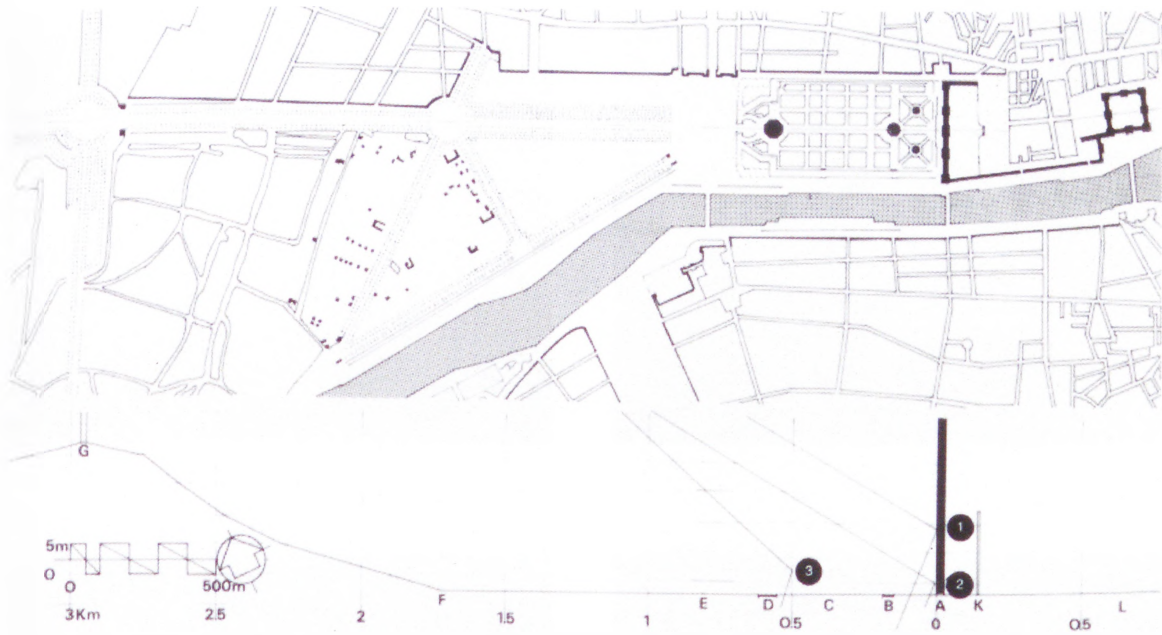


Fig.53 Champs-Élysées, plan and section (Steenbergen and Reh, 2003, p206)



Fig.54 Champs-Élysées, in 1789 (Ariste and Arrivetz, 1913)

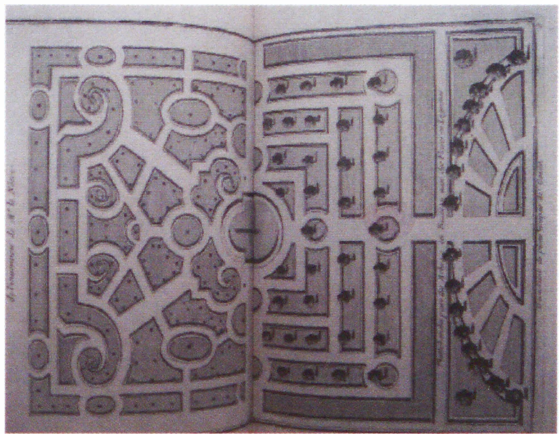
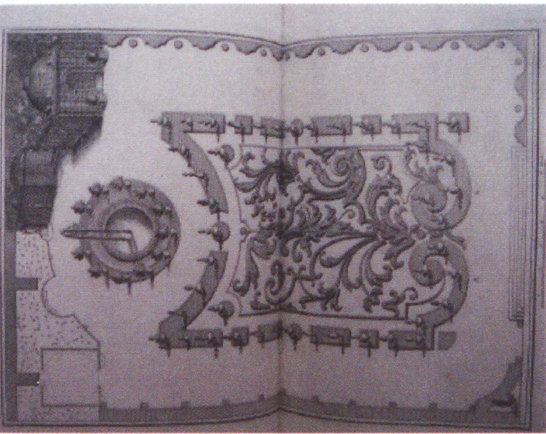
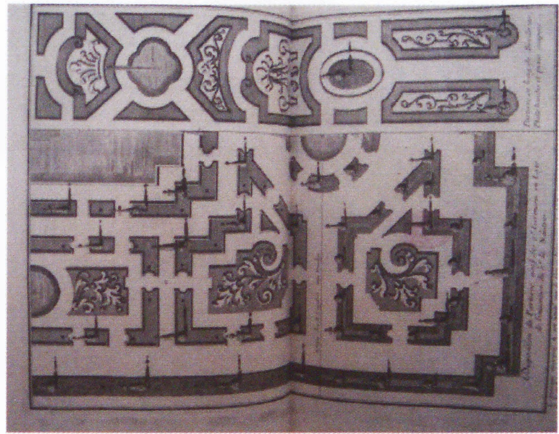
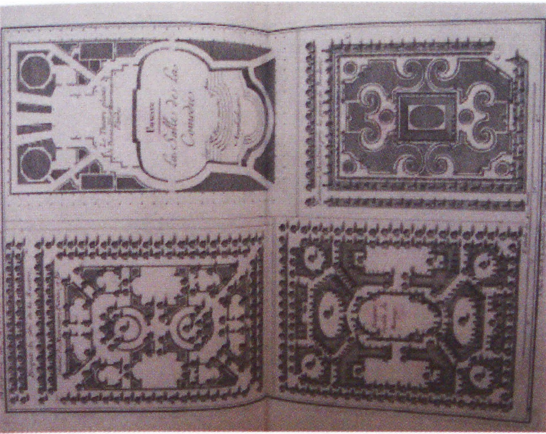
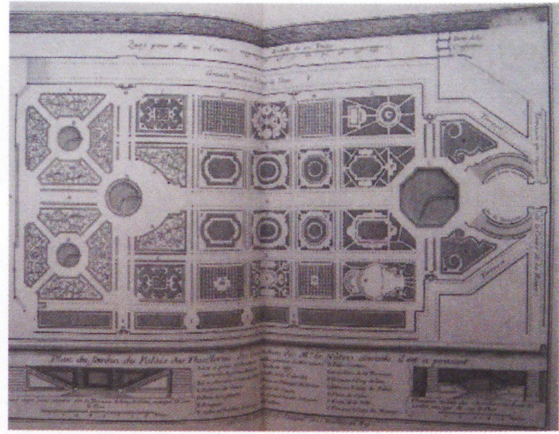


Fig.55 'Plans et Dessins de Jardinage', 1685 (British Museum, Prints and Drawings, 161.c.26)

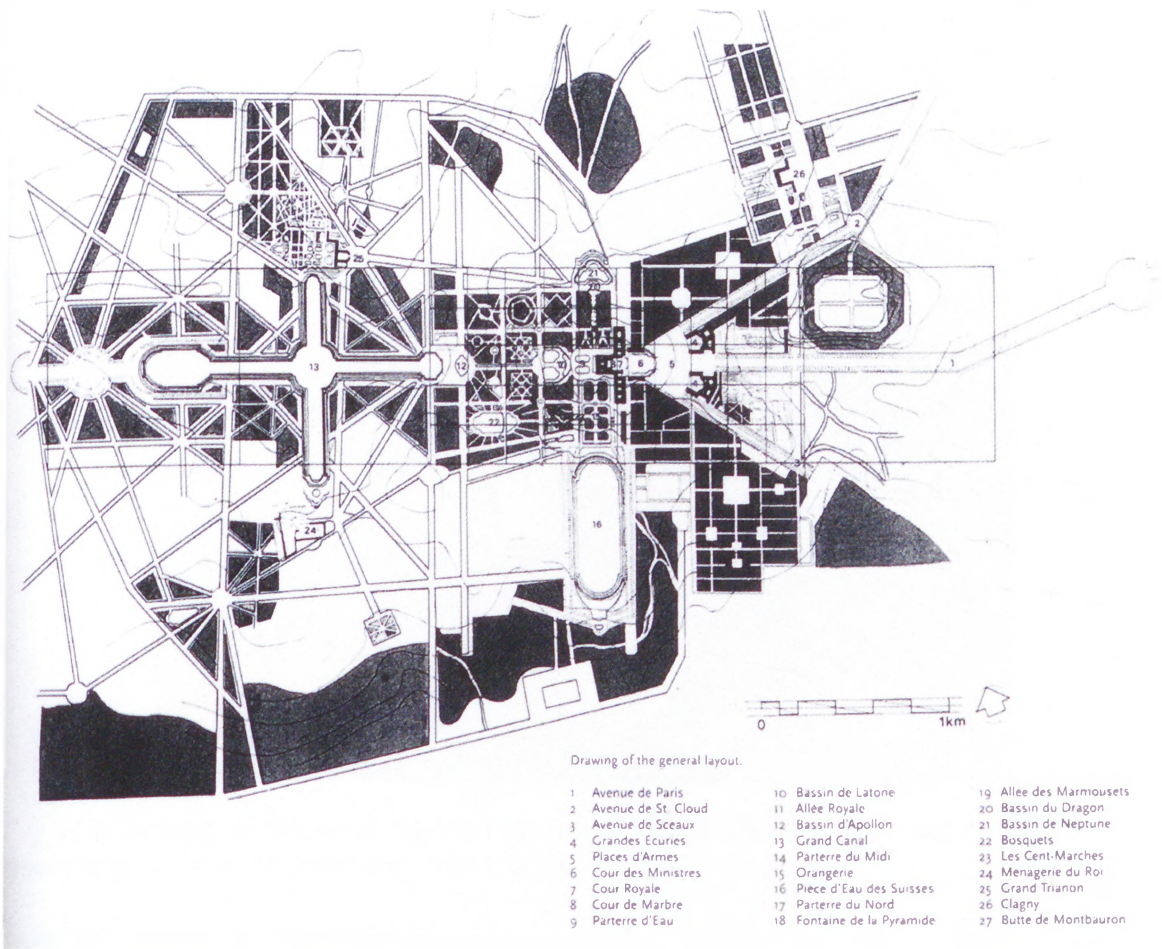


Fig.56 Versailles, plan (Steenbergen and Reh, 2003, p187)

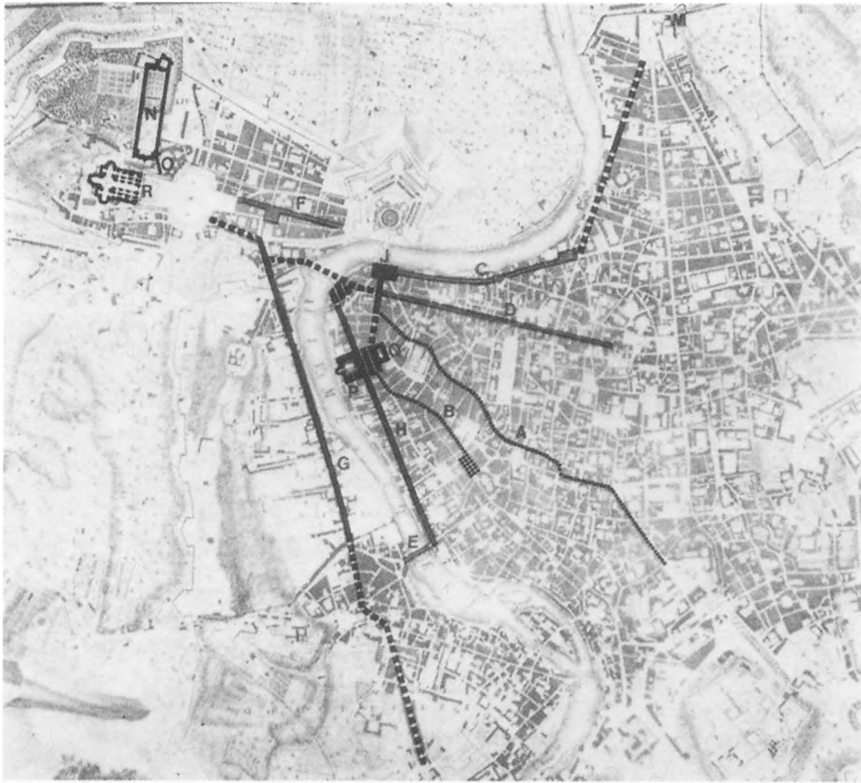


Fig.57 Indication of the axes planned for Rome (1503-13), over the map of Rome, according to Tafuri (Konemann, 1994, p136)



Fig.58 Indication of the axes planned for Rome (1513-21) over the map of Rome, according to Tafuri (Konemann, 1994, p140)

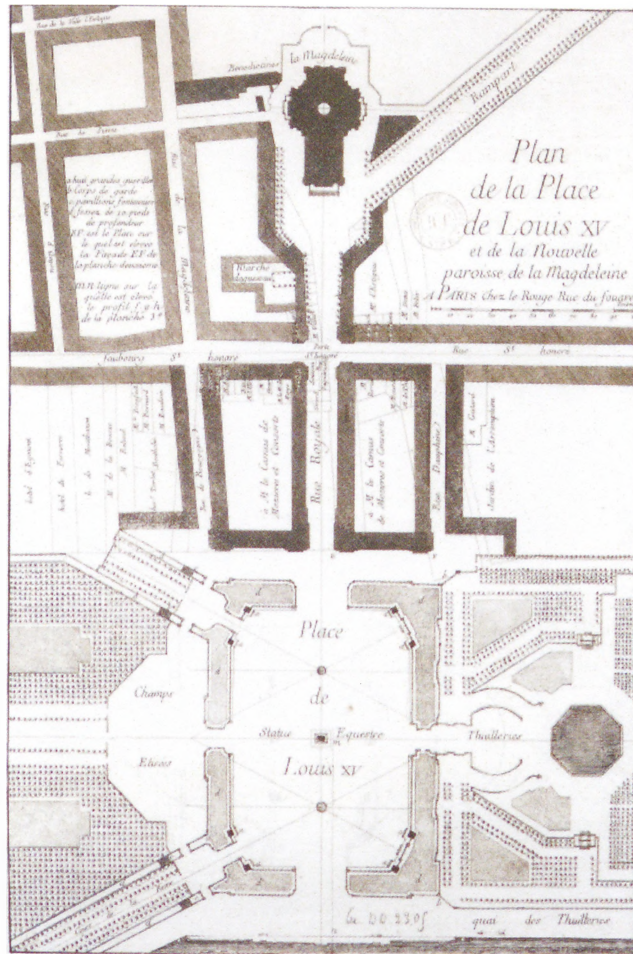


Fig.62 Plan de la Place Louis XV , 1754 (Pinon and Boudec, 2004, 66)

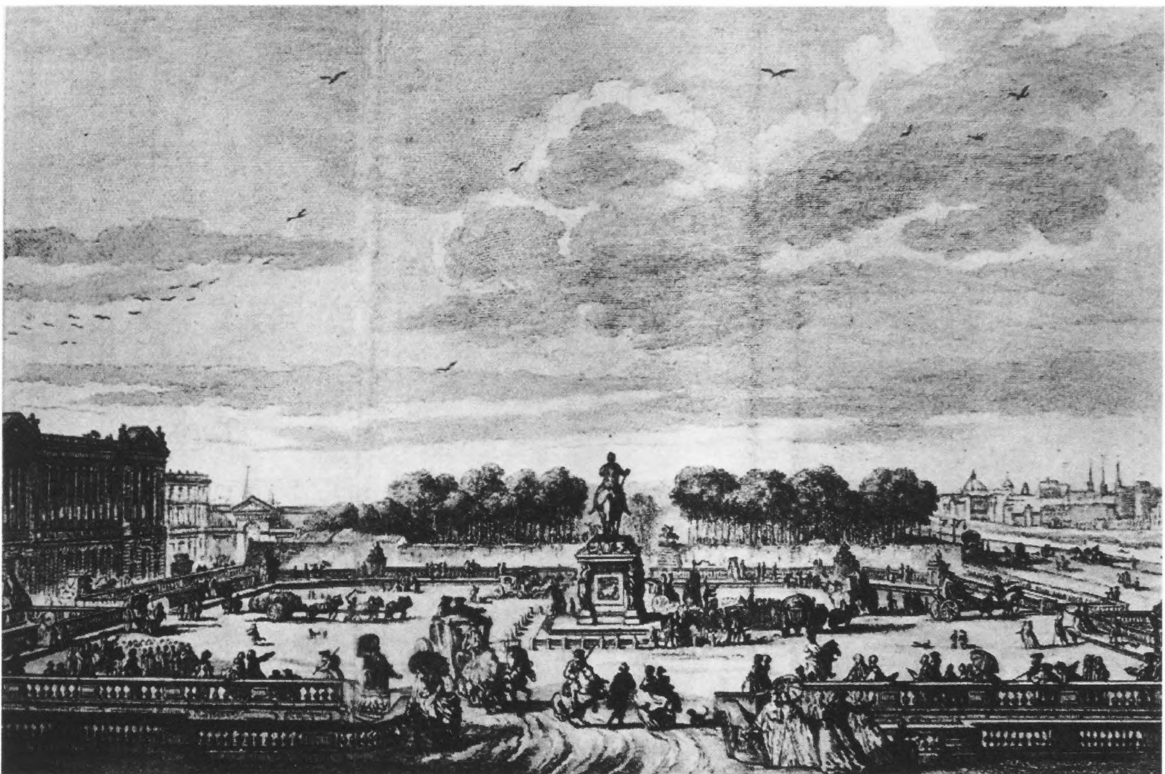


Fig.63 Place Louis XV, 1770 (Ariste and Arrivetz, 1913)

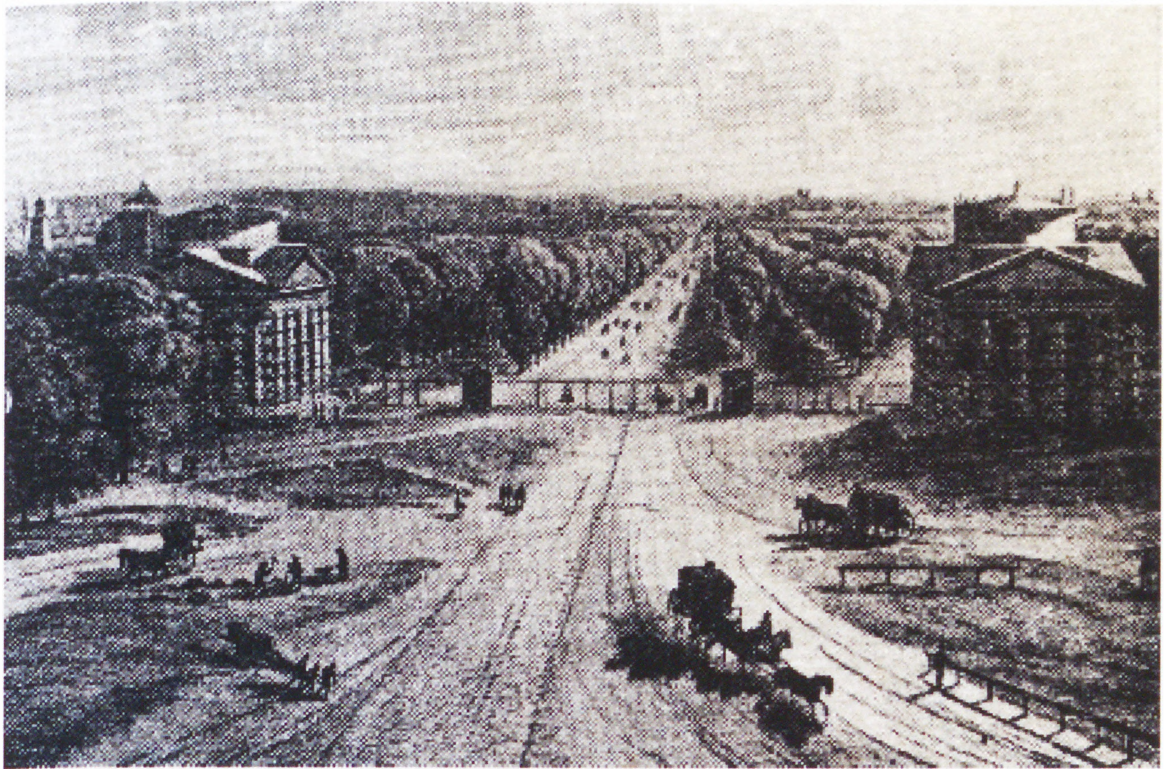


Fig.64 Barrière de Neuilly (Ariste and Arrivetz, 1913)



Fig.65 Roads from Paris to Saint-Germain and Versailles, 1675 (Weil, p7)



Fig.66 Photograph by FR (2008)

3. Urban Improvement, Regent Street

3.1. Chapter Introduction

As presented in the previous chapter, the emergence of a regional road network turned the seventeenth-century avenue into a merger between landscape and cityscape, or as a physical space conceived as (already) architecture and (still) landscape. This chapter will present the thesis that avenues built during the nineteenth century shared this conceptual space with early avenues, namely the nineteenth-century avenue included landscape and architecture as part of the same geometric composition. However, this chapter will present a fundamental difference separating the nineteenth-century avenue from its seventeenth-century ancestors: nineteenth-century avenues were not focused on reinforcing the regional road network, nineteenth-century avenues were designed to reconfigure the urban network.

Whilst seventeenth-century avenues presented a clear spatial experience to reinforce the physical unity of the regional road network, nineteenth-century avenues were not concerned with the regional dimension. Nineteenth-century avenues presented a clear spatial experience to reinforce the physical unity and the sense of arrival *within* the urban network. Nineteenth-century avenues were designed and built to connect places within the city. Building an urban network within the city meant piercing through pre-existing core.

The *percée*, or the avenue piercing through built core, was the most impressive characteristic of European nineteenth-century urban regeneration. The sturdy belief that avenues were an improvement, bringing effective communications, sewers, light and landscape into the urban core, led to extensive destruction of narrow streets and buildings within the city's active core. The *percée* reflected a vision of the city as a whole, where a functioning network of communications and sewers preceded a partial understanding of cityscape. This vision of the city as a whole supported by functioning networks has been noted as the origin of Urbanism as a discipline (Choay cit. in Haussmann, 2000).⁵⁴

The nineteenth-century cityscape was changing due to substantial changes in *lived space*, namely due to the emergence of a social fabric where the monarch's power was

⁵⁴Ildefonso Cerdá (1816-1876), responsible for Barcelona's grid, named the discipline in his *Teoría general de la urbanización*, but Haussmann is recognized, by Choay, to be the first to implement its modern methodologies. (Choay, 2000)

no longer the driving force of urban expansion and regeneration. In France and England, throughout the eighteenth and nineteenth centuries, the monarch's powers faded as did economic policies centred on royal absolutism. As indicated by Backhouse (2002, pp.127-129), the *laissez-faire* ideal defending that, within a framework of justice, individuals with liberty in pursuit of their interests would ultimately aid the nation's economy had been present in voices critical of Louis XIV's economic policies, but was famously published by Adam Smith, in the year of America's independence (1776).

A growing group of wealthy tenants wished to reside close to landscape, but also required proximity to centres of power; hence, as indicated by McCreery (2005) regarding London, this group simultaneously aspired to the rural and urban lifestyle. As presented by Anderson (1998, 2001) regarding London, and by Harvey (2006) regarding Paris, improvements were undertaken because both public and private landowners realised that wealthy tenants, along with a credit-based society, could turn urban properties into goldmines. Sustained high-quality neighbourhoods translated into sustained high value rents.

Reviewed literature indicates Paris as the origin of the nineteenth-century *percée* (Cars and Pinon, 1991). The spectacular transformation of the French capital, envisioned by Napoleon III and executed by Haussmann during the second half of the nineteenth century, became almost synonymous with the *avenue* and a beacon for urban modernity (Choay in Haussmann, 2000). Pre-existing narrow streets were deemed outdated and the *avenue*, considering its network potential, was the modern urban type chosen to replace narrow streets. As Paris and *avenue* became almost synonymous, the credit for piercing consolidated urban cores with a monumental axis has been frequently attributed to a progressive political vision based on authoritarian principles; hence, reviewed literature, like Olsen (1986), Hobhouse (2008), Choay (cit in Haussmann, 2000), Steenberg and Reh (2003), Cars and Pinon (1991), Lawrence (1988) and Kostof (1991,p.217), mistakenly wished to credit the nineteenth-century *percée* to a seventeenth-century understanding of power centred on the monarch. Furthermore, based on Paris' regeneration, the *avenue's* physical space has been typified as tree-lined axis (Lawrence, 1988).

This research will present an alternative thesis. This research will trace the first nineteenth-century *percée* to a most unlikely city and to a most unlikely avenue: London's Regent Street. It has been noted by Olsen (1986) that Regent Street preceded Haussmann's regeneration of Paris by almost half a century; however, Olsen

failed to understand that Regent Street (despite its name) had nothing to do with the monarch's power. What is argued in this research is how Regent Street not only preceded Haussmann's regeneration of Paris but also exerted a direct influence on the methodology used, considering Louis Napoleon lived in London from 1838 to 1840. This influence has been suggested by Girouard (1985, p.289)⁵⁵ and by Sutcliffe (1970, p.37)⁵⁶. Harvey's (2006) economic presentation of Haussmann's regeneration of Paris was a decisive published source allowing this research to establish an effective comparison between Regent Street and Haussmann's methodology.

Regent Street was created as part of the urban network piercing through the pre-existing core. Instead of depending on the will of absolute centralized power, Regent Street was built due to the combined effort of both private interests and of a parliamentary constitutional monarchy. Instead of connecting the capital city to distant noble estates, Regent Street connected city centre to suburban terraced (collective) housing built within "scenery of nature" (Nash cit. in White, 1814, p.xxxi) for wealthy tenants. Instead of being the tree-lined path of arrival into a noble estate, palace or hunting lodge, Regent Street was an architectural path of arrival leading into an urban park located on the city's fringes (Regent's Park).

After Regent Street's development, the advent of the railway shifted London's focus away from avenues. A crash of the speculative housing bubble, in 1825, and fear of compensations to dispossessed owners shifted Parliament farther away from assuming the financial burden involved in the construction of London's networks. Hence, after Regent Street, London's nineteenth-century improvements were, once again, mostly privately driven.

The last section of this chapter will be devoted to Regent Street's conceptual space. As suggested by this thesis, John Nash conceived Regent Street with the same design principle inherent in Le Nôtre's practice: architecture and landscape should be united by the same geometric composition. Regent Street inherited Le Nôtre's landscape architecture legacy; however, gained distance from it by seeking a British design influenced by the British landscape movement. Thus, Regent Street became a British avenue.

⁵⁵ "Napoleon III, living in London from 1838 to 1840, had walked or driven up and down Regent Street or through the parks...English influence was much in evidence in his work in Paris. The initial idea of a self-financing scheme was probably inspired by Regent Street." Girouard (1985, p.289)

⁵⁶ Trans. FR "The squares and public parks, that Napoleon had admired in London..." Sutcliffe (1970, p.37)

3.2. Privately driven Urban Expansion: patchwork of new neighbourhoods

3.2.1. London's Metropolitan Improvements: Monarch or Market?

Augustus made it one of his proudest boasts, that he found Rome of brick, and left it of marble. The reign and regency of George the Fourth have scarcely done less, for the vast and increasing metropolis of the British Empire: by increasing its magnificence and its comforts; by forming healthy streets and elegant buildings instead of pestilential alleys and squalid hovels, by substituting rich and varied architecture and park-like scenery, for paltry cabins and monotonous cow lairs; by making solid roads and public ways, scarcely inferior to those of Ancient Rome, which have connected the extremist points of the Empire, and have brought its provinces and seaports, many days journey nearer to the metropolis, instead of the miry roads through which our respected ancestors roughed in their weary way,... a series of desirable improvements that bid fair to render London the Rome of the Modern History. (Elmes, 1827, pp.3-4)

Elmes (1827) provides a detailed account of London's "Metropolitan Improvements". Regent Street, one of the most significant improvements, is presented as "the most picturesque and splendid street in the metropolis". Elmes' compares George IV⁵⁷ to Augustus leading some to believe the British monarch had something to do with the extraordinary achievements which transformed London into "the Rome of the Modern History".

As will be explained throughout this chapter, what can be concluded from reviewed sources is that George IV's presumed achievements were not only far beyond the British monarch's actual power but had deep roots in London's seventeenth-century urban expansion. Hence, George IV's presumed achievements can be traced back more than a century before the Regent's reign.

Elizabeth McKellar (1999) published a detailed study of pre Georgian London,⁵⁸ namely, of London's developments from 1660 to 1720. With this study, McKellar analyzes a building boom which occurred during this period and justifies the relevance of this building boom by stating most mechanisms, used for later developments, for

⁵⁷ George IV (1762-1830) Ruled from 1820 to 1830, with restricted powers as Prince Regent from 1811 (Ashley, 2002, p.364)

⁵⁸ 'Georgian London' is described by Summerson (1988, p.9) as the period in between 1714 and 1830, namely in between the year George I became king and the year George IV died.

speculation, and for the building industry, were created during this period. As McKellar states, this late seventeenth- and eighteenth-century building boom “introduced a townscape which was to dominate, first in the capital then throughout the country, for the next century and a half”. This townscape, McKellar (1999, p.222) concludes, “was not produced by a system other than one as competitive and market oriented as our own”.

John Summerson (1988, p.14) further adds, in his account of Georgian London:

The land speculator and the adventuring builder have contributed more to the character of the Georgian city than the minister with a flair for artistic propaganda, or the monarch with a mission for dynastic assertion.

3.2.1.1. *Restoration of the Monarchy and Fluidity in Land Market*

McKellar does establish a relationship between the restoration of the Monarchy in 1660 and a building boom. However, this relationship between the Restoration of the monarchy and the building boom was not related to any monarch’s vision of public improvements. The Restoration promoted a building boom because it provided a sense of political stability and fluidity in the land market.

Political stability came with the return of a centuries-old institution, replacing Oliver Cromwell’s Protectorate. A period of turmoil and social unrest was concluded, welcoming gentry to stay for longer periods than before.

Unusual fluidity was introduced in the land market, as the king offered properties in exchange for support during the *interregnum*. These offered properties did not have, for noblemen, the same “psychological attachment” as their country estates, therefore, could be considered for investment (McKellar,1999) ⁵⁹. The market’s unusual fluidity promoted by the Restoration reinforced a fluidity already established in Britain with the Dissolution of the Monasteries, ordered by Henry VIII in the first half of the sixteenth century.

⁵⁹McKellar (1999, p.17) refers to Lawrence Stone’s article ‘The Residential Development of the West End of London in the Seventeenth Century’ in B.C. Malament, ed, *After the Reformation*, Pennsylvania, University of Pennsylvania Press, 1980, pp.167-212.

This research endorses McKellar's belief that there was a relationship between market and monarchy; however, the monarch's personal influence in the thriving property market was limited. The monarchy, as an institution, did provide a sense of political stability and fluidity introduced in the land market. In other words, the Restoration provided conditions for the land market to thrive.

McKellar's perspective is quite different from Elmes' (1827) suggestion that George IV was a leader (in any way) comparable to Augustus. While Augustus did order a programme of public improvements for Rome, private entrepreneurs were the driving force of London's seventeenth- and eighteenth-centuries building boom. Political power did join the speculative euphoria; however, as suggested by McKellar, the rules of the game had already been laid out by private investors.

3.2.1.2. Leasehold System

Land market conditions became even better with the seventeenth-century use of the building lease as a system of land tenure⁶⁰. The leasehold system had many variables, but can be synthetically described as a "joint venture" between landowners and developers and/or builders⁶¹. Landowners sold out the lease on the property for a limited number of years (initially 66 years, later 99 years). Developers and/or builders were responsible for building and were entitled to receive improved rent value for the duration of the lease. At its best, the leasehold system required little (or no⁶²) initial investment, with all involved sharing profits and risks.

3.2.1.3. Growth in Population

Political stability, fluidity in the land market, the leasehold system and the seventeenth-eighteenth-century "absolutely typical dependency on credit to fund business operations" (McKellar, 1999, p.68) were ripe conditions for a thriving speculative

⁶⁰The invention of this system is attributed by Roger North to Nicholas Barbon (?-1698) "the inventor of this new method of building by casting of ground into streets and small houses, and to augment their number with as little front as possible, and selling the ground to workmen by so much per foot front, and what he could not sell build himself. This has made ground rents high for the sake of mortgaging, and others following his steps have refined and improved upon it, and made a super foetation of houses about London" (McKellar, 1999, p57 and Summerson, 1988, p29) Summerson adds "If Barbon was hardly the 'inventor' of a 'new method' he certainly developed existing methods on an unprecedented scale"

⁶¹For detailed analysis of seventeenth century landlords, developers, and builders see McKellar (1999, pp.38-113)

⁶²Particularly if associated with mortgages and promises to pay builders with the houses being built. Nash's building of the Quadrant, as presented by Summerson (1949, p.220), is a good example of setting about a complex financial operation with little or no initial investment. This will be discussed in a later chapter of the thesis.

market. This market, however, could only thrive on robust demand, and such demand was provided by London's growth in population from 1500 to 1800.

Civil war, the plague, and the Great Fire did not tarnish a steady phenomenal growth caused by London's expanding international trading role (McKellar, 1999, p.13). As graphics (fig.67) comparing the population's evolution in 60 European cities demonstrate, London's growth from 1500 to 1800 was more than phenomenal: London's population in 1800 was nineteen times larger than London's population in 1500 (Pinol, 2003, Vol.I, pp.601-613).

An explanation for London's growth can be found in the rising importance of Atlantic trade to the detriment of the, until then, primary maritime trade network, focused on the Mediterranean (Pinol, 2003, p.625). As this shift in maritime trade occurred, London was geographically well-positioned to become one of Europe's leading port cities.

Detailed (estimated) figures also demonstrate a much steeper rise in London's population when compared to the rest of England. London's population increased from 120,000 in 1550, to 200,000 in 1600, to 375,000 in 1650 and to 490,000 in 1700.⁶³ From 1550 to 1700, the population of England less than doubled while the population of London increased fourfold; therefore, population was concentrating in the metropolis. Furthermore, this increase in population was not evenly spread throughout existing London. Whereas, in 1560, the City contained three-quarters of the population and the suburbs one quarter, by 1680, the situation reversed with the suburbs containing three-quarters and the City one quarter (McKellar, 1999, pp.12-13).

The growth in population, along with London maps from 1550 to 1680 (fig.68 and fig.69), provide the best evidence for the building boom taking place in the suburbs during the period. This expansion, as a cross reading of both maps suggests, was mainly west connecting the City to Westminster, and mainly aimed at upper class housing as the west became London's fashionable district.

3.2.2. *The Rise of London's Noble West End*

The origins of the West End's noble character preceded the seventeenth-century Great Plague and the Great Fire of 1666 and can be attributed to a convergence of four factors: (1) geographic conditions; (2) the Crown's decision to move West; (3) proximity

⁶³McKellar (1999, p.13) refers to Roger Finlay and Beatrice Shearer's population analysis indicating other studies suggest an even greater growth in the seventeenth-century by estimating a population of 556,000 to 641,000 for c.1700.

to parks based on hygienic principles; and (4) the frenzy of housing development in large estates promoted by aristocratic owners.

3.2.2.1. *Geographic conditions*

First and foremost, the geographic conditions of the West, upwind and upstream, in the increasingly overcrowded city of London where the flow of the river carried away sewage and rubbish from West to East (Whitfield, 2006, p.58), must be stated as a determinant lure to the upper classes since the seventeenth century. Furthermore, in London, the west and the north were generally higher and well drained lands (as opposed to the marshy and low-lying lands in the south and east); thus, more adequate for building. (McKellar, 1999, p.16)

3.2.2.2. *Crown moves West*

As in Paris, the noble quality of the west also derived from the monarchy's decision to reside in the western part of the city.

In London, the cityscape's western development owed its initial impetus to Edward the Confessor⁶⁴. The pious king decided to build a royal palace in Westminster, close to the Abbey of St. Peter; thus, generating a centre of power only second to the City's trade. Henry VIII⁶⁵ reaffirmed the West as London's noble area (Whitfield, 2006, p.11).

During 1531-1536, at the turmoil of the Dissolution of the Monasteries, Henry VIII acquired several properties in the parish of St. James, north of Piccadilly, as part of the Bailiwick, or Manor, of St. James. On these lands, he built a new palace, St. James Palace, with a vast surrounding park. With these lands, Henry VIII claimed monopoly of the properties surrounding Whitehall Palace (Sheppard, 1963, Vol.31, pp.24-31).

The monopoly Henry VIII established with the St. James Bailiwick was not to last; as these properties were not held by the Crown for long. Part of the property was granted as fee in 1559/60 by Elizabeth.⁶⁶ From then until the early nineteenth century, the area was subject to an intricate sequence of transactions and disputes (fully expanded in Sheppard, 1963, Vol.31, pp.24-31). By the early nineteenth century, the Bailiwick of St. James was a patchwork of properties belonging to different landowners.

⁶⁴Edward the Confessor (c.1004-1066) King of England from 1042 to 1066

⁶⁵Henry VIII (1491-1547) Ruled from 1509 to 1547

⁶⁶Elizabeth (I) (1558-1603) Ruled England from 1558 to 1603

Even if the land was to be divided into several estates, the result of Henry VIII's acquisitions, along with his decision to use the palaces of St. James and Whitehall, consolidated the West End as the centre of the court and society, while the City polarized the financial activity and the East End the manufacturing (Whitfield, 2006, p.79). Charles II's decision to base himself at St. James (McKellar, 1999, p.17) ratified the West End's noble character.

3.2.2.3. Proximity to Parks based on hygienic principles

As shown in John Rocque's map of London (fig.70), dated 1745, new West End neighbourhoods were bordered by parks. Hyde Park, Green Park and St. James Park were a further magnet which drove the upper classes west. The wealthy were moving closer to the parks, even if by doing so, they resided further away from both the legal courts and the financial centre.

By early nineteenth century, upper classes valued "open space, free air, the scenery of nature, and the means which the parks afford for horse exercise, and for walking and for airing carriages" over the "noise of carts, wagons, stage coaches and other carriages" (White, 1814, pp.xxix-xxx).

This desired proximity to the scenery of nature must have been rooted in the fact that overcrowded cities and towns were unhealthy places (prone to the spreading of the plague and other epidemics) as opposed to the countryside. As Ball and Sunderland (2001, p.44) point out,

...in 1811, the life expectancy of someone born in London was only 30; eleven years less than someone born in the countryside. In some other large towns, such as Manchester and Liverpool, life was even shorter.

Scientific studies, from the seventeenth century onwards, further provided a vision of Nature as a healthy haven. Most significantly, the English Joseph Priestly (1733-1804) set about a scientific experiment which led to the discovery of oxygen. Priestly noticed that when he placed a candle under an inverted jar isolating air, the mouse consumed the isolated air and the candle burned out quickly (Isely, 2002, pp.107-109). However, when Priestly added a plant under the jar, he discovered air was restored by that plant. Aided by the knowledge of Priestly's methods, in 1778, the Dutch Jan Ingenhousz (1730-1799) further discovered that sunlight shining on the plant eased the air's

restoration (Isely, 2002, pp.104-106). Both eighteenth century experiments presented plants and light as life-supporting elements

The impact that the Scientific Revolution, and subsequent Age of Enlightenment, had on the design of the landscape has been noted by others, namely by Steenbergen and Reh (2003, pp.225-227). A new understanding of Nature arose with scientific reasoning. Nature was not admired as God's incommensurable and unquestionable creation, but was studied as an "autonomous system"⁶⁷, subject to empirical research and human control.

For the speculator operating in eighteenth-century London, Nature was the means to increase revenues.

3.2.2.4. Aristocratic owners and wealthy tenants

The quality of the West End neighbourhoods owed much to the type of housing development in large estates which occurred throughout the seventeenth and eighteenth centuries. Each of these large estates belonged to one single aristocratic owner who was willing to supply a wealthy tenant's demand for high-quality housing.

The growth in the wealthy tenant's demand occurring as early as late seventeenth century can be explained by three factors: "a great expansion in the numbers of the gentry;... a growing professional class;...a tendency for both to live in London." (McKellar, 1999, p.17)

The type of development owned by a single aristocratic landowner began, as early as 1630, with the landscape north of the Strand, namely Covent Garden. (Whitfield, 2006, pp. 50-51) If transforming large estates into housing neighbourhoods promised to be solid investment, landowners faced a challenge: new building had been prohibited⁶⁸ in London since the late sixteenth century.

This prohibition, McKellar (1999, p.26) suggests, derived from the "genuine anxiety" regarding a possible "influx" of poor people pouring into the city, leading to "famine,

⁶⁷Steenbergen and Reh (2003, p. 226) use the expression "autonomous system" to refer to Carolus Linnaeus' *Systema naturae* (1735), classifying Nature as a system for the first time

⁶⁸ Initially, building was prohibited by Royal decree leading to proclamations against the practice in 1580 and 1602 and an Act of Parliament in 1593. Later, there were the proclamations of 1625 and 1630, the "Draconian legislation against new building" of 1657, and the less extreme measures outlined in proclamations in 1661 and 1671. McKellar (1999, p.26).

plague and...social unrest". To overcome prohibitions, developers of large schemes had to petition the Crown and their schemes had to be ratified by the Surveyor General, who ensured compliance with building regulations. The fundamental role of the Surveyor General, stressed by McKellar, is, at times, forgotten in reviewed literature⁶⁹. The Surveyor General acted as a planning authority; thus, guaranteeing the quality and the uniformity of the large developments approved.

Landowners had to convince authorities that high-quality housing was the answer to the demographic pressure the city was under. Then, the landowner retained the land, built high-quality neighbourhoods and leased the houses to wealthy tenants for a limited amount of time. Landowners eventually regained possession of the property; hence, they were very interested in keeping high standards of the estate. This would insure the property's permanent value and consequent ability to keep providing rents in the long run. (Whitfield, 2006, p.77)

As suggested by McKellar, the commercial success of initial developments set guidelines for the city's growth to the West. This mode of expansion led to the construction of many of the elegant, present-day, neighbourhoods of London, such as Hanover square (1717-19), Cavendish square (c.1720) or Grosvenor Square (1725 onwards) (McKellar, 1999, p.205).

Inevitably, this same commercial success also attracted those who were not as willing to bet on long term investments. John Nash lamented the speculation frenzy, north of the New Road (present day Marylebone Road), which was leading to an "artificial extension of the town":

The artificial causes of the extension of the town are the speculation of builders, encouraged and promoted by merchants dealing in the materials of building, and attornies with monied clients ... It is not necessary ... to enumerate the bad consequences and pernicious effects which arise from such an unnatural and forced enlargement of the town, further than it is to observe that it is the interest of these concerned in such buildings that they should be of little cost as possible preserving an attractive exterior, which Parker's Stucco, coloured brick and balconies, accomplish; and a fashionable arrangement of rooms on the principal floors, embellished by paper hanger, an a few flimsey marble chimney

⁶⁹Steenbergen and Reh (2003, p.368) state "Until the second half of the 19th century the municipal authorities had hardly any role in urban development. Through the development system of squares, residential development became a matter for land owners and speculators."

pieces, are the attractions of the interior. These are sufficient allurements to the Public, and ensure the sale of the houses, which is the ultimate object of the builder, and to this finery everything out of sight is sacrificed." (John Nash cit. in White, 1814, p. xxv)

It can be argued, as does Whitfield (2006, p.79), that only the areas controlled, on a long term basis, by one single owner were able to maintain a high standard. The single owner implemented uniform quality and taste to an entire neighbourhood. The neighbourhoods where the selling of individual plots and the quick change of leases took place rapidly lost their initial high standard and, consequently, these areas lost their character and rent value. This quick change of leases happened, in the eighteenth century, in the areas east of present-day Regent Street (such as Soho, Golden Square, and Leicester Square). This quick change of leases can provide an explanation as to why these areas lost their initial high quality character, while the areas west of present day Regent Street retained theirs.

3.2.2.5. Spatial Implications of Privately driven Expansion: Patchwork of new neighbourhoods

Eighteenth-century maps of London suggest (fig.70) how new neighbourhoods, tailored for wealthy tenants, were being designed. These neighbourhoods differed from the pre-existing city in: (1) scale, with wider routes to alleviate traffic; (2) regularity of street width, to avoid the frequent jamming of horses and carriages in the narrower parts; (3) desired scenery of nature, which valued proximity to the public parks and an organization of neighbourhoods around central squares with gardens⁷⁰, thus, providing the "scenery of nature", or "open space", even within consolidated cityscape. As noted by Summerson (1988, p.24), the square also became a centre of the residential unit including, at times, a market or shopping centre.

Private landowners, motivated by profit, were leading the process of expanding the cityscape. Because of its private initiative, this expansion process was initially occurring as an addition of new parts. There was no master plan for the whole; however, developments had to be approved by the Crown's Surveyor General who followed tight building regulations, thus imposing uniform criteria in buildings. All developments had to be submitted to the Surveyor General, even though, as McKellar (1999, p.27)

⁷⁰To the present day, these squares are named after the initial landowner and developer: Grosvenor, Russel, Bedford, etc

explains, the Surveyor General of the Crown was, at times, unsuccessful when it came to stopping developments built without permission.

As (fig.71, fig.72 and Fig.73) show, when, in 1813, the decision to develop lands in Marylebone park and the New Street was approved by Parliament, the Crown was but one of the many developers who, literally, shaped the character of London's noble West End. The Crown's development, however, would come to be unique within London's cityscape. It was the largest in London until then, and, Anderson (2001, p.9, pg.2.2.2.) adds, arguably ever since.

3.3. Parliament driven Expansion: From a patchwork of new neighbourhoods to a general scheme of improvement

3.3.1. Increasing Revenues

In early nineteenth century London, building Regent Street involved the demolition of more than seven hundred houses (Summerson, 1949, p.131), with mandatory six months notice⁷¹, and compensation at market value to each landowner (Anderson, 2001, p.9, pg.2.2.3.).

Even today, tearing down pre-existing cityscape to build an unusually wide and long axis through the consolidated core of a thriving capital city would be ambitious, despite present-day building technologies and widespread public information. How was it done in early nineteenth-century London? Why would it be done in the uncertain Napoleonic War context?

The previous section established a conjunction of factors which explain London's economic and physical growth and point to London's West End as a harbour for ambitious developments. However, while previous developments had mostly divided a large estate into smaller plots, the New Street (Regent Street) ran from Charing Cross to London's northern limits, restructuring properties belonging to different landowners. Crown and Parliament had to believe, promote and agree on the best strategy to follow this ambitious plan through.

⁷¹“And be it further enacted, That no Occupier of any House, Building, Tenement or Ground, shall be liable to be removed from the Possession thereof, by virtue of this Act, or any thing herein contained, until the Expiration of Six Calendar Months after Notice in Writing shall have been given by the said Commissioners for executing this Act; provided nevertheless, that the Want of such Notice shall not delay or retard the Execution of this Act” *Statutes of the United Kingdom of Great Britain and Ireland* (1814, p.260)

That strategy would be firmly established on July 10th, in 1813, when “*An Act for making a more convenient Communication from Mary le bone Park and the Northern Parts of the Metropolis, in the Parish of Saint Mary le bone, to Charing Cross within the Liberty of Westminster; and for making a more convenient sewage for the same*” received royal assent, after being debated in Parliament, on 5th June, where it was passed by substantial majority (Summerson, 1949, p.131).

A most valuable source to understand the conception and construction of Regent Street is John White’s publication (1814, 1815) *Some account of the proposed improvements of the western part of London: by the formation of the Regent’s Park, the new street, the new sewer*. John White aimed to report why and how the idea for the street came about and who the main decision makers were. The publication is most useful, not because it is a critical account contemporary to the Street’s original design and construction⁷²; but mostly because it holds, as appendices, the *integral reports* of the architects who presented proposals for the “New Street” with plans illustrating those reports.⁷³

Both the architect’s integral reports and White’s (1814, 1815) account provide substantial statements to back two arguments: (1) the main reason for building Regent Street was to increase the value of the Crown’s Marylebone Park estate (present day Regent’s Park); and (2) the Treasury had a pivotal role in triggering Regent Street’s development.

3.3.1.1. *Increasing Marylebone Park’s Rent Value*

This research endorses the thesis that the trigger for this monumental urban redevelopment came from the will to increase the rent and permanent value of the Crown’s Marylebone Park property (present day Regent’s Park).

Marylebone Park, originally part of Middlesex Forest, had become Crown property in 1536 due to Henry VIII’s Dissolution of the Monasteries. Henry VIII enclosed the Park with a fence, turning it into a hunting reserve stocked with deer. The park remained a hunting reserve until Oliver Cromwell’s Protectorate, when the park’s forest was cut down to build a fleet of warships. After the Restoration, the land returned to the Crown

⁷² White’s own words must be taken with care as he aims to state the late John White’s proposal for Marylebone Park was better than Nash’s (White, 1814, pp.90-92).

⁷³ It is worth reviewing both editions (White, 1814 and White, 1815) because each is illustrated with different plans.

and was leased for agricultural purposes. By 1811, Marylebone Park's lease to the Duke of Portland was about to expire. (Summerson, 1980,p.58) With the end of the lease came the possibility of a new development designed to increase the property's value.

John Nash (1752-1835), the architect who would be chosen to develop this ambitious commission, stated in the first words of his Report included in the Plans for the Improvement of Marylebone Park:

I am desired to report to you my opinion, first as to what appears to me the most advantageous and eligible method of letting that property, for what term of years, and how subdivided, so as to produce the greatest preset yearly rent, the progressive increase of that rent, and the largest permanent value to the property, as the ultimate result of the improvement which I shall propose, always having in view the beauty of the Metropolis, and the health and convenience of the Public ...(Nash cit in White, 1814, p.xxi)

These are the introductory words of a report written by an experienced architect who was competing with another proposal⁷⁴ to earn a most desirable commission. Even if "beauty", "health", and "convenience" were values to "have in view", these words reveal what John Nash believed would most likely grab his client's attention: the "ultimate result of the improvement" was the "greatest" rent, its "progressive increase", and the "largest permanent value" of the property.

Based on drafts found in the Crown Estate records, Summerson (1980, p.63) further adds that, in October 1810, architects had been given clear instructions to present a proposal "bearing in mind that profitability must go along with beauty, health and convenience." Practical issues such as sewers, drains, suitability of the soil for brick making, and water supply came next.

The New Street, or Regent Street, was introduced as a corollary to the Park's development and came about to provide (even more) "additional value" (Nash in White, 1814, p.xlii) to the Crown. As the Park was located far from the city centre, the development required a better connection between Charing Cross and the new area.

⁷⁴The other proposal was from Leverton and Chawner. Fully expanded in White (1814) and Hobhouse (1975, chapter I).

The New Street [Regent Street] direct from Charing Cross to Mary-le Bone Park [Regent's Park], proposed in your instructions to me, would be of such advantage to the Crown Lands of Mary-le-Bone Park, by the additional value it would give to that property, as alone to justify the Crown in carrying it into execution, and of such advantage to the nobility and gentry occupying the principal houses in the west and northwest quarter of the town in their communication with the Houses of Parliament, the Courts of Law, the Treasury, the Admiralty and their other public offices in the lower parts of Westminster, that I have considered it under three distinct heads: its utility to the public, beauty to the metropolis, and the practicality of the measure... (Nash cit. in White, 1814, p.xlii)

Nash's words place Crown's Revenues as primary concern in undertaking this enormous development. Parliament, however, was very much involved in this decision, as the Crown's propriety was bound to Parliament since 1760.

3.3.1.2. *Parliament facing post-war depression*

In 1760, the costs of the Seven Year War and the American War, led George III to surrender the revenues of his properties to Parliament in exchange of a fixed Civil List. The measure was supposed to last for George III' s lifetime, but every sovereign, to present-day Elizabeth II, has reiterated George III' s decision⁷⁵ (Anderson, 2001, p.11, pg.2.3.3.).

Parliament was, thus, strongly attached to the development of Marylebone Park and the New Street. In fact, as early as 1793, John Fordyce, the Surveyor-General of His Majesties Land Revenues, had obtained Treasury approval to offer a reward of £1,000 for the best development plan for Marylebone Park and, in 1808, instructed the Land Revenue surveyors, Leverton and Chawner, to survey a route north from Charing Cross using Haymarket and cutting a new street to join Oxford Street at the junction with Poland Street (White, 1814, pp. 6-9).

Anderson (1998)⁷⁶ suggests the Parliament's interest in this ambitious urban development went far beyond an increase in Marylebone Park's revenues: it was a

⁷⁵Today, the revenues of these properties are managed by the Crown Estate. The Crown Estate is one of the UK's largest property concerns, with a portfolio of properties valued at £3.9 billion, rental income of £201 million, and a revenue surplus of £148 million. The annual revenue surplus is surrendered to the Exchequer. (Anderson, 2001, p.11, pg.2.3.1) The Urban Estate is 80% of the total portfolio of properties, of these Regent Street contributes with a significant value (Anderson, 2001, p.12, pg. 2.3.10).

⁷⁶ Fully expanded in Chapter IV and Conclusions (Anderson, 1998)

strategic act incited by the Treasury to rescue the country from an expected post-war depression. There was massive growth in government's debt to finance the wars, and fear of mass unemployment with the return of a significant number of men demobilised from the armed forces, which could lead to civil unrest. This important redevelopment, at the heart of the capital city, with one stroke, provided both work and stimulus to the property market, already thriving on the ease of obtaining credit.

3.3.1.3. Building Imperial Splendour

The fact that, as Elmes (1827) describes, the development of Marylebone Park and the New Street "changed Swallow Street and its filthy labyrinth environs into the most picturesque and splendid Street in the Metropolis", comparable only to "Augustus' Rome" might not have been the decisive argument to build Regent Street; however, it must have acted as a supplementary boost to an imperial nation fighting Napoleon's Continental blockade even if, in texts written in the early nineteenth century, any comparison to the city of Paris is (understandably) omitted in favour of imperial Rome.

The desire to produce a British cityscape shadowing French design models was yet another battle which will be discussed in later sections.

3.3.2. *The Regent's Street?*

The New Street, Regent Street, was to immortalize the name of the Regent, thus suggesting the Regent as a significant influence on the New Street's conception or design. This section will present the thesis that the Street's name reflects a marketing strategy, branding the Street as a place of luxury, and not the Regent's involvement in the scheme.

The name of the New Street dates from January 1819. On that date Nash was instructed to paint "Regent Street" on the New Street's adequate buildings (Summerson, 1980). As will be discussed in this section, today, the Regent's actual involvement in the plan is not agreed amongst reviewed literature.

Today, for this research, the relevance of establishing the Regent's role in the construction of Regent Street derives from the fact that avenues, due to their

monumentality, are often dismissed as belonging to some form of absolute power⁷⁷. This research aims to present that Regent Street's nineteenth-century construction demonstrated otherwise. While seventeenth-century avenues did derive from absolute power revolving around the monarch, nineteenth-century Regent Street inaugurated the avenue as an urban type possible under a parliamentary constitutional monarchy.

3.3.2.1. *The Prince Regent and John Nash*

All sources reviewed point to no nineteenth-century evidence proving George IV's personal commitment to Marylebone Park and Regent Street's development. Only in a letter written in 1811 by a third party, was the Regent reported to have stated that this "magnificent plan ... would 'quite eclipse Napoleon'" (Summerson, 1949, p.107). Given the absence of nineteenth-century evidence, and considering revenues were not directly to the monarch's personal gain, the Regent's involvement can certainly be questioned today.

Hermione Hobhouse (1975, 2008) writes her history of Regent Street relying mostly on Summerson (1949) for the earlier primary sources and, for later periods, on the *Survey of London* (Sheppard, 1963), on Adshead (1927) and on Chancellor (1927). Hobhouse introduces Regent Street by stressing the Regent's relevance considering that alleged conversation, described by Summerson (1949), where the Regent might have stated the street would "quite eclipse Napoleon". As such with Hermione Hobhouse (1975, 2008) a vision of Regent Street as a product of royal desire emerges. In the introduction of both editions, Hobhouse (1975, 2008) stresses the Regent's role

...his [the Regent's] connection with Regent Street is very real...the New Street was not the Prince's idea - but this does not detract from the credit due to him for his royal enthusiasm, and for the support he gave to his chosen architect, John Nash. (Hobhouse, 2008, p.xi)

James Anderson developed a PhD dissertation (Anderson, 1998) with the clear goal of understanding the economic implications of the Marylebone Park and Regent Street development. In 2001, Anderson issued a thorough report commissioned by the Crown Estate regarding Regent Street's History and Conservation. Returning to nineteenth-century sources (particularly White (1814, 1815)), Anderson argues the Marylebone

⁷⁷ In Kostof (1991)'s general history, avenues are in the chapter regarding "The Grand Manner". Kostof suggests: "If the Grand Manner is routinely associated with centralized power, we can readily see why. The very expansiveness it calls for, and the abstraction of its patterns, presupposes an unentangled decision-making process and the wherewithal to accomplish what has been laid out. When such clearcut authority cannot be had, the Grand Manner remains on paper." (Kostof, 1991, p.217)

Park and New Street development was clearly endorsed and promoted by the Treasury, not only to increase the revenues of the Marylebone estate (which were reverting to the Exchequer), but possibly to create construction-related jobs for demobilised armies. Thus, Anderson (1998, 2001) places the Treasury at the heart of this enterprise, doubting the Regent had anything to do with the street altogether.

This research endorses Anderson's (1998, 2001) thesis that the Treasury, "that least romantic of government departments", was the real instigator of the project, while "there is no evidence that [the Regent's] interest extended beyond a dinner party conversation". (Anderson, 2001, p.10, pg. 2.2.7.) This research has chosen to endorse Anderson's economic perspective downplaying the Regent's role for four reasons: (1) the architects' original reports in White (1814, 1815) point to the relevance of revenues; (2) no reviewed source provides evidence subscribing Hobhouse's belief in George's commitment and "royal enthusiasm"; (3) as above stated, McKellar (1999) presents London's developments since the seventeenth-century as market based enterprises and (4) Hobhouse centred her history of Regent Street on an early edition of John Nash's biography, which would be later deeply revised by its author, John Summerson.

John Summerson (1949, 1980, 1988 and 1991), ⁷⁸ John Nash's biographer, contextualises Regent Street within Nash's life and work, presenting the Street as a combination of Nash's talented design and shrewd financial mind. If Summerson's (1949) earlier edition of Nash's biography is, nowadays, taken into account, it can be argued, as Hobhouse (1975, 2008) does, that the Regent exerted a direct influence on the realization of the whole scheme by choosing the architect.

According to Summerson (1949, 1980), John Nash was invited to present a proposal because, by 1811, he was Architect in the Office of Woods and Forests. Summerson does not state Nash got this position due to the Regent's favouritism. However, in the earlier edition, Summerson (1949) presents the empathy between George IV and Nash as the object of much speculation, including the sordid possibility that, in 1798, 46 year old Nash agreed to marry one of the Regent's young mistresses, sealing the deal with the immediate gain of a personal fortune and the long term promise of a fruitful career (fully expanded in Summerson, 1949, chapter 4). Even before the redevelopment of

⁷⁸Summerson refers to Nash's original reports in White (1815) and introduces other relevant sources such as personal letters and diaries and John Fordyce's original reports, presently held by the British Library (BL, *England and Wales. Office of the Auditors of Land Revenue: The Reports (First-Fourth Report) of the Surveyor General of His Majesty's Land Revenue*, [London,] 1812: Ref. Collection 190.g.4.; and *England and Wales. Office of the Auditors of Land Revenue: The Reports of the Surveyor General of His Majesty's Land Revenue*, [London,] 1812: Ref. Collection B.S)

Buckingham Palace or Brighton's Pavilion, Summerson (1949) suggests, John Nash was the Prince's Architect.

However, Summerson's (1980) later edition of Nash's biography is not a mere "revision" of Nash's life but a "new work [standing] on its own foundations". (Summerson, 1980, preface) In his later edition of John Nash's biography, John Summerson (1980) downplays the Regent's role in Nash's professional life.

The difference in titles alone, *The Life and work of John Nash* (1980) versus *John Nash: Architect to King George the Fourth* (1949) reveals how Summerson downplayed the Regent's relevance in Nash's career in the later edition of Nash's biography. In the later edition, Summerson (1980) stresses how Lord Robert was the real patron behind Nash's relevant appointment as architect in the Office of Woods and Forests. Lord Robert only did so based on Nash's professional skill, namely, Lord Robert became Nash's patron after Nash efficiently amended the defective design of a wooden bridge in Hyde Park.

In the later edition (Summerson, 1980), John White's (1814, p.91) ironic statement that

We would by no means suppose that any sinister motives have led to the preference of Mr. Nash's plan; and still less can we allow the suspicion that undue favouritism existed. We must rather conjecture, that the various and important state measures called forth by arduous circumstances of the times have so occupied the persons in power that it was impossible for them to dedicate proper attention to such secondary concerns as the improvement of the metropolis.

is dismissed as resentment. John White (junior) published his account mainly to record the late John White's design for Marylebone Park (fig.72) which had been put away once the commission was awarded to Nash (Summerson, 1980, p.72). "Nash came to his seat of opportunity" Summerson (1980, p.90) states "by no royal road of patronage".

What Summerson does establish, from the projects Nash developed for the Regent, is the aesthetic and personal empathy between client and architect. The Regent empathised with Nash's taste for the construction of "sceneries" with visual richness of detail and a fascination for the power of the suggested, where straight lines found no place (fig.74). Eventually, in October 1813 (*after* the New Street had been approved),

Nash was made responsible for all the palaces where the Regent resided. (Summerson, 1980)

Even if there was aesthetic empathy between Nash and George IV, the relationship between the Regent and Nash was very different from the relationship between Louis XIV and André Le Nôtre. In both relationships, monarch and practitioner shared aesthetic visions; however, two substantial differences can best reveal how seventeenth-century avenues differed from their nineteenth-century descendants:

(1) Le Nôtre had been trained since childhood to step into his father's life-long position as royal gardener, while Nash built his position taking advantage of the social and professional opportunities presented throughout his life.

(2) Most importantly, in nineteenth-century London, it was the Treasury, not the monarch, who instigated the construction of London's "great thoroughfare". In seventeenth-century France, Louis XIV's minister of State and Finance, Colbert, has been said to have feared the empathy between monarch and designer:

Your majesty will surely understand that he is in the hands of two men [Le Nôtre and Le Vau] who drag your majesty from one project into the other. (Colbert cit. in Steenbergen and Reh, 2003, p.185)

3.3.2.2. *Designing for Leisure and Wealth: a Shopping Street*

Prior to the competition where Nash (aided by Morgan) faced Leverton & Chawner, other proposals had been made at the request of the Duke of Portland. A comparison between Nash's Plan (fig.77, Fig.82, and Fig.84) and Report (White, 1814, Appendix III) for the Improvement of Marylebone Park and the New Street, John White's plan (fig.75) and letter to John Fordyce (White, 1814, Appendix I), James Wyatts proposal (fig.83), and the Plan and Report (White, 1814, Appendix III) of Nash's direct opponents, Leverton & Chawner (fig.76) reveals Nash's proposal for the New Street was not only the most adequate solution, but the only solution presenting the new street as a public space dedicated to leisure.

Regarding Marylebone Park, while Leverton & Chawner wanted to fill the Marylebone Estate with "right angles in preference to circular or octangular figures upon a principle of greater convenience and much less expense", resulting in a "cheerful and open aspect" (Leverton & Chawner cit. in White, 1814, p.xx); Nash announces the construction of a vast park, a "scenery of nature" surrounded by elegant buildings,

turning the Estate into a “handsome, elegant and commodious addition to the Metropolis of the Empire” (Nash cit. in White, 1814, pp.xxii, xxxi).

With regards to the New Street (Regent Street), the difference in design quality is even more striking. Leverton & Chawner describe the New Street as a “straight wide street” to “save time”, adding it was not “of importance to decide at present what line the new street should form”. Nash, on the other hand, announces:

...the new street shall become the great thoroughfare...where the footpath will be fifteen feet wide, instead of seven feet, and the carriage-way double the width of that in Bond Street, and there will be room for all the fashionable shops to be assembled in one street. (Nash cit. in White, 1814, p.xlix)

Nash’s vision for Regent Street is still alive in present day central London, even if the only building with Nash’s design standing today is the All Souls’ Church. Had Leverton & Chawner been commissioned instead of Nash, the street would have been a functional wide road, very much like Marylebone Road, with no unique feature that could today be boasted as a world-wide London icon, or as “the first purpose-built shopping street in the world.”⁷⁹

Nash’s words leave no doubt as to whom he was envisioning the nineteenth-century new street for: “those who have daily intercourse” with Westminster, and those “who have nothing to do but walk about and amuse themselves” (Nash in White, 1814, p.xlix). As with the seventeenth century Champs-Élysées, despite being a public space, Regent Street was conceived as a place for upper classes. With Regent Street, the parliamentary monarchy was not aiming at the needs of the poorest but at the rents of the wealthy.

Most of Nash’s Report was a justification as to why the whole development (Marylebone Park and the New Street) should be built for upper classes. This thesis argues that Nash’s position had little to do with a fundamental social desire to divide the classes, and much to do with a noble place’s ability to provide substantial revenues. With the revenues in mind, Nash advised his client not to be thrifty in the construction process, or he could find “at the termination of the leases ... his land encumbered with heaps of ruins ... ” (Nash cit in White, 1814, p.xxv). With the

⁷⁹ Cit. in <http://www.regentstreetonline.com/crownestate/strategies/strategies.htm> [accessed, October 2008]

revenues in mind, Nash placed the street in the exact position where it could provide a “boundary and complete separation between the streets and squares occupied by the nobility and gentry and the narrow streets and meaner houses occupied by mechanics and trading part of the community” (Nash in White, 1815, p.xlviii). As noted by Summerson (1980), had the new street been built a little more to the East, as proposed by Wyatt, the influence of the fashionable West End could have been shunned.

Summerson (1949, p.125), in the 30s-40s, laments “Nash’s notion of shutting off a poor district, of damming the Soho”, stating it “hardly agrees with our conceptions of town-planning and sociology”. Summerson hastily forgives Nash by adding “the point of view has changed”. By 1980, it was Summerson’s point of view which had changed. In Nash’s later biography, Summerson (1980) stated,

[Nash’s] policy had two enormous advantages. First it ensured that the new street should be quite distinctly a west-end street, attracting high rents, and not a mere traffic artery, of indifferent character. Second, it avoided the destruction of modern well-built property and kept the bill for compensation to a minimum by purchasing, so far as possible, in the run-down areas of the tradesmen and mechanics.

Today, in two reports concerning the future of the West End and Regent Street, the essence of Nash’s vision of Regent Street is fully recaptured:

(1) the Report of the West End Central Retail Area Planning and Development Commission (Henderson, 2006) informed the then mayor of London, Ken Livingstone, what the Commission believes the area of the West End should represent:

The Commission unanimously agrees that it is essential that the West End remains a world-class, high value retail and related leisure district that London can be proud of, and which can be put forward with pride as one of the key assets of a confident, exemplary and sustainable world city in the 21st century. This is a vision based on promotion of excellence in all aspects of the area – its shops, its leisure and visitor offer, its offices, its residential areas and its other commercial activities.

(2) the Crown Estate Strategies for the present-day redevelopment of Regent Street proclaim the Crown Estate’s strategy for the renewal of leases (which will run until 2010) in Regent Street:

The Crown Estate aims to provide significant year on year increases in net revenue and total capital value....

Brand values: The Crown Estate has spent much time and research in trying to understand what Regent Street means to those who live, shop and visit the area. The result of this research is that Regent Street epitomises a set of values which comprise: quality; heritage; style; success.⁸⁰

These present-day strategies recapture every word of Nash's nineteenth-century ambition. "Excellence", "quality; heritage; style; success" are Regent Street's brand values. A strong asset representing these brand values, today, is the Regent's name.

This thesis proposes the same can be said regarding to the name of Regent Street in the nineteenth-century. The Regent's name endowed the street with a noble quality which would, most certainly, appeal to nineteenth-century wealthy, and possibly untitled, classes. These were the classes "who [had] nothing to do but walk about and amuse themselves" and who could profit from one street with "all the fashionable shops...assembled". As George Sharf's drawing (fig.85) can attest, marketing strategies were part of Regent Street's life as early as 1844. Even if no reviewed source refers to this, in light of the present research, it seems more likely to credit the New Street's name to a marketing strategy willing to promote the New Street as a luxurious shopping Street, rather than to credit the New Street's name to the Regent's "royal enthusiasm", as Hobhouse seems to argue (1975, 2008)⁸¹.

This thesis further defends that the idea of building a shopping street cannot be reduced to Georgian London's "conspicuous self-indulgence" or to a "superficial" desire behind "an afternoon spent purchasing frivolities in Bond Street", as Olsen (1986, p.6) suggests. There was more to shopping than that "superficial" desire. Unlike Olsen⁸², this thesis argues that economic strategy was also most relevant to the emergence of a shopping street. The knowledge that the act of exchanging money generated wealth had been introduced by late seventeenth and early eighteenth century critics of Mercantilism (Backhouse, 2002, p.91). Shopping (or what today can be called

⁸⁰ <http://www.regentstreetonline.com/crownestate/strategies/strategies.htm> [accessed, October 2008]

⁸¹ Hobhouse (2008) wrote her history of Regent Street closely associated to shopkeepers and to the Crown Estate (Regent Street's present day landowner). That proximity might have influenced her intention to uphold George IV's involvement.

⁸² "To grasp the meaning of such self-indulgence, such display, the techniques of the economic historian are useless, those of the social historian inadequate. The art historian and the intellectual historian are better qualified to illuminate our understanding of cities that, like London, transcend in both aspiration and achievement the merely practical and utilitarian." (Olsen, 1986,p.6)

consumerism) increased money exchange, thus creating wealth. With this undersyanding, stimulating the act of shopping could further boost the city's economy.

3.3.2.3. *Architect / Developer / Builder: Nash and the New Street's detour*

As can be read in Summerson's thorough biographical account (1980), John Nash had a troubled, at times obscure, life. From an early unsuccessful marriage, to a bankruptcy (in his thirties) rescued by unaccounted-for wealth, John Nash's destiny was unclear and far from given to him. Nash, 'a very clever, odd, amusing man', (Summerson, 1980, p.13) was able to please society and move in upper-class circles, but was also quite prone to harvesting enmities. Nash's shrewd mind and occupation led him to become, as many who shaped Georgian London, a speculator⁸³. Thus, at the end of his life, in 1828, John Nash saw himself obliged to explain publicly whether Regent Street's design was mostly a result of his greed or of his talent.

The best evidence of Nash's unclear design reasoning is the street's detour south of Portland Place. On Wyatts' proposal (fig.83), the New Street was designed to the east of Portland Place; thus, the idea of making Portland Place part of the "great thoroughfare" is chiefly attributed to John Nash's plan. Why did Nash decide to use Portland Place as part of his plan? According to Summerson (1980),

In 1810, before any official plan for the new street was on the horizon, Lord Foley, finding himself short of money to pay ...had bargained with his architect [Nash] for a loan of £24,000, on the security of Foley House. In July of the following year, however, this arrangement was modified; £10,000 of the loan was repaid and Nash undertook to pull the house down and develop the site for building. In the interval (October 1810) Nash had received instructions...to submit proposals for a new street. By March he had come up with the daring notion of forcibly adopting Portland Place as the street's northern outlet. If this could be brought off, one thing was obvious: the Foley propriety would become a promising investment for his client and himself. Hence, no doubt, the switch in the mortgage arrangements of July 1811. It presaged that interpenetration of aesthetic and economic advantage for which Nash had so magical a touch. (Summerson, 1980, p.82)

⁸³"The speculative builder, the mainspring of London's expansion for three hundred years, has always been a person of the most various characteristics. Sometimes he has been a lord, sometimes little more than a labourer; sometimes a substantial capitalist, sometimes an architect, sometimes a bricklayer or carpenter; sometimes a lawyer, a mechanic, a schoolmaster, a quack, an actor-indeed, almost any class, trade or profession." (Summerson, 1988)

Even if Nash had not been financially involved, the choice of Portland Place as the New Street's northern outlet could certainly have been sustained as a valid design decision. As discussed by Nash in his report (White, 1814, p.xiv), the choice of Portland Place was related to the fact "that northwards of Oxford Street, principal streets and squares are West of Portland Place". It certainly could be further argued that a continuation of the, by then, "largest street in London"⁸⁴ (Portland Place) was the most adequate solution for "the great thoroughfare". Furthermore, the choice of Portland Place as the great thoroughfare's northern outlet was best to unify Regent Street and Regent's Park.

The problem was that Nash's decision to move the New Street West forced the axis to cut through the land plots of the influential Cavendish Square residents (as can be seen on Nash's initial proposal (fig.80). In the first version of the New Street presented by Nash, there was no awkward detour south of Portland Place. The New Street simply detoured because residents of Cavendish Square did not want their "back premises...shorn off by the street" (Summerson, 1980, p.83).

Summerson further adds that Nash took some personal pleasure in changing the New Street's design in order to position the backs of the New Street's houses close to Sir James Langham's front windows. Sir James Langham had bought, from Nash, part of the Foley House's land with the condition (imposed by Nash) of naming Nash architect of his house. After construction, Sir James Langham insulted Nash's architectural abilities by not only complaining that his recently built house was falling apart but also commissioning another architect to secure it. Allegedly, Nash imposed on the baronet the payment of an exorbitant amount to secure that nothing would be built between the Langham House and the New Street. (Summerson, 1949, p.133)

The Foley House/Langham House episode illustrates how Regent Street was Nash's in more ways than one. Not only did Nash design Regent Street, but he got involved as owner and developer (buying/selling properties and leases) and builder, taking responsibility for extensive areas, namely the Quadrant (as will be discussed in later sections). Nash's potentially promiscuous relationship as architect, promoter and builder, ended up scrutinized by the Treasury. In his own defence, Nash emitted a public Statement, in 1829:

⁸⁴"Portland Place, being the widest Street in London, is taken as a model for the breadth of such new street" (Nash in White, 1814, p.xiv)

From the tenor of allegations thus made against me, it would appear that personal avarice and desire of gain were imputed to me as chief motives of all my actions...in all my transactions these motives have not been in operation...the new street was, I candidly confess, an object very near to my heart...Here, then, I may say without imputation of vanity, that the personal risk I encountered ensured the completion of the improvements I had in view, for the public advantage.../ take the ground because nobody else offers for it, / build houses upon it, which nobody else will build...the difference between a zealous - I will say enthusiastic- affection for my profession, united to an earnest desire to complete the plans in progress for the improvement of the metropolis, and a grasping anxiety for unfair emoluments with which I have been so unjustly charged. (Summerson, 1991)

Was Regent Street designed by a “zealous” architect, who risked his personal fortune for the completion of the grand thoroughfare, or by a shrewd speculator, motivated by “personal avarice”? John Nash’s biographies (Summerson 1949, 1980) portray him as a little of both. Even after John Nash was acquitted of all charges, by the time King George IV died, in 1830, John Nash, in his late seventies, was dismissed from his positions and saw a fruitful career be brought to an end. (Summerson, 1949, p.263)

Having established that it was the Treasury promoting this development and that John Nash earned his position by his professional and social skill rather than by ‘royal favour’, the next section will explore how Regent Street was more than a long and wide *percée*. Regent Street was, possibly, the first *percée* developed under a parliamentary constitutional monarchy and it announced a new way of understanding the city where “every future change...should be considered in relation to a general scheme of improvement...” (John Fordyce cit in Summerson, 1980)

3.3.3. The emergence of a general scheme of improvement

3.3.3.1. Shared Venture of Public and Private Interests

Previous sections established privately-driven expansion in the West End (pre Regent Street) was providing a different cityscape by endorsing wide, regular streets and seeking sceneries of nature which appealed to the upper classes. Even if West End’s prior developers had already designed wider streets, this research believes Regent Street’s width and length represented much more than a substantial physical leap in scale.

The need to administer vast Crown propriety effectively led to the establishment of a statutory commission, in 1786. This commission's purpose was to survey and execute an effective administration of the Crown's "widely-dispersed" and "often ill-defined properties". (Summerson, 1980, p.59) The last report of this commission, in 1793, recommended that,

...in principle, all Crown estates should be retained by the Crown and controlled by a board of three commissioners acting under the Treasury. (Summerson, 1980, p.59)

After this commission's last report, John Fordyce, who had been one of the three commissioners under the Act of 1786, was appointed Surveyor-General of Land Revenues. The new Surveyor General had the task of managing land revenues of the Crown and of issuing a triennial report to the Treasury. (Summerson, 1980). In one of these reports Fordyce suggests,

..."that every future change...should be considered in relation to a general scheme of improvement..." and that "the opinion and Report of an Architect of eminence" should be obtained on every piece of changing propriety, not relative to "the property applied for only, but to the Street or District in which it was situated, and to the improvements which were practicable"
(Fordyce⁸⁵, cit in Summerson, 1949, p.103)

The Marylebone Park / Regent Street development introduced a new way of planning the city: it established that the expansion could not be regarded as a continuous addition of parts. The city had to be envisioned as an entity where changing one part would necessarily affect other parts; hence, demonstrating awareness of the relevance of networks. The emergence of the city planned with its networks derived from the pragmatic need to manage networks effectively, namely sewers and communications. As London grew in population and area, great strain was placed on both communications and sewers. Profit might have been the central purpose of the Marylebone Park development; however, Surveyor General John Fordyce knew profit would not arise without functioning sewers and communications.

⁸⁵ Original John Fordyce Reports in BL: *England and Wales. Office of the Auditors of Land Revenue: The Reports (First-Fourth Report) of the Surveyor General of His Majesty's Land Revenue*, [London,] 1812: Ref. Collection 190.g.4. *England and Wales. and Office of the Auditors of Land Revenue: The Reports of the Surveyor General of His Majesty's Land Revenue*, [London,] 1812: Ref. Collection B.S

The Act of Parliament of 1813 which created the New Street and new Sewer introduced both as being "of great Accommodation to the Public".⁸⁶ However, in light of all reviewed sources, the New Street and new sewer were not exclusively for public accommodation. As presented in this section, these two infrastructures increased not only the value of the Marylebone estate but benefitted many private developers. With the New Street and sewer, private interests were not prejudiced or deprived of their rights. Private interests had much to gain from the whole operation.

What this thesis proposes as unique and original to Regent Street's plan (particularly as compared to Haussmann's regeneration of Paris) is that a vision for managing the city as more than a sum of many parts was emerging without centralized power. Nineteenth-century London was home to many private interests. These interests were actively involved in the street's construction. Private interests did, at times, become an obstacle as they were unwilling to let go of their properties cheaply; however, private interests became financially involved hence shared the Treasury's interest in completing the New Street. As the spectre of failure started hovering over the New Street building site, with costs rising above estimated values, both Treasury and private interests shivered.

Of the 741 houses required to be demolished only 386 were Crown property. The total cost of the New Street amounted to £1,535,688. This amount included £1,408,447 expended on compensation, legal charges and payments to architects, surveyors and officers, auditors and incidentals and £60,719 spent on the new sewer and excluded £173,354 from rents deriving from the new street, dividends from invested funds, and the sale of old material. (Summerson, 1980, pp.81-87)

The total amount required to build the New Street was threefold what Nash had predicted in his initial reports (around £500,000 including sewer) and more than twofold of what the Act of Parliament had allowed as maximum borrowing value for the New Street and Sewer (£500,000 for the Street plus £100,000 for the Sewer) (Statutes of the United Kingdom, 1814, p.268, 276).

As Summerson (1980) detects, Nash's main estimate failure was in compensations to dispossessed owners. The Act of Parliament approved in July 1813 invested

⁸⁶ "Whereas it would be of great Accommodation to the Public, and be the means of opening a more easy and ready Communication from *Mary le bone* Park and from the Northern Parts of the Metropolis, in the Parish of *Mary le bone*, to Charing Cross within the Liberty of Westminster," (Statutes of the United Kingdom, 1814, p.258)

Commissioners with the power to buy land required to execute the plan even from owners unwilling to sell; however, that same Act of Parliament invested owners with the right to contest price offers⁸⁷. Owners frequently protested against low initial offers, went to courts and arbitrations, and, most of the time, were awarded much higher values for their properties than those initially proposed.

Six small tenants in St. James's Market, offered a lump of £270, went to arbitration and got £2800. An individual who was offered £600 took his case to court and was awarded £2400 by a jury. ...a wine and brandy dealer ...declined... £3800; a jury awarded him £5,117 with costs. (Summerson, 1980, p.82).

Throughout 1814 to 1817, as expenses rose and Swallow Street was being demolished,

... 'the scheme was proclaimed to be impracticable, destructive to the interests of the Crown and ruinous to all those who engage in it'. Among architects it was 'a common subject for laughter'... (Nash's 1829 Statement cit in Summerson, 1980, p.84)

⁸⁷"XIV. And be it further enacted, That, for the Purpose of making, widening, improving and rendering more commodious the said Streets, Squares, Circusses, Ways, Passages, and Places, it shall be lawful for the said Commissioners acting in the Execution of this Act, and they are hereby authorized and empowered, when they shall deem it necessary, by and with the Consent and Approbation in Writing of the said Lord High Treasurer or of the said Commissioners for executing the said Office of Lord High Treasurer, or any Three or more of them, to treat and agree for the Purchase of any of the Houses, Buildings, Erections, Ground, Tenements and Hereditaments described or comprised in the said Map or Plan, and Book of Reference, or in such Deviation as hereinbefore mentioned, and of any subsisting Leases, Terms, Estates and Interests therein, which the said Commissioners for executing this Act may, by and with such Consent and Approbation as aforesaid, deem necessary or expedient to be purchased for the Purpose of this Act; Provided always, that the said Commissioners shall not be compelled to purchase the whole Space coloured on the said Plan, as being within the Powers of Purchase limited by this Act.

....
XXVII. And be it further enacted, That if in any case the Owner or Owners of any House or Building, or of any Yard or Curtilage occupied therewith, Part only of which Premises shall at any time be required by the said Commisioners for executing this Act, to be applied for the purpose of this Act, shall be unwilling to sell or dispose of such Part only of such House, Building, Yard or Curtilage, as shall be required by the said Commissioners, it shall and may be lawful for the said Commissioners executing this Act, and they are hereby required, at the Option of any Owner or Owners of any such House, Building, Yard or Curtilage, to purchase of and from the said Owner or Owners the Whole or such Part thereof as such Owner or Owners shall think fit, and to apply so much and such Part thereof as they the said Commissioners for executing this Act, with such consent an Approbation as aforesaid, shall see fit for the Purposes of this Act; and that if such Owner or Owners shall not or cannot agree with the said Commissioners for executing this Act, for the Price to be paid for the Purchase of the whole of such House, Building, Yard or Curtilage, then the Value thereof shall be settled and ascertained by a Jury, in such manner as the Price for any Land to be taken in pursuance of this Act is directed to be settled and ascertained by this Act; ...p263) " (Statutes of the United Kingdom, 1814, p.260)

The project was finally seen through for two reasons. First, Treasury decided to put up the required extra financial support. Second, developers / speculators (including Nash) had invested in the New Street by taking up leases for building plots. Had the New Street not been finished, both Treasury and private developers would have failed to see returns. In the process of building the New Street, Treasury and private investors shared the financial burden; hence, both became committed to seeing it through (Summerson, 1980).

This research proposes the thesis that the emergence of “a general scheme of improvement” occurred in this particular moment in history (nineteenth-century London) because unique characteristics of the developer met unique characteristics of the property market. The developer (the Surveyor-General of Land Revenues acting under the Treasury) was supported by a market fuelled by the leasehold system, easy credit and a growing class of wealthy tenants.

The developer, namely the Surveyor-General of Land Revenues, was acting within the speculative market, as were all private investors; however, this developer had a unique combination of features which set it apart from private developers: (1) the Surveyor-General administered vast extensions of land; (2) as representative of a national institution, it was in the nature of the Surveyor-General’s position to endorse long-term investments rather than short-term; (3) the Surveyor-General was ultimately guided by public interest, since revenues of these Crown lands reverted to the Exchequer and; (4) the Treasury had the power to promote legislation, thus power to forge a legal scenario facilitating land purchase from owners unwilling to sell.

The unique set of features characterizing the developer of Marylebone Park and the New Street met with the leasehold system and the ease of obtaining credit. The leasehold system promoted the immediate involvement and commitment of private investors. With the leasehold system, land could be leased at “peppercorn rate”⁸⁸ for three or so years, after which rent would increase to its market value. Hence, Treasury received low rents on leased properties for the initial three years or so, but was able to commit private developers who put up construction costs. Both the ease of obtaining credit and the growing class of wealthy tenants promised high returns on low initial investments. Had the venture of building the New Street not been successful, the speculative promise underpinning the development would have burst.

⁸⁸ The expression “peppercorn rate” is used to indicate a rate lower than market value (Anderson, 2001, p.22, pg. 2.5.1.b).

So vast was the Crown's property, so fragile the post-war public finances, and so much the return expected by private investors, it was well worth considering the implications of each particular improvement on the whole.

3.3.3.2. *Origins of the nineteenth century percée: Regent Street / Rue de Rivoli*

As Surveyor-General of Land Revenues John Fordyce was calling for the need of "a general scheme of improvement" in London, the idea of a 'general plan' was also brewing in Paris, with *Commission des Artistes*.

Commission des Artistes was a group of architects, formed from 1793 to 1797. These architects were "*Commissaires artistes préposés pour la division, l'embellissement et l'assainissent de la commune de Paris*", or Official Artist Commissioners for the division, embellishment and cleaning of Paris. *Commission des Artistes*' purpose was to execute a law passed on 4th April 1793, allowing State property to be divided into plots and sold (Pinon and Boudec, 2004, p.82).

In London, Crown property had become vast with Henry VIII's Dissolution of the Monasteries and, as stated in prior sections, Crown revenues had been transferred to the Exchequer since 1760. In Paris, State property became vast with the Revolution in 1789. A decree approved on 2nd November 1798 confiscated all ecclesiastical and emigrants' properties. According to Chadych and Leborgne (2007, p.123) confiscated properties of both clergy and emigrants amounted to more than 400 hectares of the city's 3,370 hectares; hence, confiscated lands amounted to nearly an eighth of the city's area.

Commission des Artistes made several proposals for developments on those State properties. During the Commission's meetings a "general plan" was often referred to. No map was ever found with this "general plan" and it is believed to have been more of a compilation of many proposals rather than one unified plan. A reconstitution of all the Commission's proposals was made in 1889 (fig.85) (Pinon and Boudec, 2004, pp.82-83).

I believe there were affinities between John Fordyce's Land Revenue Commission and *Commission des Artistes*. Both commissions were meant to administer vast properties on behalf of a national institution, both managed urban properties with the goal of providing income, and both proposed long axes piercing through urban fabric. However, there were also differences: in London, the Commission managing Crown estate under the Treasury was created slightly earlier (1786); and, most importantly,

Commission des Artistes did not propose *percées* (or streets piercing through properties belonging to different owners). According to Pinon and Boudec (2004, p.82), *Commission des Artistes*' proposals were either on State property or designed as *servitudes* (alignments to be made as circumstances became favourable).

The methods of the Surveyor-General can best be compared to those of the French *Commission des Artistes* by comparing the Rue de Rivoli's development to that of Regent Street. The Rue de Rivoli was one of the few developments built in Paris under the first Empire. The Rue de Rivoli was meant to extend the grand Champs-Élysées' axis into urban fabric; hence, the development of two of this research's case-studies met as the nineteenth century began.

The *Rue de Rivoli* (fig.87) was one of the proposals defended by *Commission des Artistes*. *Rue de Rivoli* was an East-West axis crossing Paris, extending Champs-Élysées' grand composition to include the Louvre. (Pinon and Boudec, 2004, p.82)

Prior to the nineteenth-century's *Commission des Artistes*, Colbert had, in the seventeenth century, expressed the intention of building an East-West axis, expanding into the city. With this axis, Colbert meant to ease traffic, removing it from crowded streets. Colbert's axis was never built because the area was occupied by convent gardens and by the Tuileries's *manège* (fig.88). After the Revolution in 1789, confiscated convents could be demolished and Tuileries' *manège* could be moved and; hence, by the early nineteenth-century, the *Rue de Rivoli* saw the light of day. (Chadych and Leborgne, 2007, pp.126-127)

The *Rue de Rivoli* was created by a decree on 9th October 1801 and was opened in 1802. As created in 1801, the *Rue de Rivoli* was much shorter than intended by the *Commission des Artistes*: it ran from the *Place de la Concorde* until an area in between the *Place des Pyramides* and the *Rue de l'Échelle* (fig.89). In 1804, Napoleon ordered a new wing to be built, joining the Tuileries Palace to the Louvre. (Chadych and Leborgne, 2007, p.126) The complete extension of the *Rue de Rivoli* until the Louvre was only created in May 1848 (Cars and Pinon, 1991, p52).

The *Rue de Rivoli* had, on the northern side of its 20,85 metres width, a monumental façade (fig.90) in stone. The buildings had three floors and arcades with boutiques. This monumental façade faced the Tuileries Gardens which were bordered with iron railings; thus, allowing the garden's scenery to be viewed from the street (Chadych and Leborgne, 2007, p.126).

Reviewed literature regarding Regent Street, namely Hobhouse (2008, p.xi)⁸⁹, refers briefly to the *Rue de Rivoli*, particularly due to a common element, the shopping arcade. The *Rue de Rivoli* is also referred to as “one of a few new streets” created in early nineteenth-century Paris (Olsen, 1986, p.36). Reviewed literature neglects to point out considerable differences between *Rue de Rivoli* and Regent Street. This research notes these differences, and by doing so, shines a light on the pioneer character of Regent Street as a *percée*, or an early nineteenth-century avenue piercing through pre-existing cityscape requiring systematic expropriations.

1) The *Rue de Rivoli* was built on State property only, confiscated from ecclesiastical power (in fig.87 former ecclesiastical propriety is shown in the lighter shade of gray). Regent Street, as presented in previous sections, pierced properties belonging to different landowners; thus, required an exhaustive process of expropriation.

2) In *Rue de Rivoli*, plots were sold to landowners who were forced to build according to a common façade, designed by Percier and Fontaine (Chadych and Leborgne, 2007, p.126); hence, *Rue de Rivoli* presented a uniform façade. As seen in nineteenth-century prints and drawings (from fig.91 to fig.101), other than a common white stucco finish, there was no design intention making nineteenth century Regent Street's façades uniform.

3) New buildings designed on *Rue de Rivoli*'s plan (fig.87) were, to a great extent, public buildings. These new public buildings were meant to accommodate newly-created national institutions. Residential areas filled plots confiscated from convents; however, what can be concluded from the legend and notes included on this map is that the plan's purpose was centred on the expansion of administrative buildings.

Partial map of Paris - Since Champs-Élysées until rue St. Antoine & upon which are designed different Squares and Public Monuments regarding the new French Constitution ; namely, Palais National united to Palais des Tuileries expanded to answer the several needs of the *Republique*'s administration.⁹⁰

⁸⁹ “[Regent Street] was intended to be not only a thoroughfare, it was to be a promenade for shoppers, to rival the newly created *Rue de Rivoli*, in Paris” (Hobhouse,2009, p.ix)

⁹⁰Transl. FR “Plan d'une Partie de la Ville de Paris - Depuis les Champs-Élysées jusqu'à la rue St. Antoine & sur lequel sont projetés différentes Places et Monument publics relatifs à la nouvelle Constitution Française ; notamment au Palais National joint et réuni à celui des Tuileries avec les augmentations nécessaires pour les besoins des diverses Administration de la République»

The *Rue de Rivoli's* national interest was further enhanced by the names of the new streets created with the development which referred to battles Napoleon had won.

In London, the Marylebone Park and New Street development was primarily residential and commercial, despite improving communications to existing centres of power and royal palace (the Houses of Parliament and the Regent's Carlton House). Hermione Hobhouse (2008, pp.x-xi) does defend that the New Street was pierced to connect Carlton House to a new royal palace to be built in the Park; however, the fact that the new palace was never built and Carlton House soon destroyed and replaced by Buckingham Palace, reveals how little these buildings *per se* mattered to the New Street's plan.

4) Regent Street was wider (approximately 25 metres versus 20 metres) and much longer. The *Commission des Artistes* intended the *Rue de Rivoli* to be longer, ultimately becoming a complete Eastern/Western axis crossing Paris. However, the portion planned and built, by the early nineteenth century, did not even reach the Louvre.

5) Most importantly, the *Rue de Rivoli*, a much shorter axis involving no expropriation of land, took much longer to build. According to Chadych and Leborgne (2007, p.126), the *Rue de Rivoli* was opened in 1802 and, due to hesitant buyers, was only finished by 1835. In 1816, Fontaine stated,

Fourteen years have gone by since the decree regarding [Rue de Rivoli], the street is not built and apparently it will not be built soon. Of the 282 arcades dividing the façade, including Rue de la Rivoli and Rue de Castiglione, 7 houses with 32 arcades have been completed and have residents. 132 arcades have been built but remain unfinished, 150 arcades have not even begun.⁹¹ (Fontaine cit in Chadych and Leborgne, 2007, p.126)

The Act of Parliament creating Regent Street was approved in 1813. By 1819, the street was opened, Oxford Circus was complete, and blocks were rising to fill empty spaces in between circuses. By 1826, the New Street's accounts were considered closed (Summerson, 1980).

⁹¹Transl. FR "Quatorze ans se sont écoulés depuis le décret rendu à ce sujet, la rue n'est pas construite et ne paraît pas l'être de sitôt. Sur 282 arcades qui formaient la subdivision totale, tant sur la Rue que sur celle de Castiglione, 7 maisons qui comprennent 32 arcades sont achevées et habitées. 132 arcades sont élevées et restées sans être terminées, 150 arcades restent à faire»

In synthesis, Regent Street was longer and wider, irregular in its nineteenth century façade, required an exhaustive effort of land expropriation, and was considerably quicker to build due (I propose) to its public/ private nature. The most important distinction is the exhaustive effort of land expropriation within a parliamentary monarchy (fig.78). This effort makes of Regent Street a *percée*, or an avenue piercing through built properties requiring systematic expropriations, preceding all Parisian *percées*. Hence, the *percée* created within a parliamentary monarchy preceded *percées* created within Louis Napoleon's absolutist regime.

From a financial point of view, London's New Street must have been rated as a success. According to Hobhouse (2008, p.41), a study made in 1835, about ten years after Regent Street's completion, revealed rates in the New Street had increased by a third and property values in streets close by had also increased, only Bond Street suffered. From an architectural point of view, Regent Street presented cheaper white stucco façades opposing Rue de Rivoli's stone façades; nevertheless, tourists seemed impressed:

London is, however, extremely improved in the direction of Regent Street, Portland Place, and the Regent's Park. Now, for the first time, it has the air of a seat of government...Although poor Mr. Nash has fared so ill at the hands of connoisseurs...yet the country is much indebted to him for conceiving and executing such gigantic designs. (Tourist Prince Puckler Muskau cit in Hobhouse, 2008, p.49)

If London pioneered the monumental nineteenth-century *percée* with Regent Street and the experience was such a financial and architectural success, why did Regent Street remain unsurpassed within London's cityscape while Rue de Rivoli was but a timid announcement of Paris' complete physical regeneration? The next section will present Haussmann's regeneration detecting how and why Paris embraced the *percée* while London did not.

3.4. London's *percée* and Haussmann's regeneration of Paris

The inclusion of Haussmann's nineteenth-century regeneration of Paris is inevitable in a present-day research concerning avenues. The preconceived definition of the avenue as a long, straight, tree lined axis promoted by absolute power owes much to

Hausmann's extensive use of the *percée* under Napoleon III's orders. This preconceived definition is, today, presented by those,⁹² who are mostly concerned with the physical shape of the city (physical space). As stated above, despite focusing on physical space, I regard the city as a product of the tensions and empathies occurring in between physical space, conceived space and lived space.

This section concludes by presenting the thesis that, unlike Paris, London shifted away from using the avenue as a *percée* with the advent of the railway, and most importantly, of the *underground railway*. In order to do so, this section will thoroughly compare Regent Street, London's *percée*, to Hausmann's extensive use of the *percée*.

3.4.1. Merging City and Landscape

By including Regent Street in a research regarding avenues, I propose a definition of avenue as a type, supporting many possible physical shapes, other than the avenue as a model, fixing the avenue's shape as a straight, long tree-lined axis. The definition presented by this thesis brings all avenues together within landscape design principles. Thus, the most remarkable features of Le Nôtre's avenues emerge over the immediate comparison of localized physical traits.

The most remarkable feature of Le Nôtre's seventeenth-century Avenue des Champs-Élysées was the ability to merge city and landscape. The Avenue provided a path of arrival which, as physical space, was still landscape and already city. Due to the city's nineteenth-century walls, Hausmann's regeneration was not able to embrace that seventeenth-century inheritance. Trees were included within public space, but a wall separated city from landscape.

In nineteenth-century London, a city without walls, Regent Street was able to merge city and landscape. The Marylebone estate development was conceived as "rural scenery" with terraced housing (fig.102). Regent Street connected the city centre to "rural scenery" with no dividing fortified wall. Regent Street's axis continued through the Marylebone Park; hence, the same element was structural to both city and landscape. Furthermore, when George IV came to power as king, in 1820, he decided to rehabilitate Buckingham House as royal residence. Carlton House was destroyed and Regent Street stretched into another Park, St. James Park. St James Park was designed to embrace the grand ceremonial axis for royal processions (fig.103).

⁹²Cf. (Kostoff,1991) and (Lawrence, 1988)

Regent Street did have to cross wide roads, like Oxford Street and the New Road (present day Marylebone Road). Because Oxford Street had been a turnpike road, Nash intentionally used a design artifice, the circus, as a way to overcome the feeling of leaving town:

...a circus should be formed, Oxford Street crossing it from east to west, and the new street from south to north...the same colonnade and shops be continued round such circus, as recommended for the sides of the new street, the sensation of having passed Oxford Street will be entirely done away, and the divisions of the town insensibly united in the best manner possible. (Nash cit. in White, 1814, p.li)

Nash's idea, as Le Nôtre's, was to walk through the avenue from city to landscape without meeting obstacles or divisions.

The *Place de Étoile* (fig.104) was also designed as a circus with the removal of the eighteenth-century gates; however, a monument, *Arc de Triomphe*, occupied its centre. Thus, instead of opening up, Le Nôtre's grand axis was made subservient to the grand monument. As can be seen in the image (fig.105 and fig.106), Haussmann's avenues and networks were conceived as systems trapped by city walls (the *enceinte de Thiers*). Long axes were intentionally directed to monuments (Cars and Pinon, 1991, pp.53-54); hence, views into the infinite horizon were not an element of Haussmann's composition.

The long, straight axis uniting monuments was not original to urban regeneration of walled cities. As the present day urban wanderer can still experience the sixteenth-century transformation of Rome (fig.57 and fig.58) had already used a network of straight long axes, leading the pilgrim's eyesight to monuments and churches (Grundmann, 1998). Even if it is not within this research's set limits to compare the transformation of Rome with Haussmann's transformation of Paris,⁹³ I believe it is possible to suggest there was a difference between Haussmann's long and straight axes and Rome's. As (fig.107) demonstrates, in Rome, existing landscape (and cityscape) joined relevant buildings and monuments. Haussmann axes pierced cityscape to include trees within the walled city.

As Pinon suggests (Cars and Pinon, 1991, pp.162-164), trees were included by Haussmann due to both hygienic principles and the memories of the seventeen-century promenades. Hence, in spite of city walls, Haussmann differed from Sixtus V, invoking

⁹³ More empirical and specific research concerning Rome would be needed to validate this suggestion. See Tafuri (1992) *Sobre el Renacimiento* for an insight into Rome's sixteenth century transformation.

the seventeenth-century avenue's ability to merge city and nature. By introducing the avenue as a tree-lined, long, straight axis Haussmann fixed the avenue as a physical model able to be used within city walls. Hence, from the seventeenth-century physical image belonging to a regional network, the Parisian nineteenth-century avenue became a physical image belonging to the urban network. Haussmann's nineteenth-century model, as the chapter on Avenida da Liberdade will present, was packaged and taught as reproducible knowledge, exported to other capital cities and reproduced throughout the twentieth century.

By placing Regent Street next to Haussmann's *percées*, this research is defending the avenue as a type no longer fixed to a shape. Avenues relate to others of their kind, as if united by a common genetic code, due to social similarities (lived space), landscape principles (conceptual similarities), and physical similarities. This section will present striking similarities connecting Regent Street to Haussmann's *percées* and Regent Street to the Champs-Élysées. Differences will also be detected. As within family, a common genetic code relates siblings, but there are always unique traits.

3.4.2. Preceding Haussmann

Napoleon III and Haussmann's regeneration, according to Françoise Choay, editor of Haussmann's *Mémoires* (Haussmann, 2000),⁹⁴ meant to correct three major urban dysfunctions: ineffective communications, poor hygiene, and social unrest. According to Choay, the originality of the method was its understanding of the city as a whole where networks were conceived as complete systems, within the city's wall. The *percée* was the type chosen to transform Paris (Cars and Pinon, 1991, p.73). With the *percée*, pre-existing urban fabric could be pierced with long axes carrying communications, sewers and trees. Straight long axes were designed to connect relevant urban equipment (such as grand train stations) and monumental references.

The thesis purposed by this research does not mean to question the impressive characteristic of Haussmann's vast regeneration of Paris. The sheer vastness of the French capital's physical reconstruction and Haussmann's definition of networks covering the entire walled city had a deeper physical impact on the cityscape than Regent Street, and a few later *percées*, had on London's. This research does,

⁹⁴ Haussmann wrote himself his memories, *Mémoires*. Other bibliography reviewed to frame his theory and work was: (1) Cars, Jean and Pinon, Pierre *Paris – Haussmann: Le Pari d'Haussmann* exhibition catalogue (Paris: Pavillon de l'Arsenal / Picard, 1991). Celebrating the centenary of his death, this exhibition is the largest compilation of his work. (2) Françoise Choay, reference writer in urban theory, has studied his original writings and written "Le règne de l'urbain et la mort de la ville" (Paris: Pompidou, 1994) and edited *Les Mémoires de Haussmann* (Paris, Seuil, 2000).

however, mean to: 1) detect similarities between developments and 2) provide arguments sustaining such similarities were conscious, not coincidental. Therefore, this research means to establish a direct influence between London's development and Paris and thus question the statement:

We can account for the fact that Paris became, by large, the first paradigm of the metropolis of the industrial age due to the conjugated actions of two individuals, Napoleon III and Haussmann. Thanks to the former, the latter had means no one ever had in France or anywhere else, in those years or after: an historic project, the unconditional support from an absolute monarch for the duration of the project, and of, it must be added, a nominated municipal council.⁹⁵ (Choay cit in Haussmann, 2000, p.30)

Most literature reviewed regarding Regent Street focuses on London lacking a thorough comparative analysis contextualising Regent Street alongside urban improvements occurring in other European cities, particularly along Paris, that beacon for urban modernity. Donald Olsen (1986) sets out to do just that by comparing London's Regent Street, Paris's reconstruction under Napoleon III and Haussmann, and Vienna's Ringstrasse. What immediately stands out in Olsen's comparative history is:

London [was] the first to embark on a comprehensive program of reconstruction and embellishment... Long before Napoleon III and Baron Haussmann imposed their vision of order and splendour on Paris, the Prince Regent and John Nash gave London its only boulevard in the form of the original Regent Street. (Olsen, 1986, p.12)

According to Olsen, at the turn of the century London was the largest and richest city in the world; hence, the most likely city to embark on a comprehensive program of improvement. Olsen rightfully established the pioneer value of London's Regent Street. However, Olsen mistakenly invested in George IV a political weight similar to the power of Napoleon III.

⁹⁵Transl. FR «*On ne peut rendre compte du fait que Paris soit, avec une large avance, devenue le premier paradigme de la métropole de l'ère industrielle que par l'action conjuguée et personnelles de deux individus, Napoléon III et Haussmann. Grâce au premier, le second a disposé d'atouts dont personne n'a jamais bénéficié en France ou ailleurs, ni à son époque ni après : un projet historique, le soutien inconditionnel d'un monarque absolu, la durée et la continuité de ce soutien, à quoi il faut ajouter un conseil municipal nommé.* »

3.4.3. Napoleon III and Haussmann were not George IV and Nash

Even if Olsen (1986) rightfully established the pioneer value of London's Regent Street, he mistakenly invested in George IV a political weight similar to the power of Napoleon III. As discussed in previous sections, this research endorses the thesis that George IV's influence on the realization of the New Street's development was little or none. However, Olsen chose to endorse Hobhouse's⁹⁶ (1975, 2008) vision of Regent Street as a "triumphal way",

[Regent Street] intended to link two royal palaces, the existing Carlton House and a new pleasure pavilion in Regent's Park...That Carlton House was immediately taken down and the royal *quinguette* in Regent's Park never built suggests the fragility of the mood that produced Regent Street, but such alterations did nothing to undercut the street's stately impressiveness. (Olsen, 1986, p.16)

Paradoxically, Olsen's own detailed account of Regent Street clearly escapes the vision he wishes to endorse. Olsen's account becomes a report on the speculative euphoria surrounding the development. By overestimating the power of the Regent and his palaces, I believe that Olsen missed the relevance of shifting the historical origin of the *percée* from mid-nineteenth-century Paris to late eighteenth-century London. Olsen (1986) tries to impose Paris' vision of stately grandeur on London's development of Regent Street as opposed to realizing Paris' methodology for urban and economic regeneration (through the extensive use of the *percée*) borrowed much from London's market-based, parliamentary monarchy.

Today, this research supports the thesis that Regent Street's nineteenth-century development directly influenced the regeneration of Paris. The knowledge of Regent Street's development must have been brought to France by Louis Napoleon himself. Louis Napoleon lived in London right before becoming President and Emperor. Was it possible for Louis Napoleon to have lived in the British capital without ever visiting its grand and recently-opened thoroughfare?⁹⁷ Could he, a man interested in urban development, have possibly remained unaware and uninterested in this *percée*? Unlike George IV, Louis Napoleon displayed a coherent understanding of metropolitan

⁹⁶ Olsen (1986) thanks Hermione Hobhouse in his introduction and quotes her extensively.

⁹⁷ In the preface of *Napoleonic Ideas* Bonaparte (1859, p.12) signs "Carlton Terrace, July 1839".

improvements in his writings⁹⁸. Today reviewed literature⁹⁹ agrees Louis Napoleon was a ruler with an intent which he managed to impose after conquering absolute power.

Louis Napoleon's struggle to reach power was not easy. After two failed attempts to seize power from Louis Philippe I, Louis Napoleon (Napoleon I's nephew and entitled successor) was sentenced to life imprisonment. Louis Napoleon managed to escape, and established himself in London. From exile, he was elected to a seat in the Assembly in June 1848. By December 1848, he had been elected President and two years after had managed to abolish universal suffrage and restore press censorship. Facing the constitutional impossibility of ruling for a further four-year mandate, Louis Napoleon orchestrated a *coup-d'état*. On 20th December 1851, Louis Napoleon rode through the city for hours with popular praise welcoming him as Emperor. It was the glorious announcement of the Nation's (brief) Second Empire. Louis Napoleon (at times, named Prince-Président) holds, today, a unique historic position: he was initially France's first President of the République and later, the nation's last Emperor. Louis Napoleon's power was in no way comparable to the British Regent's power.¹⁰⁰

With the Revolution of 1688 (Glorious Revolution) and James II's deposition, England dismissed power centralized on the monarch. The Hanoverian dynasty (of which George IV was the fourth monarch) witnessed a continual decrease in the monarch's powers. The dynasty started with a Hanoverian made King of Great Britain at fifty-four, George I. George I, a foreigner, did not warm to his subjects and was, moreover, unable to speak English properly. It is suggested that George I's inability to communicate effectively led him to choose one of his ministers to represent and support him in cabinet meetings. From this situation emerged the Prime Minister's position, further distancing the monarch from power (Ashley, 1998, pp. 345-352). By the time George IV became king, he certainly held more power than present-day Elizabeth II. George IV could nominate ministers or dissolve Parliament in order to choose a different Prime Minister (Malet and Isaac, 1960); however, "...had the Parliament not been there to run the country, it is almost certain that George IV...would

⁹⁸ "The public works which the Emperor [Napoleon I] caused to be executed upon so great a scale, were not only one of the principal causes of the internal prosperity in the country, but they contributed much to social progress. In fact, these works, while multiplying the means of communication, produced three great advantages. First, they employed all the idle, and thus assisted the poorer classes. Second, they favoured and encouraged agriculture, manufacture, and commerce, the creation of new roads and canals, increasing the value of the lands, and facilitating the transportation of products. Third, they destroyed the spirit of locality, and removed barriers, such as those which separate not only the different provinces of a state, but different nations." (Bonaparte, 1859, p.71)

⁹⁹ Cf. Choay in Haussmann (2000), Cars and Pinon (1991) and Harvey (2006).

¹⁰⁰ For this paragraph synthesizing Napoleon III's reign and political career the following sources were used: Harvey, (2006), Cars and Pinon (1991), Catries (1979), and Malet and Issac (1960)

have brought the country to ruin and would quite possibly been assassinated or deposed.” (Ashley, 1998, p.366)

Not only was Louis Napoleon’s power overwhelmingly superior to George IV’s, Louis Napoleon’s relationship with Haussmann was of an entirely different nature from George IV’s relationship with John Nash. Haussmann called Emperor Louis Napoleon (Napoleon III) a “Master” of whom he was a “servant”, the “instrument” or even the mere “editor” (according to Haussmann’s own words). Nineteenth-century sources, including Haussmann, report that it was the Emperor who dictated the main vision for the city and it was the Emperor who traced most new avenues on Paris’ map (Choay in Haussmann, 2000, pp.27-28).

[In between 1848-1852] the people allowed to enter the Prince-Président’s inner circle watched him cover Paris’ map with crayons and lines following different orientations.¹⁰¹ (Charles Merruau, Secrétaire général de la préfecture de la Seine cit in Haussmann, 2000, p.27)

Most literature reviewed¹⁰² disputes the idea of the Emperor being the sole grand visionary working with Haussmann’s technical support. Some of the avenues piercing through the city are believed, today, to have been traced by the Emperor; however, many strategies are, equally, attributed to Haussmann. Reviewed literature does agree that the Emperor was actively involved in establishing a grand vision and was sketching avenues on Paris’ map with his own hand. Reviewed literature relevantly notes that many planning decisions were taken before Haussmann was appointed Préfet de la Seine, in 1853. As early as December 1850, Louis Napoleon said:

[we will] open new roads, open up popular quarters which lack air and light so that sun light may penetrate everywhere among the walls of the city just as the light of truth illuminates our hearts. (Harvey, 2006, p.107)

Pinon (Cars and Pinon, 1991, p59) tries to understand where the Prince-Président could have found inspiration for his grand vision. Pinon asks and answers three questions. 1) Could it have been a desire to match his uncle’s glory? No. Napoleon I had not been involved in the city’s planning and his Empire’s most significant urban achievements, the *Rue de Rivoli* and the *Avenue de L’Observatoire*, were both built on

¹⁰¹Transl. FR “[Entre 1848-1852] Les personnes admises auprès [du Prince-Président] le voyaient souvent couvrir le plan de Paris de coups de crayon et des lignes diversement orientées».

¹⁰²Cf. Choay (Haussmann, 2000), Harvey (2006), and Cars and Pinon (1991)

ecclesiastical grounds. 2) Was Louis Napoleon influenced by the *Commission des Artistes'* proposals? Even if he might have been aware of some proposals, the *Plan des Artistes* was only reconstituted as a whole in 1889. Pinon's third question (and most important for this research) 3) Considering Louis Napoleon's time spent in London when in exile, was he invoking "*une certaine mystique de la vie anglaise*"? Pinon answers:

Possibly, London was a model regarding the presence of grand parks and street regularity in the new neighbourhoods. However, the most beautiful developments of eighteenth century London were structured around «squares» (Bedford, Grosvenor, Bloomsbury, St James); hence, these developments do not foreshadow the specific developments of the Second Empire: *percées* piercing through former fabric. London's medieval fabric disappeared with the fire of 1666. London could not have been an urban model for Paris....London could have only been a vague and general model of modernity (water distribution, lighting, etc.)¹⁰³ (Cars and Pinon, 1991, p.59)

Pinon, in 1991, was obviously not aware of Regent Street's development. Louis Napoleon on the other hand, having fled to London in the 1840s, most certainly was.

After dismissing London as a possible inspiration for the French *percée*, Pinon dates the origins of the *percée* to the Parisian Rue Rambuteau.¹⁰⁴ The relevance of the *percée* is that it is acknowledged as the trademark of Haussmann's regeneration of Paris (Cars and Pinon, 1991, p.32); however, Rambuteau pioneered the Parisian *percée* with present-day Rue de Rambuteau. Rue de Rambuteau was created by decree in 1838 (Cars and Pinon, 1991, pp. 31-32); hence, Rue de Rambuteau was only created by decree a decade after the British Regent Street had been built. Furthermore, Rue de Rambuteau was built with Louis-Philippe I (*le roi bourgeois*), monarch from 1830 to 1848. Louis-Philippe I was trying to rule with a constitutional

¹⁰³Transl. FR "Il est probable que Londres ait pu constituer un modèle pour la présence de grands parcs urbains, pour la régularité des nouveaux quartiers. Mais les belles opérations londoniennes du XVIII siècle sont formées de lotissements autour de « squares » (Bedford, Grosvenor, Bloomsbury, St James) qui ne préfigurent en rien les opérations les plus spécifiques du Second Empire : les percées à travers le tissu ancien. Le tissu médiéval de Londres avait disparu avec l'incendie de 1666. Londres ne pouvaient être un modèle urbain pour Paris....Londres ne peut être qu'un modèle vague et général de modernité (distribution d'eau, éclairage, etc.) »

¹⁰⁴ "L'idée d'améliorer la viabilité de Paris, non plus par la voie lente du reculement des façades, à mesure de la reconstruction des maisons [alignement], mais en ouvrant directement un passage au travers des massifs, par le procédé de l'expropriation publique, cette idée féconde, qui devait si heureusement transformer Paris et nos grandes cités, appartient au règne de Louis-Philippe. M. de Rambuteau, préfet de la Seine, l'avait inaugurée par le percement de la rue qui porte son nom." (Duc de Persigny cit in Cars and Pinon, 1991,p32)

monarchy distant from the absolutist *Ancien Regime*. Louis-Philippe I had himself lived in London from 1800 to 1814 and was exiled in London from 1815 to 1817. Therefore Louis Philippe, who has been stated as the pioneer of the Parisian *percée*, lived in London as *Regent Street was being built*, before assuming power (Catries, 1979, p306).

Considering both Louis Philippe I and Napoleon III had lived in London, as Regent Street was taking shape, before assuming power; I argue similarities between Regent Street and Paris' regeneration cannot be considered as coincidental. There is, however, another argument which must be taken into account: as presented by Harvey (2006), Paris' regeneration benefited many private interests. Despite the absolute power of Louis Napoleon, the social fabric (lived space) was already distant from Parisian life in the seventeenth-century. The French nineteenth-century economic system had embraced a space distant from the seventeenth-century political absolutism.

3.4.4. Economic Regeneration based on a Speculative Property Market

David Harvey's (2006) *Paris, Capital of Modernity* is a thorough insight into the economic and financial aspects of the French regeneration. According to Harvey, Louis Napoleon and Haussmann believed that public works could both provide jobs and a stimulus to a speculative property market where the State had an active role as landowner. According to Anderson (1998, 2001), as presented in previous sections, in London, the Treasury followed this same strategy.

[In 1848] Paris was living a full-fledged crisis of capitalist over accumulation, in which massive surpluses of capital and labor power lay side by side with apparently no way open to reunite them in profitable union....The surpluses of capital and labor power...were to be absorbed through a program of massive long-term investment in the built environment that focused on the amelioration of space relations. Within a year of the declaration of Empire, more than a thousand were at work on the construction site of the Tuileries; untold thousands were back at work building railroads...What was perhaps the first great crisis of capitalism was overcome, it seemed, through the long-term application of surpluses of capital and labor to the reorganization of the transport and communications system. (Harvey, 2006, p.109)

Françoise Choay (Haussmann, 2000, p.11) points out that one of the core themes of the Parisian regeneration was social appeasement. Choay suggests that piercing

through Paris' built cityscape was a repressive gesture to rid the city of its narrow streets. Narrow streets encouraged mutinous barricades (fig.108) which were frequent throughout Paris' nineteenth-century turbulent political history (fig.109). The saying popularly attributed to Haussmann, "bullets do not turn right", is often presented as the political argument for the straight long axes piercing through Paris.

Even if the long axis as repressive measure could be effective to the military control of urban space on a short-term basis, sustained social appeasement could only be achieved by providing jobs. Unemployment, as the Emperor feared, was the root of violent discontent.

I would rather face an hostile army of 200,000 than the threat of insurrection founded on unemployment. (Napoleon III cit in Harvey, 2006, p.144)

By mid 1860s, more than a fifth of Paris' working population was employed in construction-related jobs (Harvey, 2006, p.144).

According to Harvey, the Second Empire reversed the Parisian property market's most severe and prolonged depression of the century. Before the Second Empire, in some bourgeois quarters, vacancy rates reached as high as one sixth, rents had been cut by half and property prices (if properties managed to be sold) were low. During the Second Empire, Parisian land and property values more than doubled. Land prices in the inner streets could be half those along the new axes and could vary even more from quarter to quarter. The increase in land value generated wealth. Furthermore, the steep variation of property prices within a changing city lured speculators. Steep variation of prices stirred the constant possibility of multiplying initial investments exponentially.

As in London, the French Second Empire's intervention in the property market was very much aided by private interests. According to Harvey (2006), Haussmann's strategy was, first, to find companies willing to undertake his projects and, later, if no company was found, to use the power of the state to mobilize finances.

The city could then recapture the betterment values derived from its investments, thereby becoming, as critics complained, the biggest speculator of all (Harvey, 2006, p.133).

The speculative character of the French regeneration is not consensual amongst published literature. Unlike Harvey (2006), a French historian, Pinon argues that Haussmann's nineteenth-century operations should be characterized as *rentabilisation* rather than *spéculation*. Pinon believes no evidence suggests developers were buying land at low prices with full knowledge these would increase with a coming *percée*, then selling these properties at higher prices. Paradoxically, Pinon also states that Haussmann was expecting an increase in land values in order to pay for the city's loans (Cars and Pinon, 1991, p.77,166).

As Nash's, Haussmann's initial estimates proved to be underestimated. For the planned second network of arteries, Haussmann estimated 180 000 000 frs and it cost 410 000 000 frs and for the planned third network of arteries, Haussmann estimated 350 000 000 frs which almost doubled to a final cost of 634 000 000 frs. As with Regent Street, Haussmann blamed the over-budget costs on the value of expropriated lands. Haussmann bitterly proclaimed:

Expropriation, against which rise collective complains, is desired by each in particular as a source of revenue. (Haussmann cit in Pinon and Cars, 1991, p.168) ¹⁰⁵

Unlike London's speculative system, working within a regime not subjected to parliamentary scrutiny allowed Haussmann to fund operations with a system of bonds emitted by other institutions and secured by the city (*la Ville*) (fully expanded in Harvey, 2006 and Cars and Pinon, 1991). The harsh reality that the city could not afford to secure such bonds became public in 1865 with critics saying:

When we proved to the Préfet de la Seine that he is living in chronique illegality, we have not said anything he was not aware of. M le Préfet is breaking the law with no concerns, even with *coquetterie*. He does not have a legal sense.

¹⁰⁶Économiste Léon Say in 1865 (Pinon and Cars, 1991, p.168)

The city was not the only entity depending on the increasing of land value. According to Harvey (2006), Haussmann, besides borrowing for the city, relied on companies which

¹⁰⁵ Transl. FR "L'expropriation, contre laquelle s'élèvent si souvent des plaints collectives, est désirée par chacun en particulier comme une source de revenue

¹⁰⁶ Transl. FR "Quand on a prouvé à M. le préfet de la Seine qu'il vit dans l'illégalité chronique, on ne lui a rien appris qu'il ne sache aussi bien que nous. M. le préfet viole la loi avec abandon, on peut même dire avec coquetterie. Il n'a pas le sens legal.»

financially could develop, build, own and manage newly-built spaces. These companies increasingly relied on speculative operations as source of profit.

[Compagnie Immobiliere de Paris] went on to build along Champs Élysées and the Boulevard Malesherbes, and around the Opéra and the Parc Monceau. It increasingly relied, however, on speculative operations as source of profit. In 1856-1857, it drew three quarters of its income from rents received on housing and industrial plants, and only a quarter from the buying and selling of property. By 1864 the proportions were exactly the reverse. (Harvey, 2006,p.120)

As in London, credit became central to most operations. Harvey (2006) suggests credit was not only relevant in the property market but had “far reaching effects upon Parisian industry and commerce, the labor process, and the mode of consumption. Everyone, after all, depended on credit.” (Harvey, 2006, p.123) Haussmann himself, a protestant¹⁰⁷, accepted universal credit as the way to economic progress and reconciliation.

As described in Summerson's (1988) account of Georgian London, in Paris, every bourgeois with access to credit could become a speculator. According to Harvey (2006), the bourgeoisie chose to invest in the property market because it was for them, one of the few secure forms of investment. According to Daumard's survey (Harvey, 2006, p.129), while, in 1840, the socioeconomic group holding the largest proportion of Parisian property was a group of shopkeepers (holding 48.8% of Parisian property) and a group of people naming themselves landowners held but 8.9%, by 1860 the situation had reversed. Landowners held 53.9% of Parisian property and shopkeepers held 13.6%.

As in London, in Paris, returns in initial investments were guaranteed by a rise in population. In Paris, the number of houses in the city increased from 26,801 in 1817 to 30,770 in 1851 while population rose from 713,966 to 1,053,897 (Harvey, 2006, p.127).

The city's shape was changing due to an understanding of the city as a source of both public revenue and private income. Evidently, as in London, in Paris, the success of speculative operations was very much dependent on the effectiveness of the city's networks.

¹⁰⁷According to Harvey (2006, p.19), the fact that Haussmann was a Protestant was relevant to Paris' mid nineteenth-century credit system. “The Catholic Church equated interest with usury well into 1840s and sought to outlaw it”

3.4.5. Building Urban Networks: Sewers and Communications

London's sanitary superiority by the early nineteenth century was well portrayed by Olsen (1986). According to 1850s sources, in London, by 1855, the water system served "every single house up to the third story" and the "privy [*fosse d'aisance*]" did not exist.

Waste matters pass through a drain into the public sewer, with all the waste water of the town, and from there everything is transported to the river. (César Daly, 1855, cit in Olsen, 1986, p.31)

Even if London's mid nineteenth-century running water sewer system left much to be desired by today's standards, in Paris, domestic pipes only came in the 1850s-1860s and Parisian sewer system was thus described:

Faecal matters are stored in cesspools below the houses, or they are received into casks, which, when full, are carted away. The liquid contents of the cesspools were emptied into gutters. (Olsen, 1986, p.37)

A cholera epidemic in 1832 shocked Londoners who had not been subjected to such swift mortality since the 1665 plague; nevertheless, the cholera epidemic revealed London's sanitary superiority regarding Paris. The epidemic's estimated death toll was 5,500 deaths in London's population of 1,778,000 as opposed to 20,000 deaths in Paris' population of 841,400 (Olsen, 1986, pp.23-24).

The concern with functional sewers and communications was one of the main reasons for the emergence of the vision of the city as a whole. Prior to the epidemic in 1832, London had already realised it could not keep expanding as a continual addition of parts because the city's network infrastructure (namely sewer system and communications) would not handle growth effectively.

Even before Marylebone Park development, in 1766, John Gwynn had said London's development had resulted in a too intricate pattern of streets, and had suggested both the widening of Swallow Street and a northern extension of the Haymarket through the Soho until Oxford Street (Summerson, 1980). Circulation was important for city's life and economy. As extensively explained by McCreery regarding turnpikes (2005), a network of roads emerged throughout the country increasing the speed in between locations and improving trade. Roads and streets were relevant not only to the country but to the city's economy. According to the *Gentleman's Magazine* of 1755:

Streets and roads are to inland trade what seas are to foreign; and as trade is known to increase in proportion as obstructions to carrying it on are removed; it follows that every new road is a kind of new mine that increases the wealth of the community; a treasure, of which every individual has a share. (*Gentleman's Magazine*, 1755, cit in McCreery, 2005, p.50)

Developing Mary-le-bone Park would only bring about profitability if sewers and communications guaranteed sanitary conditions and access to goods and centres of power. Wealthy tenants would certainly be attracted by: a New Street, placing the city's decision and leisure centres within reach; by a new sewer; and by a water Canal, promising to bring "produce of the country and articles which sea and Thames supply" (Nash in White, 1814, p.xxxv). During the nineteenth century, water travel as an urban transport mode within London ended up being replaced by the road and the rail. Regent Street, as a North/South axis perpendicular to London's Thames, announced the days of the river as the urban "main traffic artery" (Taylor, 2002, p.11) would be over.

Had Surveyor General John Fordyce been acting as previous private developers did (or had he decided to renovate Duke of Portland's lease on the estate) the estate might have been developed as most estates had been developed in the previous century. It would have been divided in plots to sell or to lease. White's report (1814, 1815) leaves no doubt that what was being built along with Marylebone Park's development was part of the city's network. A map with a survey of the sewer system (fig.116) was even included to support this early nineteenth-century development.

In early nineteenth-century London, sewer and communications were considered fundamental enough to create a *percée*, or an avenue piercing through the city's core requiring expropriations. This willingness to transform the capital's environment was not unique in London's early nineteenth century. As the New Street emerged in Fordyce's mind, plans for new docks were being put forward after a Parliamentary Commission, in 1796, reported on the appalling congestion of London's river (Whitfield, 2006, p.127). The London Docks were first opened in 1801. The new docks, built by private companies, pierced the landscape to embrace the city's increasing maritime trade. (Clout, 2004, p.83).

Today, a most effective (and pleasant) way to capture the essence of London's early nineteenth-century improvements is to go through George Scharf's original drawings in

the the Prints and Drawings Collection of the British Museum. Published literature regarding Regent Street¹⁰⁸ ignores George Scharf, choosing to present Regent Street through the finalized portraits done by Shepherd (from fig.92 to fig.97) or Tallis. George Scharf's drawings have been compiled in an edition by Jackson (1987). Scharf, born in Bavaria in 1788, arrived in London in 1816. He earned his livelihood drawing for scientific bodies and learned journals and spent his spare time in the streets of London, drawing as a hobby. He was particularly keen on building operations and drew with an inquisitive, almost journalistic, eye. His sketches are not portraits, but registers of how street pavement, sewers, buildings were executed (from fig.110 to fig.115) (Jackson, 1987).

Nash, in his report, claims the cheapest and most effective way to build a new sewer was to run it under the New Street:

...the projected new street from Mary-le-Bone Park to Charing Cross offers the shortest and most direct drainage that can be had, and to the best point of discharge into the Thames, namely at the end of Northumberland Street...

(Nash cit in White, 1814, p.lix)

Hausmann faced a hard task of organizing a city with a medieval core and with little or no water and sewer infrastructures. London was officially visited¹⁰⁹ and studied for both the water and the sewer (Cars and Pinon, 1991). In Hausmann's model of regeneration, piercing avenues became the means of building sewer collectors underneath the city (fig.117 and fig.118).

3.4.6. Avenue as a Public Space for Shopping

As presented in previous sections, Regent Street's "Mile of Style"¹¹⁰ is, today, boasted as the "the first purpose built shopping street in the world." Shopping was a part of Nash's vision and it made of Regent Street a public space for promenade.

As explained in Harvey (2006), Parisian avenues were soon filled with potential consumers. The idea of public spectacle was inherent to the grandiosity of the public works, dully encouraged by Hausmann's spectacular inaugurations. Both Universal

¹⁰⁸ Cf. Hobhouse (2008), Anderson (2001), and Summerson (1980).

¹⁰⁹ In 1823, Mallet went on an official visit to study London's water system and in 1854 Engineer A. Miller was sent by Hausmann to study the water and sewer systems of London, Glasgow, Manchester and Liverpool (Cars and Pinon, 1991, p.152)

¹¹⁰ "Mile of style" was the title of an exhibition regarding Regent Street in Guildhall (2007) and also of Hermione Hobhouse's (2008) re-edition of Regent Street's History.

exhibitions (1855 and 1867) further induced a sense of theatricality within Parisian urban life. Slowly, as crowds gathered around shop windows rather than public events, commerce itself became the spectacle.

The increasing power of commodity itself as spectacle was nowhere better expressed than in the new department stores...Such high turnover stores needed a large clientele drawn from all over the city, and the boulevards facilitated such movement. The shop windows were organized as an enticement to stop and gaze. The commodities visibly piled high inside the department stores became a spectacle in their own right. The stores were open to the street and encouraged entry of the public without obligation to buy. ...Who were all these consumers? Increasing mechanization ..., falling costs of raw materials, improving efficiencies in both production and consumption, and a rising rate of exploitation of labor power cheapened many commodities, clothing in particular. (Harvey, 2006, pp.212-218)

As seen in previous sections, the seventeenth-century avenue was a public place of promenade. These seventeenth-century promenades were initially green spaces of leisure. Later, green spaces were slowly occupied by leisure establishments related largely to entertainment. By 1880, a project for a *panorama* in the Champs-Élysées (fig.119) was rejected and the city hall engineer stated that too many establishments were endangering the magnificent character of the promenade (AP, PEROTIN 10653 194).¹¹¹

Due to a changing socioeconomic context, the nineteenth-century avenue became increasingly associated with shopping. This research supports the thesis that (in this too) Regent Street proves to be, today, a most worthy pioneer of the nineteenth-century avenue.

After having established economic and technical similarities between the Parisian nineteenth-century avenue and Regent Street, the two sections will present differences given by three factors: 1) London's absence of city walls; 2) London's shift to private investment after Regent Street's development, 3) London's shift towards the underground railway to resolve traffic.

3.4.7. The city's border, rural versus industrial fringes

¹¹¹ From the *Avis de l'Ingénieur en Chef "D'ailleurs, cette partie des Champs-Élysées n'est déjà que trop garnie de constructions de toute nature, qui tendent à dénaturer de plus en plus le caractère de cette magnifique promenade"* (AP, PEROTIN 10653 194)

Regarding a history of the Avenue, Regent Street and Haussmann's regeneration of Paris presented the Avenue as part of the urban network as opposed to the seventeenth-century avenue as part of a regional network. Nineteenth-century avenues were piercing through city cores, connecting centre to the city's gates or fringes. Despite the scale difference, Regent Street managed to retain Champs-Élysées' ability to merge city and landscape while Haussmann's regeneration did not. Regent Street was connecting city centre to luxurious rural fringes while Haussmann faced mostly industrial and working class fringes.

As presented in previous chapters, the Avenue des Champs-Élysées was part of a regional network connecting capital city to noble estates. The seventeenth-century avenue announced, with its clear spatial composition determined by tree-lined *allées*, the entrance into Paris. Regent Street, on the other hand, was part of the urban network repositioning centre and outskirts. While Champs-Élysées connected distant noble estates to the city, Regent Street connected suburban luxury terraced housing to the centres of power and leisure. Regent Street inherited from its seventeenth-century predecessor the ability to expand the city, erasing limits between city and nature. However, while in the seventeenth-century Champs-Élysées architecture was reached through an axis piercing landscape, in the nineteenth-century Regent Street, landscape was reached through an axis piercing architecture.

As stated by Summerson (1980) and McCreery (2005), the Marylebone Estate was conceived by Nash as a park with houses invoking rustic life. While in the seventeenth century, Le Nôtre's avenues pierced forest walls to frame arrival at a palace, in the nineteenth century, the London avenue pierced built space to frame arrival into the desired "scenery of nature" (Nash cit. in White, 1814, p.xxxi). Due to the difference in scale (from regional to urban), with Regent Street, nature and architecture had its roles reversed. Instead of providing a path of arrival with trees leading into a palace, Regent Street provided a path of arrival through built space leading into a park. In nineteenth-century Paris, because of the *Enceinte de Thiers* and of an increasing industrial suburb, Haussmann could not expand the city to merge with surrounding nature.

The *Enceinte de Thiers* was not the city's (fiscal) limit. By 1859, Paris had two surrounding walls, the *Fermiers Généraux* (Louis XV's reactivated fiscal wall) and a defensive wall, the *Enceinte de Thiers* (fig.36). The *Enceinte de Thiers* had been built in 1840, under Louis Philippe I. The fortified wall proved to be ineffective when Prussians invaded Paris in 1871; nevertheless, it was used in 1859 to determine new fiscal limits. According to Harvey (2006), Paris' tax base was coming mainly from the

octroi (or from goods entering Paris). In 1859, the area included within Paris' fiscal borders expanded to include populations living in between limits, thus expanding the *octroi*. By 1856, there were 364,000 people living in between limits (Chadych and Leborgne, 2007, p.158). Haussmann described populations living in between walls as:

...true parasites living off the life of the city without supporting the costs, attracting habitants away from adjacent neighbourhoods making their development difficult ...clogging up avenues with barriers built by constructions done with no plan... ¹¹² (cit in Chadych and Leborgne, 2007, p.158).

The municipal councils of these lands were heard and contested the Emperor's decision to annex them as part of Paris. These surrounding lands, according to Pinon (Cars and Pinon, 1991, p.120), had initially been planted fields and markets. However, by 1859, they were filled with small factories and workers taking advantage of the city's proximity, without paying the city's taxes. By 1859, the *Ministre de l'Intérieur* argued:

The population living [in between walls] owes its existence and prosperity to Paris. These *communes* must support the costs and expenses of all sorts imposed by the city and by the common interest.¹¹³ (cit in Chadych and Leborgne, 2007, p.159).

The City's limits were changed to coincide with the *Enceinte de Thiers*, thus increasing the city's revenues and also Haussmann's master plan. The population living in between walls was given five years with exemption of taxes, after which working populations and factories had moved beyond the *Enceinte de Thiers*. (Cars and Pinon, 1991, p.124)

3.4.8. The avenue as the railway became both regional and urban transport mode

This section supports the thesis that one reason for dismissing the avenue as a part of the regional network occurred, both in London and Paris, because of the invention and spread of the railway. In England, even if the turnpike network became increasingly regional from 1740 to 1770 as noted by McCreery (2005, p.56), rail transport promised to be the most effective mode of travel between cities.

¹¹² Transl. FR "...véritables parasites qui vivent de la vie des villes sans en supporter les charges, qui dépeuplent certains quartiers voisins ou qui frappent d'impuissance leur essor...obstruant les avenues des barrières par des constructions faites sans plan..."

¹¹³ Transl. FR "La population installée dans la zone intermédiaire ne doit son existence et sa prospérité qu'à Paris. Ces communes doivent donc supporter les charges et les dépenses de toute nature qui soit imposées à la ville dans l'intérêt commun.»

The passenger railway first came to London in 1836 with the opening of the London & Greenwich Railway, which had its city terminus at London Bridge. Within a few years a series of termini had opened for main lines from all parts of the country including Euston (1837), Paddington (1838) and King's Cross (1852)... By the 1850s it often took longer to cross central London than to travel up to the capital by train from Brighton. (Taylor, 2002, p.13)

This research brings forth the thesis that grand stations were the nineteenth-century spaces announcing arrival into the city, thus, replacing the seventeenth-century avenue's role. Avenues were relegated to the urban role of improving communications within expanding cities since the railway (at first) did not seem to be an adequate mode of urban circulation within the built core. Louis Napoleon's strategy was clear:

To begin with, [Louis Napoleon] considered that the heads or the railway stations were the real gates into the city, in place of the prior gates on the national roads, which would be relegated to the lower rank of roads of secondary order. There was a need to connect these new gates so that communication between them, in between regions of France, was comfortable and quick through a common centre ; from these principal gates, large arteries needed to be pierced in order to reach the heart of city centre.¹¹⁴ (Charles Merruau, *Secrétaire général de la préfecture de la Seine* cit in Haussmann, 2000, p.27)

Hence, the railway would connect cities regionally, terminate close to the city's borders, and arteries (avenues) would connect stations (and other relevant places) to the city's core. As indicated by Taylor (2001, p.13), in London, Parliament feared that bringing the railway into the heart of the city would bring too many problems of demolitions and disruption of urban fabric. Hence, both cities followed the same strategy regarding *regional* transport. There was, however, a clear difference regarding *urban* transport: Paris followed an extensive program of *percées* while London hesitated. Regent Street was not an isolated case in London, but it certainly remained the most representative. There were later *percées* in London, like Shaftesbury Avenue. A Parliament Act in 1877 created conditions for present day Charing Cross Road and Shaftesbury Avenue,

¹¹⁴ Transl. Fr« Pour point de départ de ce qu'il y avait à faire, il considérait d'abord que les têtes ou les gares de chemin de fer étaient désormais les véritables portes de la ville, au lieu des anciennes barrières par lesquelles débouchaient les routes nationales, qui allaient descendre au rang des voies de communications de second ordre. Il fallait relier ces portes nouvelles afin que le passage de l'une à l'autre, c'est-à-dire d'une région de France à une autre région, fût commode et rapide `travers le centre commun ; il fallait, de ces points principaux d'arrivée, projeter jusqu'au cœur de la grande cité de large artères »

to widen Coventry Street, and to carry out nine other improvements in various parts of London (Sheppard, 1963). Nash had designed another axis, which remained on paper, connecting the British Museum to the National Gallery (Summerson, 1940) (fig.120). However, today, Regent Street is still considered “the only boulevard in London” according to Hobhouse (2008, p.60). Why would London set aside the *percée* when Regent Street, by all accounts, seemed to have been a successful experience?

This research supports the thesis that there were two fundamental reasons. First, as suggested by Olsen (1986, p.22), the unpredictable value of compensations and the crisis of 1825, second, as suggested by myself, in a paper I delivered in August of 2008 in the IX Conference of the European Association of Urban History (see Appendix 2), the underground possibility of bringing the railway into the city.

As Olsen points out, in London, in 1825, the speculative bubble burst. According to Ball and Sunderland (2001, p.344), the 1825 crisis was blamed on undercapitalised country banks and the whole banking system had to be reorganized (fully expanded in Ball and Sunderland, 2001). According to Olsen, this crisis resulted in a permanent fall in the price of building land.

The cost of undeveloped building land on the outskirts of English towns had roughly tripled between 1740 and 1820. In London it reached a peak in 1825, fell sharply at the end of that year by more than a third and remained at that new low level until at least 1939. (Olsen, 1986, p.22)

Parliament was facing the reality that property value could permanently fall and had no desire to shoulder unpredictable financial burdens through the public budget. Furthermore, the value of compensations to dispossessed owners was an unpredictable risk (Ball and Sunderland, 2001, p.428). As seen in previous sections, in Regent Street’s development, compensations to dispossessed owners had been the reason for increasing by threefold Nash’s original cost estimate. In Victorian London, most urban infrastructure built ¹¹⁵, with the exception of sanitation, was built by the private sector despite being subject to Parliamentary sanction. Ball and Sunderland (2001, p.426) identify both political and economic arguments supporting London’s nineteenth-century extensive use of the private sector to build urban infrastructure.

¹¹⁵ Including “transformation of public transport and the port, the improvement of water and sanitation, the introduction of gas and electricity, and developments in the means of telegraphic and telephone communication” Ball and Sunderland (2001, p426)

The political arguments supporting Parliament's decision to leave urban networks in the hands of private investors are, today, said to have been: 1) private interests could easily lobby within Parliament into accepting their strategies; 2) national government did not wish to see a London municipal council controlling all networks which, due to sheer scale, would provide that council with great national influence (Ball and Sunderland, 2001). Ball and Sunderland dismiss these arguments as being the most relevant by presenting economy reasons:

[first] the scale of the costs associated with the provision of many services... The upheaval in local government and its finance just over the need for a public sewer system in the 1850s illustrates this point. To have included many of the other infrastructural investments taking place at the same time within the public sphere would have strained public finances beyond breaking point... [second] many projects were highly risky. Many nineteenth century infrastructure programmes in the capital were well over-budget... Technical change was also substantial and innovations were risky to fund... Ball and Sunderland (2001, p.426)

Adding to these political and economical arguments Adam Smith's edition of the *Wealth of Nations* in 1776, I believe it is conceivable that a nineteenth-century Parliament would not risk getting financially involved in high technology projects (which would predictably go over budget) unless such projects dealt with prevention of disease spreading.

As presented in previous sections, Haussmann, on the other hand, was shielded by the absence of Parliamentary scrutiny. This dictatorial regime allowed the *préfet* to invent funding systems which could be considered, at best, risky, at worst, illegal.¹¹⁶

As I pointed out in my paper delivered at the EAUH, there was another reason for the preservation of London's fabric which has not been stated by reviewed literature. In Victorian London, the railway was chosen as mode to circulate, not only in between cities, but *within* the city (or under the city to be more accurate). The underground in London was pioneered in London as early as 1863. Had the underground not been built, London might have needed a complete reconstruction of its "clogged up" urban

¹¹⁶ Besides his systems of bonds presented by Harvey (2006) and discussed in previous sections, Harvey (2006, p.143) further suggests that the imposition of a luxurious building style was part of Haussmann's fiscal creativeness. It was, according to Harvey (2006) a conscious scheme to expand tax receipts on building materials entering Paris.

fabric. While Paris was being completely rebuilt to create a system of urban circulation based on avenues, London was pioneering a new type of urban network built with railways travelling underground.

London's Metropolitan line opened in 1863 (Taylor, 2002, p.13). Paris, on the other hand, only opened its first underground line in 1900 (Bobrick, 1981, p.154), almost 4 decades after London's first Metropolitan Line. Today, by transport technology standards, the underground is still considered the most evolved urban transport mode. (Vuchic, 2007, p.65). Hence, while Paris was investing on the *percée* which had been used and was dismissed by London, London was pioneering state-of-the-art industrial technology, the underground railway, which became the fundamental support of present day metropolitan areas. In light of this historic fact, I fail to understand Choay's present day statement that "we can account for the fact that Paris became, by large, the first paradigm of the metropolis of the industrial age".

3.5. A British Avenue: the Curve and the Circus

3.5.1. The Curve

3.5.1.1. Humphry Repton and John Nash

Unity, of Antiquity, of greatness and continuity, are all in some degree excited by the long perspective view of a stately Avenue...but the eye soon becomes wearied with the dull repetition of equidistant trees however venerable in themselves; besides all novelty or diversity of situation is totally precluded by surrounding a house with Avenues, since the view from every seat in the Kingdom would be nearly reduced to the same Landscape, if looking along a straight line betwixt two rows of trees can deserve to be called a Landscape. Humphry Repton, 1792.

Nash's designs were influenced by landscape architect Humphry Repton,¹¹⁷ with whom he worked closely in his earlier professional years. With his landscape designs, Repton sought to enhance the "true character of the place", building upon the place's suggestions, and avoiding evident gestures such as symmetry and straight lines. (fully expanded in Summerson, 1949, chapter II).

By the time John Nash designed Regent Street, his partnership with Humphry Repton had ended in bitter terms. According to Repton's biographer, Edward Hyams (1971),

¹¹⁷Humphry Repton (1752-1818) (Hyams, 1971)

Nash and Repton's five to six year partnership ended in 1799 with much resentment. Repton had introduced Nash to high society patrons (such as the Regent). By 1799, Repton believed Nash not only undermined the value of having been introduced to a "rich mine of patronage", but also pushed Repton away from future patrons. Furthermore, John Repton, Humphry Repton's architect son, worked for Nash (as did a younger son, George Repton). John Repton had become deaf and, allegedly, Nash was taking advantage of this deficiency to pass off John Repton's work as his own. (Hyams, 1971)

[John Repton]'s name has hitherto been little known as an architect because it was suppressed in many works begun in that of another person, to whom I freely, unreservedly and confidentially gave my advise and assistance, while my son aided with his architectural knowledge and his pencil, to form plans and designs from which we have derived neither fame nor profit. (Humphry Repton cit in Hyams, 1971, p.172)

Despite Repton's bitterness, this partnership between architect and landscape designer has been stated as relevant to Nash's understanding of the British eighteenth-century landscape movement, at times qualified as *Picturesque*¹¹⁸. This movement was a strong influence in Regent's Park¹¹⁹ and Regent Street design.

3.5.1.2. *The Eighteenth-Century British Landscape Movement and the Picturesque*

The eighteenth-century British landscape movement started with critics condemning the choice of a formal type of garden which reigned, at the beginning of the eighteenth century, still under influence of Le Nôtre's Versailles (fig.121). "In Pleasure of the imagination" Addison condemned the straight line and stated:

From my part I would rather look upon a Tree in all its Luxuriance and Diffusion of Boughs and branches, than when it is cut and trimmed into a mathematical Figure: and cannot but fancy that an orchard in Flower looks infinitely more

¹¹⁸ Some published sources, like Hunt (2002), name the entire eighteenth-century landscape movement as picturesque while others like Penelope Hobhouse (2004) prefer to use "picturesque" only to qualify the movement's final and most radical phase.

¹¹⁹ In Repton's biographer's words, instead of a grid of new streets of houses "...Nash submitted plans for a great landscape park, just as Repton had been making for years with, instead of a mansion, a group of his beautiful villas at the centre, and lines and crescents of typical Nash terraces all round the peripheral skirts of the park; in short, for a vast landscape garden. There can be absolutely no question that it was Repton's influence that made Nash submit such a plan. So it is quite as much to Repton as to Nash that London owes Regent's Park" (Hyams, 1971, p.174)

delightful than all the little labyrinths of the most finished Parterres. (Addision cit in Penelope Hobhouse, 2004, p.206)

Alexander Pope invoked respect for the “genius of the place” setting the tone for the eighteenth century landscape movement:

In all Nature never be forgot...
Consult the Genius of the place in all;
That tells the Waters or to rise, or fall,
Or helps th'ambitious Hill the heav'ns to scale,
Or scoops in circling Theatres the Vale;
Calls in the Country, catches opening glades
Joins willing woods, and varies shades from shades,
Now breaks, or now directs, the' intending lines;
Paint as you plant, and as you work, designs
(Alexander Pope cit in Penelope Hobhouse, 2004, pp.206-207)

Alexander Pope further urged the use of paintings as models for landscape design. “All gardening is landscape-painting. Just like a landscape hung up” (Pope cit in Hunt, 2002, p.14). Joseph Spence, an Oxford Professor and garden commentator, stated in 1750s that “Kent and Pope were the first ‘that practised painting in gardening, which involved ‘perspective, prospect, distancing and attracting’ (Hunt, 2002, p.24). It was this desired association to painting which qualified the climax of the movement as picturesque.

The term *Picturesque* had Italian roots (*pittura*), qualifying “that which is worthy of being painted” (Rodrigues, 1990, p.214). Hunt further adds the Italian term *Pittoresco* was applied to call attention upon the method of laying on paint, involving “broad strokes, not necessarily legible in close up, and even scratchy surfaces”. (Hunt, 2002, p.13) The term's roots revealed how the picturesque landscape movement was bound to painting. Early practitioners and theoreticians of the Picturesque as a landscape style consciously explored the relationship between painting and landscape gardening.

Picturesque theory and practice saw its climax at the turn of the century (in 1800) (Hunt, 2002, p.6); hence, it was contemporary to the new street's design. In the context of qualifying the landscape, the word *picturesque* was only used from 1780s onwards. (Hyams, 1971) Despite having been adopted in many locations throughout Europe, Picturesque as a landscape style started in eighteenth-century England (Hunt, 2002,

p.6). There was no consensus amongst practitioners on how painting should be used to aid landscape gardening. Some believed landscape sceneries should be planted to equal painted landscapes, others, like Repton, did not. However, the eighteenth-century British landscape garden did inaugurate an understanding of nature which Penelope Hobhouse (2004, p.242) goes as far as stating it was "Britain's greatest contribution to the world of art".

As Penelope Hobhouse (2004, p.218) and Steenbergen and Reh (2003, pp.228-229) point out, "Britain's greatest contribution to the world of art" owed much to the enclosure of common land. Acts of Enclosure started in previous centuries, but intensified in the eighteenth century with 3,500 Acts of Parliament passed between 1730 and 1820. These Acts of Enclosure regulated division of common land amongst yeomen (freeholders who cultivated their own land). Prior to these acts, common land's division was agreed on among owners without government interference (Steenbergen and Reh, 2003, p.228). These Acts allowed a more effective exploitation of agricultural soil, despite creating a new class of landless (Hobhouse, 2004, p. 218). For the purpose of this research, these acts made land available to create landscape parks; hence, made land available for the eighteenth-century British landscape movement.

Based on all evidence this research provided in previous sections presenting Le Nôtre's landscape designs and da Vinci's plans, it can be said, today, that the British landscape picturesque did not inaugurate the close relationship between painting and landscape design.¹²⁰ As presented in previous sections, Le Nôtre was both painter and master of perspective. There were, however, differences between French control of infinite landscape and British landscape, as there were differences within the British landscape movement itself.

According to Penelope Hobhouse (2004, p.210), throughout the eighteenth century there was a natural progression within the principles supporting landscape gardening compositions. Innovators of the British movement, emerging between 1720s and 1740s, mixed formal and less formal designs. Such was the case of William Kent under Pope's influence. They were followed by a group dominated by Lancelot Capability Brown who sought to "improve" nature, moulding the land in naturalistic contours. Humphry Repton followed Brown's legacy. A final, and more radical, phase wished to "accentuate" nature's traits rather than simply improve these traits. This radical vision, "the champions of the picturesque" (Hobhouse, 2004, p.210) believed in wilder

¹²⁰ Hunt (2002) also notes that the relationship between painting and landscape architecture preceded the picturesque.

sceneries and welcomed the introduction of fake ruins, which Repton found to be “abominable” (Hyams, 1971, p.134). The last phase of the movement criticized Brown’s serenity and Repton’s tameness (Hobhouse, 2004, p.210).

Repton himself believed “Painting and gardening are nearly connected but not so intimately relate as you imagine”. (Repton cit in Hyams, 1971) Repton believed in the autonomy of the landscape design practice. Repton was actually the first to name the practice *Landscape Gardening*. (Hyams, 1971, p.145) According to Hunt (2002), Repton’s contribution to the picturesque was more in the method of presenting work. Repton presented watercolour renderings of what the landscape looked before and would come to look after his intervention (fig.122 and fig.123). However, according to Repton’s biographer (Hyams, 1971), Repton’s written legacy (including his Red Books and other minor texts) did not wish to present Landscape Gardening as an equal to landscape painting. Repton’s writings defend:

...a landscape garden should be a work of art but strictly after nature and not after the sister art of landscape painting; a garden should certainly be picturesque, yet not simply a picture, if only because, whereas a painting is looked at by a standing spectator and in constant light, a garden is viewed by a spectator who is on the move, and by a light which is constantly changing in direction and quality...The garden artist must aim to create a work of beauty, but would be going badly astray if he sacrificed comfort and utility entirely to the picturesque ... (Hyams, 1971,pp.193-194)

Repton, like Le Nôtre, was fully aware that what the senses perceived on a stroll through a landscape garden could not be the same as what the senses perceived while observing a painting. Within the landscape, the observer moved “within the painting” witnessing changes in light and amplitude.

There were, however, similarities in methods and themes used for landscape painting and landscape gardens. As seen with Le Nôtre, the close relationship of painting and gardening was guaranteed by apprenticeship: gardeners were instructed to learn the art of painting and to master its composition tools. Hence, changes in painting inspired landscape design, as changes in the manner of designing landscape inspired painting.

The next section will use two paintings nowadays hanging side by side in London’s National gallery. Differences in these two paintings will be used to illustrate design differences between Le Nôtre’s Champs-Élysées and Nash’s Regent Street.

3.5.1.3. British reply: Claude and Turner, from infinite space to infinite time

The British landscape movement is said to have introduced “naturalism” (Hobhouse, 2004, p.205) and “irregularity” (Hunt, 2002, p.8) in formal designs opposing Le Nôtre’s formal designs. I propose a better method to present the difference between Le Nôtre’s designs and the British landscape movement by explaining their different use of perspective. Le Nôtre’s grand designs were dominated by one point of view. British landscape design introduced multiple directions in the same design composition.

These two different understandings of perspective resulted in two different types of infinity which I believe, were behind the fundamental design difference in Le Nôtre’s and Nash’s design. To make this point less abstract, I chose to illustrate it with two paintings which face each other, today, at the National Gallery. The two paintings are: Claude Lorrain’s “Seaport with the Embarkation of the Queen of Sheba” (1648) (fig.124) and Turner’s “Dido building Cathage” (1815) (fig.125). Two centuries separated the two painters; however, as their paintings face each other, today, a conversation between the seventeenth-century painter and the nineteenth-century painter can still be heard.

Claude was an appreciated painter in eighteenth-century England (Summerson, 1980). Turner’s painting was an intentional reinterpretation of Claude’s painting. Turner asked in his will to have this painting hung next to Claude’s; thus, immortalizing both a conversation and the homage and he had rendered Claude (National Gallery). A comparison between these two paintings can be useful to illustrate how the use of perspective in Le Nôtre’s Champs-Élysées was different from the use of perspective in Nash’s Regent Street.

Claude’s painting embraced linear perspective (fig.126). All buildings are organized according to one point of view and the painting’s viewer faces infinity (or the sun setting in the horizon). Turner destroyed linear perspective (fig.127) designing buildings with different orientations to suggest multiple directions. Furthermore, with Turner, the viewer of the painting no longer *faces* infinity, the viewer *senses* infinity. Turner’s horizon line is broken into many elements never completely displayed (like the half hidden bridge).

The British landscape movement avoided the straight line built by linear perspective; hence, Regent Street’s curves fit like a glove into this design concept. In Champs-Élysées, Le Nôtre, like Claude, worked with linear perspective without placing any object on the focal point; thus, leading the point of view into infinite landscape.

British landscape design also built a sense of infinity. However, this sense was built by never fully providing all edges of the object. Thus, it was impossible to detect limits in the composition. In Regent Street, the curve suggested the Street's continuity at all times. Even if vision was, at times, directed to focal elements (as the All Souls Church), the curve indicated that the New Street did not end at the focal point.

Both in Claude and Turner, as in both Champs-Élysées and Regent Street, the idea of infinity was always present. There was however a difference. The difference between the seventeenth-century painting and the nineteenth-century painting was also the difference between the seventeenth-century avenue and the nineteenth-century avenue: the observer was placed differently. Linear perspective placed the observer at the centre of the composition. The introduction of multiple directions removed the observer from such a central position.

As presented in previous sections, linear perspective (without an object concealing the horizon line) provided a sense of *spatial* infinity. Time, however, was frozen by linear perspective. The present being where the observer was, the future placed in the distant and unreachable horizon. With linear perspective, present and future had a progressive relationship and were doomed to never meet.

With a perspective including multiple directions, space was still understood as an infinite continuum, but so was time. By removing the observer from a central position in the composition, present and past were no longer frozen in a progressive relationship. The observer was presented with a landscape which did not revolve around the observer's presence. Hence, the landscape seemed to have existed at all times, before and after the observer's presence. In gardening and painting, the introduction of ruins further enticed this sense of infinite time.

Regent Street took Le Nôtre's idea of infinite space, and reinvented it by introducing the idea of multiple directions, hence, by introducing in urban design infinite time. Thus, Regent Street as a nineteenth-century avenue is the most worthy descendant of Le Nôtre's Champs-Élysées. Haussmann's nineteenth-century avenues did not deal with infinity as a composition motif. Haussmann's avenues were closed by monumental buildings or focal points, as was Champs-Élysées with Napoleon's *Arc de Triomphe*. The idea of infinity present in Le Nôtre's Champs-Élysées and in Nash's Regent Street was not a theme of the Parisian nineteenth-century avenue.

In urban avenues dealing with pre-existing cityscape and with topographical slopes, the curve was an adequate design tool to introduce infinity within the city. Besides hiding a full view of the Street, the curve, as Repton knew, also expanded the apparent length of an axis making it seem more monumental than it actually was.¹²¹

3.5.1.4. *The Quadrant, Mastering the curve*

Regent Street's curves reiterated Repton's distaste for straight lines. Nash had already tested the curved pathway, in Blaise Hamlet (fig.128). All cottages connected by the curved pathway had been built by 1811 (Summerson, 1980). Hence, Nash could have sustained London's curved pathway as a design decision. However, as everything with Nash, Regent Street's curved design was not simply a design intention. Regent Street's curves also served a financial purpose. As seen in (fig.84), Regent Street curved in order to adapt to the patchwork of landownership, seeking to occupy lands owned by the Crown; thus, avoiding as many compensations as possible.

Even if the curve resolved the issue of avoiding certain estates, Nash used the curve's power of suggestion to make Regent Street a unique axis. In fact, I believe Regent Street's unique feature as a monumental thoroughfare, and as John Nash's masterpiece, is the quarter of a circle next next to Piccadilly, namely the Quadrant.

While Le Nôtre's avenues played with the effect of extending the visual axis to infinity, Regent Street did not display immediately what lay at its ends. As such, I believe, the power of what lies at the end of the street was diminished, and the street gained a character autonomous of its extremities; hence, becoming a public space in its own right.

The principle of not displaying the ends with a straight axis was also present in other projects by Nash. In Blaise Hamlet, despite the smaller scale, the curved pathway also avoided immediate visual connections between cottages. Even when Nash used a straight axis, on his unbuilt proposal, to connect Charing Cross to Bloomsbury, the presence of the British Museum would only be revealed upon the arrival of a grand square (fig.120).

¹²¹One of Repton's specialities was "a winding drive, which, having allowed a glimpse of the house immediately after entering the gates, then took a circuitous route so that hills or trees hid the mansion until the final moment of arrival. This dramatic effect made a property look larger than it was." (Hobhouse, 2004, p.227)

The Quadrant proved how Nash mastered the creation of space against the most difficult odds. Not only did Nash manage to execute the mandatory detour of a monumental axis as a unique urban space, but, above all, Nash managed to build it. The Quadrant, due to its unique curved design, had to be built as a single structure; hence, no developer wanted to take the financial risk. Confronted with this problem, Nash did none other than take the lease of every plot in the Quadrant, calling upon himself the risk of becoming architect, developer and builder. With financial skill, Nash set up an intricate operation employing only tradesmen who were willing to take one or more of the houses: the plumber took two houses, the bricklayers seven, the glazier two, and so on. (Summerson, 1949, p.220). With architectural skill, Nash conceived a plan (fig.129) based on a module which could be repeated throughout the entire structure. Thus, the Quadrant revealed not only financial skill and landscape design principles, but also the use of a modern principle: using a modular design simplified construction procedure.

The Quadrant was adorned with a most extraordinary feature which, unfortunately, no longer stands today.

3.5.1.5. *The Curved Colonnade*

[a] light colonnade, surmounted by a balustrade [so] those who have daily intercourse with the Public establishment in Westminster may go two-thirds of the way on foot, undercover, and those who have nothing to do but walk about and amuse themselves, may do so every day in the week, instead of being frequently confined many days together to their homes by rain (Nash cit. in White, 1814, p.xlix).

As a vertical rhythm, the colonnade replaced trees in Regent Street's composition. Despite façade differences, the colonnade provided a uniform curved line. The colonnade was only built in the Quadrant and only lasted for a few years. It was demolished in 1848 because shopkeepers complained from the lack of light and the lack of 'public morality' under the colonnade's arches (Hobhouse, 1975, pp. 72-73). Its ephemeral presence was recorded in prints from the first half of the nineteenth century (fig.91 and fig.95).

A colonnade was also designed for the Rue de Rivoli. It was not original to London's New Street. Rue de Rivoli's colonnade was not terraced but was also a shopping arcade. In Paris, the colonnade in Rue de Rivoli was said to have been inspired by

Paris' *Place des Vosges*. In 1605, Henri IV decided to build the *Place des Vosges* wishing it would

...be used for promenade by the people of our city [...] and also for days of celebration when big assemblies get together, and for other occasions when such places are required.¹²² Henri IV cit in Chadych and Leborgne (2007, p.64)

In London, Inigo Jones had also designed an arcade in Covent Garden. Covent Garden, said to have been the first London square, was built in 1631-1635 for the fourth Earl of Bedford. Inigo Jones was said to have been inspired by a piazza, at Leghorn, but also by Paris' *Place Royal (Place des Vosges)*. (Downes, 1979, pp.39-40) Shopping arcades in *places*, or squares, can be traced back to medieval *places* such as the ones in Arras or Metz (Chadych and Leborgne, 2007, p.64).

What I believe to be most interesting about the use of colonnades, in nineteenth-century avenues, is that it was yet another consecration of these monumental axes as public spaces dedicated to leisure. By being an axis with a colonnade instead of a square with a colonnade, avenues were stating their fate to be places of promenade and leisure and part of the city's functioning network, harbouring transport communications and sewers. Nash's colonnade further echoed the seventeenth-century lines of trees, once again using landscape design concepts to design architectural façades.

The destruction of Nash's colonnade revealed that, as colonnades travelled into Northern Europe, absence of light became a problem. Curiously, in 1892, a project was submitted to the London County Council to rebuild a colonnade in Regent Street. This new colonnade would be all in iron and glass (fig.131) which would make it lighter than Nash's; thus, providing light into the shops and avoiding "the congregation of the Demi-Monde". The London Council decided against the project reminding there had been a colonnade in the original design of Regent Street which "was not allowed to remain up for any length of time and [they had] doubt as to there being any general desire on behalf of the public to its being recreated" (LMA LCC/95/1/4027). Today, Nash's curved façade adorned with trees of stone no longer stands.

3.5.2. The Circus

¹²² Transl FR. "... servir de promenoir aux habitants de nostre ville [...] comme aussi aux jours de réjouissance lorsqu'il se fait de grandes assemblées, et à plusieurs autres occasions qui se rencontrent auxquelles telles places sont du tout nécessaires»

By the 1760s the imaginations of developers and their architects were influenced by the ideas that produced the landscape garden, in which nature's accidents and irregularities were adapted and improved or where they were lacking, supplied by artifice...Bath, not London, led the way in the Woods [John Wood and son] imaginative use of sites. Queen Square slopes a little, and Gay Street rises from one corner of it to the Circus... Downes (1979, p.49)

The circuses Nash used to traverse Oxford Street and the New Road (present day Marylebone Road) had been used before in Bath. Based on drafts found in Crown estate records, Summerson (1980, p.63) adds that, in October 1810, architects invited to participate in the competition to develop the Marylebone Estate were given clear instructions to refer to both Bath and Edinburgh as models.

Downes' *Georgian Cities of Britain* placed Bath as the "model Georgian City, physically" (Downes, 1979, p.26). Bath's architect, John Wood, was seeking something more than a design to oppose Le Nôtre's. This section will explore how John Wood immersed himself into Ancient Greece and Ancient Rome to restore the glory of the Roman Empire in England and further sought Druid cults in search of a true British identity (Spence, 2005, p.7).

3.5.2.1. Bath, Stonehenge and Athenian citizenship

No Nation under Heaven so nearly resembles the ancient Greeks and Romans as we. There is a Haughty Courage, an Elevation of Thought, a Greatness of Taste, a Love of Liberty, a Simplicity, and Honesty amongst us, which we inherit from our Ancestors, and which belong to us as Englishmen; and 'tis in These the Resemblance consists. (Portrait painter Jonathan Richardson, 1715, cit in Downes, 1979, p.5)

John Wood was born in Bath, in 1704, lived in London and Yorkshire in pursuit of an architectural practice, and, in 1727, returned to his hometown. Wood wanted to reinvent Bath, invoking its noble past as a relevant city of the Roman Empire. Wood was "a 17th century man prone to grandiose formalities who lived on into the 18th century with its growing appreciation of natural beauties" (Spence, 2005, p.16).

Regardless of John Wood's inspirations and pursuit of a British identity, which will be explored in this section, it must be said beforehand that the construction of Georgian Bath, as the construction of Regent Street, was fuelled by speculation. John Wood, son of a humble local builder, became a wealthy man by renting and selling urban property.

Speculative building meant that while Wood leased the land from Robert Gay for £137 per annum, each individual house or plot was then subleased to other individual builders or masons. They would be responsible for the form of the house built behind the façade, as long as the exterior elevation conformed to Wood's design. Ultimately this meant less work and expense for Wood and, by claiming £305 per annum in rents, a tidy profit of £168 per year. (Spence, 2005, p.79)

John Wood's idea was to reinstate the Roman city of Bath's former glory. Bath's steaming mineral springs provided hot water allowing Romans to build a thermal complex. As in Rome, the thermal complex in Bath provided more than body care, becoming a place for leisure and transaction of business. Wood was not guided by a desire to reproduce exactly what Bath had been in Roman times. Archaeological remains of Roman Bath in the eighteenth century had not been excavated (Downes, 1979)

In 1725-1726, Wood conceived the three fundamental elements of his proposal to reinvent Bath: a Royal Forum, a Grand Circus and an Imperial Gymnasium. Wood thus described these elements in his *Description of Bath*:

.. a grand Place of Assembly, to be called the Royal Forum...another Place...for the Exhibition of Sports, to be called the Grand Circus; and a third...for the Practice of medicinal Exercises, to be called the Imperial Gymnasium. John Wood cit in (Downes, 1979, p.27)

The Gymnasium was not built. Only some parts of the Forum were built, in 1740, (present day's North and South Parades). The Circus' construction began in the year of John Wood's death (1754). (Downes, 1979)

Downes (1979, p.28) suggests Bath's Circus was the "first *modern* Circus" (fig.132). Despite its name, Bath's circus is today said, by Downes, to have been inspired on Rome's Colosseum (given its function) and not on Rome's circuses.¹²³ Downes suggests Wood's intention was to provide a public space with a softer shape than the square. The Circus' resemblance to the Colosseum, identified since the nineteenth century, is relevant. The circus inherited from the Colosseum the design principle of

¹²³Roman Circuses were "used for horse and chariot races, consisting of two long straits joined by semicircular ends". (Downes, 1797, p28)

conceiving space over form. The Circus had the same role as the *rond point* in the hunting ground system of *allées*. It was a circular empty space suitable for gathering.

In *Obsession, John Wood and the Creation of Georgian Bath* (Spence, 2005) warns that the circus was more than an homage to Rome's Colosseum. The circus was a synthesis of all John Wood's obsessions in search of a British identity.

...often mistakenly believed to be based on the Colosseum in Rome, the Circus is actually the creation of all John Wood's obsessions. The influence of the ancient stone circles of the Druids, the subtle presence of Freemasonic symbolism and the sheer force of over 600 columns, all fuse together... (Spence, 2005, p.95).

John Wood's desire to evoke Stonehenge, suggested by Spence (2005), seems, today, quite believable. Wood was commissioned in 1740 by the Earl of Oxford to develop a report on Stonehenge. In that same year Wood completed a survey of Stonehenge with his son. The diameter of Bath's Circus (318ft) is said to have been the result of Wood's manipulation of both Stonehenge and Stanton Drew's measurements. The Crescent results from Wood's conviction that Lansdown had always had a temple to the sun (circus) and to the moon (crescent) (Spence, 2005, p.98).

If at first Wood was deeply involved with Rome, he later turned to more ancient British mythology. In 1741, Wood published a treatise on architecture *The Origin of Building, or the Plagiarism of the Heathens detected*, where he tried to argue that the Greek and the Romans did nothing but imitate buildings erected by the Jews according to God-given proportions. At this time, Wood was seeking architecture's origins in biblical references. According to Wood, architecture was perfected with the Temple of Solomon and was later copied by Greeks, Romans and Ancient Britons. In *An Essay Towards a Description of Bath*, Wood reported on the legend of the mythical King Bladud. According to Wood's imagination, Bladud had been a Hyperborean priest who had taught Pythagoras, had been in the second temple of Jerusalem, had brought ideas of architecture to the Druids and, finally, had founded the city of Bath (Spence, 2005, p71).

For this research's purpose, what is interesting about Wood's "idiosyncratic obsessions", is that the eighteenth-century Georgian city was rising with a conscious

desire to produce something uniquely British.¹²⁴ French models were not welcome. With the Glorious Revolution and the Bill of Rights passed in 1689, British monarchy can be said to have become constitutional.¹²⁵ As noted by Downes (1979), in 1712, with Britain at war against Louis XIV (Le Nôtre's master), the third Earl of Shaftesbury criticized Sir Christopher Wren, in his seventies, due to Wren's use of French designs, labelled "absolutist".

If we live to see a peace any way answerable to that generous spirit with which this war was begun, and carried on, for our own liberty and that of Europe; the figure we are like to make abroad, and the increase of knowledge, industry and sense at home, will render united Britain the principal seat of the arts: and by her politeness and advantages in this kind, will shew evidently, how much she owes to those counsels, which taught her to exert herself so resolutely on behalf of the common cause, and that of her own liberty, and happy constitution, necessarily included...Hardly, indeed, as the public now stands, should we bear to see a Whitehall treated like Hampton Court, or even a new cathedral like Saint Paul's.. (Earl of Shaftesbury *Letter concerning Design* to Lord Somers, 1712 cit in Downes, 1979, p.19)

The Georgian city reflected an *intentional* British shift from French culture at all levels. The political structure sought references in the Roman Republic and in Ancient Athens where all citizens could vote. (Downes, 1979) The Athenian definition of *citizen*

¹²⁴ The kingdom of Great Britain was created with the Acts of Union in 1707 with the merger of the kingdom of Scotland and kingdom of England.

¹²⁵The Glorious Revolution (1688) and the Bill of Rights (1689) subjected the monarch to Parliament approval. As stated in the Bill of Rights "...And thereupon the said Lords Spiritual and Temporal and Commons, pursuant to their respective letters and elections, being now assembled in a full and free representative of this nation, taking into their most serious consideration the best means for attaining the ends aforesaid, do in the first place (as their ancestors in like case have usually done) for the vindicating and asserting their ancient rights and liberties declare: That the pretended power of suspending the laws or the execution of laws by regal authority without consent of Parliament is illegal; That the pretended power of dispensing with laws or the execution of laws by regal authority, as it hath been assumed and exercised of late, is illegal; That the commission for erecting the late Court of Commissioners for Ecclesiastical Causes, and all other commissions and courts of like nature, are illegal and pernicious; That levying money for or to the use of the Crown by pretence of prerogative, without grant of Parliament, for longer time, or in other manner than the same is or shall be granted, is illegal; That it is the right of the subjects to petition the king, and all commitments and prosecutions for such petitioning are illegal; That the raising or keeping a standing army within the kingdom in time of peace, unless it be with consent of Parliament, is against law; That the subjects which are Protestants may have arms for their defence suitable to their conditions and as allowed by law; That election of members of Parliament ought to be free; That the freedom of speech and debates or proceedings in Parliament ought not to be impeached or questioned in any court or place out of Parliament; That excessive bail ought not to be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted; That jurors ought to be duly impanelled and returned, and jurors which pass upon men in trials for high treason ought to be freeholders; That all grants and promises of fines and forfeitures of particular persons before conviction are illegal and void; And that for redress of all grievances, and for the amending, strengthening and preserving of the laws, Parliaments ought to be held frequently."

http://www.constitution.org/eng/eng_bor.htm

excluded many, as did the British eighteenth-century constitutional monarchy. Athenian slaves and women were barred from the right to vote, as were the eighteenth-century British poor and women. Nevertheless, despite upholding a less than thoroughgoing democracy according to today's standards, with the Glorious revolution and the deposition of James II, England rejected absolutist regimes.

Shaftesbury's above-quoted *Letter on Design* reflected a political desire for a British Taste, rejecting French influences. *Vitruvius Britannicus*, published in 1715 by Colen Campbell, "nailed to the mast the colours of Inigo Jones (the British Vitruvius himself) and of Andrea Palladio" (Downes, 1979, p.21). According to Summerson (1988, p.21), "Palladian taste represents a norm to which classical architecture in this country returned over and over again."

Regent Street was the British reply to Louis XIV's Champs-Élysées. Regent Street was a parliamentary refusal to embrace design principles deriving from an absolutist regime. By nineteenth-century European standards, Regent Street was a parliamentary avenue, not a royal avenue. Multiple points of view were not exclusive of landscape design principles, but were a part of British political life. I believe that Hobhouse's (1975, 2008) and Olsen's (1986) theses presenting Regent Street as a royal 'triumphal' pathway, a 'stately' thoroughfare connecting two Royal Palaces, built by Nash with the Regent's 'enthusiastic support' must be set aside.

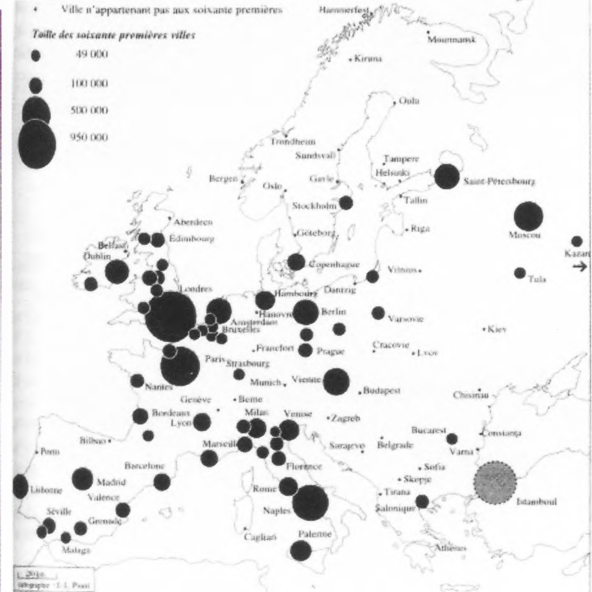
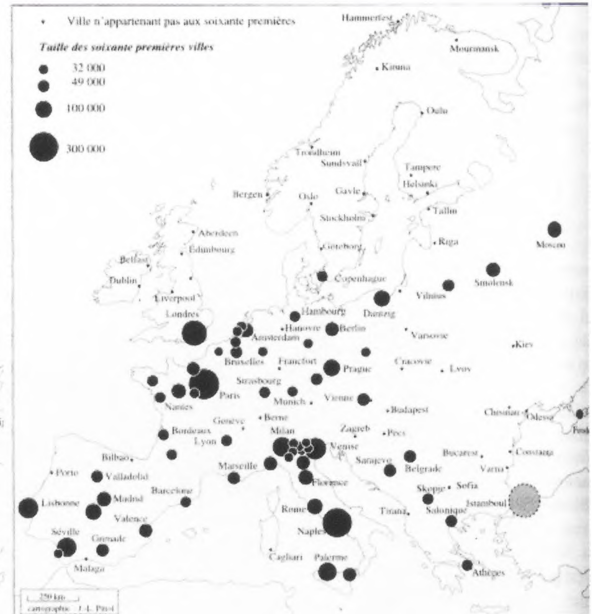
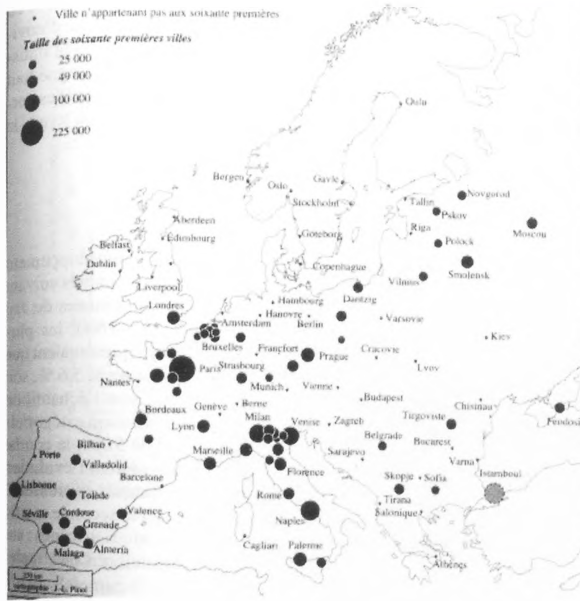


Fig.67 Evolution of population in the sixty greatest cities in Europe from in 1500, 1600, 1700, 1800 (PinoI, 2003 p601,p604, p613,p619). The greater the circle, the greater the population. Notice the rise in London's population.



Fig. 68 London, Braun and Hogenberg, 1572 (Whitfield, 2006, p34)



Fig.69 London, Newcourt and Faithorne, 1658 (Whitfield, 2006, p3)



Fig.70 John Roque's great map of London, (Whitfield, 2006, 1745, p62-63)



Fig.71 Tiswell's map, 1585, indicating land ownership (photographic reproduction in CE)



Fig.72 Tiswell's map with an underprint showing the modern streets (photographic reproduction in CE)

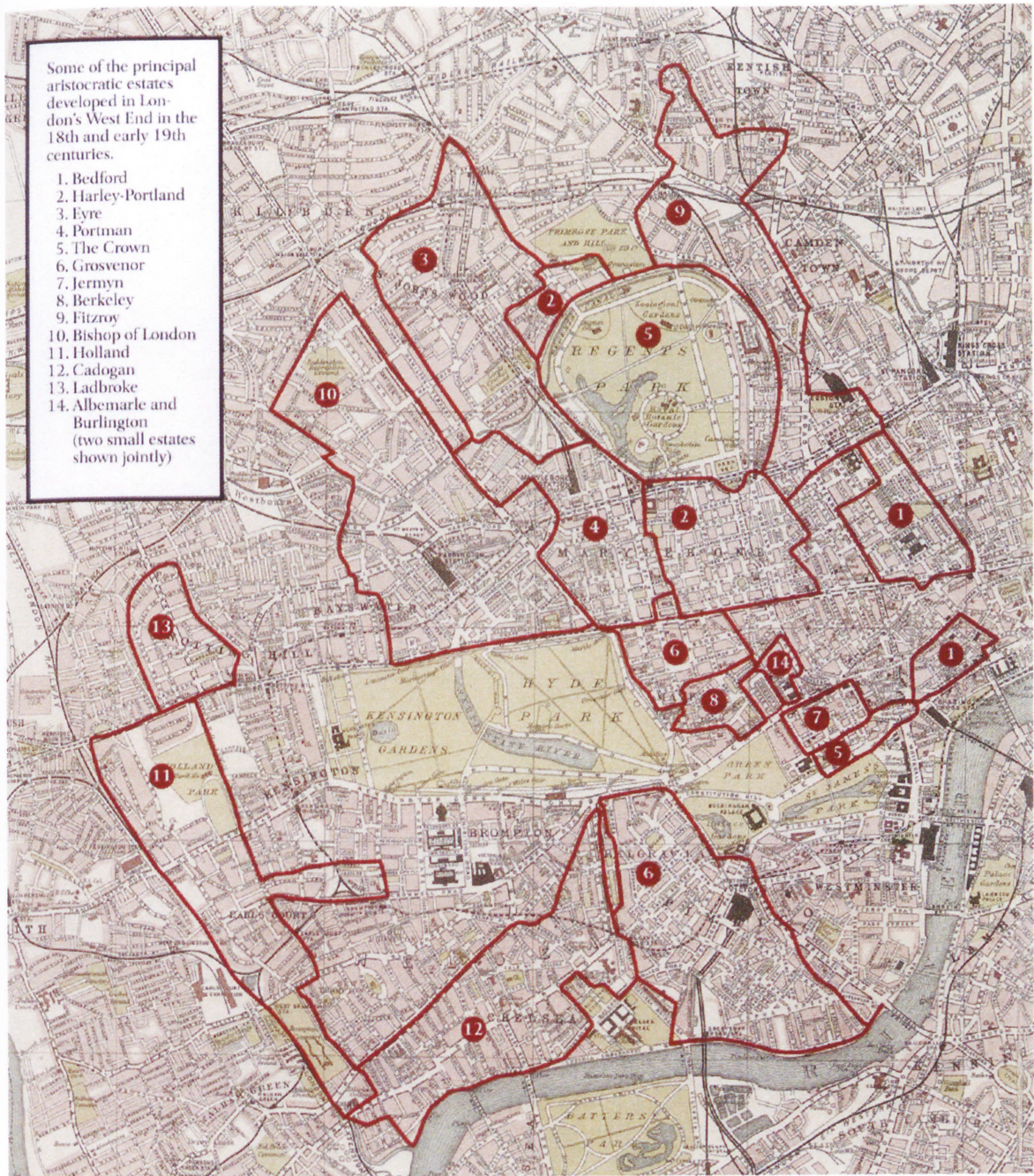


Fig.73 Some of the Aristocratic and Crown estates in London's noble West End in the eighteenth and early nineteenth century (Whitfield, 2006, p58)

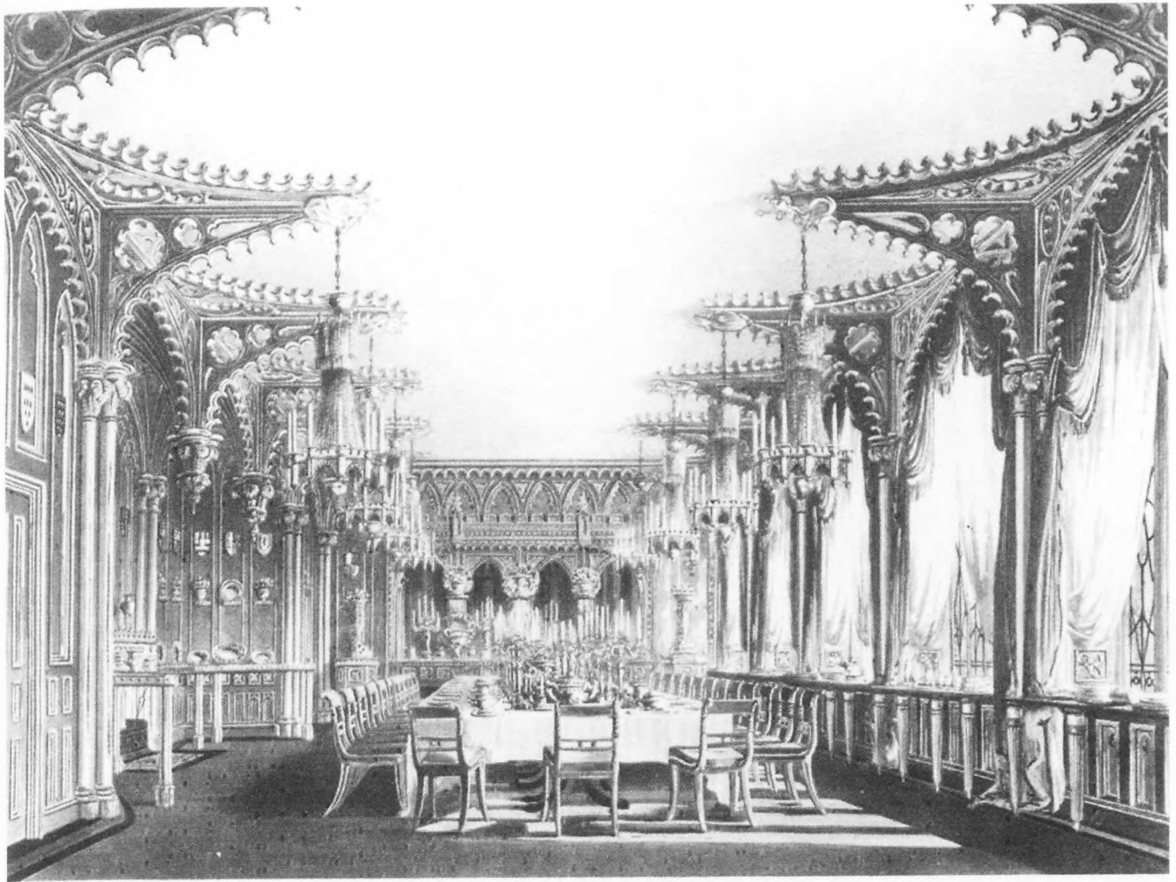


Fig. 74 Carlton House, the Gothic Dining Room, designed by Nash in 1813 (Summerson, 1980, plate 26b)

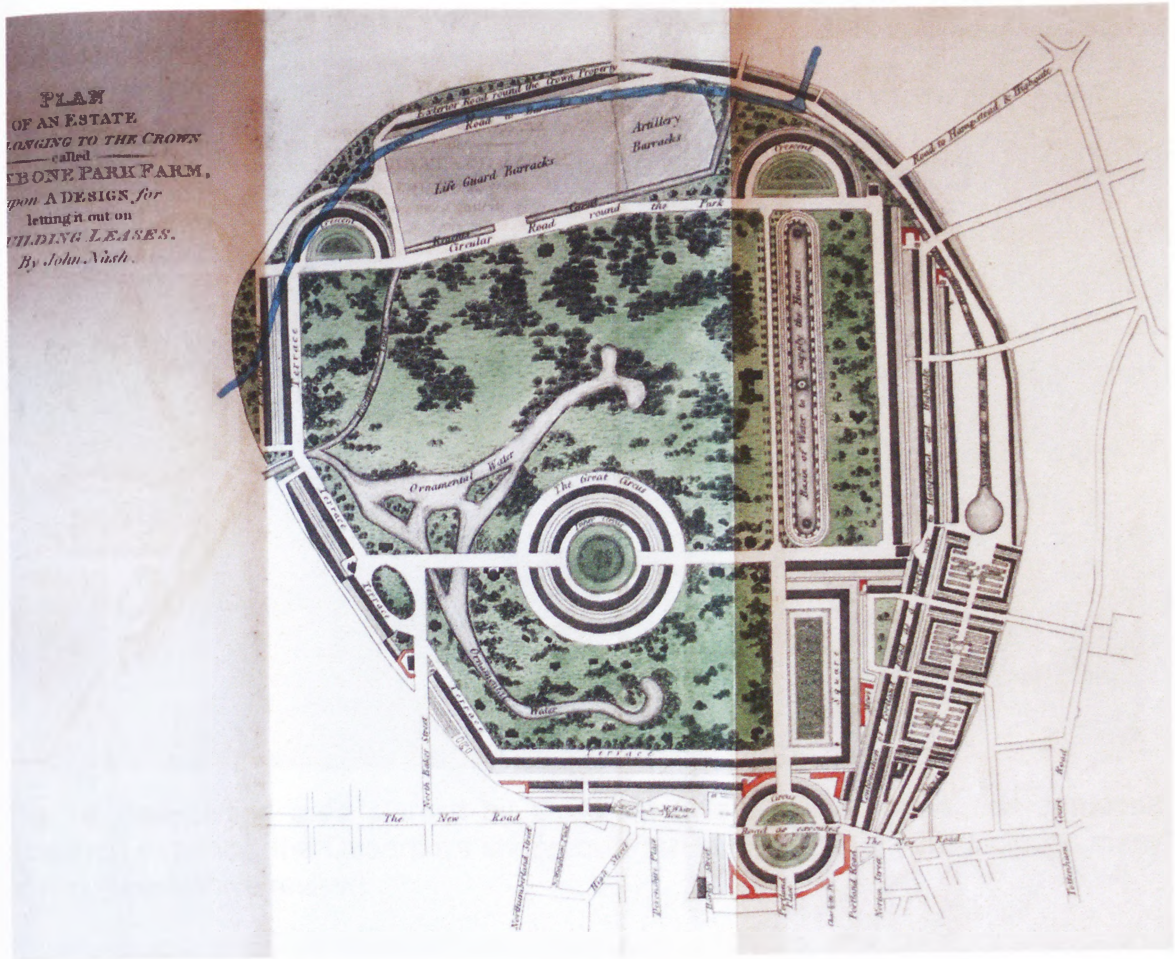


Fig.77 "Plan of an Estate belonging to the Crown called Mary Bone Park Farm, upon a design for letting it out on building leases" by Nash Park (White, 1814)



Fig 78 Pre-existing area pierced by Quadrant (this drawing shows that someone sketched in pencil, the Quadrant's shape over the survey), 1804 (CE, includes many plans) (see archive review)

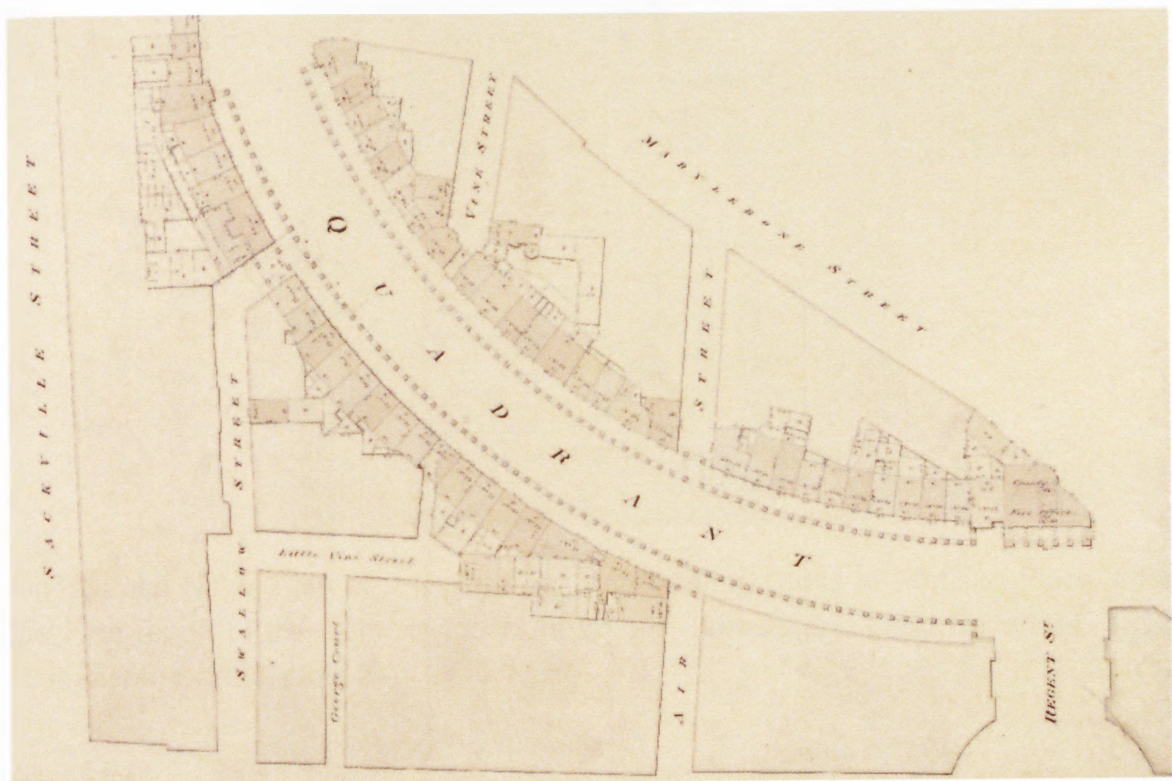


Fig.79 Mayhew's plan of 1834 -1835 (CE, includes many plans)

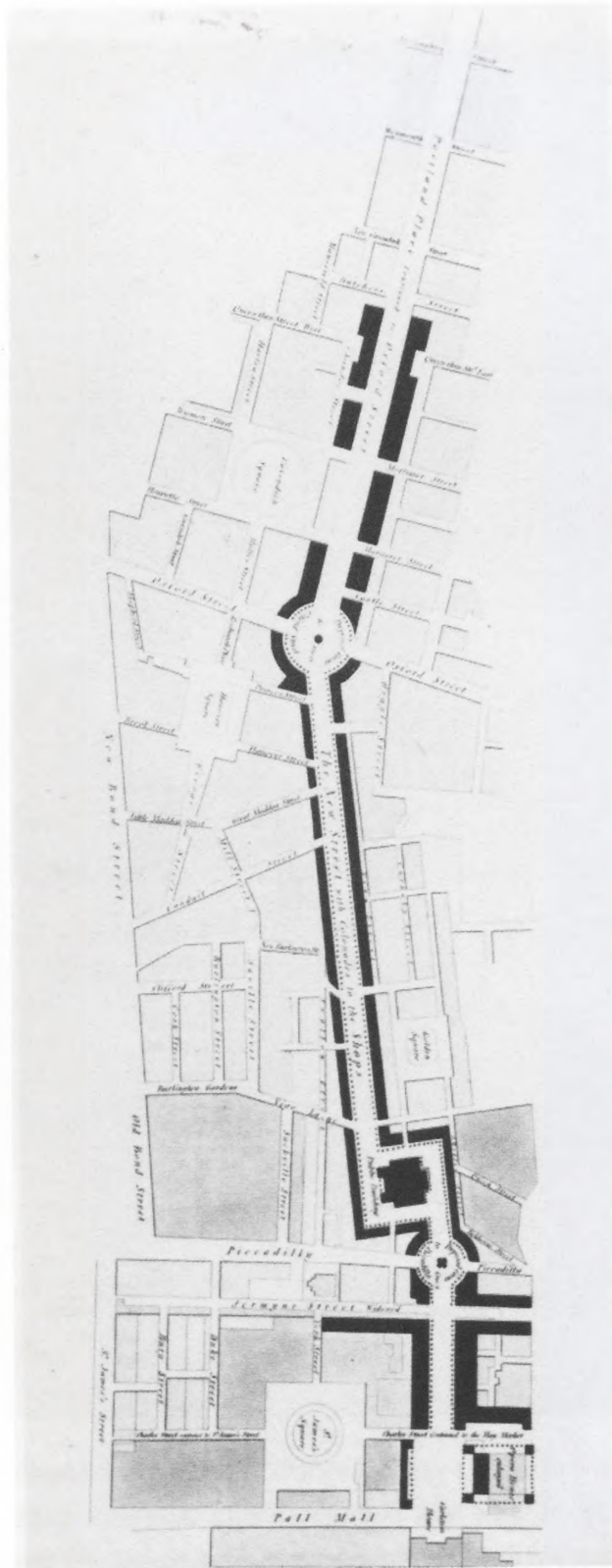


Fig.80 John Nash, Plan of a New Street from Charing Cross to Portland Place' from the First report of the Commissioners of Woods, Forests and Land Revenues, 1812 (Summerson, 1980, plate 24)



Fig.81 Plan of the Proposed New Street from Charing Cross to Portland Place, also for widening the entrance of Pall Mall and continuing Pall Mall to St. Martins Church, For continuing Charles Street St. James's square into the Haymarket and for widening Jernyn Street, Reduced from the large Plan in the House of Commons, June 1813 (White, 1814)

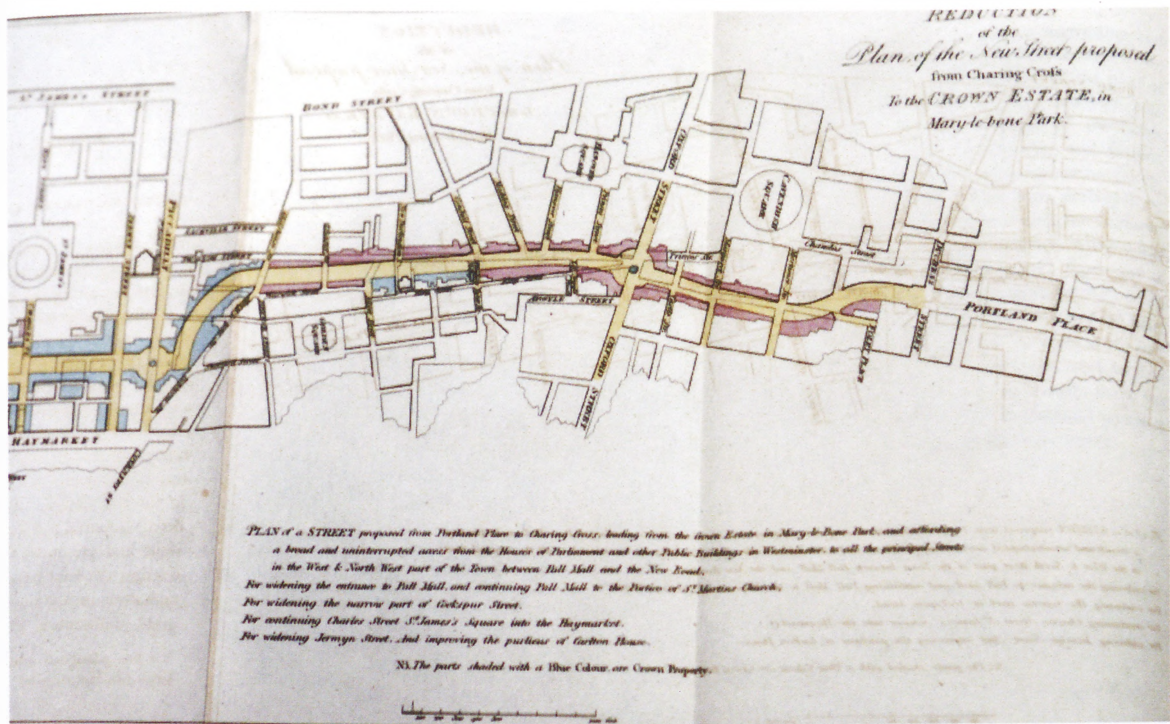


Fig.82 "Reduction of the New Street proposed from Charing Cross to the Crown Estate in Mary-le-bone Park, by John Nash" (White, 1815)

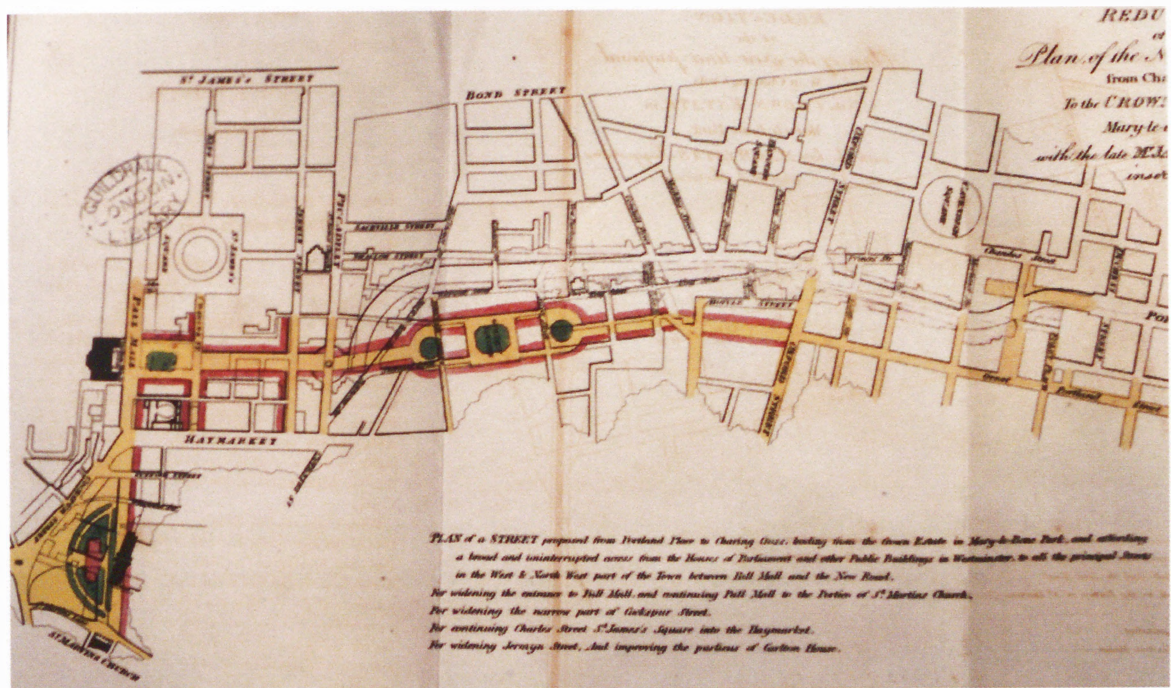


Fig. 83 "Plan of the New Street proposed from Charing Cross to the Crown Estate in Mary-le-bone Park with the late M. Ja. Wyatts suggestion inserted thereon" (White, 1815)

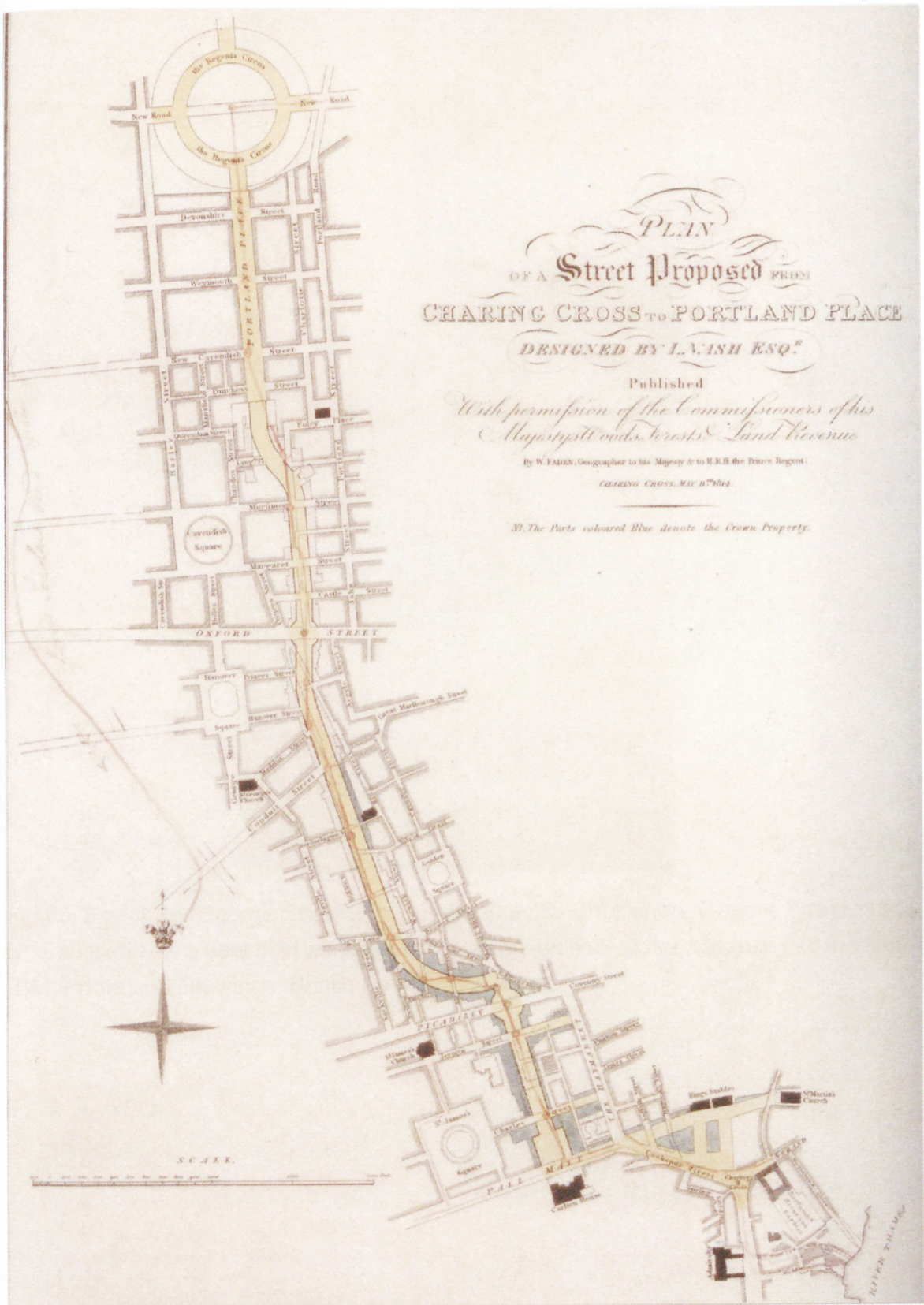


Fig.84 "Plan of a Street proposed from Charing Cross to Portland Place, Nash, May, 1814..The parts coloured blue denote the Crown Property" (Whitfield, 2006, p114)



Fig.85 Sketch by George Sharf with a note "Outside a fur shop, Regent Street, 1844, where I also saw a bear skin with a skull to it lay on the floor at the entrance into the shop" (BM, Prints and Drawings, British Roy Scharf, Vol.1)



Fig.86 Proposals in Plan de la Commission des Artistes, as reconstituted in 1889. (Pinon and Boudec, 2004,p83)

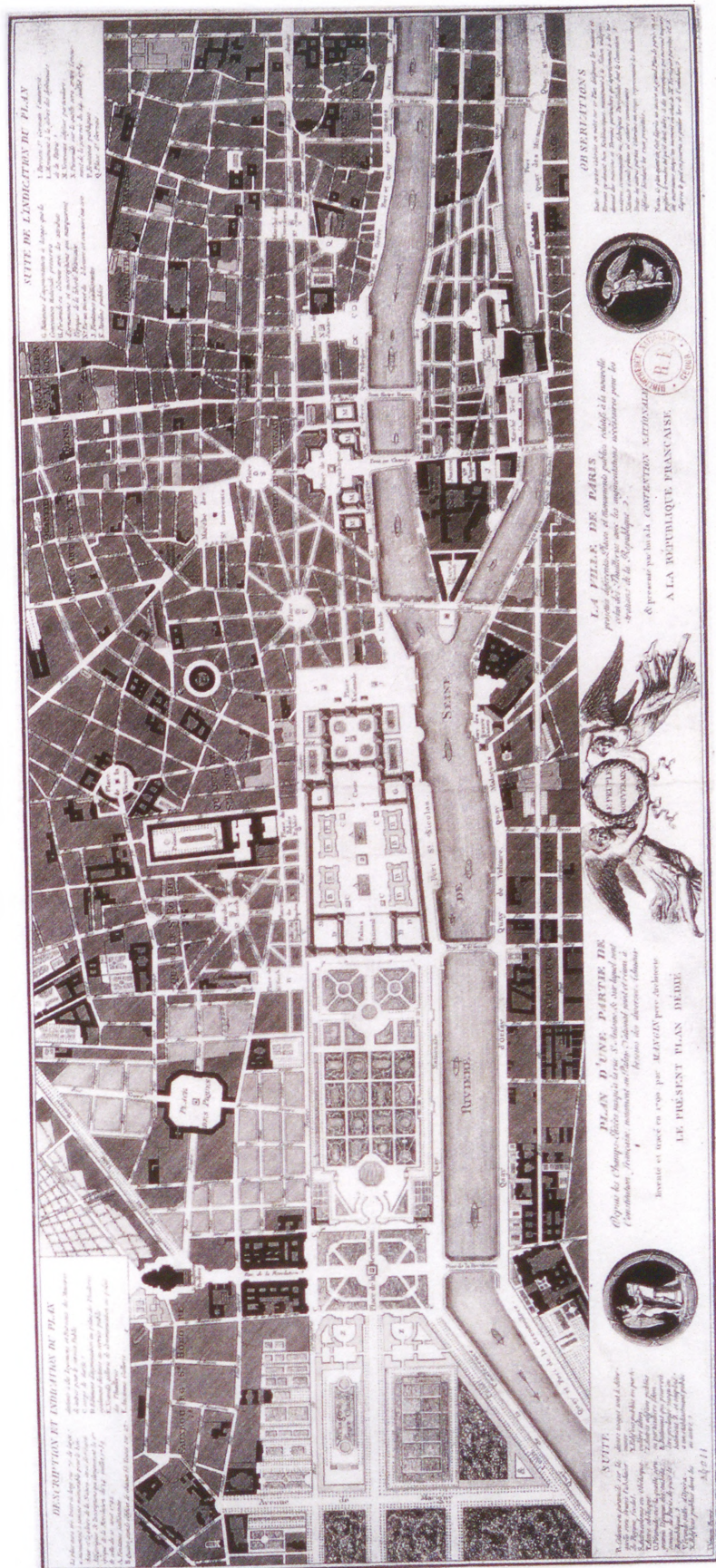


Fig.87 Rue de Rivoli in Plan des Projets d'Embellissements de Margin et Corbet, 1792 (Pinon and Boudec, 2004, p78)

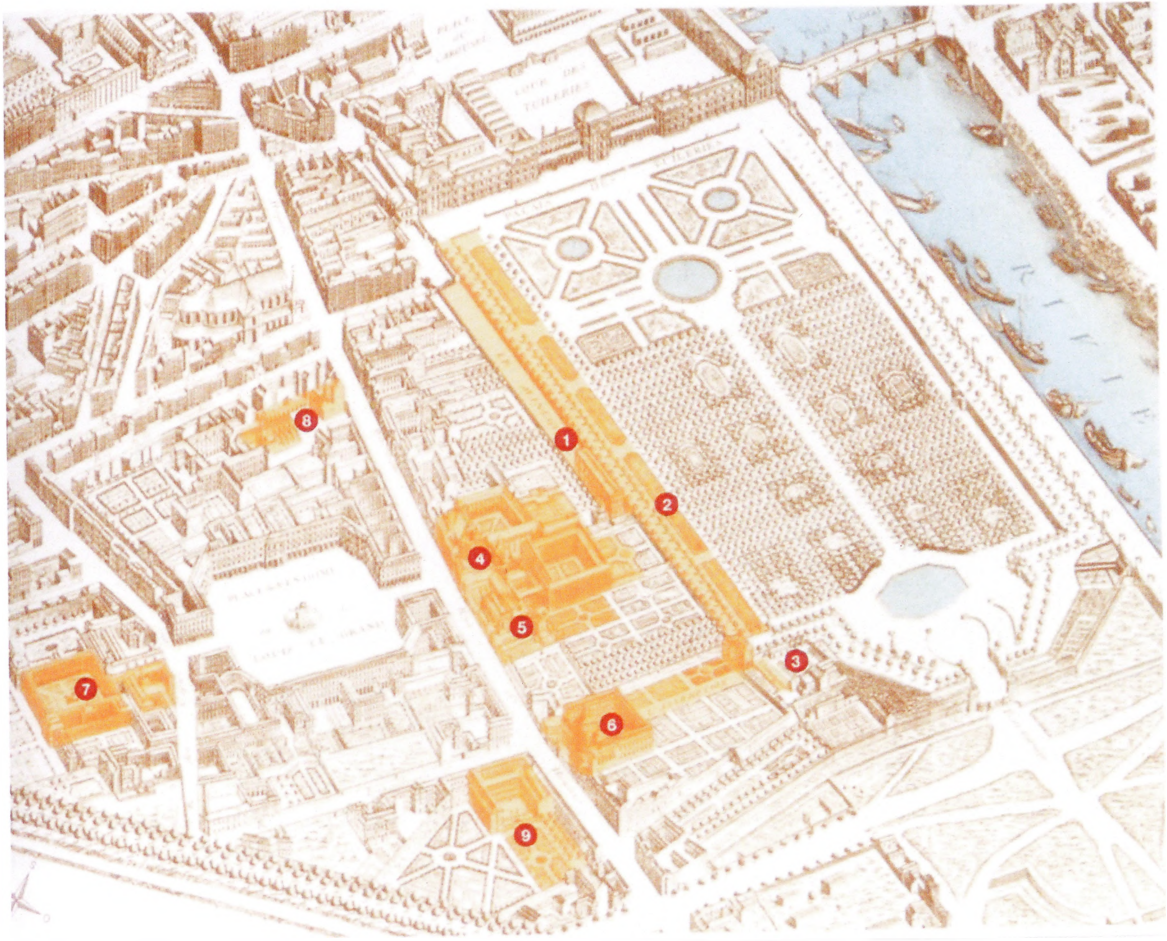


Fig.88 Confiscated land used to build Rue de Rivoli (Chadych Leborgne, 2007, p127)



Fig.89 Scheme indicating periods of construction (Chadych Leborgne, 2007, p127)

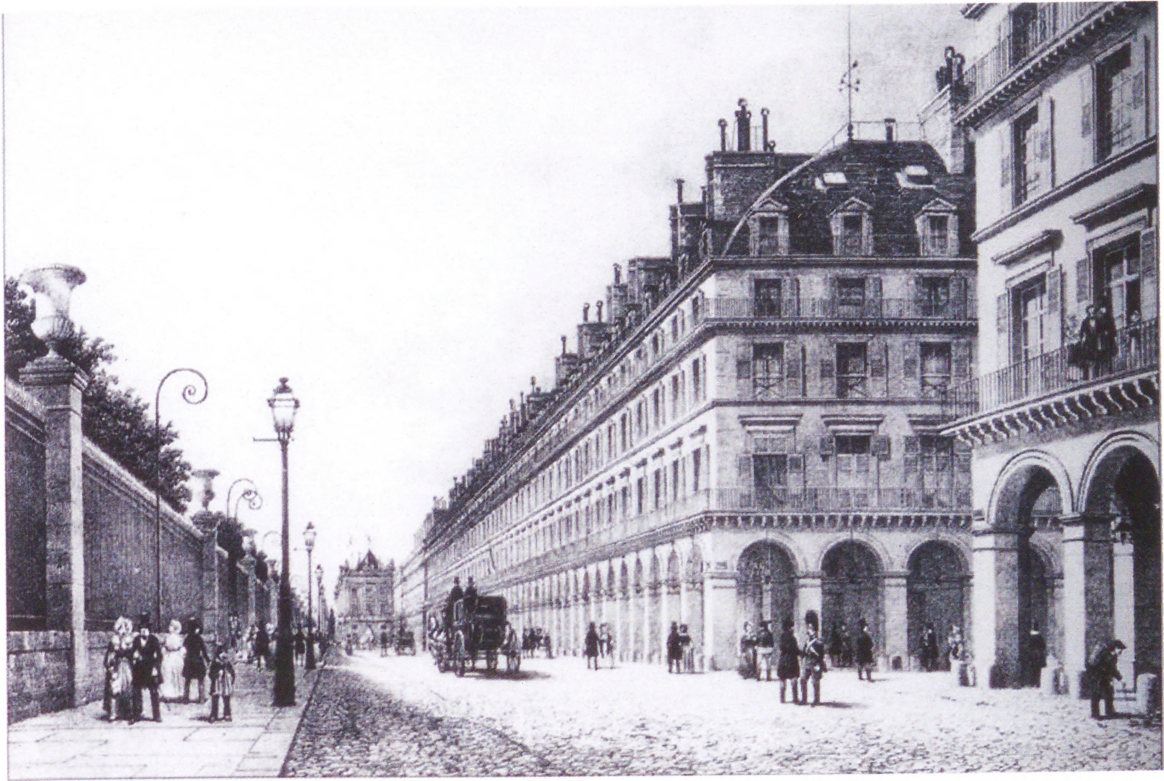


Fig.90 Rue de Rivoli, lithography Philippe Benoist, 1840 (Chadych Leborgne, 2007, p126)



Fig.91 Regent Street, County Fire Office, print by H.Jones (G_MS, Scrapbook relating primarily to the construction of Regent Street, M0017682CL)



Fig.92 "Part of the West side of Regent Street" by Tho.H.Shepherd (Elmes, 1827)



Fig.93 "Part of the East side of Regent Street" by Tho.H.Shepherd (Elmes, 1827)

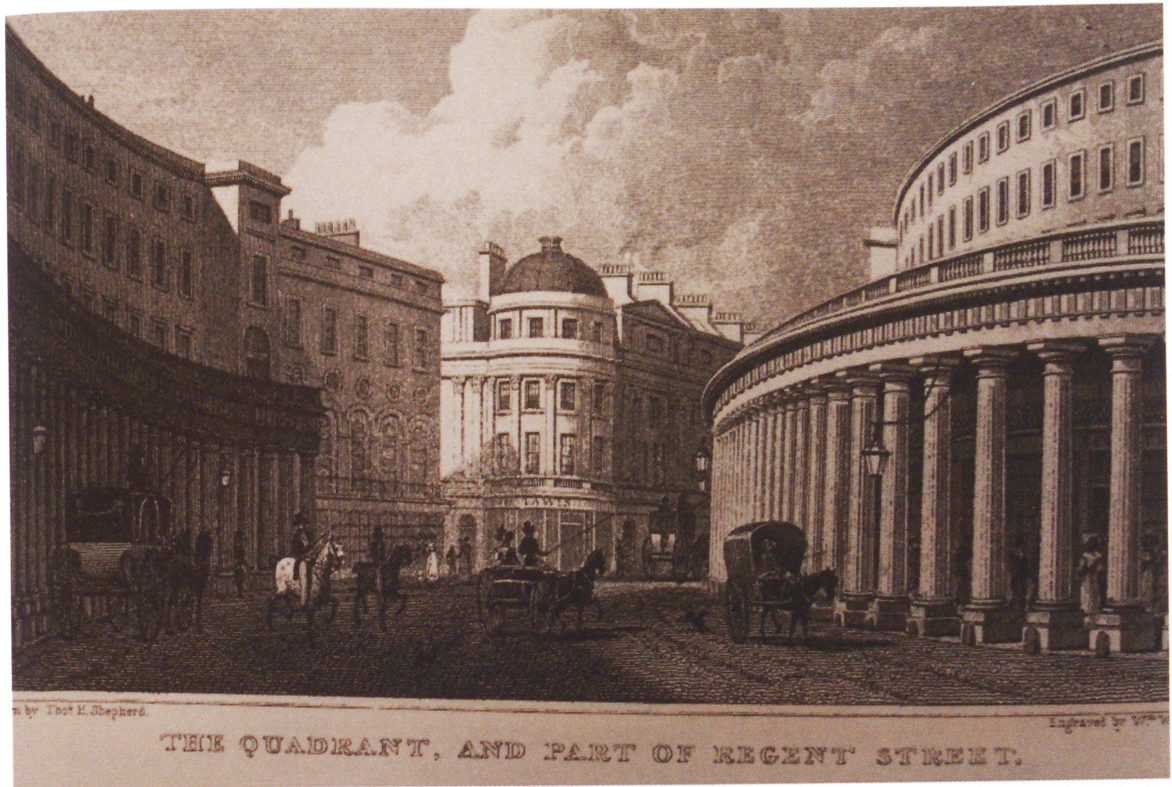


Fig.94 "The Quadrant and Part of Regent Street" by Tho.H.Shepherd (Elmes, 1827)



Fig.95 "Regent's Quadrant" by Tho.H.Shepherd (Elmes, 1827)



Fig.96 "East side of Park Crescent" by Tho.H.Shepherd (Elmes, 1827)



Fig.97 "Part of West side of Regent Street" by Tho.H.Shepherd (Elmes, 1827)



Fig.98 Sketch by George Scharf, Regent Street 1826 (BM, Prints and Drawings, British Roy Scharf)



Fig.99 Sketch by George Scharf, Regent Street 1826 (BM, Prints and Drawings, British Roy Scharf)



Fig.100 Sketch by George Scharf, Regent Street (BM, Prints and Drawings, British Roy Scharf)



Fig.101 Sketch by George Scharf, Regent Street (BM, Prints and Drawings, British Roy Scharf)



Fig.102 Sketch by George Scharf, rural scenery of Regent's Park (BM, Prints and Drawings, British Roy Scharf)

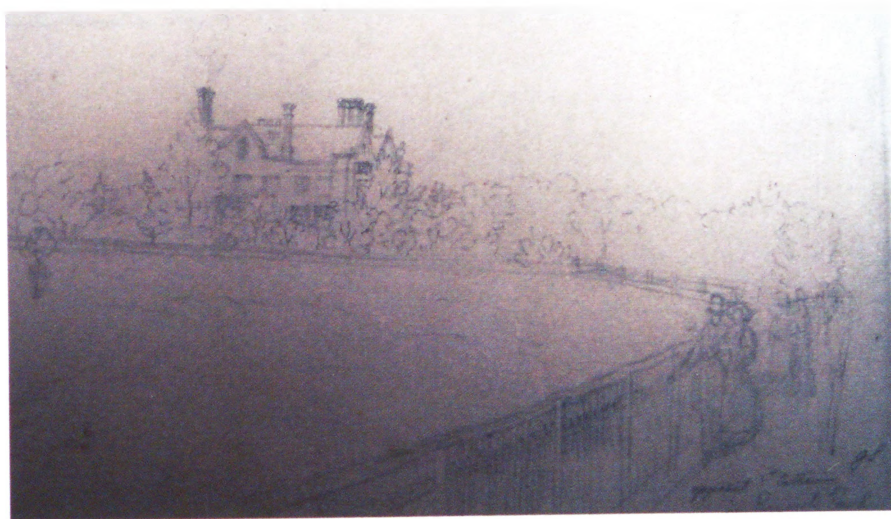


Fig.102-a Sketch by George Scharf, rural scenery of Regent's Park (BM, Prints and Drawings, British Roy Scharf)

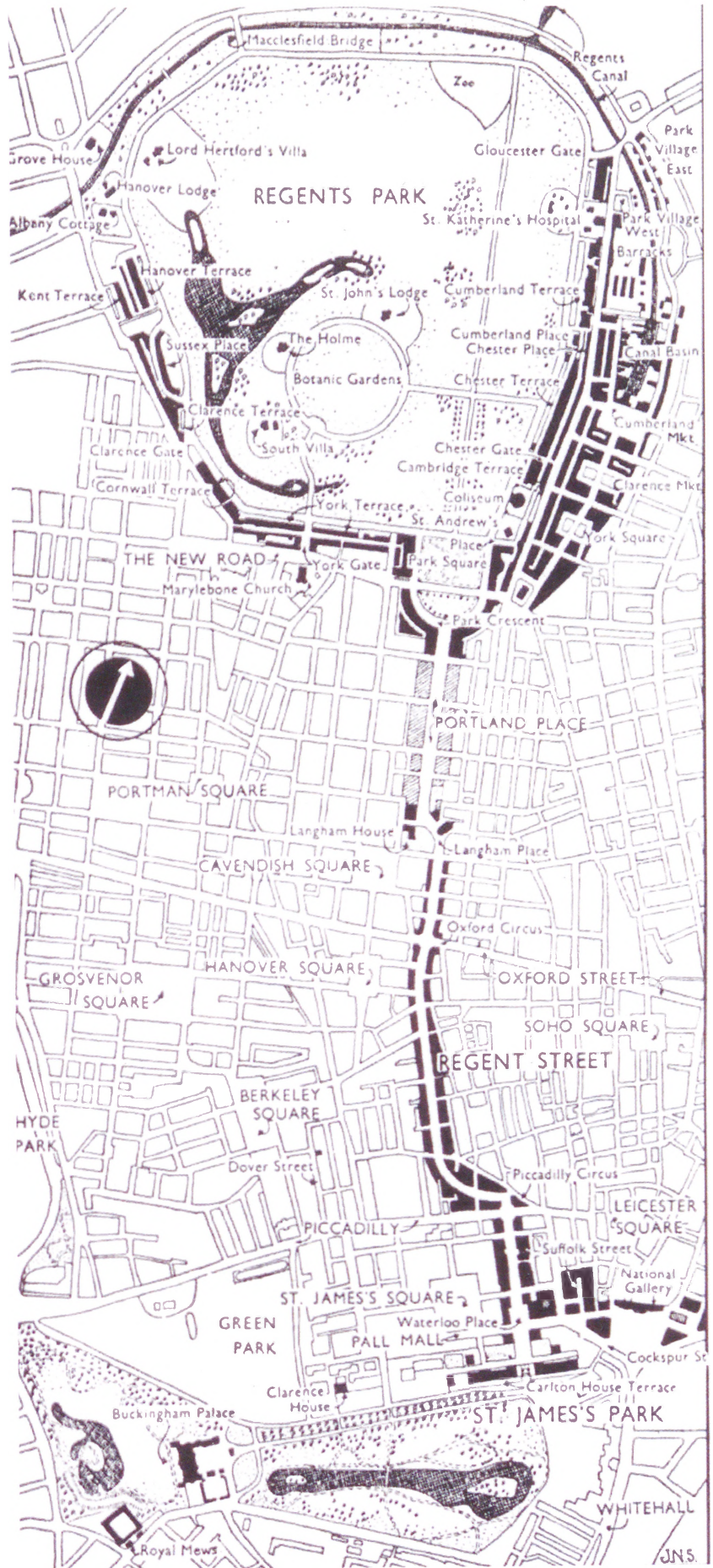


Fig.103 John Nash's grand axis (Summerson, 1988, p165)

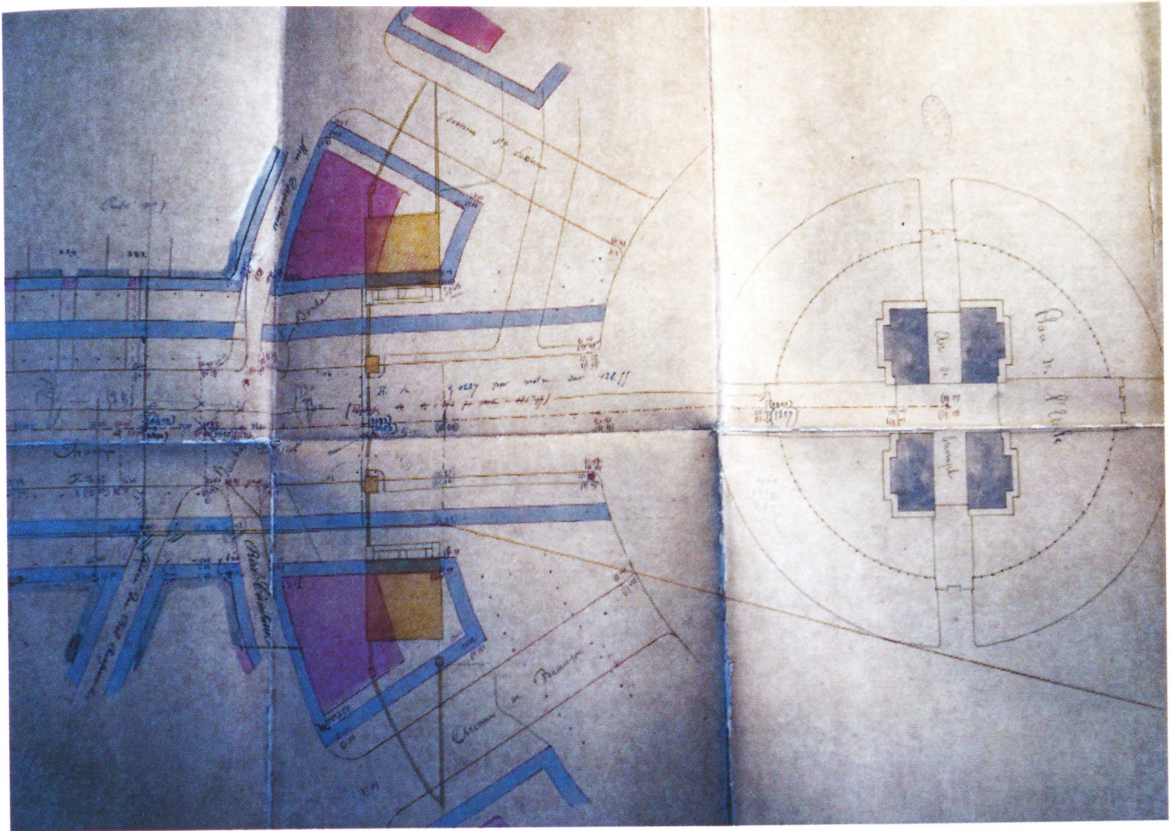


Fig. 104 Place de Étoile, over the gates of Enceintes des Fermiers Généraux (AP, Perotin 10653 181)



Fig.105 Paris, axes built before Haussmann, from 1815 onwards (Cars and Pinon, 1991, p346)



Fig.106 Paris, axes built with Haussmann (Cars and Pinon, 1991, p350)



Fig.107 Replanning of Rome in the 1530s, but chiefly in 1585-90, a contemporary fresco in the Vatican library (Girouard, 1985,p.122)

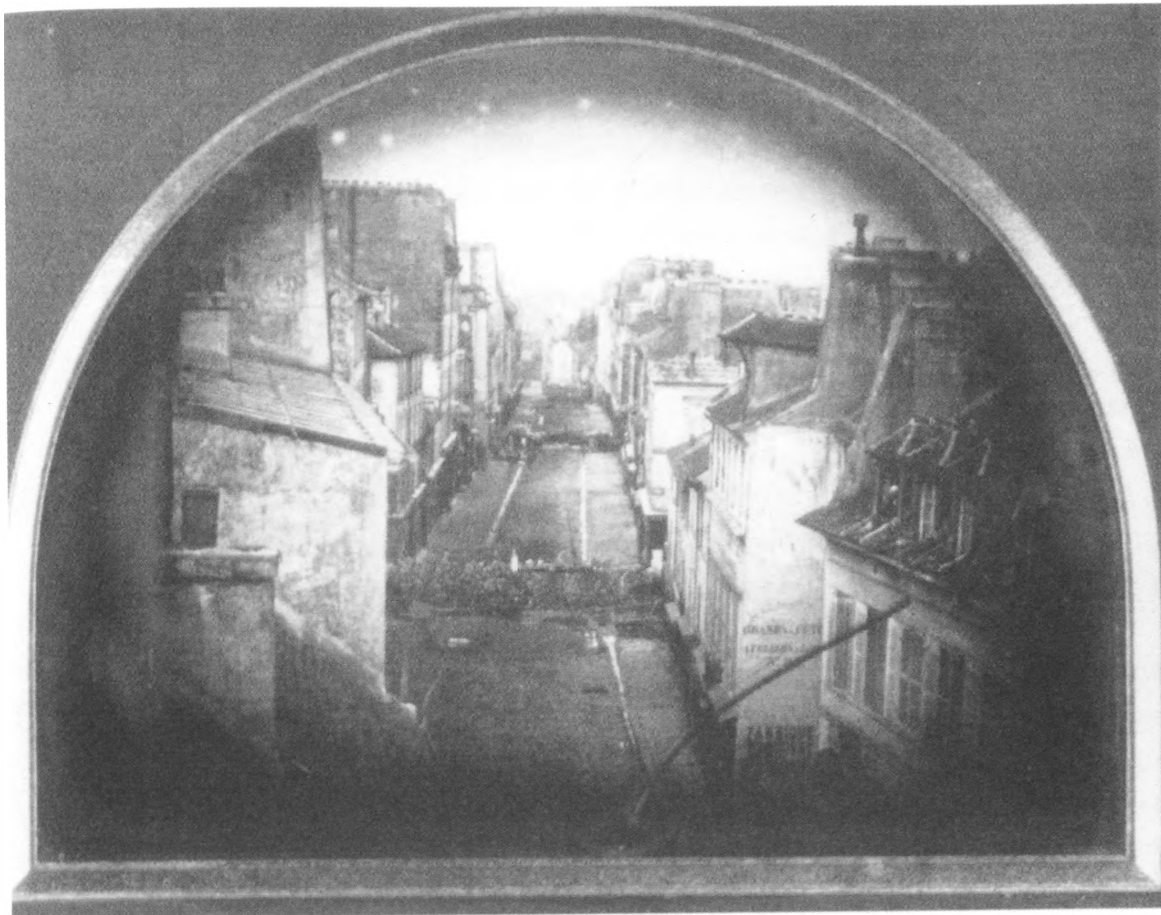


Fig 108 Barricades on the Faubourg du Temple, 25th June 1848 (Harvey, 2006,p6)



Fig.109 As was brought to my attention by the work of French ceramist (and RCA colleague) Emmanuel Boos, images of French revolutions always have the streets blocked and the pavement lifted for barricades (images provided by Emmanuel Boos from his work inspired on the French *pavée*).



Fig.110 Sketch by George Scharf, Soho Square /Oxford Street 1838 (BM, Prints and Drawings, British Roy Scharf)



Fig.111 Sketch by George Scharf, Charing Cross, 1825 (BM, Prints and Drawings, British Roy Scharf)



Fig.112 Sketch by George Scharf, the Strand, 1840 (BM, Prints and Drawings, British Roy Scharf)

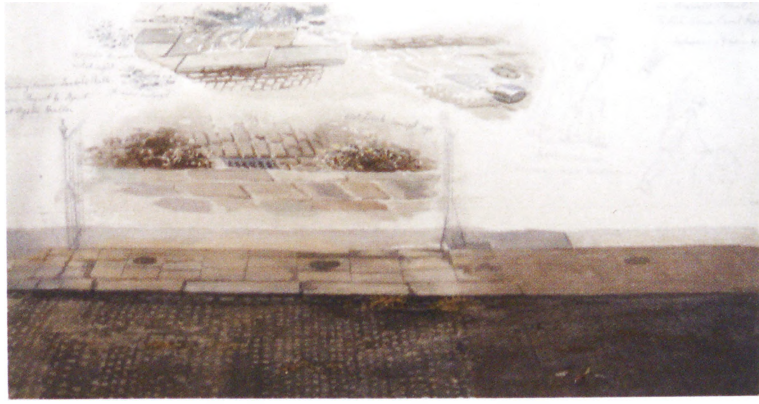


Fig. 113 Sketch by George Scharf (BM, Prints and Drawings, British Roy Scharf)

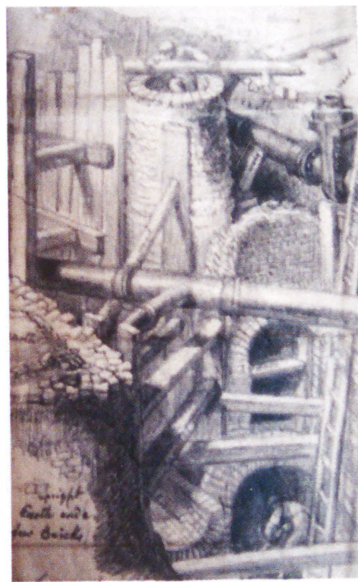


Fig. 114 Sketch by George Scharf (BM, Prints and Drawings, British Roy Scharf)



Fig. 115 Sketch by George Scharf (BM, Prints and Drawings, British Roy Scharf)



Fig. 116 "Map of the various sewers under the Commission for the city and liberty of Westminster and part of the county of Middlesex" (White, 1815)

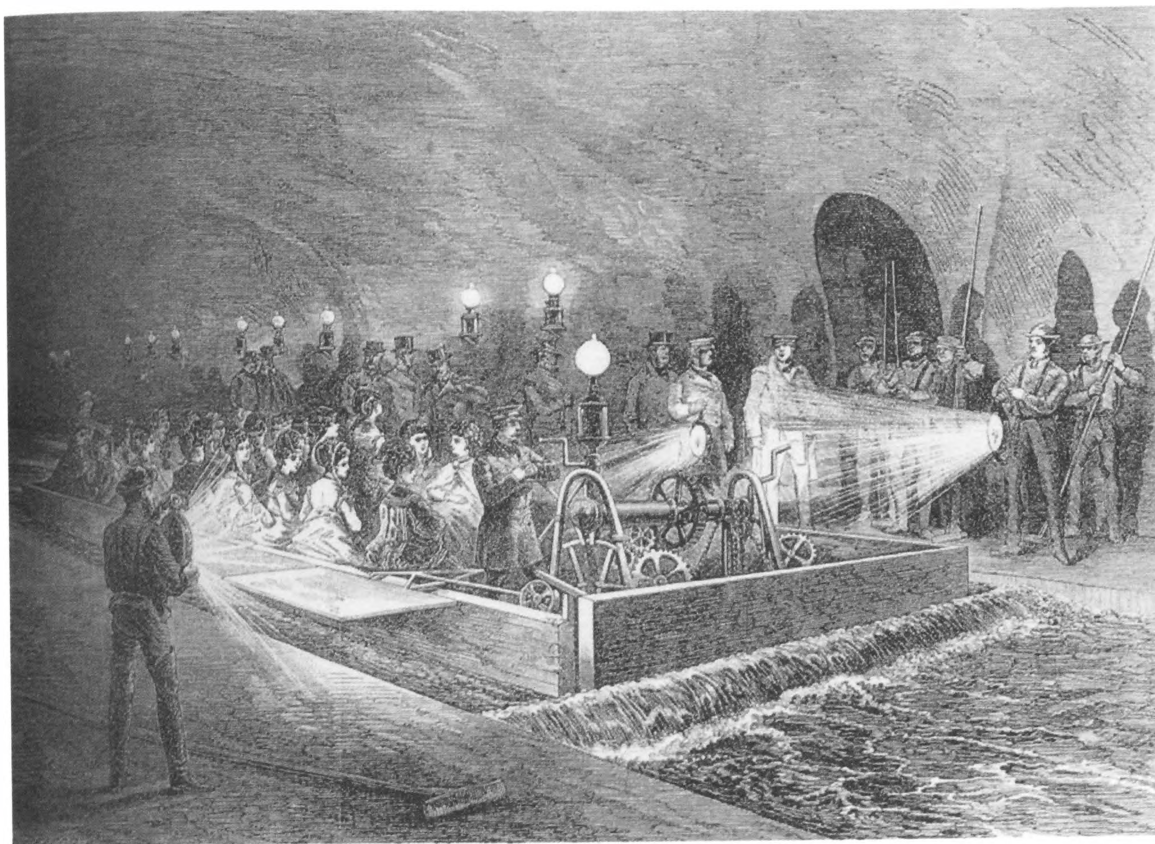


Fig. 117 A bateau-vanne in the sewers, print by Pelcoq (Cars and Pinon, 1991, p161)

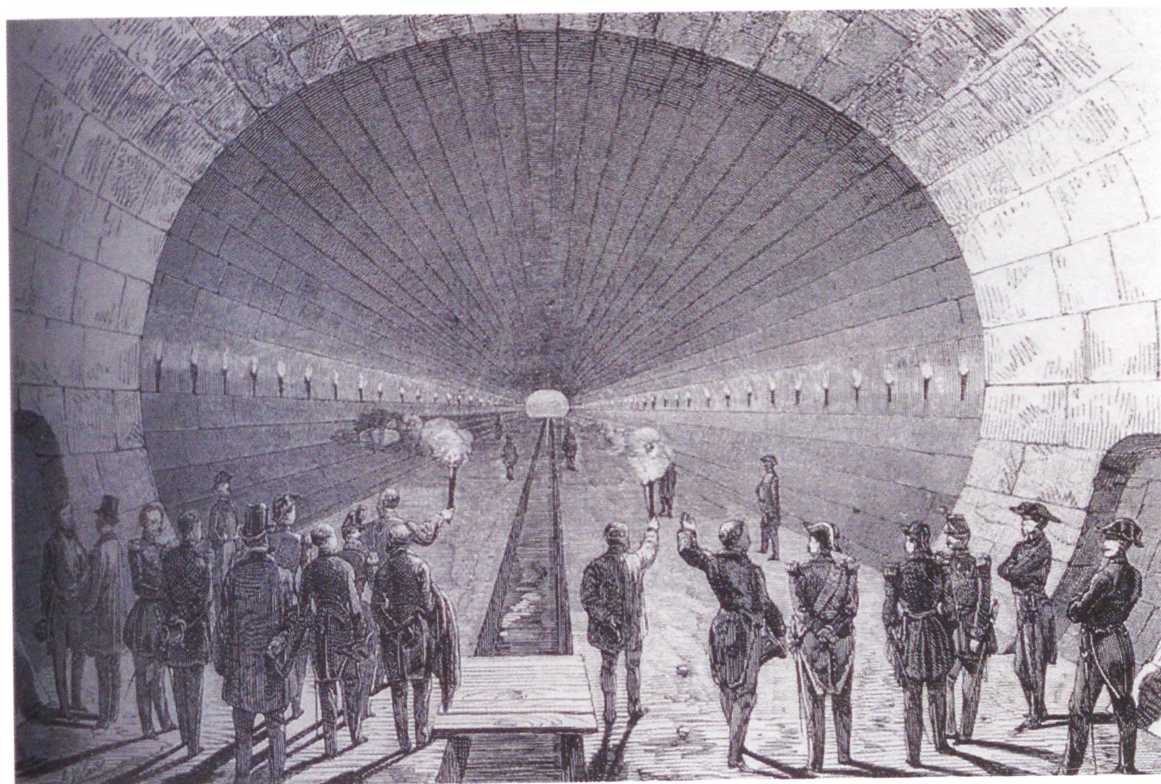


Fig. 118 A visit to the sewer system by the Ministre l'Intérieur, 1858 (Cars and Pinon, 1991, p161)

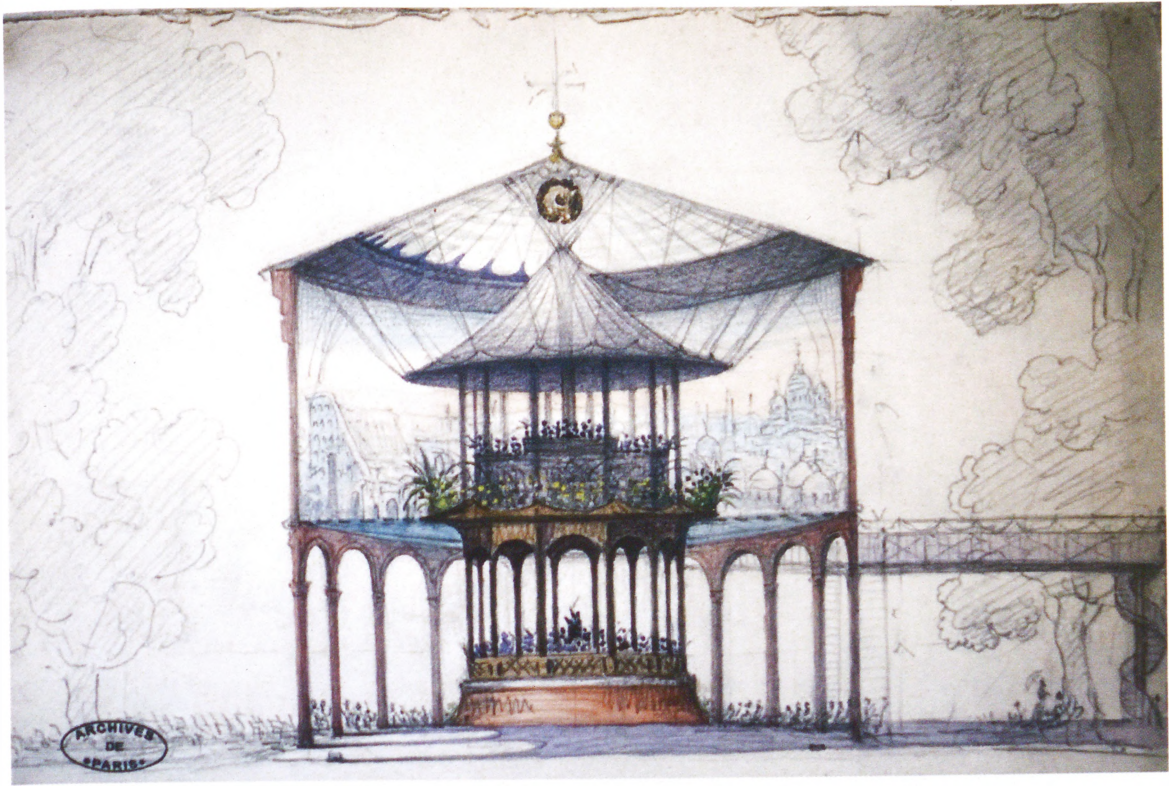


Fig.119 Project for a Panorama, Champs-Élysées,1880 (AP, PEROTIN 10653 194, folder includes many requests to build small establishments like the panorama and small cafes.)

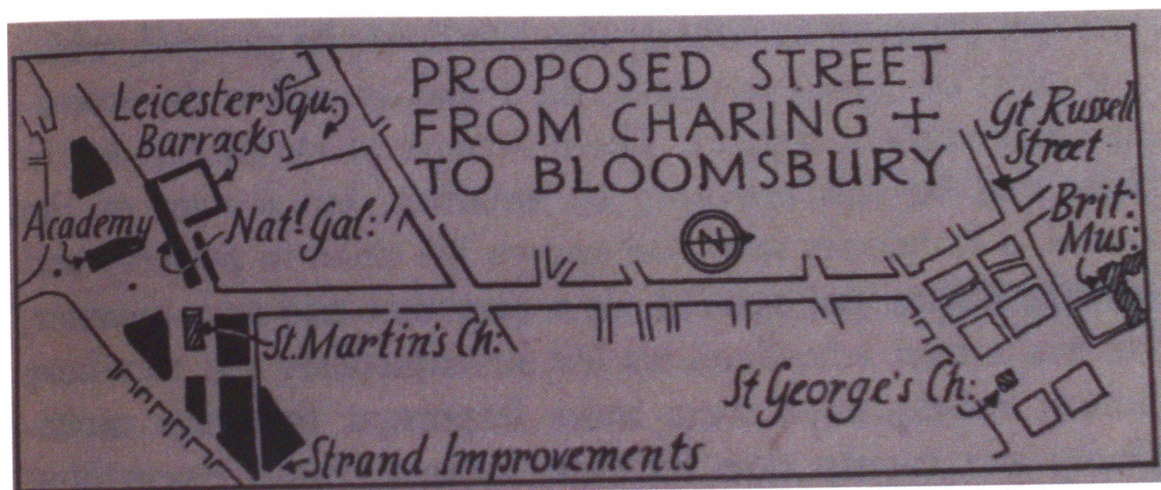
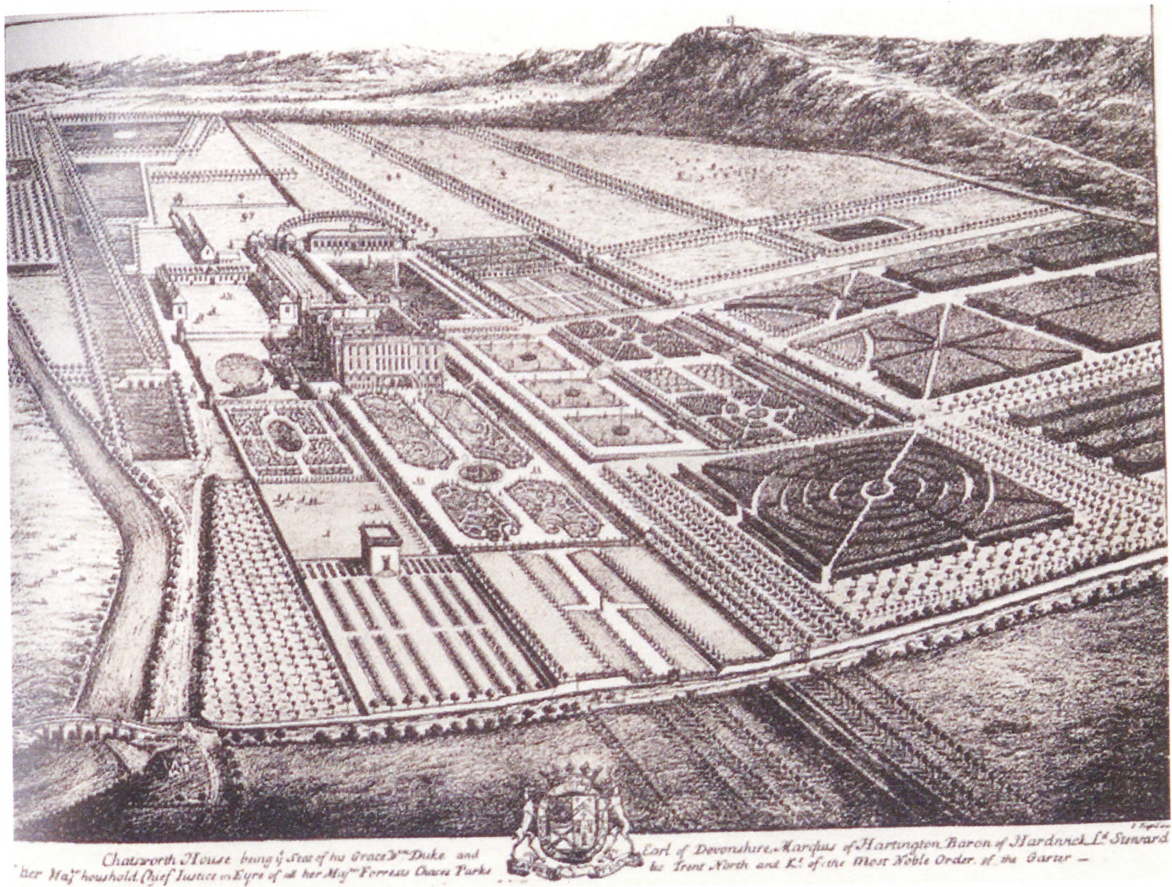


Fig.120 Proposed Street by Nash from Charing Cross to Bloomsbury (Summerson, 1949)



*Chatsworth House being of his Grace's Duke and
her Majesty's household, Chief Justice in Eyre of all her Majesty's Forests Chaces Parks
Earl of Devonshire, Marquis of Hartington, Baron of Hardwick, 1st Steward
of the Trent North and East of the Most Noble Order of the Garter —*

Fig.121 Chatsworth before it was later "naturalized" by Capability Brown (Hobhouse, p163)



Fig.122 "The present view to the Westward", Repton (before) (Red Book for Woburn Abbey in Hobhouse, 2004, p227)



Fig.123 "The same view as proposed to be altered, with addition of the portico", Repton (after) (Red Book for Woburn Abbey in Hobhouse, 2004, p227)



Fig. 124 Claude Lorrain's "Seaport with the Embarkation of the Queen of Sheba" (1648) visited at National Gallery



Fig. 125 Turner's "Dido building Cathage" (1815) visited at National Gallery



Fig.126 Linear Perspective, Claude Lorrain's "Seaport with the Embarkation of the Queen of Sheba" (1648)

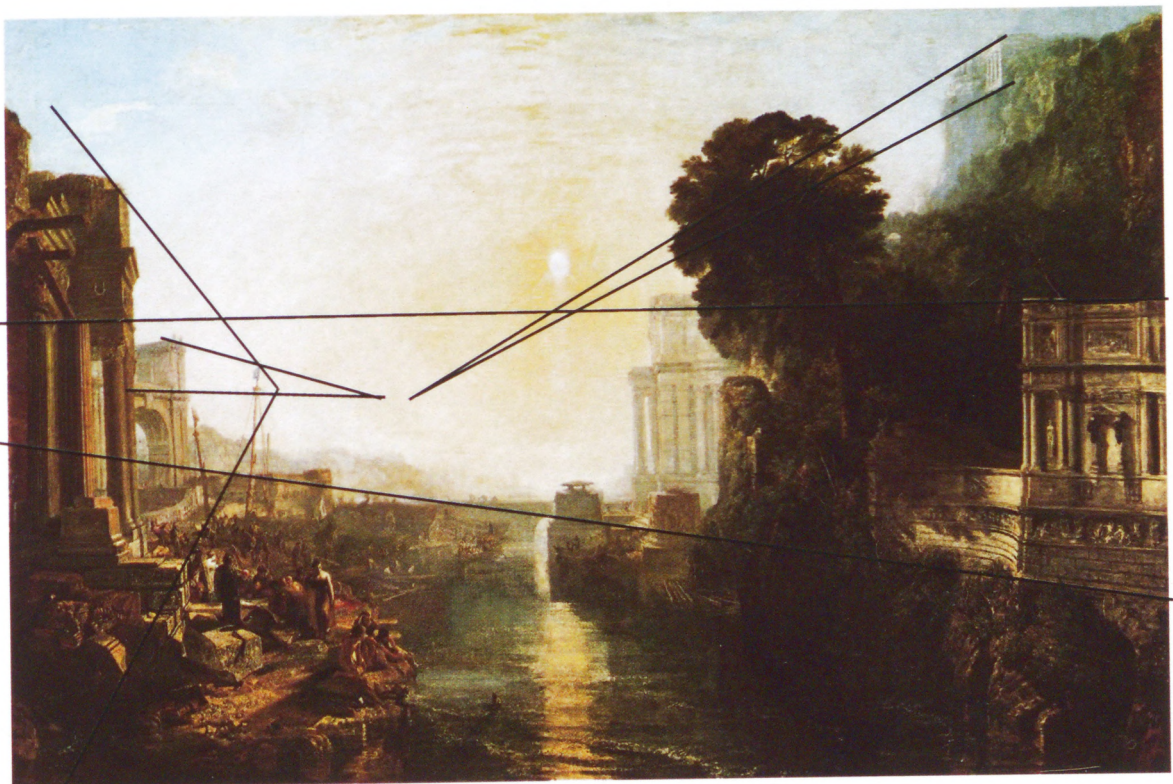


Fig.127 Multiple directions, Turner's "Dido building Cathage" (1815)



Fig.128 Blaise Hamlet (photo by Francisco Vaz Monteiro)



Fig.128-a Blaise Hamlet (photo by Francisco Vaz Monteiro)

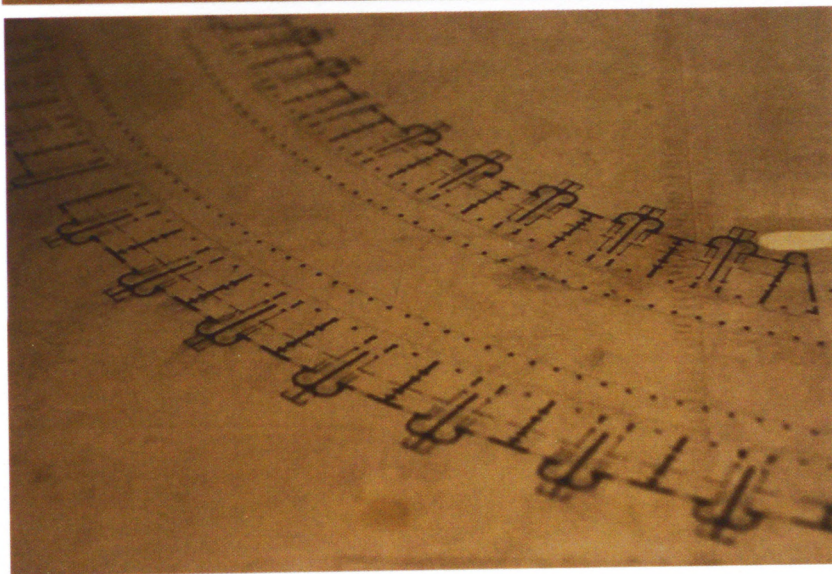
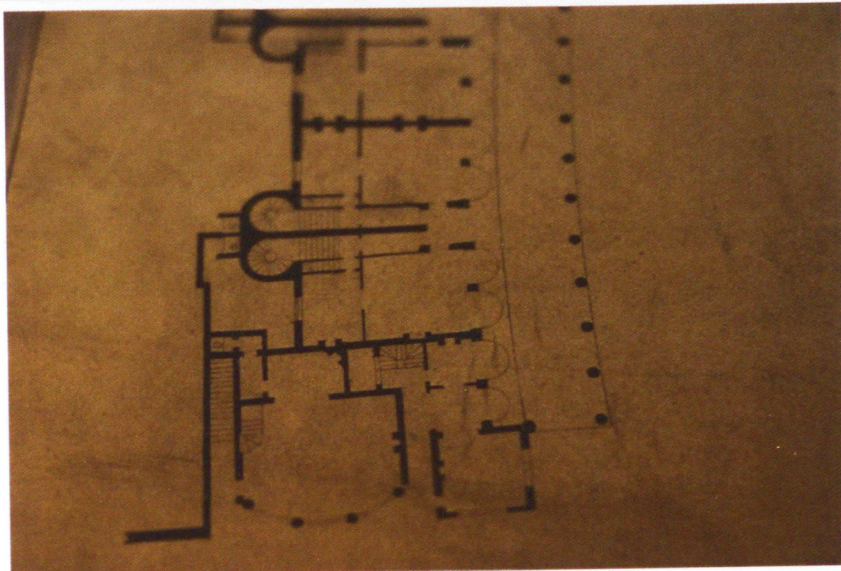
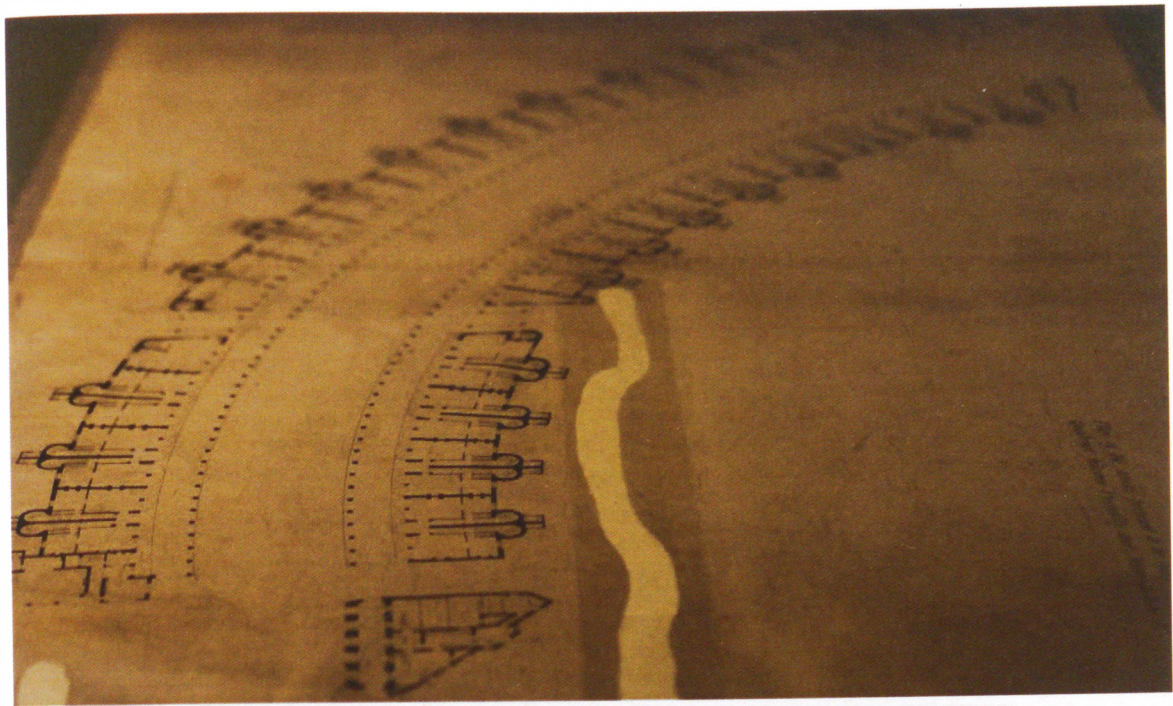


Fig.129 "Plan of the houses proposed to be built to form the Quadrant between Piccadilly and Mary-le-bone St.", by John Nash (NA, MPEE/118)



Fig. 130 Nash's façade without the colonnade, in John Murray's photographic survey early twentieth century (CE)

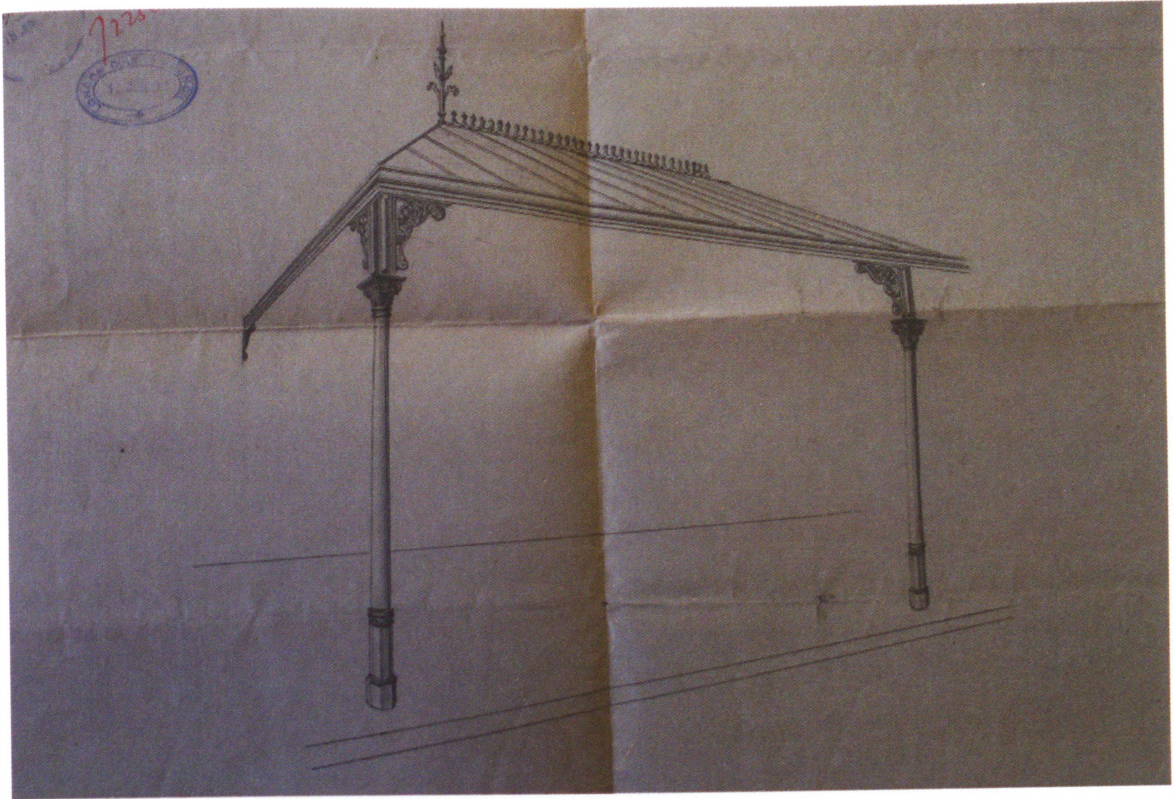


Fig.131 Project to build a colonnade in iron and glass, 1892 (LMA, LCC95)



Fig.132 Circus Bath (photo)

4. Urban Expansion: Building an Urban Icon, Avenida da Liberdade

4.1. Chapter Introduction

As previously presented regarding the Avenue des Champs-Élysées and Regent Street, Avenida da Liberdade, in Lisbon, was conceived as a physical space embracing architecture and landscape in the same geometric composition. However, as mentioned in published literature (Rodrigues, 1979, p.77), the Avenida da Liberdade was part of an expansion plan; thus, the Avenida differs from early avenues and from nineteenth-century *percées* presented in previous chapters. By presenting Avenida da Liberdade, this research provides a case-study where the avenue was not used to redesign pre-existing urban core, but to expand pre-existing urban core. As will be introduced by the research presented in this chapter, unlike nineteenth-century London and Paris, Lisbon's urban expansion did not derive from the need to resolve a pressing issue of increasing population. In Lisbon, avenues were laid out to stimulate economic growth.

When the idea of building the Avenida was first pronounced, in the mid nineteenth century, the once grand Portuguese Empire was crumbling and the country was coming out of a turbulent civil war. The Avenida was the hopeful announcement of a new era based on liberal ideals. Portugal was then ruled by a constitutional monarchy set to launch the country's *Regeneração* (Regeneration). *Regeneração* hoped to set in motion the country's still-primitive industrialization. An ambitious programme of public investment planned and built railways, docks, roads and avenues.

As presented in previous sections, seventeenth-century avenues were conceived within the midst of the royal court's milieu. Concepts supporting the twentieth-century Avenida had a very different origin. Avenida was designed by a City Hall engineer, Frederico Ressano Garcia. Ressano had studied in a graduate institution in Paris, the *École Impériale des Ponts et Chaussées* (present-day *École Nationale des Ponts et Chaussées*). The *École Impériale des Ponts et Chaussées* had taught many of the city hall engineers who were rebuilding Paris under Haussmann's orders. This chapter will explore how Ressano applied Parisian methodology to a twentieth-century avenue. In this chapter, I aim to present how Avenida da Liberdade, initially classified as a foreign "provincial" import, managed to become a unique iconic reference.

From its beginning, Avenida had to deal with an unresolved debate, should the Avenida be a 1200 metres long functional axis or should it double its length to become an even more monumental space, symbolically crowning an empire's capital? Through the Avenida's development this chapter will also explore the symbolic weight avenues manage to keep, today, in citizens' memories, regardless of political regime changes.

Avenida da Liberdade, Avenue of Liberty, represented, in the mid-nineteenth century, a victory of Liberal ideals over absolutist factions. After the Portuguese Republican Revolution, in 1910, Avenida was appropriated by a twentieth-century dictatorship to stage military processions and monumental plans. Today, Avenida is crowned by a statue honouring *25 de Abril*, a revolution which woke the country from its four decades long dictatorship. This research will support the thesis that avenues, due to their sheer physical scale, adapt to both royal processions and popular riots. An avenue's monumentality embraces all public events, regardless of the political frame. Today, Avenida da Liberdade's monumental dimensions celebrate freedom of speech. In Paris, if some, today, still wish to invoke Louis XIV's spectre to present the avenue as a type prone to absolute power, the Avenue des Champs-Élysées' frequent present-day public demonstrations paradoxically prove otherwise. In London, despite Regent Street's iconic stature being of a different nature (as will be explained in this chapter), the complete reconstruction of the buildings facing Regent Street in the early twentieth century sparked a fierce debate over what an imperial façade should be.

This chapter will conclude by introducing the avenue's all-inclusive nature as compared to the motorway. Modernist proposals developed throughout the twentieth century for Avenida da Liberdade, Regent Street and Champs-Élysées to resolve an increase in car traffic will reveal how a functionalist understanding of urban space is opposed by the avenue's all-inclusive nature.

4.2. Enclosed Public Garden

The orientation of the present-day Avenida da Liberdade's axis was determined by the city's topography. The Avenida was located in a valley of a city with highly irregular topography. This valley was, in the eighteenth century, occupied by the city's first public garden, *Passeio Público* (França, 1997, pp.137-138). *Passeio Público* was conceived as part of a master plan designed for the reconstruction of Lisbon's centre (fig.133 and fig.134). The Portuguese capital city had been shaken, in 1755, by a devastating earthquake which destroyed most of its core.

José-Augusto França (1989) is a most revered reference regarding Portuguese planning in the eighteenth century, particularly regarding the master plan designed to reconstruct Lisbon's centre after its destruction brought about by the earthquake in 1755. França works with valuable sources, such as complete reports written by engineers and architects who conceived this remarkable master plan, named *Baixa Pombalina*.

França suggests the principle behind the reconstruction of Lisbon's centre after the earthquake was a rational and functional use of resources accomplished in a feeble economic context.¹²⁶ *Passeio Público* was a public garden introduced in the master plan as a northern limit to the city's development. França presents *Passeio Público* as a leisure place, a "lyrical note" on an "imposed order" which "betrayed the master plan's rationalism". (França,1989, p.138). With this statement, França lessens the (quite rational) hygienic motives supporting the decision to provide the city with a public park.

This research proposes the argument that hygienic motives must have been a core reason for introducing a public park in Lisbon. The argument defending hygienic motives can be found in the man who commissioned the master plan: Marquês de Pombal. Marquês de Pombal was the politician who ruled Portugal with absolute power during D. José I's reign. Lisbon's expedite reconstruction is, today, attributed to Pombal's iron fist; thus, the master plan still carries his name (*Baixa Pombalina*) and his statue still stands, looking over *Baixa* from the Avenida's higher grounds.

¹²⁶Building the *Baixa Pombalina* master plan was an extraordinary feat and all buildings which stand, today, are classified National Heritage. *Baixa Pombalina*'s originality derived from a pioneer use of (1) modern principles which dictated a rational use pre-fabricated elements and an understanding of sewer infrastructure, and (2) an anti-seismic building system (*gaiola pombalina*) invented and tested on site. (França,1989, pp161-172)

Prior to his powerful position, Marquês de Pombal had been the Portuguese ambassador in London.¹²⁷ As discussed in previous sections, in London, hygienic concerns were central to eighteenth-century expansion, supporting a proliferation of gardens, squares and public parks. It is, therefore, hard to believe the Marquês would have been a stranger to these principles and would have commissioned the first public park, within a feeble economic context, as a “lyrical note”.

Two further resemblances to London’s seventeenth and eighteenth century developments were the use of width regularity and *Passeio Público*’s linear composition. *Passeio Público* was a linear garden for promenade (fig.135), resembling in its linear composition London’s St. James Park (fig.136). Marquês de Pombal must have strolled through St.James as Portuguese ambassador in London.

4.3. From Public Garden to Grand Avenue, or the Expansion of the Urban Network

4.3.1. An Avenue named Liberty

First referenced in 1859 (Margiochi, 1886, p.4), the Avenida was born in the words of a politician. Its birth marked the end of one of the most troubled periods in Portuguese history. Its name, this research believes, celebrated the victory of the liberal revolution.

At the beginning of the nineteenth century, Portugal suffered two historical blows: the French invasions and the loss of Brazil, a vital colony for the country’s export trade. With a shattered economy and a declining empire, the outburst of a civil war was inevitable. On one side, noblemen and ecclesiastical powers claimed absolute power for the king; on the other, an emerging *bourgeoisie*, influenced by the French ideals, craved a liberal revolution. Stability was to arrive in 1851 (Reis, 1990). A liberal monarchy was established, inaugurating a system where the government of the country alternated between political parties elected by oligarchic means (only 10 to 19 % of the population could vote between 1864 and 1890) (Reis, 1989). Politically, it was the modern era taking its first steps. This new beginning was named *Regeneração*, Regeneration, in honour of the era’s determination to reconstruct the country both economically and physically.

¹²⁷ Marquês de Pombal was in London from 1738-1743.

So Avenida was to embody the ambitions of a modern world, in its name and in its purpose “to improve transit within the city, so uncomfortable and even dangerous in some streets” (Pimentel, 1860, p.31). This ‘epic ride’ to modernity was set to transfigure the country’s capital. That was not about to happen without meeting some resistance.

4.3.2. Destroying Passeio Público, Conceiving Avenida as a Linear Garden

The *Avenida da Liberdade* was designed as part of the expansion plan structured by avenues, connecting city core, *Rossio*, to a market place in the outskirts of the city, *Campo Grande* (fig.137 and fig.138). Avenida stood out from all other avenues designed in the masterplan due to a much wider section.

As with *Avenue des Champs-Élysées*, *Avenida da Liberdade* was a linear garden visually connecting city centre to a landscape park, Parque da Liberdade, present-day *Parque Eduardo VII*¹²⁸ (fig.139). As with Regent Street, Avenida’s promenade could be continued into a landscape park; thus, materializing a continuum between built space and landscape without built or fiscal barriers. As with Haussmann’s *percées*, Avenida was lined with trees. As with both Regent Street and Haussmann’s *percées*, Avenida was designed to include the city’s infrastructures, namely sewers and communications.

In order to build Avenida, *Passeio Público*, the city’s first enclosed public garden, had to be destroyed. Lisbon’s valleys were the urban fabric’s natural expansion sites. The desire to expand Lisbon’s fabric to the North, away from the river Tejo, faced the need to destroy the eighteenth-century enclosed public garden. Articles of the time defended the *Avenida*, announcing that *Passeio Público*, a once-vivid leisure space (Brito, 1935), was in a declining phase. However, others warned against the growth of the capital away from the river (its “natural avenue”):

The project of the *boulevard* from Rossio to Campo Grande is of a sadly pretentious conception...Do not mock your call, Lisbon my friend, do not wish to be what God hasn’t made you, if you do not want to become crippled and monstrous. Ramalho Ortigão, *Farpas*, [no date] (Silva, 1989, p.23)¹²⁹

City Hall’s *vereador* Francisco Simões Margiochi defended on 21st May, 1874, that *Passeio Público*’s iron railings would be destroyed and the public garden would be

¹²⁸The Park’s present-day name, Edward VII, honoured a visit made by the British monarch.

¹²⁹ Transl. FR “O projecto do boulevard do passeio do Rossio ao Campo Grande é de uma concepção bem tristemente pretensiosa (...) Não torças a tua vocação, amiga Lisboa, não queiras ser aquilo para o que não te fez Deus, se te não queres tomar aleijada e monstruosa (...)”

transformed. The population's reaction was a written protest including as many as two thousand signatures. (França, 2008, p.577)

As I have stated in a book edited by myself and Professor Sousa Morais (Morais and Roseta, 2005) regarding Avenida's expansion plans, I believe that Avenida was designed as linear garden with an extraordinary width, 90 meters, precisely to keep the memory of *Passeio Público* alive; hence, appeasing *Passeio Público*'s fierce defenders. Not one of the other avenues included in Ressano's masterplan came close to such width. It seems impossible to maintain that Lisbon's predicted traffic justified the 90 meters section. The *Avenue des Champs-Élysées*, the grand avenue in the populated city of Paris, was only 77 meters wide.

In the end, Margiochi invoked "the considerable rise of street traffic" and consequent "urgency of opening some arteries through which ... circulation of vehicles of different nature can be made freely" (Margiochi, 1886, p.3). Construction began on August 24th, 1879. As a newspaper of the time portrays:

One of the most important construction works has begun, one of the many improvements the city so urgently requires to rise to the place it deserves, to stand among the capitals of the most civilised countries. (Diário Ilustrado, 26-08-1879)¹³⁰

Paris was on everyone's mind, but most significantly on the mind of Frederico Ressano Garcia.¹³¹

4.3.3. Ressano Garcia, élève de l'École Impériale des Ponts et Chaussées

If, today, França is the most revered author regarding eighteenth century planning in Lisbon, Maria João Madeira Rodrigues¹³² (1979 and 1980) is the most revered regarding Lisbon's nineteenth-century planning. Rodrigues characterises the social context contemporary to the Avenida's conception as a society which had not yet had the structural change of industrialization, but was eager to import foreign "schemes" in an "acritical" manner, revealing "provincial" taste which "came close to the banal". Additionally, Rodrigues blames the nineteenth century's speculative market for, at

¹³⁰ Transl. FR.

¹³¹ Frederico Ressano Garcia (1847-1911). (Silva, 1989)

¹³² I was honoured to have had Professora Maria João Madeira Rodrigues as supervisor of my Mphil thesis, defended in 2001, entitled: "Underground: City through Zapping".

times, annulling higher aesthetic and moral values, thus building uncharacteristic cityscape (Rodrigues, 1979, p.30).

Rodrigues classifies the initial impetus to build a “wide street boulevard” as one of these foreign imports characteristic of a provincial society (Rodrigues, 1979, p.28). In Rodrigues’ perspective, only one person rescued the Avenida from becoming a “romantic” idea driven by emotion other than reason: Frederico Ressano Garcia (Rodrigues, 1979, p.60).

Ressano Garcia, a former student in Paris’ *École Impériale des Ponts et Chaussées*, was the engineer appointed to establish the final design for the Avenida and to resolve the complex expropriation procedures required.

As city hall engineer, Ressano Garcia effectively integrated vague proposals and political intentions into a comprehensive expansion master plan to the North, based on rational and technical criteria (Rodrigues, 1979, p.77). Even if others were involved in the Avenida’s many proposals, historians, such as Rodrigues (1979) or Silva (1989)¹³³, rightfully credit Ressano Garcia with the Avenida’s final design.

Frederico Ressano Garcia’s biography was written by Raquel Henriques da Silva¹³⁴ (1989) and was published in the exhibition catalogue which celebrated Ressano Garcia’s work as city hall engineer, from 1874-1909, on the 80th anniversary of his retirement. Based on primary sources (namely on the original projects and project descriptions), Silva (1989) endorses Rodrigues’ perspective. Silva restates that Ressano Garcia transformed a “provincial” desire to design a Parisian boulevard into a “technically remarkable” project. This research wishes to add, today, that Ressano Garcia transformed initial expansion plans structured by streets into an expansion plan structured by avenues.

¹³³ This research also relied on an exhibition catalogue, *Do Passeio à Avenida* (Martins and Viegas, 1998), to locate some relevant primary sources (such as maps and projects). This catalogue is dedicated exclusively to Avenida da Liberdade and portrays some of the municipal archive’s holdings, focusing on the transition from the first period to the second (from public garden to monumental avenue). Nevertheless, as all literature reviewed above (including my own edition Morais and Roseta, 2005), it fails to provide a complete vision of Avenida da Liberdade’s history. Another problem with Martins and Viegas (1998) is some lack of historical rigour: the Avenida’s inauguration date has been wrongly determined as 1886 (Martins and Viegas, 1998, p81) when it was in 1879 (Occidente, 1879).

¹³⁴ Raquel Henriques da Silva has also become an expert on Lisbon’s Urbanism and Architecture in the XVIII and XIX century, following the footsteps of, and extensively referring to, França (1987) and Rodrigues (1979) (Silva, 1997 and 1994a-d).

Today, two plans which preceded Avenida's final plan have been identified: a first plan (fig.140) from the eighteenth century, revealing Marquês de Pombal's engineers' intentions to design the city's expansion (França, 2008), and a second plan (fig.141) from the nineteenth century representing the city hall's intention of expanding urban fabric, prior to Ressano Garcia's appointment as City Hall engineer (Martins and Viegas, 1998). The nineteenth-century plan was entitled *Projecto de Rectificação e Alargamento de Ruas* (Plan to Rectify and Widen Streets). This research proposes that neither of these two plans embraced an avenue's purpose and ability to unite city and landscape. The eighteenth-century scheme expanded urban fabric to reach a fortified defensive wall. The nineteenth-century plan was, as the name rightfully indicates, designed according to a network of streets and not a network of avenues. The few lines of trees included are not a fundamental part of the expansion axes.

As previously presented, early nineteenth-century literature concerning Regent Street's construction had very few comments comparing London's development to other cities. The few existing comments either tactfully shied away from comparing London to Paris, invoking Rome as the only previous imperial capital worthy of notice (Elmes, 1827), or disregarded the French capital's technical know how (Robertson, 1827). With present-day published sources concerning the *Avenida da Liberdade*, the situation is quite the opposite. A comparison to Paris is, today, inevitable because Ressano Garcia had studied in the French capital and returned to Lisbon with technical knowledge equivalent to that of Haussmann's engineers.

Ressano Garcia was "not provincial", a "rare case in Lisbon", according to Silva (1989, p.24). Ressano Garcia was accepted, on 31st August 1866, as a student of the *École Imperiale des Ponts et Chaussées*, in Paris, from which he graduated with good marks on 12th June 1869. *École Imperiale des Ponts et Chaussées* (EIPC) provided engineering diplomas in subjects regarding urban works such as bridges, roads, ports. Courses also included architecture, building technologies, mechanical studies and political economy; thus, providing a holistic vision of the urban science. (ENPC)

What is seldom stressed is that Ressano Garcia not only studied in the French capital, but resided in Paris through its Haussmanian transformation. Furthermore, this research found¹³⁵ that EIPC was, then, sited at 28 *Rue des Saints-Pères*. The *Rue des Saints-Pères* crossed the construction site of *Boulevard Saint Germain*. *Boulevard Saint Germain* was a *percée* carrying a sewer collector conceived by Belgrand, one of

¹³⁵ With the help of Hubert Roux, alumnus of the *École Nationale de Ponts et Chaussées*.

the EIPC alumni involved in rebuilding Paris. Ressano was not only attending courses on how to improve the cityscape; Ressano was most likely admiring the evolution of *Boulevard Saint Germain's* construction site on his way to courses. The impressive practical application of EIPC's courses was at the institution's doorstep. Ressano's life experience and technical studies made him fully aware of the "need for a northern expansion of Lisbon of which the Avenida was but the first part" (Silva, 1989, p.22).

4.3.4. Ressano's Expansion Plan versus Haussmann's Regeneration Plan

The *Avenida* was the main avenue of a planned network of avenues (fig.138). The network of avenues was organized as a spinal grid regulated by one main axis. This main axis started with *Avenida* and turned to avoid steeper slopes. As with Regent Street, these axes were directed away from the river.

In 1879, the *Avenida da Liberdade's* plan was still within the city's fiscal limit, the *Estrada da Circunvalação*, as determined in 1845, traced from 1852 to 1857 and still only partially built by the 1860s. Much of the 1208 hectares comprised within the *Estrada da Circunvalação* were rural land. (França, 2008, p.538) (fig.143). Despite being within city limits, *Avenida*, from its conception, was the first part of the broader plan of expansion which wanted to expand the city beyond these limits.

Ressano Garcia was, in 1888, made responsible for the broader expansion plan *Plano Geral de Melhoramentos da Capital* (Capital City's General Plan of Improvements). This Plan further expanded the city to the north. Ressano terminated the grand expansion axis in yet another public park (fig.142). Today, both the *Avenida's* plan and *Plano Geral de Melhoramentos da Capital* leave no doubt that Ressano understood the avenue's potential to resolve infrastructures (sewers and communications) while merging landscape with city fabric. Ressano's own words written in 1904 stated that parks were important for the city's embellishment and hygiene:

...changing the area of the city makes the existence of a network mandatory...today [an area] with 8245 hectares [when] it was 1278 hectares...In the winter... some paths become rivers and every population deserves to have access to the network...these arteries follow a fundamental concept which presided in the construction of *Avenida da Liberdade*, connecting *Praça D.Pedro IV* [city core] to Rato, Entremuros, Largo da Cruz do Taboado, Picoas, etc..but also to the populations annexed in 1885 and residing in axis direction such as Sete Rios, Camp Grande, Telheos, Luz, Carnide, and others...Furthermore Lisbon, due to this important transformation which will make of the city, in the near future, an equal to the great European capitals,

lacks a grand Park, or accessible Forest, serving carriages or horseback riders, and no other place is as adequate due to: the magnificent panorama, the cheap value of the land and the ease to adapt existing grounds to this purpose. This Park needs to be made now or never...because the construction of the planned and approved avenues and the construction of the new neighbourhoods...will have as immediate consequence the considerable rise in land value...making the execution of this project impossible and depriving the city..from the relevant values of embellishment and hygiene. Parque Eduardo VII does not suit this purpose...it is a closed garden [done to] terminate Avenida da Liberdade which could not continue due to the slope of the hill...[Parque Eduardo VII] is suitable for pedestrians... [including] a palace with exhibitions where all [even the poorest can visit]...the other [Park] is for those who can afford expensive driving means...

[signed by] Frederico Ressano Garcia, December 1903...General network of Streets, with an effective sewer system, easing the access, in good conditions, to all populations within the plan's area. City Hall approves, hopes for better financial days, and submits this proposal to the government on 26 November 1904 (TT) ¹³⁶

Given Ressano's background and the Avenida's section, the Avenida's design appeared to mimic Haussmann's method (fig.144 and fig.145). However, the urban concept supporting Lisbon's Avenida differed from Haussmann's *percées*. Today, Ressano is, at times, presented by published literature as the "Portuguese Haussmann" (cf. Silva, 1989); however, published literature unanimously rejects the

¹³⁶ This most relevant document, today in Torre do Tombo, has not been referred by any reviewed sources. "...alteração da área da cidade obriga a "rede"... de hoje 8245 Ha..era de 1278 Ha...há caminhos que no inverno são ribeiros e todas as povoações merecem ter acesso a rede. ...Estas artérias obedecem ao pensamento fundamental que presidiu à abertura da Avenida da Liberdade, qual é o de ligar a praça de D.Pedro IV, centro da parte baixa da cidade, taes como o largo do Rato, Entremuros, Largo da Cruz do Taboado, Picoas, etc mas também com as povoações anexadas em 1885 e existentes nessa mesma direcção, como Sete Rios, Campo Grande, Telheiras, Luz, Carnide e outras...Demais Lisboa, pela importante transformação que está passando, que a deve colocar, n'um futuro próximo, a par das principaes capitães da Europa, carece de um grande bosque ou parque florestal aberto, destinado principalmente a carruagens e cavaleiros, e nenhum outro local se encontra mais adequado, pelo magnifico panorama que d'elle se disfruta, pelo pouco valor intrínseco dos terrenos, e pela facilidade de adaptação ao fim que se tem em vista. Este parque ou se faz agora ou nunca...porque a própria abertura das avenidas e ruas já aprovadas e a construcção dos novos bairros...terão como consequência imediata o augmento considerável do valor dos terrenos que são destinados a esta obra tornando impossível a execução e privando a cidade..do importante .ponto de vista do embelezamento e da higiene. O Parque Eduardo VII não serve este fim...é um amplo jardim fechado [feito como] terminus da Avenida da Liberdade que não poderia continuar considerando o terreno.. É mais para peões...Palácio de Exposições em que todos [mesmo mais pobres podem visitar] o outro para os que podem recorrer a meios de condução onerosos..Ass Frederico Ressano Garcia Dezembro 1903...Rede Geral de arrumamentos, com a competente canalização de esgotos, que facilite o acesso, em boas condições a todas as povoações n'ella compreendidas...CML aprova, espera melhores dias financeiros e remete à aprovação do Governo 26 Nov. 1904" (TT)

popular idea of Avenida da Liberdade being but a mimic of Paris's Haussmanisation. The strongest argument is presented by Rodrigues (1979, p.77): the Avenida's purpose was to expand the city into rural grounds, while Haussmann's goal was to regenerate (destroy and rebuild) the city's pre-existing core; thus, Rodrigues argues, Haussmann's master plan can hardly be compared to Ressano's.

I believe a most effective way to understand the different challenge facing Ressano and Haussmann is to look at statistics regarding population, area, and density. Therefore, in this section, I will try to expand the difference through numbers. Lisbon's administrative limits expanded in 1885 to include an area of 8245 hectares (Ressano in TT). Unlike Rodrigues' suggestion (1979, p.24), I believe Lisbon's monumental expansion, in 1885, can not be defended by a rise in population, nor can it be defended by a rise in density.

From the first official census in 1864 to 1878 population within the limits prior to 1885 increased from 163,763 to 187,404. In 1878, the population (including the area annexed in 1885) was approximately 240,000 (Rodrigues, 1979, p.24). Population living in the area prior to the city's expansion was slightly rising; however, population was still distant from the estimated 250,000 in the capital before the earthquake, in 1755.

In 1885, by including population of the annexed areas, Lisbon's population increased by approximately 1.25%. Curiously, the 1.25% increase was equivalent to the increase in the population of Paris determined by Haussmann's annexation of the *faubourgs*. By including those residing in the *faubourgs*, in 1860, the population of Paris increased from 1,174,346 to 1,538,345. But the proportion of the increase was where resemblances ended.

The total population of Lisbon (including those living in annexed areas) was around 240,000; hence, the total population of Lisbon was less than one sixth of the total population of Paris and did not even amount to the population living in Paris' annexed faubourgs (it was about two thirds of the population living in the faubourgs). Just these figures, regarding population, provide, today, a clear picture of a different nature of urban problems; however, what I believe to be truly revealing (if not amazing) is that Lisbon, with a population of 240,000, *grew to an area superior to Paris*, with a population of 1,538,345.

With the limits determined in 1860, the area of Paris increased from 3370 hectares to 7802 hectares; while the area of Lisbon, with the limits determined in 1885, increased from 1224 hectares to 8245 hectares. Hence, average density could hardly have been Ressano's main challenge. When limits expanded in 1885, Lisbon went from an

average density of 146 people per hectare to an average density of 29 people per hectare. Paris, on the other hand, when limits expanded in 1860, went from an average density of 348 people per hectare to 197 people per hectare. While Haussmann was regenerating densely built urban core, Ressano was expanding urban core. Ressano was urbanizing the city's rural spaces.

In 1903, Ressano's own project description did not mention density-related issues. Ressano's project description presented the desire to connect disperse populations living within common borders. These populations were separated from the core and from each other by rural grounds and ineffective paths. "In the winter", Ressano stated "some paths become rivers and every population deserves to have access to the network." (TT, Ministério do Reino)

The *Avenida* was not a *percée*. The *percée* modernised Paris through reconstruction, destroying pre-existing built core. The Portuguese master plan was an expansion plan built mostly on rural land; hence, there was no need to destroy vast areas of pre-existing cityscape. The few pre-existing urban references and buildings were not only not destroyed, but absorbed as part of the plan, whenever it proved to be possible. The *Passeio Público* was the one significant urban reference which had to be destroyed; even so, as stated above, *Passeio Público*'s former presence set the guidelines for *Avenida*'s unique width.

Even if *Avenida* was not a *percée*, expropriation was still required as the axis crossed privately-owned land (fig.146). Legislation framing expropriation had been in place since 1864, but was specifically directed to Lisbon's urban expansion on 9th August 1888. A *Lei* endowed landowners with the right to undertake construction as planned by city hall engineers. If landowners did not wish to undertake construction, land would be expropriated by city hall. Landowners would then receive the land's current value, ("*valor actual*"). City hall would then auction expropriated land. Landowners would still be entitled to 25% of the profit, in case land was sold for more than the expropriation value (fully expanded with the law's original text in Rodrigues, 1979, pp.32-34). On 12th November 1889, City Hall's estimated profits¹³⁷ seemed to be enough to pay for all expenses.

Ressano's comments recorded in City Hall documents regarding expropriations reveal, today, that the financial project was not as simple. Today, these documents are kept in Torre do Tombo's national archives (TT, Ministério do Reino). These documents are written city hall reports which recorded the city hall's uncomfortable financial situation

¹³⁷ Estimated Profits were placed in between 5,053,911.540 réis and 4,182,865.149 réis (Rodrigues, 1979, p.79)

at the turn of the century. Ressano's above-quoted project description, from 1903, further proclaims the grand park's construction must start at once, because the "opening of planned avenues will bring about the immediate rise of land value, making the execution of the park [financially] impossible". Ressano's project description had a final statement: "hoping for better financial days". Furthermore, City hall's appreciation of *Avenida Duque de Loule* and *Avenida Avellar* included the suggestion of paying landowners of expropriated land with more desirable land plots; thus, avoiding the need to burden city hall's budget with compensations. (TT, Ministério do Reino)

In late nineteenth-century Lisbon, as in nineteenth-century Paris and London, the railway had already been established as a regional network and grand stations had replaced avenues as the city's physical spaces of arrival. The first railway Lisbon-Carregado was inaugurated in 1856. By 1890, a central station had been inaugurated within the capital's core, Rossio. (Rodrigues, 1979, p.18) As in Paris, Rossio's train station was connected to the city's urban network of avenues. As with the avenues in Paris, the *Avenida da Liberdade* had a role in the urban network.

One issue still divides published literature, today, as it did nineteenth-century public opinion: did the *Avenida* become *Lisbonense* when it adjusted to Lisbon's specificities, or was it just an effective application of foreign technical principles? Silva (1989, p.28) argues that *Avenida* became *Lisbonense*, while Rodrigues (1980, p.35) argues that it has the "same [Haussmanian] system", becoming somewhat original only because this "same system was adapted to a different problem" (namely because it as an expansion plan as opposed to a regeneration of built core plan). This research endorses Rodrigues' thesis (1979) with regard to Ressano's expansion plan. With regard to the broader plan, Ressano did use the Haussmanian principle of connecting relevant buildings with avenues which carried a network of trees and infrastructures. However, a comparative analysis points to the conclusion that the *Avenida da Liberdade* held a unique position within Ressano's network of avenues, as did *Avenue des Champs-Élysées* within the Parisian network. In both the *Avenida* and the *Champs-Élysées*, this research aims to argue that the unique position had little to do with Haussmann's methodology and much to do with generous width and historic symbolic stature.

4.4. Monumental Scale for an Empire's Capital

The *Avenida* inherited from the *Passeio Público* one of its most particular characteristics: a 90 metre width, generously planted to become a linear garden fit for the leisure promenade. The length of this linear garden was to become one of the most controversial issues of the *Avenida's* design. This controversy, nourished by a

blossoming public opinion, remained right throughout the twentieth century and is still debated today.

Lisbon, 'city of the seven hills', promised to render difficult the task of launching a grand expansion axis. Connecting two references (*Rossio* to *Campo Grande*) on highly irregular topography meant, to a pragmatic mind like Ressano's, the connection axis had to take detours in order to avoid steep inclinations. The *Avenida* was to run for 1273 metres and turn where the gentle slope became steeper. A park occupied steeper slopes while the main axis turned to find flatter grounds. Not everyone shared Ressano's view.

In 1885, Miguel Paes¹³⁸ took it upon himself to offer the city hall a new master plan (fig.147) where:

The Avenida will have the total extension of 2270 meters... almost double of the extension approved! One can imagine the sumptuousness and splendour it would have... This prolongation does not mean to satisfy the frequent transit, because some other arteries in project would better fulfil those needs; its main goal is to enlarge the Avenida, and for light vehicles, the 0,06meter slope is not too violent. (Paes, 1885, pp.5-9)¹³⁹

As City Hall's chief engineer, Ressano ignored the 'gentle' offer. *Avenida* was constructed according to Ressano's plan and the park, *Parque Eduardo VII*, was designed by Henri Lusseau and, further developed by António Maria de Avellar (fig.139). However, the monumental scale was a seed which had been planted. Lisbon, still capital of an empire with African and Asian provinces, would not let it wither.

With the republican revolution (1910), Ressano was removed from his post after 35 years of service (Silva, 1989, p.36). The monumental scale which Ressano had rejected was revived in the 1920s by a municipal commission. Two (unbuilt) projects restored the enlargement of the capital's grand axis, and furthermore, demanded a

¹³⁸ Miguel Carlos Correia Paes (1825-1888) was an engineer and a lieutenant - colonel of the Portuguese army. He held a chief technician's position in the Southern Railways.

¹³⁹ Transl.FR. "a Avenida ficará com a extensão total de 2270 ...quasi o dobro da extensão aprovada! Póde bem imaginar-se que sumptuosidade e esplendor não obteria!...O prolongamento não tem por fim satisfazer o grande movimento, porque estão projectadas arterias que melhor se prestam a isso; o seu fim principal é o engrandecimento da mesma Avenida, e para os veículos leves, a inclinação de 0,06m não é demasiado violenta."

larger area for the Park. The MacBride brothers, Alberto¹⁴⁰ and Eugénio¹⁴¹, both prominent doctors, conceived in 1925 with General Vicente de Freitas¹⁴² the design for 'Lisbon's Wood' (fig.148) arguing:

Lisbon is one of the rare cities in Europe that does not have a wood where its inhabitants can, in the hours left after labour, oxygenate their lungs poisoned by factory smoke and dust from offices and workshops, while their spirit is delighted with distractions of their liking and their body fortified with profitable exercises. (Bosque de Lisboa, nd) Lisbon's Wood [1800Ha], without being too big, it would not be the smallest when compared to other cities in the world. ... Paris' wood (Bois de Boulogne) has 873 Ha; Brussels (Bois de Cambre), has 216Ha; Madrid's presently has 150 Ha; next to Berlin, the Tiergarten and the Gr nenwald, have respectably 255 and 4600 Ha.¹⁴³ (A  poca, 1925)

As president of Lisbon's City Hall Administrative Commission, General Vicente de Freitas invited, in 1927, the distinguished French landscape engineer Jean Claude Nicolas Forestier¹⁴⁴ to further develop Lisbon's Wood (fig.149). In Forestier's view:

[Parque Eduardo VII is a] petty conclusion to the fair avenue and an obstacle to its future and necessary extension. [The avenue should extend to the highest grounds reaching a] terrasse ... where the splendid panorama of the city and the Tejo can fully be enjoyed.¹⁴⁵ (Forestier cit in Di rio de Noticias, 1928)

The desire for a monumental Avenida was fostered by the possibility of benefiting from the panoramic views obtained on high grounds. These two urban ideas would find their

¹⁴⁰ Alberto MacBride Fernandes (1886-1953) was a prominent surgeon, a WWI veteran, and a founding member of Amigos de Lisboa (Lisbon's Friends Club) in 1936.

¹⁴¹ Eug nio MacBride Fernandes (1887-1966) was a doctor, a WWI veteran, and an investigator dedicated to the study and treatment of tuberculosis.

¹⁴² Jos  Vicente de Freitas (1869-1952) was a military official and a politician.

¹⁴³ Transl.FR. "*Lisboa   das raras cidades da Europa que n o possui um bosque onde os seus habitantes possam, nas horas que lhes sobram dos seus labores, oxigenar os seus pulm es envenenados com os fumos das f bricas e poeiras das oficinas e escrit rios, a mesmo tempo que o seu esp rito   deliciado com distra es do seu agrado e o seu f sico fortificado com exerc cios proveitosos*"... "o bosque de Lisboa, sem ser demasiado grande, n o seria t m tamb m dos mais pequenos em rela o a outras cidades mundiais...o bosque de Paris (Bois de Boulogne) tem 873 ha; o de Bruxelas (Bois de Cambre) tem 216 ha; o de Madrid conta actualmente 150 ha; junto de Berlim h  os bosques de Tiergarten e Grunenwald, que t m respectivamente 255 e 4600 ha"

¹⁴⁴ Jean Claude Nicolas Forestier (1861-1930) landscape designer/ urban planner. Reference works published are *Grandes Villes et Syst mes de Parcs* (1908) and *Jardins, Carnet de plans et de dessins* (1920).

¹⁴⁵ Transl.FR. "...a Avenida termina em terrenos livres...podendo por isso continuar at  uma "terrasse" quasi natural, donde se desfruta um espl ndido panorama da cidade e do Tejo...o Parque sera um remate mesquinho da Formosa Avenida e uma barreira ao seu futuro e necess rio prolongamento..."

way into the architects' drawing boards until they were finally built, or at least partially built.

4.4.1. The Acropolis that Might Have Been

At the highest level and as a conclusion to the new Avenida,... a monumental square meant to receive a monument glorifying the Republic... Occupying three sides of the square, which would have a dazzling view over Lisbon, would stand the majestic Palace of Justice... For the new artery not to end in a square, forbidding the connection between the centre of the city and the new neighbourhoods... monumental passages under main body of the building [would have to be built. This Palace] will be the most beautiful and gracious conclusion for the Avenida da Liberdade ... working, at the same time, as a majestic dome for the present and the new Lisbon. ¹⁴⁶ (Silva cit in *Arquitectura*, 1931,p.72)

These words, taken from Luís Cristino da Silva's¹⁴⁷ first proposal in 1930, set the guidelines for a series of proposals that were going to be developed throughout the next thirty years. They complemented the idea of the monumental axis with two concepts: the building of an acropolis (ensemble of public buildings planted on high grounds); and the need to overcome the hill on which the acropolis stood, taking traffic from city to outskirts.

Cristino was responsible for five of these proposals (fig.150 and fig.151), keeping the general urban ideas in all, but slightly changing the architectural shape. His work clearly appealed to Salazar's totalitarian regime that was to rule Portugal for four decades. As was documented by a periodical of the time:

Dr. Oliveira Salazar ... has stated his sympathy for the work the city hall is studying, raising a triumphal arch to crown the conclusion of the Avenida da

¹⁴⁶Transl.FR."Na cota mais elevada e como remate da nova Avenida...abrir-se-ia uma Praça monumental destinada a receber o monumento glorificando a República. Ocupando os três lados desta praça, que teria uma vista deslumbrante sobre Lisboa, implantar-se-ia o majestoso Palácio da Justiça...Para que esta nova artéria não finalizasse na praça...impedindo a ligação entre o centro da cidade e os novos bairros...impor-se-ia...passagens monumentais, por baixo do corpo central do edifício...[Palácio da Justiça] será o mais belo e gracioso remate da Avenida da Liberdade...sendo ao mesmo tempo, como que a cúpula majestosa da actual e nova Lisboa."

¹⁴⁷ Luís Cristino da Silva (1896-1976) architect, worked in Paris and Rome, teaches Architecture in Lisbon (1934-1966), author of several buildings and urban plans in Portugal, honorary member of RIBA (1936). (Fernandes et. Al. , 1998)

Liberdade ... The plan is from professor and architect Ribeiro Cristino, and gathers most opinions, if not the totality. (Diário de Lisboa, 02-06-1936) ¹⁴⁸

Even if the proposals presented by Cristino manifested concern for traffic demands, the shaping of the acropolis stood out as the most important issue. His plans and perspectives presented a very detailed image of the 'new city crown', while merely indicating directions for the axis connecting city to outskirts. Furthermore, the axis' design was based on geometric principles. The articulation of such principles with a highly irregular topography was a task postponed, never to be fully developed.

Cristino was never to see his proposals built. The work was commissioned, in 1945, from Francisco Keil do Amaral, his former student, who happened to be working in the City Hall when the commission swapped hands. ¹⁴⁹ Keil's proposal (fig.152 and fig.153) set aside traffic demands, concentrating on the palaces and redesigning the park to become the acropolis' monumental frame. Words taken from a master plan he later worked on may reveal his motives:

The problem of prolonging the Avenida is an urban problem, and can only be handled and treated as such; it would imply a profound revision of all the circulation and land-use scheme in a hugely vast sector of the City. ... Lisbon does not have the green areas it indisputably deserves as it rapidly reaches one million inhabitants...this is one of the reasons that makes us resist any new amputation of the only central park in the city. (AMAC, Ramalho, 1960)

In 1945, the monumental axis envisioned six decades before by Miguel Paes was finally built. The Avenida was to see its 1.2 kilometres extension doubled. This extension turned out to be simply for pedestrians, instead of the extension of the city's road and transport artery. Today, with the exception of a few summer days when the City's book fair occupies *Parque Eduardo VII*, it is hard to find a pedestrian walking up the grand axis; the axis' grand scale would be more welcoming of vehicles.

¹⁴⁸Transl. FR. "...o Dr. Oliveira Salazar ha já tempos...afirmara a sua simpatia pela obra que a Câmara estudava, com o levantamento de um Arco do Triunfo, coroando o terminus alto da Avenida da Liberdade...O plano é do professor e arquitecto Ribeiro Cristino, e que reúne grande maioria, se não a totalidade, das opiniões"

¹⁴⁹Francisco Caetano Keil do Amaral (1910-1975) architect in the city hall from 1939-1945, president of the architects' union (1949), author of referenced published works and of award winning architectural and urban references. (Moita, 1999)

Regent Street had a similar axis going from the built cityscape to park; however, as McCreery points out (2005), the macadamized pavement (a technical innovation¹⁵⁰) connected city path to park path. As indicated by McCreery, carriages could speed from Regent Street to Regent's Park without distinction. Regarding Avenida, the aim of the edition I developed with Morais (2005) was to compile all the proposals which, in one way or another planned the expansion of the grand axis until the acropolis, and, at times, beyond.

As for the ensemble of palaces that should 'crown' the empire's capital, its final design was established by Faria da Costa's¹⁵¹ urban plan (1957) (fig.155). Only one of the four buildings designed was built. Today, it still stands as a Palace of Justice, but finds itself unable to define urban space from its solitary existence and secondary position. Today, citizens can walk up the grand promenade and, between two colossal pinnacles erected to frame the unbuilt palaces, behold the ruins of the acropolis that might have been (fig.154).

4.5. Avenue as a national symbol: Avenida da Liberdade, Avenue des Champs-Élysées, and Regent Street

One of the reasons why I chose to study such iconic avenues was to understand why these urban spaces were often referred to as symbols of the nation, while other avenues in the same cities, following similar design principles, were not. A question concerning me, and no other author of the literature reviewed, was how the avenue, a type which spurred out of modern, reproducible, principles (namely geometric perspective, control of the landscape's grand scale, network effectiveness and liberal ideals) managed to become a unique physical space symbolizing each of the three cities chosen. Even if all three chosen avenues shared a conceptual space (geometric perspective, control of the landscape's grand scale, network effectiveness) and even a lived space (liberal ideals), each represents an urban space which is, today, unique and irreproducible.

Avenida da Liberdade's 'imperial crown', conceived throughout the twentieth century, was never built; nevertheless, the monumental *Avenida* retained a symbolic stature. Today, I propose there are three reasons for this symbolic stature: sheer physical

¹⁵⁰ Regent Street was the first road in London to be macadamized, in 1830 (G_MS M0017682CL)

¹⁵¹ João Guilherme Faria da Costa (1906-1971) architect, studies urbanism in Paris, works with Alfred Agache, works in the City Hall (1938), author of several urban plans and architectural constructions.

scale, location in the city's network, and collective memory retaining historic events. Today, the *Avenida* is a grand space with a slope, suitable for holding thousands. As a physical space, the *Avenida* has suited demonstrations of the entire political and cultural spectrum (from fig.159 to fig.162). Prior to the *Avenida's* construction, the natural topography of the site was even suitable for warfare. As noted by Valente (2004), who presents an ironically corrosive historical account of the Portuguese Republican Revolution (1910), cannons were shot by republicans from the hill, present-day *Parque Eduardo VII*, onto *Praça D. Pedro IV*, present day *Rossio*, held by royalists.

The *Avenida's* position in the city's network was also important. The *Avenida* was the first and widest avenue connecting the old city core to the area of northern expansion; hence, the *Avenida* became the way out of, or into, the city. This position in the network made of the *Avenida* the natural route for troops marching to reach the harbour from where they would sail to meet World War I's Allied Forces. The same route welcomed troops back, as they marched victoriously into Lisbon. (fig.159)

The *Avenue des Champs-Élysées'* iconic stature can be attributed to the same reasons noted for *Avenida's* iconic stature, namely monumental size, position in the network and collective memory retaining historic events. The *Avenue des Champs-Élysées* was a way into (or out of Paris). Furthermore, the *Avenue des Champs-Élysées* led directly into the royal palace and later into the *Palais de l'Élysée* (where today the French President resides). Hence, naturally, all manifestations of power walked along *Champs-Élysées*. As Guitry (1940, p.126) noted

Note this perpetual coming and going from the Concorde to the Arc de Triomphe: the whole of our [French] history has taken that path.

All walked along *Avenue des Champs-Élysées*: from the Parisians in 1789, to the invasion of the allied troops against Napoleon I on 15th April 1814 (fig.163), to the invasion of the Prussian army in 1871, to the Nazi occupation in 1940, to the victorious Churchill marching along De Gaulle on 11th November 1944 (fig.164), and to the spring of 1968 (fig.167). French literature describing these events is often emotional. According to Pozzo (1997), the Nazi march was received with "glacial silence". The Prussian march is thus described by Sabatès:

...a barricade, hastily put up, blockades the entrance through the Arc du Triomphe; an [Prussian] official wants his ride to challenge the obstacle, the animal hesitates, and, under the ironic eye of the Parisians, the entire [Prussian]

army resigns itself to contour the Arch...All statues in Concorde are covered in black and all the windows are shut.¹⁵² (Sabatès, 1983)

On 26th August 1944, De Gaulle said "Peace is definitely passing through Champs, its extremities unite Triomphe (Triumph) to Concorde (Agreement)"¹⁵³ (Pozzo, 1997, p.78). The name *Champs-Élysées* itself, derived from Greek mythology, celebrates, as noted by Sabatès (1983), an area of the underworld where heroes lie.

What I have witnessed, and what I believe to be extraordinary about Avenida and Avenue des Champs-Élysées, is that when an event is powerful enough to instigate collective joy or discontent (from a football victory to a riot against unemployment) citizens tacitly know where they need to be, without being told.

Regent Street holds a different position. First, Regent Street is not as wide as *Avenida*, nor is it as wide as *Champs-Élysées*. Second, despite the fact that Regent Street was built to connect the centre of power (Houses of Parliament) to a suburban neighbourhood in the outskirts, London's present-day riots or royal processions concentrate elsewhere (in Trafalgar Square and the Mall). Nevertheless, I believe Regent Street's value as a London icon is present today, as it was present at the turn of the nineteenth to the twentieth century:

To the exile abroad, looking forward to the next home leave, the very name of Regent Street stirs the imagination and arouses the emotions as few other things will. The planter in Ceylon or Singapore, the prospector in Canada, Australia or South Africa, the Army man in India, the Naval officer on the China Station, separated by many thousand miles of ocean from the hub of the world, dream of her magic and yearn to tread her pavement again. It cheers them in their isolation, and inspires pleasant memories of happy days and gay society. They recall perhaps, an exhilarating motor run from some stately English country house, through the green carpeted and flower-decked countryside to London and the Regent Street bathed in sunshine and gaiety, the brilliant fashionable throngs, the lovely women, the spell of the wonderful shops, and the ceaseless procession of luxurious motor cars and stately carriages. (Muir, 1925, p.33)

¹⁵² Transl. FR. "Sous l'Arc de Triomphe, une barricade hâtivement dressée barre le passage; un officier veut faire franchir l'obstacle à sa monte, l'animal hésite, et sous oeil ironique des Parisiens toutes l'armée se résigne à contourner l'Arc...estatués sont voilées de noir et les fenêtres fermés."

¹⁵³ Transl. FR « La paix française passe définitivement par les Champs, dont les extrémités relient le Triomphe à la Concorde »

Fierce debate regarding Regent Street's iconic value emerged at the turn of the nineteenth to the twentieth century when Regent Street was mostly demolished and rebuilt. Reviewed literature¹⁵⁴ regarding early twentieth century reconstruction provided details of the epic blockade the tradesman mounted (and won) against Norman Shaw's "imperial" façade design. This debate is well explained by Erika Rappaport's (2002) article, published on the *History Workshop Journal*, on the rebuilding of Regent Street from 1880-1927, appropriately titled "Art, Commerce or Empire?"

As described by Rappaport (2002, pp.94-117), in the early twentieth-century, the century-old existing buildings in Regent Street were considered inadequate for trade. Arthur Green wrote a letter to the Commissioners of Woods and Forests, in 1904, stating:

[because the] Quadrant is one of the most important thoroughfares in the kingdom" it should have buildings of a "monumental nature" however "it is [also] a street of shops and it is necessary in formulating a design to keep this fact in evidence (Rappaport, 2002, p.102).

Norman Shaw was appointed to present a proposal, which he did in 1905. Piccadilly Hotel (which still stands today) was the only building built, in the early twentieth century, according to Shaw's original design intentions (fig.170). According to the project's description (archived today in the LMA, GLC 2681), Shaw's idea was to unify all the buildings in the Quadrant with an unbroken cornice line:

The great beauty and interest of this street consists in the beautiful curved sweep of the upper cornice and to gain full benefit, the sweep, a curve, should be unbroken [underlined by Shaw] at present an ugly, entirely unnecessary break is caused by Air Street. (Shaw, 25th March 1905, LMA, GLC 2681)

As can be seen in (fig.170), Shaw's façade had columns in front of the façade, invoking Nash's colonnade. Shaw's intention, according to Blomfield (1940), was to extend this colonnade throughout the Quadrant on both sides.

Shaw's proposal sparked immediate reaction from shopkeepers who worried that: 1) "style of architecture was too elaborate and therefore too expensive for the ordinary lessee; 2) "windows were two feet back from the front; hence, shop windows hidden from view of persons walking up and down the street, excepting the actual window they may be opposite"; and 3) the street's buildings became taller; hence, the street darker (Rappaport, 2002).

¹⁵⁴ Norman Shaw's biographies by Reginald Blomfield (1940) and Andrew Saint (1976) and Erika Rappaport (2002).

The Hotel's inability to let the shops, and Shaw's "disgust" and consequent "declination" to redesign the façades, led to an alternative façade design (Blomfield, 1940). World War I, and the fact that commissioners became worried that Regent Street was losing business to Oxford Street, led commissioners to ask the architect who succeeded Shaw in redesigning the Quadrant, Reginald Blomfield, to "scale down" Shaw's initial design. Blomfield warned: "The Crown must harden its heart and make a firm stand against the demands of the commercialist" (Rappaport, 2002, p.108). After Regent Street had been rebuilt, Reginald Blomfield, out of sheer admiration for Norman Shaw who had died in 1912, set out to write Shaw's biography. In this biography, Blomfield registers the dilemma he, as architect succeeding Shaw in the New Street's design, had been faced with:

[Shaw's idea] was a great and heroic idea, but quite impracticable. It did not give tradesmen what they wanted for their shop fronts and these great columns would have been very costly...The whole problem was difficult, because loyalty to Shaw's design had to be reconciled with the potential requirements of harassed shop-keepers...My only regrets in the whole matter are: (1) that the rebuilding was not carried out in the old London manner with red brick and Portland stone dressings, of which Shaw was a consummate master; (2) that the rebuilding of the whole of Regent Street from Picadilly Circus up to Oxford was not entrusted to Shaw. What a splendid thing he could have made of it. As it is, we are worse off architecturally than we were before, inasmuch as the Old Regent Street was uniform in design and low in height. I am not criticizing the designs of any of the buildings North of Regent Street, they suffer the inevitable consequences of being the work of many hands. They are at any rate built with solid materials and we have at least escaped from the stucco vulgarities of John Nash (Blomfield, 1940).

The Quadrant was rebuilt according to Blomfield's designs (fig.171), which soothed the shopkeepers concerns. By 1927, the recently formed association of shopkeepers, Regent Street Association, convinced the monarchy to ride through Regent Street; thus, celebrating its grand opening after reconstruction (fig.174). As Rappaport (2002) notes, the king was less than thrilled to be used as marketing.¹⁵⁵ It might seem strange that shopkeepers, after mounting a blockade to imperial architecture, would invite the 'Emperor' to parade down the recently-opened street. However, as Rappaport (2002, p.98) noted:

¹⁵⁵ Rappaport (2002) quotes a document (PRO CRES 35/3592) stating: "the King can not identify himself with what is practically advertisement of Regent Street traders"

Regent Street's merchants were unhappy about this effort to transform their shops into political symbols, but they certainly were not opposed to empire...retailers and advertisers used imperial and racial images to expand their markets and sell goods both in Britain and the colonies.

In light of all that has been presented throughout this thesis, my opinion is that the reconstruction of Regent Street, in the early 1900s, restated what had been stated with Nash' original design: Regent Street was a symbol of a British identity refuting French models. Regent Street embodied (economical and political) liberal ideals which were not against the empire, nor against the monarchy, but were certainly unwilling to support absurd costs, unless, of course, absurd costs provided an increase in revenues.

4.6 The all-inclusive modern avenue

Today, I believe, the avenue as a type should be valued for its all-inclusive potential.

(1) The modern avenue is all-inclusive in the ability to speak the language of both architecture and landscape.

As has been explained through the comparative analysis of the *Avenue des Champs-Élysées*, Regent Street, and the *Avenida da Liberdade*, the geometry used to define the merger of architecture and landscape can take many shapes, depending on the dominant concepts moving society and inspiring practitioners.

(2) The modern avenue is all-inclusive as *public* space, open to all without social restrictions.

Even if, at times, some¹⁵⁶ try to brand the modern avenue as exclusive, due to their intention to attract wealthy tenants or moneyed consumers, it is worth to note that these spaces are *public*. Unlike present-day shopping malls, avenues can be walked through by anyone at any time.¹⁵⁷

(3) The modern avenue is all-inclusive as a stage embracing, through different regimes, events of the entire political and cultural spectrum.

¹⁵⁶ Cf. Summerson (1949)

¹⁵⁷ A curious episode: a Portuguese news channel interviewed a shopkeeper who had agreed to let an emigrant homeless sleep at the doorstep of her most luxurious shop in Avenida da Liberdade as long as he was out by 7:00 am. (SIC Notícias, September 2008)

As stated above, avenues can be the places appropriated by crowds for any kind of collective public celebration or collective public display of discontent. Unlike statues of leaders and street names, which need to be destroyed or changed after each revolution, the reappropriation of public space becomes even more relevant, even more unique and irreproducible, if that space had been taken by oppressors previously and was conquered back. In 1944, De Gaulle's and Churchill's march down the *Avenue des Champs-Élysées* was particularly meaningful precisely because the Nazi army had done it before them and would have never allowed it to happen during the Occupation. Parisians took back the space which had been conquered by the Nazis. The relevance of public display leads to an overlaying of historic collective memories which, I believe, is a quality these urban spaces will always keep, regardless of what happens to surrounding buildings.

Nevertheless, present day interventions must be cautious so as not to challenge the all-inclusive nature of the avenue. This can best be explained by looking at modernist proposals, designed in the mid twentieth century to resolve increasing density and the rise in use of the private car.

4) The Avenue is all inclusive in the ability to welcome many transport modes within the same physical space.

Due to the avenue's network potential, municipal archives hold many projects transforming avenues into motorways. As I have thoroughly explored in the paper I presented in the IXth International Conference promoted by the European Association of Urban History (Appendix 1), turning an avenue into a motorway would be like turning a multifunctional tool into a tool serving only one purpose. An avenue allows the co-existence of many transport mode speeds in the same physical space while a motorway serves only one speed while other transport modes are relegated to different physical spaces.

From the avenue to the motorway there is a shift in the way the city is planned and lived. On one hand, avenues manage to accommodate many transport modes (pedestrians, public and private vehicles) in one unified space, despite [and because of] pavement differentiation; on the other hand, motorways are for vehicles, excluding pedestrians. Avenues are all-inclusive. Motorways promote space segregation. While avenues (or arteries) aim to configure the city as a unified entity and aim to be (and can be) the centre of urban life, motorways

challenge the continuity, in quality and character, of urban space. (Roseta, 2008, Appendix 1)

In Lisbon, the *Avenida*, initially a residential artery, lived its golden years during the 'crazy' 1920s (Melo, 2003). Its theatres began developing an original repertoire of political satire, and its luxury hotel, Avenida Palace (Castelo, 2004), welcomed illustrious visitors. From the 1950s to the early 70s, pressure began turning the artery into an office centre which in turn required improved traffic. Architects were commissioned by private companies to develop projects where construction area was heavily increased. Carlos Ramos¹⁵⁸, one of the architects commissioned, set the mood in one of his descriptive memories:

there lacks ... regarding the Avenida da Liberdade ... a decision which will avoid the sad spectacle of watching buildings, recently constructed and designed for housing, being systematically used, in bad conditions, as commercial offices and institutional organizations...It is indispensable to promote the natural expansion of a rich and noble commercial area throughout the Avenida da Liberdade. This artery has, thank god, a 90 meter transversal section which can uphold a 30 to 25 meter height. (Ramos, c1950, AMAC, Caixas 10, 12)

Lisbon's City Hall found itself cornered. Miguel Jacobetty was the City Hall architect nominated to develop a master plan with one goal: to take control of the densification process, managing to preserve some of the Avenida's identity. This plan, developed "in a short period of time...fighting against the lack of collaboration and material of all sorts" (AMAC, Caixa 7) set the 30 meter height limit. Beyond working as a prohibition, the limit invited all proprietors to reach it.

Along with densification came the need for improved transit. Traffic became a main concern in the City Hall's commissions. Beyond architects, traffic engineers were called upon to solve mobility issues. In 1969, a French company *Omnium Technique d'Aménagement* (OTA) (Cardoso, 1970, AMAC, DMPGU 284) was commissioned to study and restructure the road system in central Lisbon. Its proposals ranged from widening the circulation area of the streets to building underground highways. These studies were further developed by Portuguese engineers. In the 1965-1975 master

¹⁵⁸ Carlos Ramos (1922-) architect and author of several referenced buildings. Invited by Cristino da Silva to work as a lecturer in the Escola de Belas Artes de Lisboa (1958).

plan for Lisbon, Meyer-Heine¹⁵⁹ designed the extension of the Avenida as a highway accompanied by 40 metre high residential blocks on *pilotis*, as prescribed in Le Corbusier's *Charte d' Athènes*. Further separation of pedestrian promenade from car mobility was unavoidable. The underground station *Marquês* was conceived as a subterranean shopping mall, providing safe passages for pedestrians under the congested roundabout.

The predictable evolution of the Avenida... was to become an exclusively tertiary artery, with one or two luxury hotels and total eradication of open door commerce,...on the whole becoming an enormous sum of private parking spaces ...in a socially segregated territory where the pedestrian would appear as something obsolete. (Almeida, 1980)¹⁶⁰

This same pressure was felt in Regent Street and Champs-Élysées. In Regent Street, Holford was commissioned to redevelop Piccadilly in order to allow an increase in car traffic and to increase density (fig.180). As documentation regarding the process (held in the National Archives and in the London Metropolitan Archives) can attest, Holford's modernist vision of public space, segregated by speed, was not followed through precisely because Holford refused to increase traffic capacity as much as was desired. Regent Street is today, once again, being completely rebuilt due to the end of the second 99 year lease period; however, the Crown Estate has kept the century-old façades, while changing the buildings behind the façade (fully expanded in Hobhouse, 2008, Chapter 8).

The *Champs-Élysées* was also submitted to densification, since Haussmann's regeneration and throughout the twentieth century. Construction along the *Avenue des Champs-Élysées* gradually emerged, booming during Haussmann's regeneration of Paris. In between 1850 and 1860s many, four to five storeys high, luxurious *hôtels particuliers* emerged. The first regulations on building were set in 1853, determining mandatory alignments. In 1854, the *Étoile* was re-designed. In 1859, a 20 metres maximum height and width was established for all buildings (Pozzo, 1997). According to Pozzo, until 1870, only 16% of present day buildings had been built, construction was at a peak in between 1870 and 1914 (57% of the buildings were built), between the wars 13% of the buildings were built, and from 1948 to today, 14%. The increase of

¹⁵⁹ Georges Meyer Heine (1905-1984) French architect and urban planner. Professor and author of several plans and published works.

¹⁶⁰ Transl. FR.

traffic brought the pressure to replace housing with offices. Prohibition to do so was approved in the 1920s and reconfirmed in 1952 (Pozzo, 1997).

Not one of the modernist projects completely redesigning the avenues as motorways was built for *Avenida*, for Regent Street or for *Avenue des Champs-Élysées*. However, if, on one hand, each of these avenues is irreproducible and unique, on the other, the built expansion of *Champs-Élysées*' grand axis into *Défense* (fig.182) can perfectly testify what a modernist Regent Street (Holford's pedestrian piazza, hovering over car traffic (fig.180)), or a modernist *Avenida* (Albino's regeneration or Lima Franco's expansion of the *Avenida* (fig.177, fig.178 and fig.179)), would have looked like.

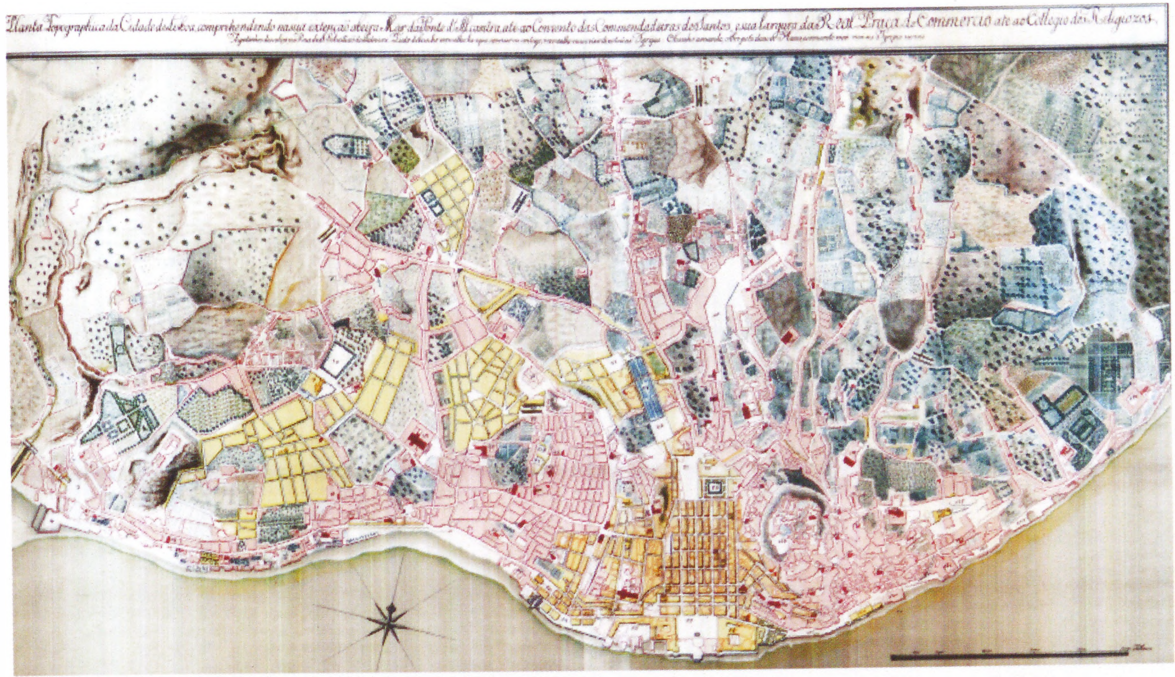


Fig.133 Lisbon, eighteenth century (MC, digital reproduction FAUTL)

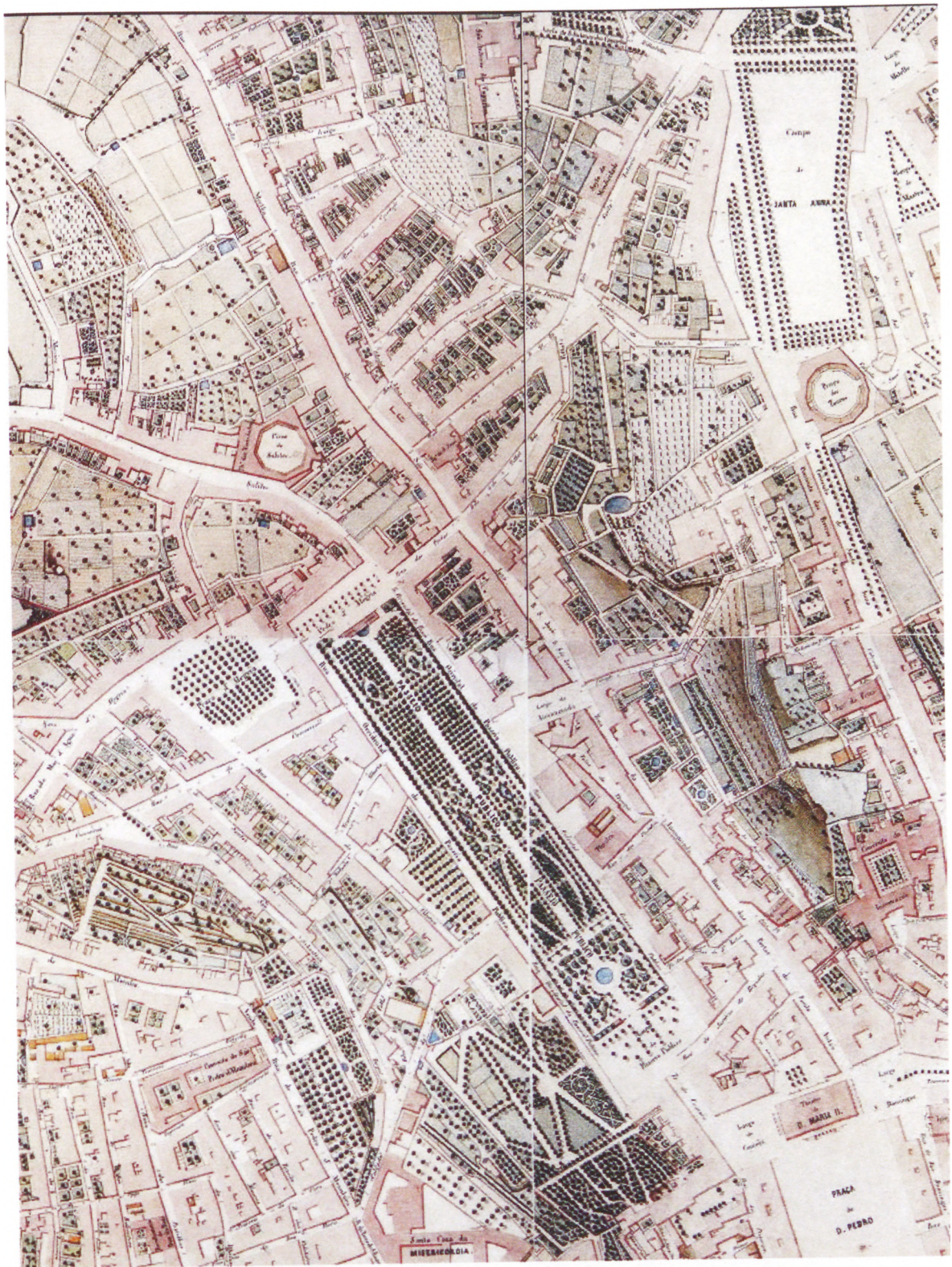


Fig.134 Lisbon, Passeio Público, 1856 (digital reproduction FAUTL)



Fig.135 Passeio Público, as it would have looked in the nineteenth century, present day model by Sandra Bento, Photograph FR (AMI)

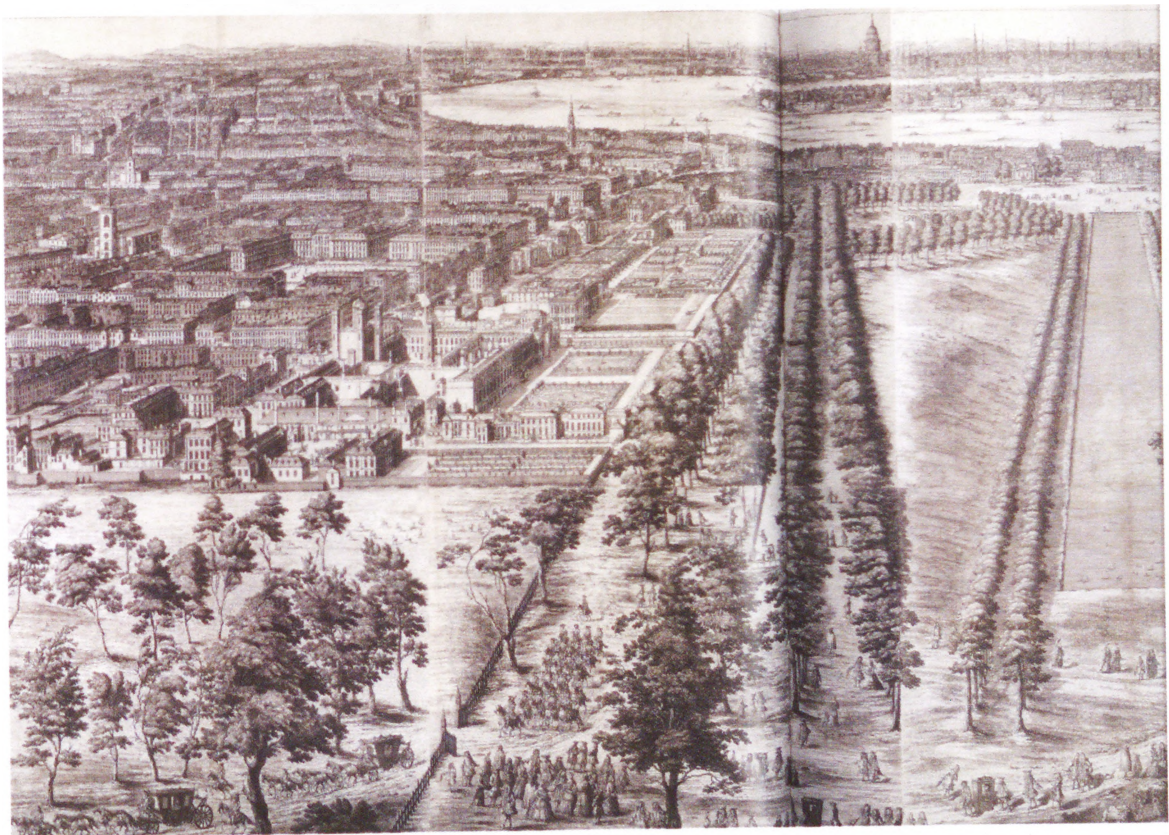


Fig.136 London, St.James, John Kip's large panorama, 1720 (Whitfield,2006,p76-77)

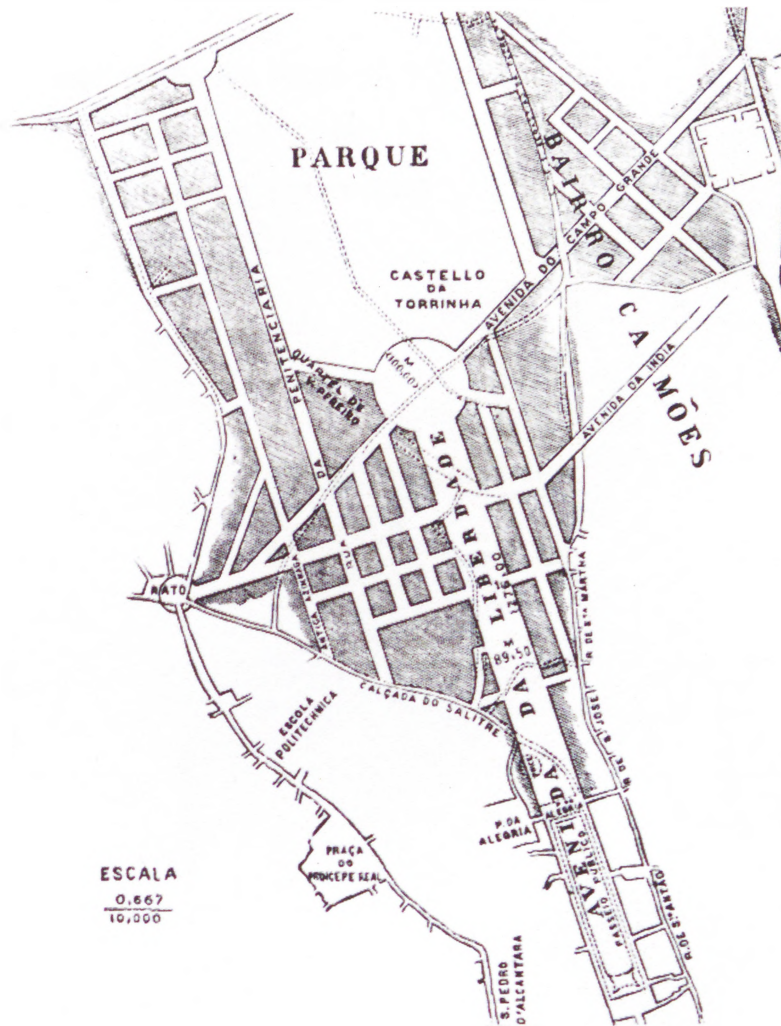


Fig.137 "Grande Plano da Avenida do Passeio do Rocio: Plano da Avenida da Liberdade", Ressano Garcia, 1879 (Morais and Roseta, 2005, p19)



Fig. 138 Masterplan with a network of avenues from city centre to Campo Grande, Ressano Garcia, 1897

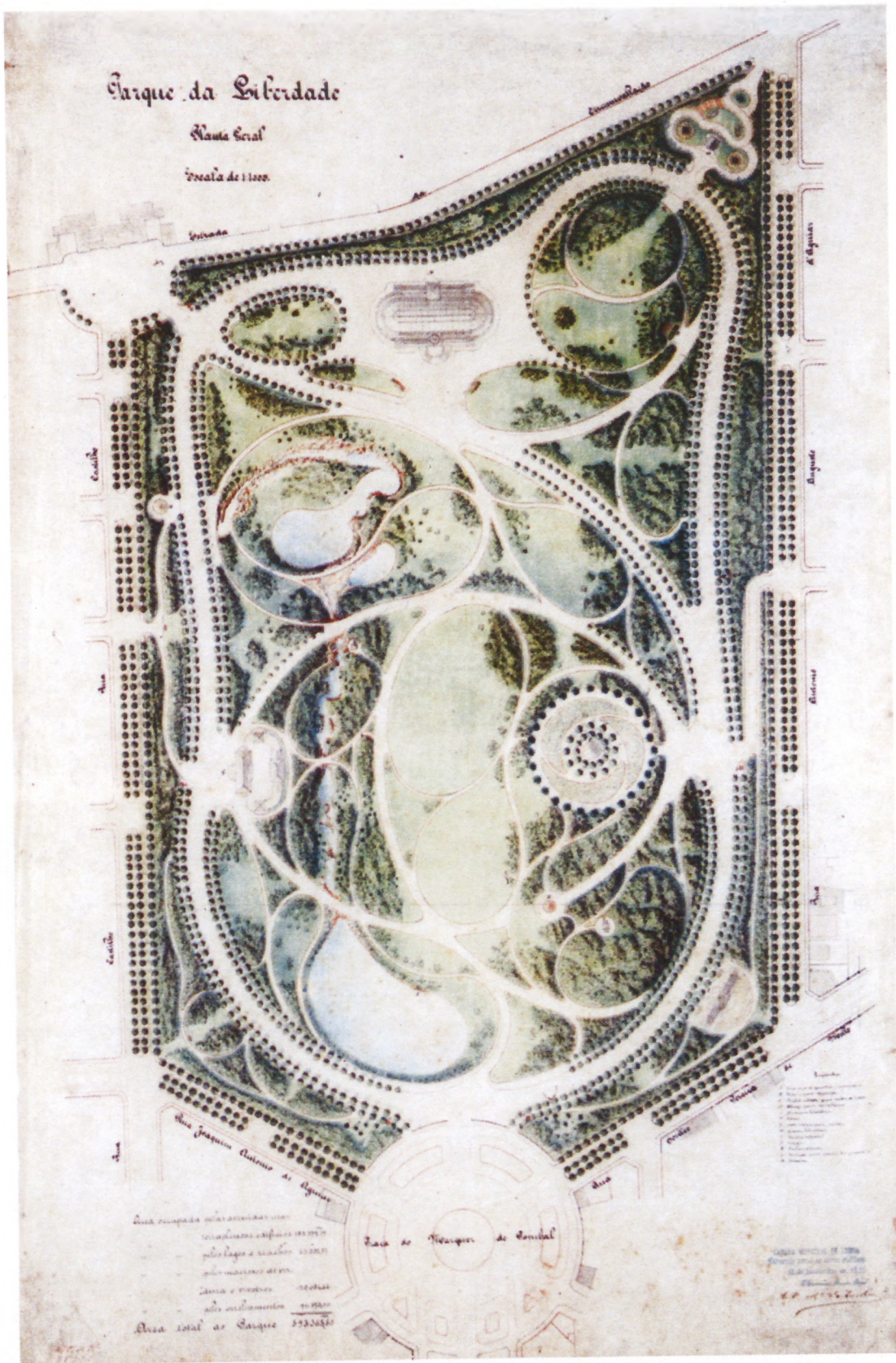


Fig.139 Parque da Liberdade (present day Parque Eduardo VII), António Maia Avellar Plano according to a design of Henri Lusseau,1898 (Morais and Roseta, 2005, p22 and AMAC Caixa 9SGO and GEO)



Fig. 140 Masterplan displaying the intention to expand Lisbon in 1757 (MC original, reproduction França, 2008, plate IX)

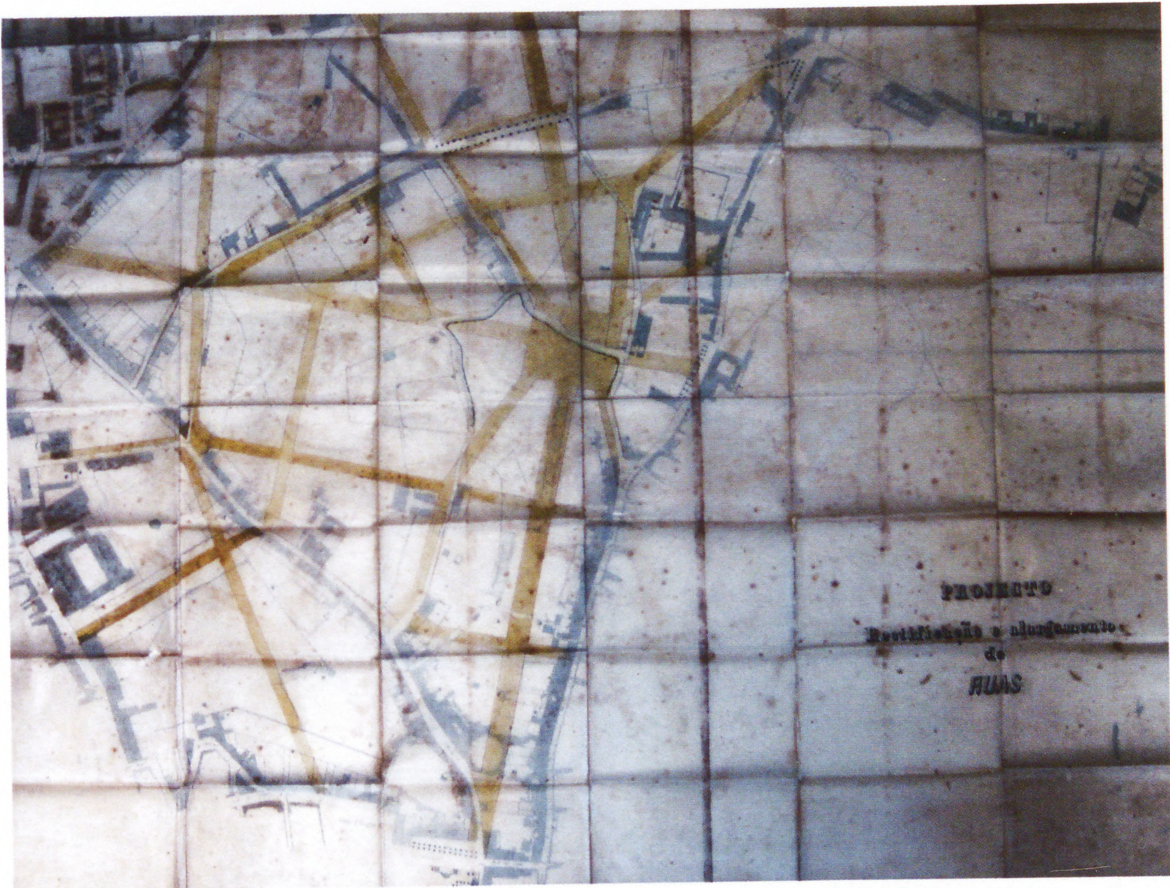


Fig. 141 Plan to expand Lisbon prior to Ressano Garcia's Avenida, c1858 (AMAC Caixa 23V)



Fig. 142 Expansion Plan "Planta parcial da cidade entre a Praça do Commercio e o Campo Grande com todos os melhoramentos approvados e em via de execução a norte do Parque Eduardo VII para justificação dos estudos que se lhe seguem", Ressano Garcia, 1903 (AMAC DSU/92 6236)

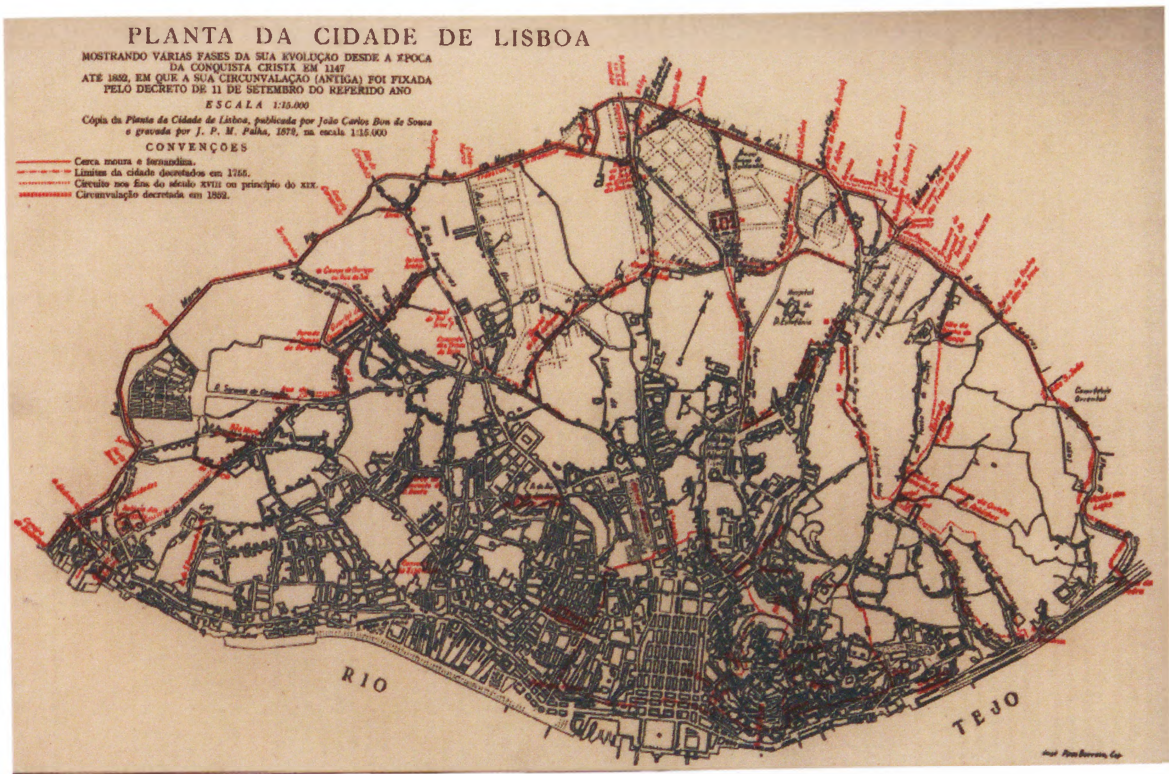


Fig.143 Lisbon, Plan indicating the city's limits from 1147 to 1852 (digital reproduction FAUTL)

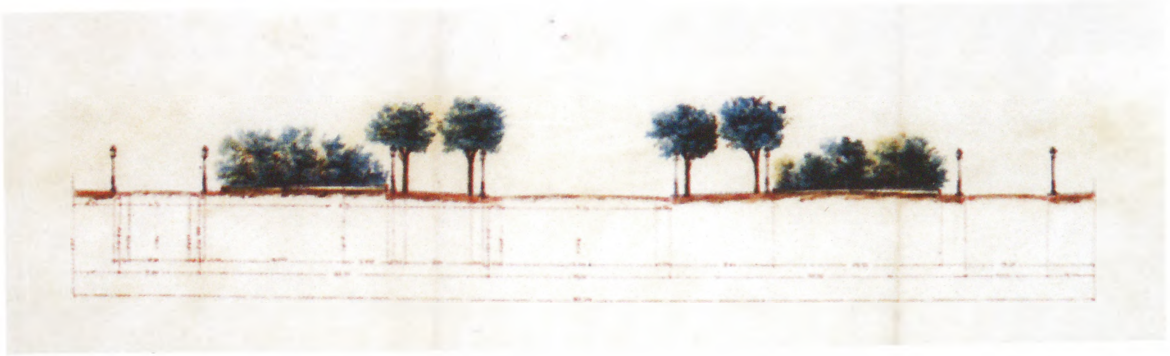


Fig.144 Section Avenida da Liberdade (Silva,1989, plate 14)

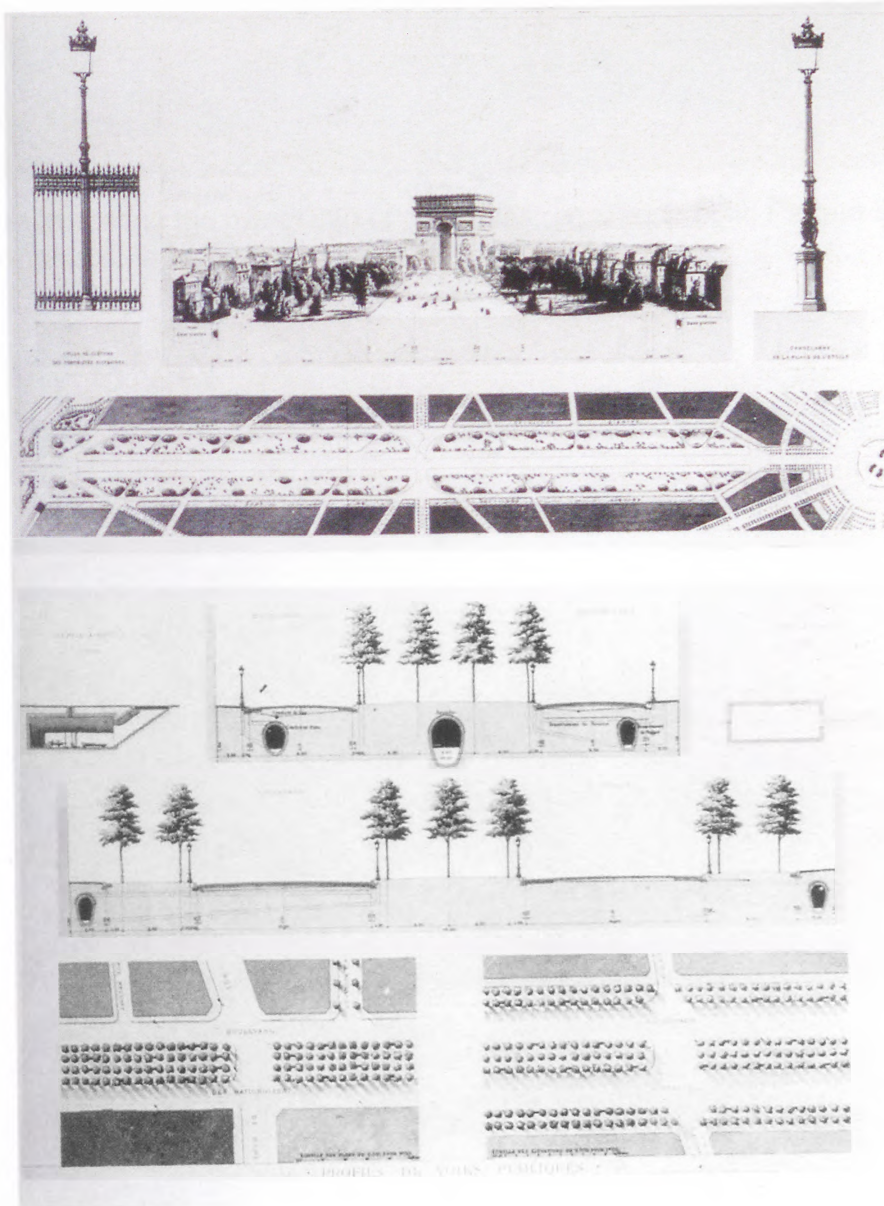


Fig.145 Section Avenue Foch from "Les promenades de Paris" d'Alphand (Cars and Pinon, 1991, p213)

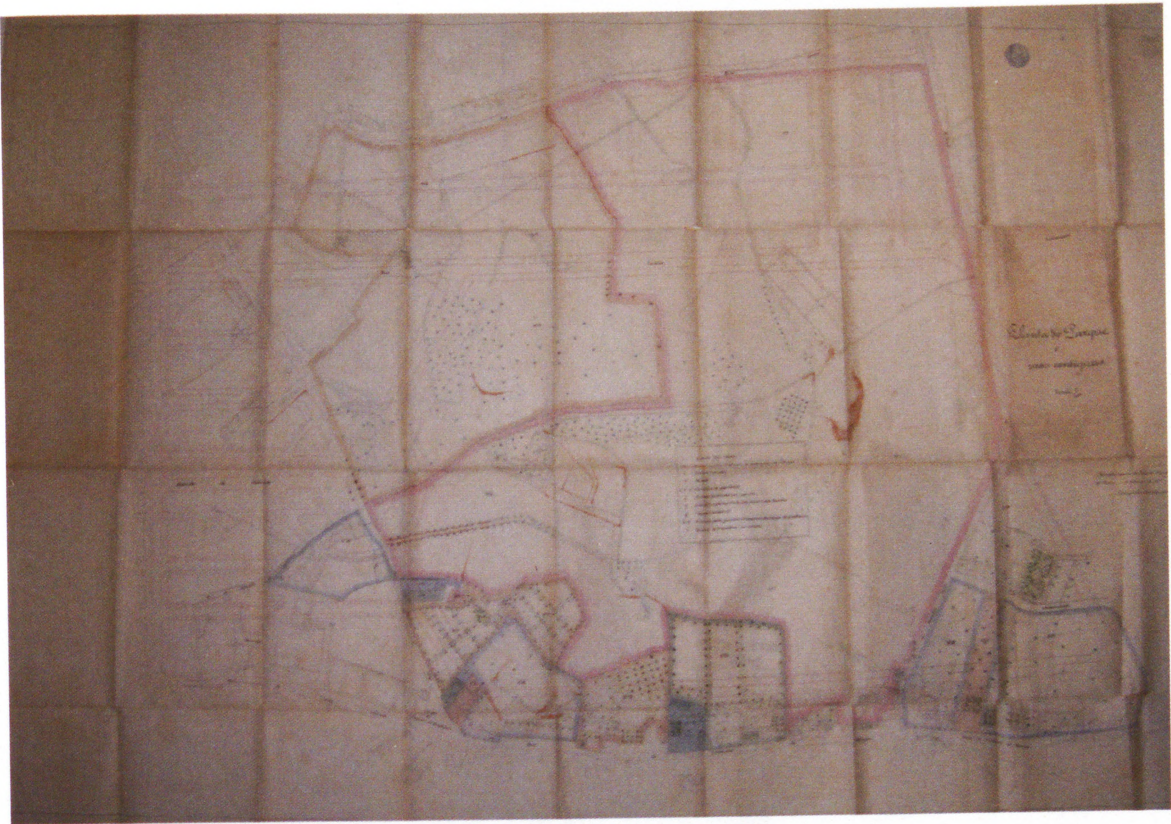


Fig.146 Plan indicating the ownership of properties required to build Parque Eduardo VII (AMAC Caixa 9SGO)



Fig.147 "Engrandecimento da Avenida da Liberdade", 1885, Miguel Paes (GEO)

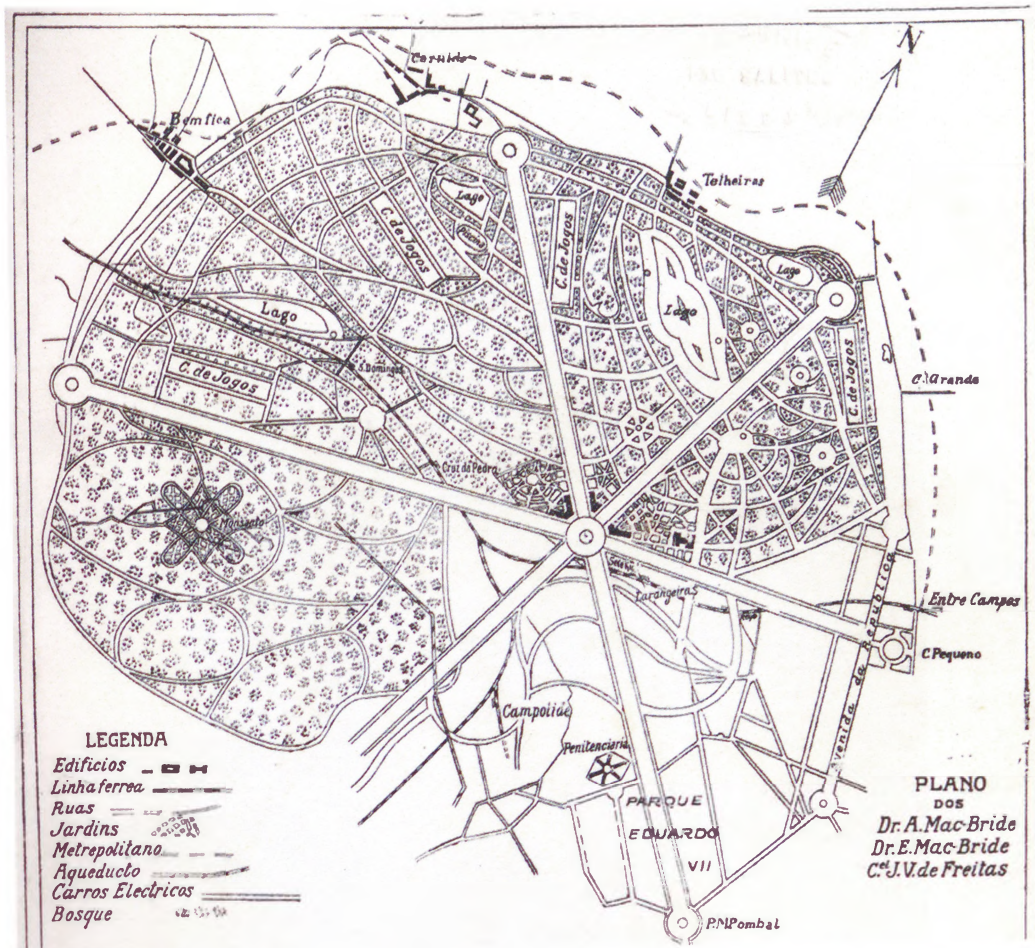


Fig.148 A study for Lisbon's Park "Bosque de Lisboa" Alberto e Eugénio Mac Bride e General Vicente Freitas, 1925 (GEO)



Fig.149 A study for Lisbon's Park "Estudo do Prolongamento da Avenida e Arranjo de um Grande Parque com Cidades Jardim e Campos de Jogos" Jean Claude Nicolas Forestier, 1927 (Morais and Roseta, p31)

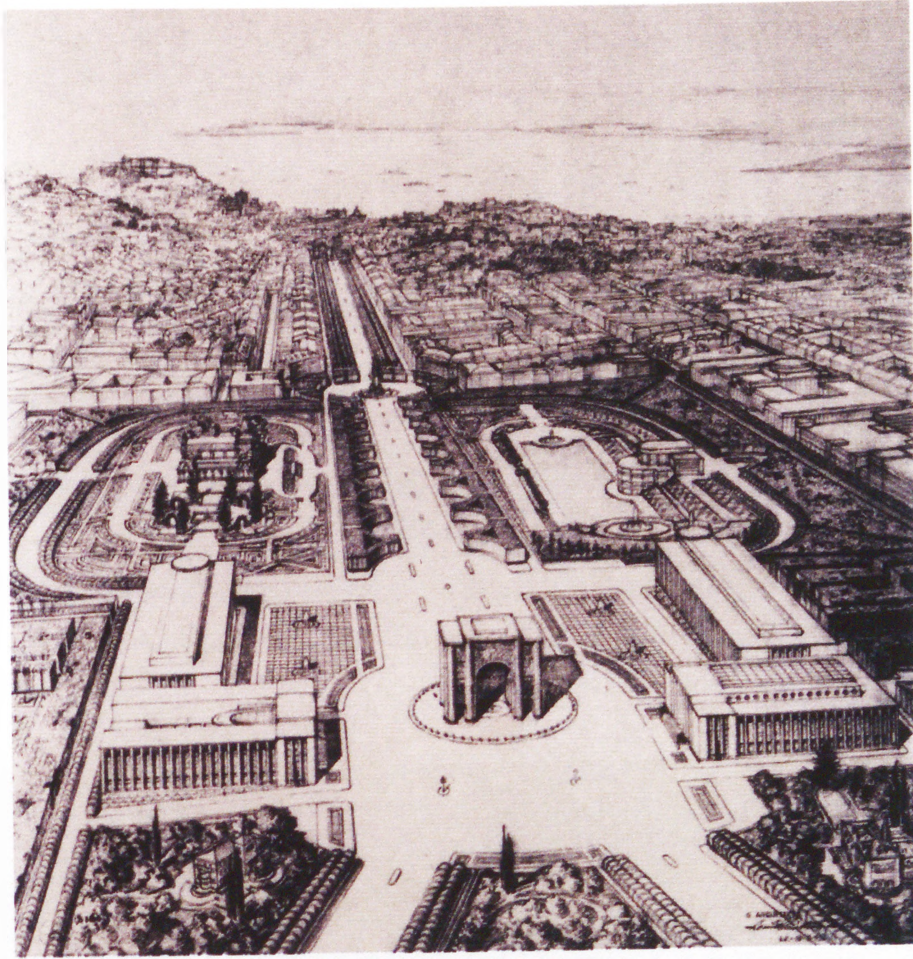


Fig.150 A study to extend Avenida, 1936, Cristino da Silva (Morais and Roseta, 2005, p48)

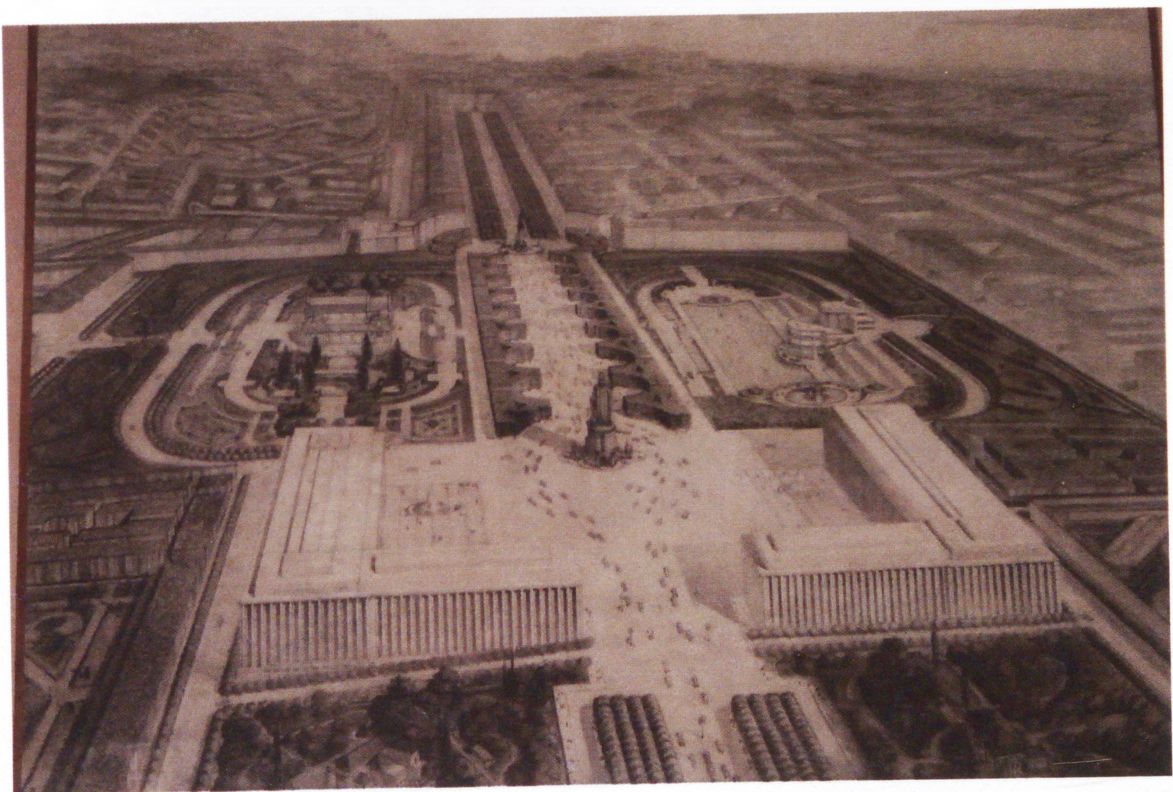


Fig.151 A study to extend Avenida "Projecto do Parque Eduardo VII e Prolongamento da Avenida da Liberdade", 1932, Cristino da Silva (AMAC, hanging on a wall)



Fig.152 Lisbon, re-designing Parque Eduardo VII and the Palace of Justice, 1945 Keil do Amaral (AMAC)

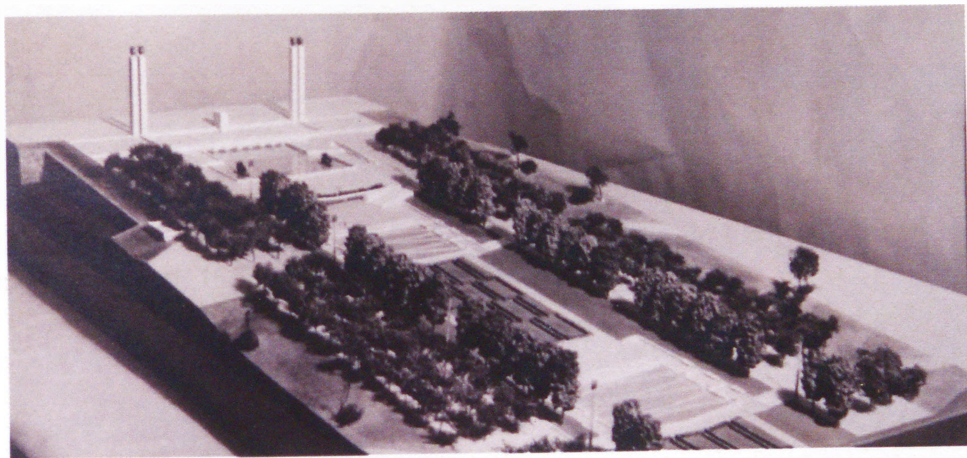


Fig.153 Lisbon, re-designing Parque Eduardo VII and the Palace of Justice, 1945 Keil do Amaral (AMAC)



Fig.154 Present day photograph of Parque Eduardo VII (the Portuguese flag has been placed where the Palace would have been)

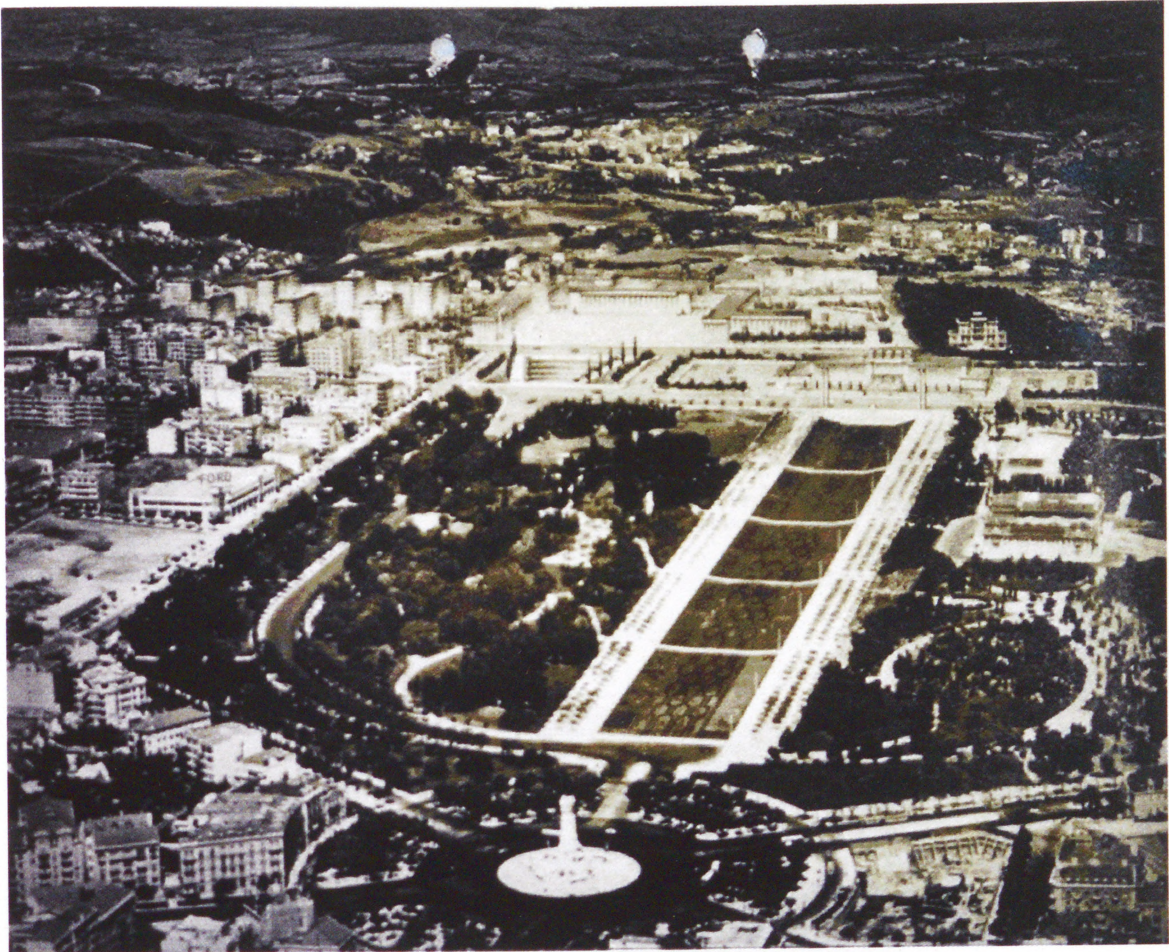


Fig.155 Bird's eye view of Parque Eduardo VII, with model of Faria da Costa's proposal over the photograph, 1957 (AMAC Caixa DMPGU 95C)



Fig.156 The growth of the axis- Passeio Público (AMF)



Fig.157 The growth of the axis- Avenida da Liberdade (AMF)



Fig.158 The growth of the axis- Avenida and the rebuilt Parque Eduardo VII (AMF)



Fig.159 The march of the World War I troops (AMF)



Fig.160 Salazar's Youth (Juventude Salazarista) (AMF)

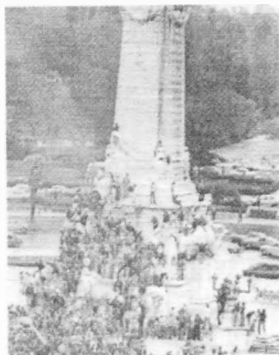


Fig.161 Revolution overthrowing dictatorship, 25 de Abril 1974 (AMF)



Fig.162 Pope John Paul II's visit to Lisbon (AMF)



Fig.163 Allies camp in Champs-Élysées, 6 July 1815 (Ariste and Arrivetz, 1913)



Fig. 164 August 24th 1944, Liberation of Paris, Parisians march down Champs-Élysées (Caracalla, 2002, p43)



Fig.165 Alain Prost, celebrating his victory in a parade down Champs-Élysées as he became Formula 1 champion for the fourth time (Caracalla, 2002, p156) Fig.166 A car showroom in 1937 (Caracalla, 2002, p126). Champs-Élysées became the place to drive through and to buy cars.(Pozzo,1997)



Fig.167 May 1968 (Caracalla, 2002, p48)



Fig. 168 Paul McCartney (Caracalla, 2002, cover)



Fig.169 Rebuilding the Quadrant, John Nash's Façade, in Before/After Photographic Survey by John Murray,1940 (CE)



Fig.170 Rebuilding the Quadrant, Piccadilly Hotel, Norman Shaw's Façade, in Before/After Photographic Survey by John Murray,1940 (CE)



Fig.171 Rebuilding the Quadrant, Reginald Blomfield's Façade, in Before/After Photographic Survey by John Murray,1940 (CE)



Fig.172 Rebuilding Regent Street , in Before/After Photographic Survey by John Murray,1940 (CE)



Fig.173 Rebuilding Regent Street , in Before/After Photographic Survey by John Murray,1940 (CE)



Fig.174 The opening of Regent Street, the royal procession, 23 June 1927 (Hobhouse, 2008, p124)



Fig.175 Formula 1 cars driven through Regent Street, 2004 (Hobhouse, 2008, p180)



Fig.176 Christmas lights in Regent Street (Hobhouse, 2008, p184)

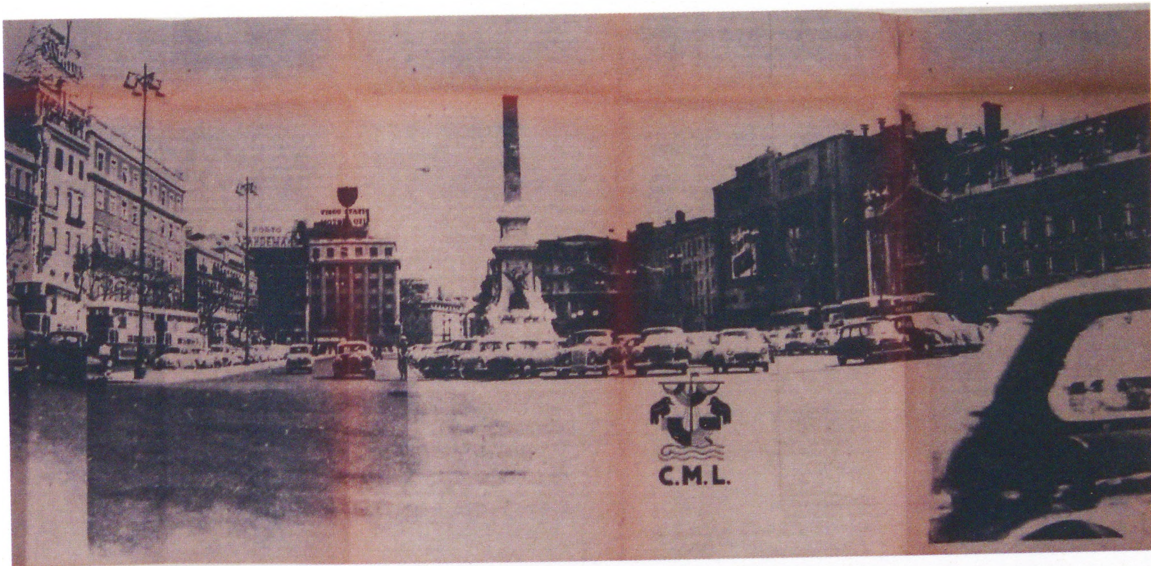


Fig. 177 Plan Commissioned by the City Hall, CML, to rebuild Restauradores (Southern end of Avenida), not built. This image displays what the city looked like BEFORE the development. Project by Henrique Albino, 1966 (AMAC Atados 6, DMPGU 337)

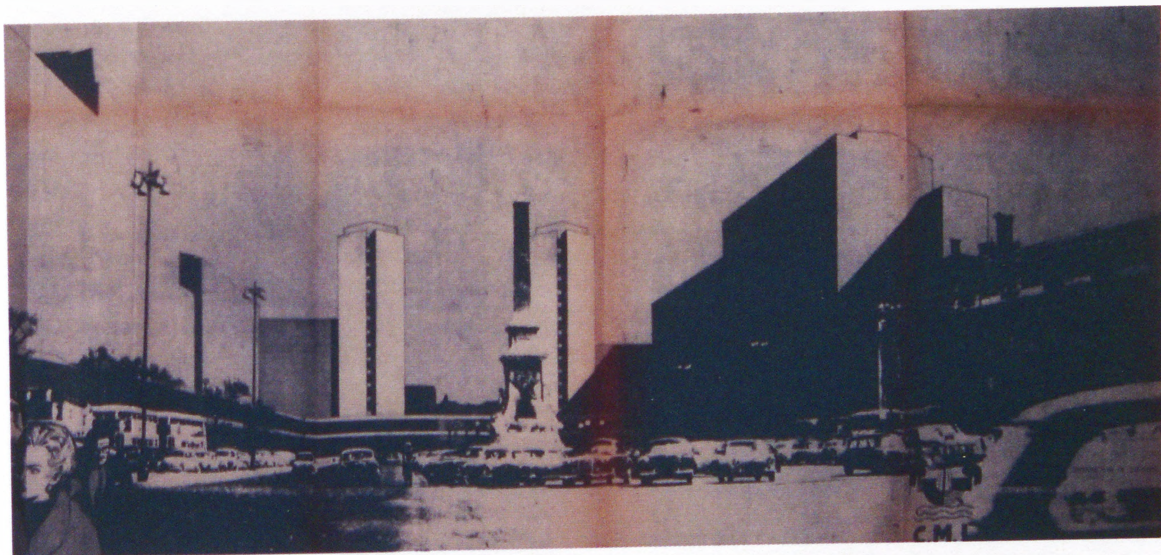


Fig. 178 Plan Commissioned by the City Hall, CML, to rebuild Restauradores (Southern end of Avenida), not built. This image displays how it would look like AFTER the development. (AMAC) Project by Henrique Albino, 1966 (AMAC Atados 6 DMPGU 337)



Fig. 179 Study to extend Avenida, not built. "Estudo de Prolongamento", Lima Franco, 1963 (AMAC Caixa 272 DMPGU)

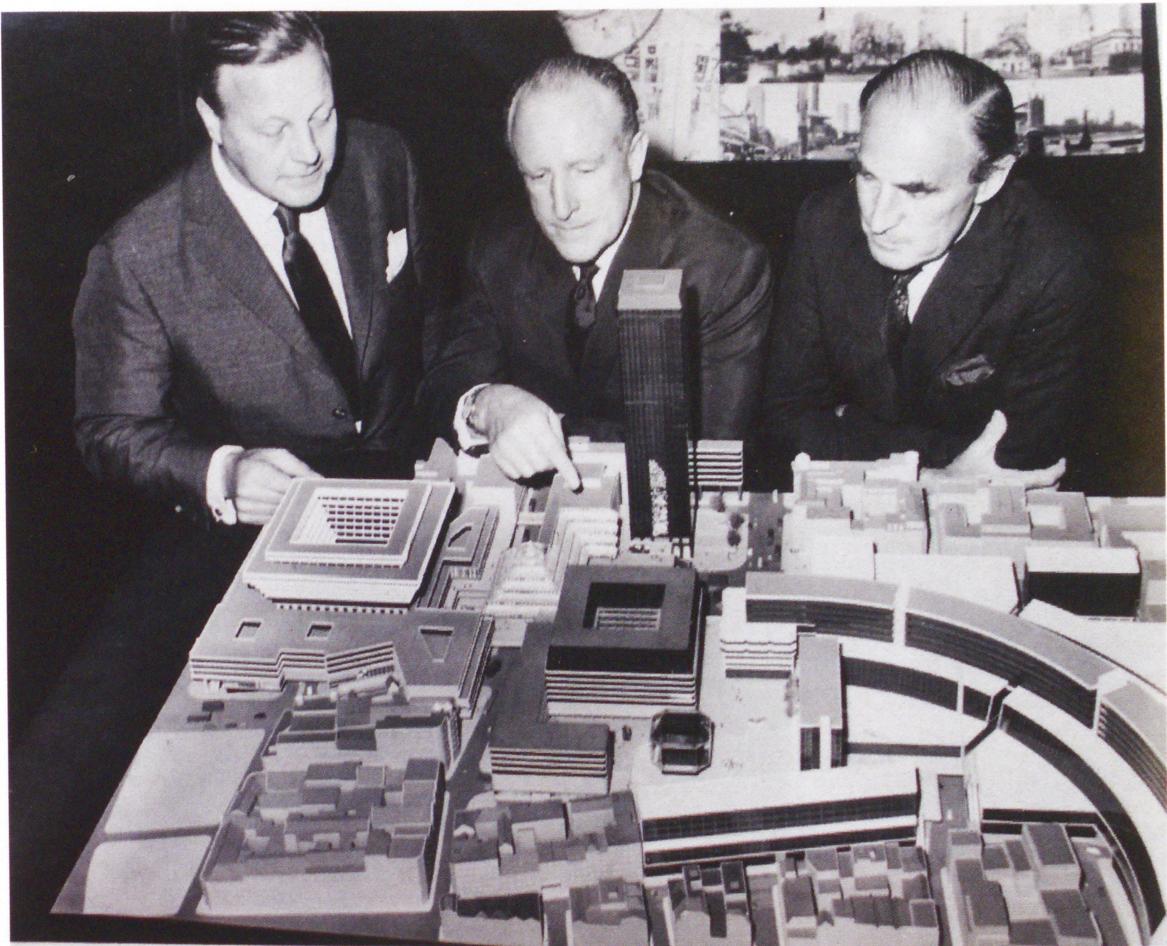


Fig. 180 This photograph had the following text attached: "Press Conference at County Hall to announce Sir William Holford's proposals for Piccadilly Circus Scheme. Piccadilly gets a sensational modern new look...a roof car park over shops...Eros re-sited on a raised piazza...a slender tower block at the top of Haymarket near the Criterion...escalators for pedestrians" 10/2/1961(LMA, SC/PHL/02/0678)



Fig.181 There are many modernist proposals for Piccadilly and Regent Street in the LMA, this is a most curious example. Photograph with hand written comment: "High Soho, date and origin unknown, found in Press Bureau." (LMA)

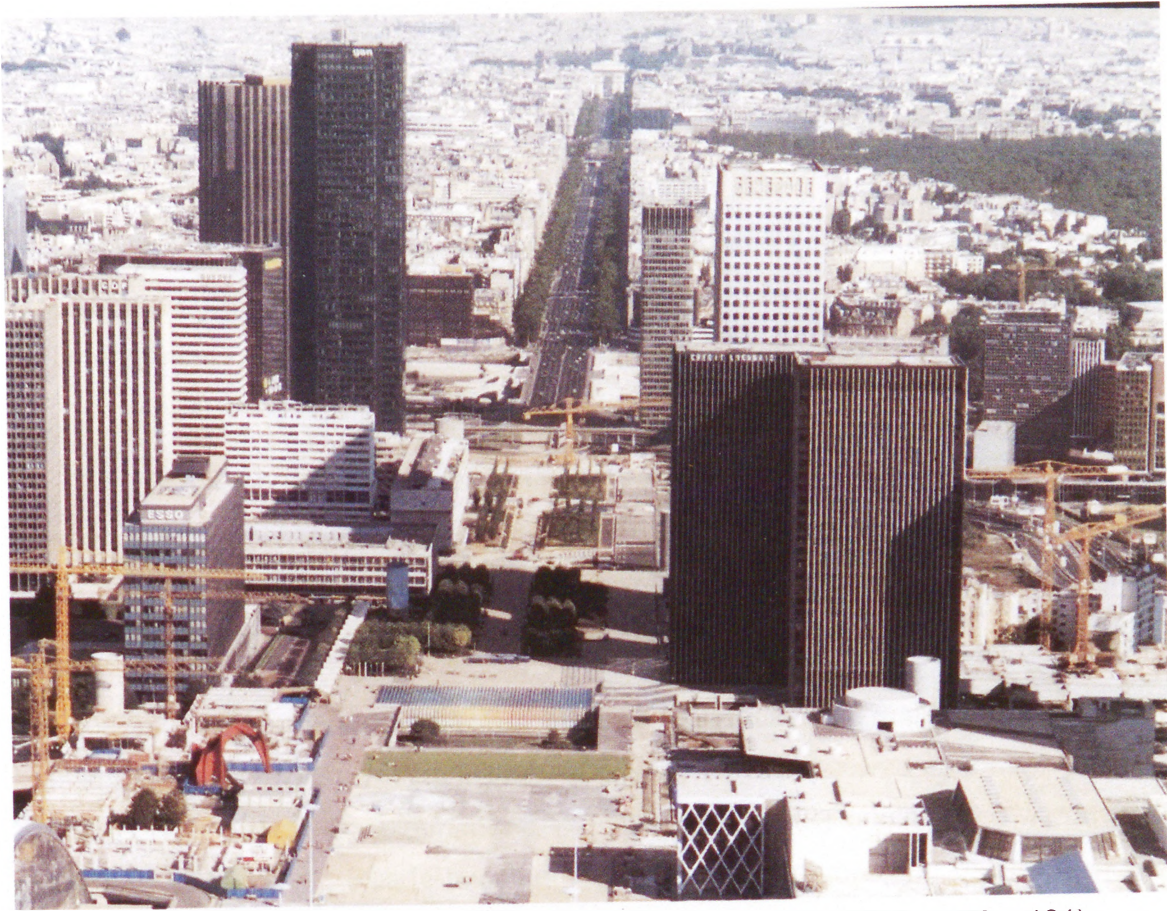


Fig.182 La Défense in 1980, the expansion of the grand axis. (Weill, 1983, p191)

5. Conclusions

This research set out to answer the following question: *What is an avenue?* After presenting a thorough survey of three iconic case-studies, this research suggests the following answer:

An avenue is a physical space, belonging to an urban transport and infrastructure network, which differs from a road or street in its intention to unite architecture and landscape as one physical entity. The avenue's linear configuration and landscape inheritance endow this type with the ability to become a public space suitable for leisure promenades.

Historically, early avenues emerged when and because city walls came down. The seventeenth-century *Avenue des Champs-Élysées* was conceived as part of a regional network uniting distant noble estates. The sixteenth-century origin of the word *avenue* was related to *arrival*. Roads became avenues when approaching palace or hunting lodge; hence, roads became avenues upon arrival. Seventeenth-century avenues were still part of the landscape and already part of the architectural composition. The ability to control both architecture and landscape within the same design composition was supported by the invention and manipulation of a geometric tool, perspective. The same design composition was invoked upon arrival in all estates; thus, avenues brought together noble estates separated by miles of road.

In the nineteenth century, regional transport was increasingly reliant on the expanding railway network. Grand central stations replaced avenues as the physical spaces celebrating arrival. Avenues became part of the urban network, connecting relevant locations within the urban core. Pre-existing urban core was made up of either narrow streets or of a patchwork of neighbourhoods dismissive of a general plan. Nineteenth-century avenues emerged with an ambitious scale associated with public programmes of urban regeneration. Built core was pierced by avenues to improve urban transport and infrastructures, most importantly sewers.

In the eyes of a growing class of wealthy tenants, nineteenth-century improvement was equivalent to healthy and functional neighbourhoods. Improvement also meant an exponential increase of an urban property's value. The nineteenth-century avenue proved to be a useful tool to regenerate urban economy providing both an increase in urban property's value and construction-related jobs. London's Regent Street, possibly the first nineteenth-century *percée*, was a public/private venture promoted by the parliamentary monarchy's Treasury; thus, Regent Street stood, at the beginning of the

nineteenth century, as a parliamentary economic strategy, challenging the myth of the avenue as an exclusive inheritance of absolute power.

Nineteenth-century avenues inherited the seventeenth century's intention to unite architecture and landscape. Nineteenth-century Regent Street was a promenade connecting city centre to a suburban park. Haussmann's regeneration of Paris, trapped within walls, chose to line avenues with trees. Avenues' design differed as did landscape design principles. Regent Street's curves invoked the eighteenth-century British landscape movement, seeking a British identity distant from Le Nôtre's design principles.

Networks of avenues were not only used for regeneration but were also used for urban expansion. As seen with the twentieth-century *Avenida da Liberdade*, rural land was conquered by a network of avenues, lined with trees and leading public promenade into public parks.

Avenida da Liberdade, Regent Street and *Avenue des Champs-Élysées* also reveal, today, the avenue's potential to become a national symbol due to their sheer monumental scale and a strategic position in the network. Avenida and Avenue des Champs-Élysées have also staged most of the nations' historic events, regardless of political regimes.

In the nineteenth century, the seventeenth-century ritual of the leisure promenade through the tree-lined *allée*, punctuated, in the eighteenth century by the eventual *café*, was increasingly associated with the shop window and consumerism. Avenues have been branded as luxurious due to their scale and their ties with consumerism. However, this research wishes to point out, that avenues as a type have an all-inclusive potential. All-inclusive in the ability to speak the language of both architecture and landscape, all-inclusive in the ability to welcome many transport modes within the same physical space, all-inclusive as *public* spaces open without social restrictions, and all-inclusive as stages embracing events of the entire political and cultural spectrum.

As explained in the introduction, this research chose three particular European iconic case-studies as a research limit. Conclusions arising, with this research, from the comparative study of the three iconic case-studies selected challenge the commonly pre-established identification of the avenue as a straight, long axis, lined with trees and usually built by absolute power.

Many questions arise as this research faces its end, particularly in what regards comparative history: How was the avenue imported to the construction of the European colonies? What were the specific differences between European avenues and the avenues built throughout the American and African continents? How did Asian cultures embrace the merger of landscape and architecture in its urban design?

As explained in the introduction, the methodology chosen for this research endorsed Lefebvre's vision of the production of space as the result of tensions and empathies generated within the triad of *lived space*, *physical space* and *conceived space*. At the end of this research I further wish to stress that I believe an incursion into a city's history and archives has much to gain if done by a researcher who has made of the city (and of its language) a daily habit.

As this research on the avenues of Lisbon, Paris and London concludes, my ambition is to assemble an international team of researchers. The modern avenue's reproducibility as an urban type has the potential to bring together case-studies from all continents. The specificities given by each avenue's geographic location, history and iconic stature can drive the team of researchers into a rich international dialogue, confronting different political and cultural perspectives with similar urban design. This comparative research could reveal how unique, or how common, the past of the modern avenue was and how unique, or how common, the future of the modern avenue can be.

Appendix 1

Paper presented at the
IXth International Conference on European History
on
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Underground: From Zapping to Musical Cityscape

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Royal College of Art – London- United Kingdom

Keywords: underground, avenue, transport modes, urban space, orientation, topological map

1. Nineteenth Century Emergence of an Urban Underground World

“Towards the middle of the [nineteenth] century, London was dying - slowly, painfully and with a great deal of protest. No physician had to be called in to diagnose the trouble; it was all too apparent to those who lived there, for, wherever they went, they encountered the great thrombosis of traffic which clogged the highways that were the veins and arteries carrying the city’s blood.”¹

Nineteenth century congestion was not exclusive to London, afflicting most European capital cities to a greater or lesser degree. Transport modes required an upgrade. The nineteenth-century European capital city had no choice but to reinvent itself if it were to be healed. Healing came in form of two urban types: the avenue and the underground. Paris chose a network of avenues, improving circulation and introducing a monumental scale in the cityscape. As Paris was being rebuilt aboveground, London’s extreme congestion led to the invention of a different transport mode, the underground.

Underground lines emerged in mid nineteenth-century London to resolve congestion within the city’s core. Extensive building of roads or rail lines bringing commuters to the city’s periphery only worsened internal congestion. If, in Paris, the *Prince Président* had political power to transform the city with a network of avenues, London’s Parliament would not allow the monarch to embark in such adventures². In London, all odds pointed to other solutions: transport modes had to operate elevated or underground.

¹ Hugh Douglas cited in C. Wolmar *The Subterranean Railway: How the London Underground was built and how it changed the city forever*, London, Atlantic Books, 2004, p.10

² Even if John Nash did pioneer the *percée* by managing the systematic purchase of properties in order to build a monumental axis (Regent Street), he was only able to do so because Regent Street would increase revenues which ultimately reverted to the Exchequer. J.White, *Some account of the proposed improvements of the western part of London*, 1815

Elevated rails were conceived and designed in Victorian London; however, the disturbance these elevated rails caused on pre-existing space (considering noise and visual impact) demanded for an underground solution in the city centre. The nineteenth century experience in managing, surveying and improving the underground sewer system might have been decisive for the nineteenth century mind to embrace Pearson's idea of 'trains in drains'.³ The 'trains in drains' slogan might not have been very appealing to nineteenth century citizens, particularly considering London's first line, the Metropolitan line (opened in 1863), ran on steam traction;⁴ nonetheless, the underground was necessary to keep London alive. Even if the solution was inevitable, the nineteenth rational mind hesitated. After all, under the ground was the world of Hades, where the dead usually dwelled.

As Bobrick describes,⁵ rails were built under the ground not only in London but, eventually, in most metropolitan areas. Accidents often questioned the wisdom behind the underground choice. In 1903, Paris saw 77 of its citizens killed in an underground fire. Historical circumstances, however, would salvage the underground transport mode from damnation. In 1916, during the first aerial bombing of Paris, citizens used the deep underground stations as shelters. During the London Blitz, the deepest underground stations were popular lifesaving havens.

Throughout the twentieth century, several metropolitan areas invested in underground networks. Underground networks became parallel to the public space network above ground, as lines mostly ran under public spaces, namely under streets and avenues. This coincidence between public space above and underground lines below occurred for two reasons: firstly, the construction of lines with a 'cut and cover' technology, demanding wide open space above; secondly, even when piercing tunnels underground replaced 'cut and cover', only the use of public space could avoid expropriations, interference with buildings' foundations and possible lawsuits deriving from damages caused.

Today, despite the physical coincidence between above the ground public spaces and underground lines, these two parallel worlds above and below ground offer opposite

³ Charles Pearson is said to be the first to set out the idea to build running railways under cities in a pamphlet in 1845. Wolmar, *The Subterranean Railway*, p8.

⁴ Vuchic, *Urban Transit Systems and Technology*, p33.

⁵ B. Bobrick, *Labyrinths of Iron: A History of the World's Subways*, New York, Newsweek Books K, 1981

ways of experiencing the cityscape. How does the underground world differ from the world above? What kind of *urban space* and *orientation* through urban space does it provide? To answer these questions we must explore the nature of the relationship established between transport modes and urban space.

2. Transport Modes and Urban Space

2.1. A structural relationship

Vukan R. Vuchic⁶, Professor of Transport Engineering, schematized the optimal evolution of a transport system as population increases in two figures. Vuchic's schemes and model are abstract representations which seek to understand "inherent characteristics" of different transport modes and their "optimal uses". The schemes do not aim to consider cultural and geographical context, or "real world experiences", since these would "distort the optimal uses of modes"⁷.

The first figure displays a city's development as population increases and the transport system evolves; the second, an optimal sequence of transport modes which should come, hand in hand, with growth in population. According to population ranges indicated by Vuchic, a sparse settlement should evolve to become a small city when population reaches 50,000, a small city to a medium city at 300,000, and a medium to a large city at 1,300,000⁸.

Vuchic's schemes are a most useful tool to visualize the close relationship between transport modes and urban space, particularly the column entitled 'sketch', where Vuchic presents spatial requirements adequate for each transport mode.

As a sparse settlement evolves to become a large city, its transport system should go through three fundamental changes in order to attain optimal capacity and performance levels:

- (1) from sparse settlement to small city, *wide* arterials need to be introduced to enable greater capacity and level of service;

⁶ The conceptual model hereby discussed comes V. Vuchic, *Urban Transit Systems and Technology*, e. g. rev. ed., New Jersey, John Wiley & Sons, Inc. 2007, (on of his Urban Public Transportation Trilogy).

⁷ Vuchic, *Urban Transit Systems and Technology*, p.55

(2) from a small city to a medium city, semi-rapid transit, or *separation* of transit modes, is necessary to introduce reliability and speed of transit into the transport system;

(3) from a medium to a large city, a rapid transit mode, or a mode that *fully controls the strip of land* on which vehicles operate, needs to be introduced, allowing neither grade crossings nor legal access by other vehicles or persons.

As a transport system evolves, transport modes require either more space or a different type of space to operate efficiently. As such, urban space needs to be reconfigured to accommodate changing transport demands. This reconfiguration proves to be necessary not because urban space *supports* the infrastructure which makes the transport mode possible, but because urban space *is* part of the transport mode's infrastructure.

In any given 'real world' situation, transport mode evolution will come along with other requirements dictated by cultural and geographical contexts. These cultural and geographical requirements might be anchored on a different set of values, which might not include transport efficiency; thus, questioning Vuchic's evolution altogether. Such might be the case when the preservation of historical cores, archaeological sites, or environmental havens is at stake. Nonetheless, Vuchic's schemes point to a solid conclusion: transport system efficiency depends on the ability to understand, meet and work with each of the transport mode's spatial needs.

Considering Vuchic's evolutionary scale, there are two fundamental changes in urban space occurring with step 4 and with steps 8 and 9. Step 4 introduces arteries which materialize a *leap of scale* in urban space's width and length. Steps 8 and 9, the motorway and the underground, introduce transport mode *segregation* leading to vertical spatial segregation.

2.2. Leap of Scale - Arteries

Vuchic indicates that *arteries* need to be introduced in the transition from sparse settlement to small city. These arteries materialize a *leap of scale* in the settlement's expansion and in the urban space's width. In other words, arteries are *longer* and *wider* than the paths which preceded them.

⁸ These population ranges are only for general orientation and cannot be precisely defined, nor should different modes be employed as a response to area population. Vuchic, *Urban Transit Systems and*

The leap of scale introduced by Vuchic's arteries challenges the sparse settlement's ability to relate to the pedestrian scale. A pedestrian can best relate to distances ranging from few centimetres to 750 meters (~15 minutes walking). When daily activity requires urban distances to surpass this measure by far, auxiliary vehicles, such as carriages or cars, need to assist motion through urban space. When auxiliary vehicles become dominant, the physical dimension of arteries will no longer be determined by the operating speed and limits of the human body (pedestrian). The vehicle's ability to overcome the human body's exhaustion levels provides arteries with ambitious extensions. A growing population's need to increase transport system capacity asks of arteries to become wider. Different operating speeds (vehicles/pedestrians) coexisting in the same space require the introduction of specialized pavements (or sidewalks).

In synthesis, Vuchic's arteries are: (1) *long*, (2) *wide* and (3) allow *coexistence* of different operating speeds. Returning to "real word experiences", avenues which pierced or expanded European cities in the nineteenth century are a most powerful example of Vuchic's arteries, a very concrete monumental image of what such a leap in scale can look like.

It is interesting to note that Vuchic's populational threshold (50,000) for the emergence of arteries was much lower than what was verified when European cities began using this urban type. In 1811, when practitioners were commissioned to present proposals for Regent Street, the population in the area equivalent to the County of London was already 1,139,355⁹. When Haussmann's avenues pierced pre-existing core, Ville de Paris had a population ranging from 1,696,141, in 1861, to 1,851,752, in 1871¹⁰. Despite the wars and social turmoil, Georgian London and Haussmann's Paris were facing growth in population.

There were, however, European cities where population was not growing when main avenues began expanding pre-existing core. In Lisbon, for instance, population was 187,404¹¹ in 1878, the year before the construction of Lisbon's Avenida da Liberdade began. Lisbon had never recovered from the dramatic loss in population caused by the

Technology, p.55 The numbers used in this paper are the ones Vuchic indicates for Europe.

⁹ Census 1931, available from <http://www.histpop.org>

¹⁰ <http://www.demographia.com> [accessed 1 april 2008]

¹¹ Anuário INE

earthquake in 1755; thus, the extraordinary width with which Avenida da Liberdade was endowed can hardly be seen as consequence of growth in population, its monumental scale symbolized a yearning for economic regeneration and the capital city's rehabilitation.¹²

Vuchic does state the ranges in population presented along with his diagrams are merely for orientation and can not be precisely defined. The three cities were, in fact, dysfunctional and in need of an upgrade, if nineteenth century reports¹³ are taken into account.

2.3. Segregation of Transport Modes- Semi Rapid Transit, Motorways and Rapid Rail

Semi Rapid Transit

As seen in Vuchic's step 4, arteries (or avenues) introduce sidewalks; thus, segregating vehicles from pedestrians. Avenues will also accommodate semi-rapid transit. Semi-rapid transit means exclusive rights-of-way¹⁴ for public transport modes, in spite of maintaining grade crossings with other vehicles and pedestrians. The effect semi-rapid transit has on physical urban space derives from the need to define barriers to prevent other modes from entering exclusive domain. For instance, all other modes must be effectively warned not to enter a Light Rapid Rail lane. These barriers can be physical obstacles, such as guardrails, or can be as subtle as slightly elevated pavements or a warning sign posts. Despite some effect semi-rapid transit might have as an obstacle in urban space, it will not inaugurate a spatial type. The avenue will be quite adequate to support it (as Vuchic's step 6 demonstrates).

¹² For a detailed analysis of Avenida da Liberdade's monumental scale see J.S. Morais, F. Roseta, *Os Planos da Avenida da Liberdade e o seu Prolongamento*, Lisboa, Livros Horizonte, 2005

¹³ For an accurate portrait of London's traffic in the nineteenth century see Nash's report regarding Regent Street in J. White, *Some account of the proposed improvements of the western part of London: by the formation of the Regent's Park, the new street, the new sewer*, 2nd ed., London, Cadell & Davies, 1815 .

¹⁴ "*Rights-of-Way*. A transit way or ROW is the travel way or strip of land on which the transit vehicles operate. There are three basic ROW categories distinguished by the degree of their separation from other traffic. [Category C, indicates mixed traffic; Category B, indicates longitudinal separation from other traffic, but grade crossings at intersections; Category A designates modes that fully control the transit way.] "There are three characteristics by which to define a transit mode: ROW, System technology and Type of service. Contrary to the common belief that technology mostly determines modal characteristics, the ROW category has a major influence on both performance and costs of modes". Vuchic, *Urban Transit Systems and Technology*, p47

The avenue, however, will only support mode segregation regarding public transport (such as the mentioned Light Rapid Rail). When private transport (such as the car) demands an increase in capacity with fully controlled rights-of-way, the motorway (or freeway) needs to be introduced.

Motorway

From the avenue to the motorway there is a shift in the way the city is planned and lived. On one hand, avenues manage to accommodate many transport modes (pedestrians, public and private vehicles) in one unified space, despite pavement differentiation; on the other hand, motorways are for vehicles, excluding pedestrians. Avenues are all-inclusive. Motorways promote space segregation. While avenues (or arteries) aim to configure the city as a unified entity and aim to be (and can be) the centre of urban life, motorways challenge the continuity, in quality and character, of urban space.

The motor viaduct will materialize, most times, an insurmountable obstacle inside the cityscape. As such, with motorways, there is a tendency to design and understand the city as an addition of units divided by obstacles as opposed to designing and understanding the city as one unitary grid of avenues. Motorways, despite becoming obstacles in urban space can, according to Vuchic, increase the transport system's capacity, speed, safety and convenience.

Rapid Rail

The ultimate mode in Vuchic's optimal sequence is the rapid rail, or a fully controlled common carrier, with exclusive rights-of-way along the entire network. Rapid rail can increase capacity, speed and area impact while introducing reliability in the transport system; nonetheless, if elevated, rapid rail will generate physical obstacles aboveground similar to motor viaducts.

When underground, rapid rail maintains all the characteristics of the elevated rail while eliminating the inconvenience of obstacles, noise and negative visual impact. Underground, rapid rail will keep exclusive rights-of-way along its entire path without

the need to adjust to pre-existing cityscape and with the possibility to reach unparalleled speeds¹⁵.

2.4. The Underground and Urban Space

Minimum space, maximum impact

The physical space required to support the underground can be reduced to record-breaking minimum dimensions as it is dictated solely by the vehicle's technological characteristics and needs not to be accessed by any other mode. In fact, the inherent characteristics of this most evolved transport mode exacerbate stations, generating density clusters around them, while annulling the relevance of urban space as an infrastructure of the entire system.

Underground stations can still be considered part of urban space; however, the tunnels, inside which the vehicles ride, can not. The reasoning behind the configuration of the underground tunnel is quantitative, focusing solely on time and capacity (passenger per hour). This quantitative reasoning brings this mode closer, as a type, to other underground infrastructures, such as sewers and cables.

Designing time

Since the underground's spatial requirements are minimum, this mode appears to have almost no impact on physical urban space. While avenues exude monumentality above ground, underground, the entire network develops out of sight. Despite this apparent invisibility, the impact of rapid rail on urban space is very significant as it allows the city's horizontal extension to expand to record-breaking maximum dimensions, due to the mode's capacity, speed, reliability and consequent area impact. This horizontal leap of scale is particularly driven by the increase in speed which does bring far away neighbourhoods closer to the city centre.

If a network of avenues' urban design must be conceived as a spatial project, which greatly focuses on the city as architecture, the underground network's design focuses on optimizing time. Thus, the underground network, unlike a network of avenues, is not

¹⁵ Vuchic, *Urban Transit Systems and Technology*, p76

conceived as a spatial project. The simple exercise of imagining the full extension of any underground line or the intersection of several lines as spatial objects becomes most painful, even when looking at accurate three dimensional representations of underground tunnels.

Complete mode segregation

While the avenue supports mode segregation by placing different modes on different pavements, it can still be identified as one single space. Motorways segregate vehicles from pedestrians, but meet other networks at designated junctions. Rapid Rail Transit, on the other hand, embraces complete mode segregation. Underground rapid rail transit allows pre-existing space to remain largely undisturbed and the exits from the network do not interfere with above ground traffic flow. Thus, underground rapid rail materializes the most complete segregation from pre-existing space.

Most evolved transport mode

As Vuchic points out, today, rapid rail transit can introduce speed, safety, capacity, reliability and area impact into the transit system, with much more attractive energy efficiency than the private car (even in off peak hours)¹⁶.

This most evolved condition of underground rapid rail does not mean to annul the existence of other modes. Walking (step 1), Vuchic warns, might even be more important in large cities than in small settlements. Each mode has qualities and shortcomings which need to be pondered considering the particularities of each situation. Underground lines require much higher initial investments and risk disrupting the city for a longer period of time while in construction. For very low density neighbourhoods, underground lines would not make much sense. A robust transport system relies on the complementary characteristics of all transport modes.

¹⁶ Regarding the numbers displayed on Vuchic's table of energy efficiency, Vuchic warns "...these are only single values for illustration: they vary considerably and should therefore not be used for any specific situation or as exact overall mode comparisons [however] transit modes generally have several times greater energy efficiency than automobiles." Vuchic, *Urban Transit Systems and Technology*, p143-144.

After having established the impact of transport mode evolution on urban space, the next section will explore how *orientation* in urban space will be altered by transport mode evolution.

3. Transport Modes and Orientation through Urban Space

3.1. Mental Maps

Human memory does not retain every single detail of the images received. It organizes perceptions, generated by stimulus coming from surrounding environment, into mental maps. These mental maps are schemes, designed within the mind to simplify characteristics of the environment so it can be retained by memory.

A mental map allows one to retrace one's own steps, finding familiar references (such as 'right after the red house', or 'left at the roundabout'). Unless aided by external gadgets (like maps or GPS devices) *orientation is only possible with the existence of mental maps*. The lack of orientation means the mind finds no familiar references on which to anchor memory and is thus unable to develop any scheme for guidance. The best way to understand the relevance of mental maps is to wander in an unfamiliar city without any kind of map. While it might be pleasurable for a reasonable amount of time, being unable to situate a journey's beginning (or the hotel's location) will bring about the anxiety of being lost¹⁷.

After having established the importance of mental maps, the next section explores how an increase in speed or a change in transport mode characteristics might alter the way mental maps are generated within memory; thus, altering the perception and legibility of urban space.

3.2. Pedestrian, Driver, Passenger - From Active Mode to Passive Mode

When in motion within urban space, I find three ways of circulating which require three different systems of references: as pedestrian, driver, or passenger. Pedestrians and

¹⁷ For this paper the term *mental map* is proposed as an alternative to Kevin Lynch's term *mental images*. This has been done to reinforce the focus on orientation and drift away from Lynch's concern regarding images and legibility which is not adequate for the underground. Nevertheless, *The Image of the City* is a useful insight into orientation and the problems which might derive from the lack of it.

drivers are in *active mode*, or actively interacting with the environment. Passengers are in *passive mode* as they are free to ignore references the environment has to offer.

From pedestrian to driver, there is a change caused by the *increase in speed*. Within his rights-of-way, a pedestrian can stop, hesitate, turn around and change route at will, without severely interfering with others. Pedestrian references derive traditionally from: architecture (monuments, building height); environmental references delimiting the site (a river, sun position, a mountain); elements with small physical scale (a peculiar window); or even senses other than vision (the sent of a flower shop). The driver, on the other hand, must rely on vision and abide by a strict code of rules that allow others reaction time to respond. The driver can not afford to hesitate. Speed, introduced by the vehicle, mandates references collected by the driver to deliver immediate messages, univocal indications. The driver's mental map must rely on references which either impose themselves through immediate physical characteristics (such large size or unique colour) or belong to a predetermined code of signs; thus, when motorways are the core of the transport system "the graphic sign in space [becomes] the architecture of the landscape"¹⁸.

If there is a shift from *pedestrian* to *driver* introduced by speed, it pales in comparison to the shift from pedestrian/driver to passenger. Because both pedestrians and drivers are in active mode, they need to construct mental maps supported by continuous sequences of references. The passenger, on the other hand, is in passive mode; thus, needs to retain only references of singular places (stations) where he wants to arrive. The bus passenger is free to ignore (or enjoy) the landscape and needs only to remember the few iconic elements which indicate arrival. Underground, the passenger does not even need to recall iconic images. Stations' names need to be posted, either visually or acoustically, to awaken the passenger from passive mode.

The best sources to understand what separates active mode from passive mode are actual maps, the tools designed to fill in memory's gaps. The next section will compare topographical maps, required by pedestrians and drivers, to the topological maps a passenger needs.

¹⁸ Venturi's lessons from Las Vegas thoroughly analyse the relation between driving and a landscape composed of signs. R. Venturi, D. Scott Brown, S. Izenour, *Learning From Las Vegas: The Forgotten Symbolism of Architectural Form*, Cambridge, Massachusetts, and London, MIT Press, 1977, p13

3.3. Topographical Maps - Topological Maps

A pedestrian's map must be topographical, in other words, it attempts to represent the physical world as accurately as scale permits. It might highlight iconic monuments which provide robust visual references or focal points, but it always provides as much information as possible regarding the space in between those iconic elements. A driver's map, whilst still topographical, is mostly directed at naming roads, as a driver will most likely be looking at signs for orientation. A motorway, indicating all exits, is the best place for a driver to keep from getting lost and might be the only situation where the driver, in an unfamiliar city, does not even require an actual map.

The best source to understand a passenger's map is the underground map where stations are connected by an absence of physical references. While pedestrian/driver maps need to have thorough visual description of physical objects, the underground map is a network of possibilities, which need bear no resemblance to physical space.

3.4. Underground Orientation

Aboveground, the cityscape develops as a continuum of built and natural references. Underground, the cityscape is seen through zapping. In an underground ride, stations are the only visual references, while tunnels connecting the stations are the absence of visual references. Initial underground carriages ("Padded cells") did not even have windows, since there seemed to be no real need for them.

Marc Augé calls the underground a "*non-lieu*"¹⁹: a generic space without the traditional context provided by references such as the sunlight, the river, or a monument reminding citizens of an historical event. Underground, the passenger holds on to the underground map, like a blind man to his cane, relying on station's names to anchor his memory to the world above.

Bobrick suggests the absence of references in underground lines almost dictated the underground's end. When two lines first met in New York, passengers seemed unable to enter and leave stations without getting lost. Panic closed down the lines until a solution

was found. A tale has it that a transit engineer's son, upon reading the Minotaur's myth, suggested coloured lines could help passengers find their way, just as Theseus found his, following the thread out of the labyrinth²⁰.

3.5. Underground Map

Initial underground maps displayed lines overlaid on topographical maps. The cluster of stations in the city's centre and the far distances reached by lines taking commuters to the suburbs mandated that the underground map had to become distorted to be legible. A topological representation (mapping relations between places, as opposed to physical references) was needed to distort distances at will.

By 1926, F H Stingemore, a draughtsman in the Underground Group, hesitantly figured distortion was needed and topographical information had to be removed to obtain legibility: nevertheless, several questions remained for Harry Beck²¹ to dedicate his lifetime laying the foundations of today's underground maps. Should river Thames remain in London's underground map? Should there be a North pointer (omnipresent in all topographical maps)? The North pointer was introduced and eventually removed, but a passenger survey revealed the Thames (even if distorted) was a useful reference.

Dismissing physical features leads to striking similarities in underground maps of cities as distinct as London, Paris or Berlin. In fact, cruising inside a tunnel is a similar experience in all these cities. Paradoxically, today, these uniform underground schemes are the only possible way of capturing each of these vast metropolitan regions as a unified whole.

4. From Physical Space to Musical Space

4.1. Zapping through the city

¹⁹ M. Augé, *Não-Lugares*, Venda Nova, Bertrand Editora, 1998

²⁰ B. Bobrick, *Labyrinths of Iron*, 1981

²¹ For a thorough description see K. Garland, *Mr Beck's Underground Map*, Harrow, Capital Transport, 2008

According to Vuchic, the underground is the “last step” in the evolution of urban transport, considering the mode’s capacity, reliable speed, and required minimum space. On one hand, the underground’s technology makes it the most effective urban mode of the industrial age; on the other hand, the experience of the underground’s cityscape through zapping belongs to the age of telecommunications.

The passenger zaps through stations as he zaps through television channels or websites. Television channels or websites can change programs with no narrative or logical connection in between them. One can go from a political speech to a cooking programme without even blinking. The underground can, likewise, carry passengers from a most beautiful city core to a decrepit neighbourhood without questioning the network’s logic. Yet the dark tunnel connecting core to suburb, as deprived of visual references as it may be, is still a physical experience, a limbo, a non-place where cityscape is no longer spatial, but not yet timeless.

To make matters worse, crowding during peak hours makes daily habitability unbearable. In a crowded bus, the passenger’s vision leaps to the outside, carrying his mind with it. The absence of visual references in the tunnel imprisons the vision’s ability to escape. All the passenger has left, Marc Augé claims, is *«la collectivité sans fête et la solitude sans l’isolement»*²².

Despite Augé’s tragic commentary, the underground is more than a requirement for any metropolis to exist: it relies on electric traction. Today, as nations seek independence from foreign oil, it would be irresponsible to dismiss an energy efficient transport mode that relies on electric traction.

Can designers serve communities by turning the underground daily experience into more than an unbearable situation one must endure? Architects have designed some underground stations as remarkable pieces of architecture. Some have intensified references from the world above (such as bringing Egyptian statues into Louvre’s station); others have adapted the Piranesi’s “*Carceri d’Invenzioni*” prolific lessons on unlimited space. Is it, however, possible to improve the journey through the long dark tunnel?

4.2. Musical Space

I propose the underground tunnel should explore its difference from the world above ground. This difference is the absence of visual references. How can landscapes be composed without visual references? The aborigines, in the desert, measured distances by the duration of a song, given the lack of visual references. I call on musicians, architects, and urban planners to develop a musical composition for each underground line. Each line would have a musical narrative composed exclusively for that line: a melody to provide references (other than visual) to inform the passenger his station was approaching. These melodies would be the passenger's guide in the underworld. The underworld would become a landscape of music, impossible to reproduce aboveground where it would be shattered by visual intensity. It would be a musical cityscape tailored exclusively for the citizens of the world of Hades.

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²² Augé, *Un Ethnologue dans le Métro*, Hachette, 1986

Appendix 2

Archive Review
Lisbon, London, Paris

Introduction

The Archive Review aims to characterize the contents in researched archives in Lisbon, London and Paris. In all three cities, I have found the core archive for urban studies to be the municipal (or city council) archives because, most times, it was mandatory for all practitioners to submit plans and projects for municipal approval. Municipal archives hold complete presentations of the projects, including drawings, project descriptions and, often, newspaper articles portraying the media's reaction to the projects.

The archives in London are, by far, the most organized and easiest to access because most have digital catalogues, several of which are online. Lisbon's archives are the least organized. AMAC, for instance, had not yet compiled a complete catalogue, leaving me with no choice other than to rely on the knowledge of the archivist. The archives in Lisbon provided the most stimulating research because: they hold several original and unpublished (and unknown) plans, projects and drawings; and they have archivists who are used to spending their day in an empty room, therefore, are very happy to make themselves helpful. A great part of my archive research in Lisbon occurred after the book I edited with Morais (Morais and Roseta, 2005) had been published; hence, many of the images and documents presented in this thesis have not been published before.

My archive research in Paris was not as productive as in Lisbon or London due to a combination of two factors: first, I was not residing in Paris when I did this research and, second, the archives in Paris were both frustrating and difficult to access. The difficulties were many: (1) each archive holds several printed catalogues (instead of one digital catalogue, as in London), forcing the researcher to either rely on the knowledge of (not always helpful) archivists or to read the content description of each individual folder of which there are (literally) thousands; (2) in the national archive, the number of folders which the researcher can access per day is limited (to 8 or 9), whilst in London or Lisbon one can go through as many as 20 folders per day when contents prove to be irrelevant; (3) any source with less than 30 years requires a special permission to access which takes months to obtain; and (4) some archives have challenging opening hours.

Lisbon, Archive Review

(Archives in Lisbon were visited from 2005 to 2007)

Arquivo Municipal do Arco do Cego (AMAC)

AMAC is the municipal archive which holds the projects as they were submitted to the mayor's approval. It is the mandatory archive since plans and projects are mostly integrated in folders along with the city hall's reports and relevant newspaper cuttings. It is a very rich, very large, and unexplored archive, where the documentation is not registered in a complete catalogue; hence, the researcher has to rely on the knowledge of an archivist. Regarding the Avenida, I have found most late nineteenth-century and twentieth-century projects in this archive, some of which are *original hand made* drawings, designed by city hall employees.

Instituto dos Arquivos Nacionais/Torre do Tombo (IAN/TT)

The IAN/TT are the National Archives. The documentation is not referenced in a digital catalogue and, the responsible archivist, Paulo Tremoceiro, indicated the Ministério do Reino collection as a source of possible interest, as it held original plans from the late nineteenth and early twentieth centuries. It was painfully long work going through all the 160 folders of mostly dry bureaucracy, but I did find: (1) a report by Ressano Garcia which explains, in his view, how the Avenida is but a part of a greater plan to restructure the city; (2) many reports on the expropriation of the properties required to build the Avenida. Both these references remain unpublished.

Arquivo de Fotografia de Lisboa (AFL)

AFL is a photographic archive holding many images of the Avenida, most of which I tried to find elsewhere because of the expensive reproduction costs.

Arquivo Municipal Fotográfico (AMF)

The AMF is the photographic municipal archive; thus, holds (literally) thousands of images regarding the Avenida. Fortunately, the AFL has a digital catalogue.

Arquivo Municipal Histórico (AMH)

The AMH has been inaccessible for 3 years. All its documents were supposed to be moved into a new location; thus, they were sealed in a 'bubble' (sealed off with a chemical to conserve them). I did speak to a Municipal archivist with knowledge of this archive who showed me an (incomplete) catalogue and told me most documents were bureaucratic records and not plans or projects.

Arquivo Municipal Intermédio (AMI)

AMI is the municipal archive regarding individual plots or buildings and not urban plans. It was useful only because it has in the hall a model of the *Passeio Público*.

Gabinete de Estudos Olissiponenses (GEO)

The GEO specializes in the Lisbon study and holds many plans for the extension of the Avenida, mostly digitalized, namely: (1) Miguel Paes', (2) MacBride's, (3) Cristino da Silva's , and (4) the Modernist Plans of the 1960s.

Museu da Cidade (MC)

Museu da Cidade holds most plans of Lisbon even if most of the ones I have used have been published in reviewed literature.

Architects' Collections

Some of the plans referred have been located in Archives/collections regarding the life and work of the individuals architects who designed them namely: (1) the Carlos Ramos collection (Arquivo Carlos Ramos-ACR), (2) the Faria da Costa and Ribeiro Telles collection in Direcção Geral dos Edifícios e Monumentos Nacionais (DGEMN); the Cristino da Silva collection in Fundação Calouste Gulbenkian (FCG)

Others

Biblioteca / Centro de Documentação da Faculdade de Arquitectura da Universidade Técnica de Lisboa (FAUTL) has digital plans displaying the evolution of Lisbon; I have researched and did not find any relevant original documents in the following archives: Câmara Municipal de Lisboa, Entrecampos (CMC); Direcção Geral dos Transportes Terrestres (DGTT); Direcção Geral do Ordenamento do Território, Entrecampos (DGOT).

LONDON, Archive Review

(Archives in London were visited mainly in 2006 and 2007)

London Metropolitan Archive (LMA)

The LMA proved to be the archive with the greatest amount of data relevant to the present research because it holds the projects submitted to the municipal administration. The most relevant aspect of this archive is that documents are organized as folders for municipal approval. These folders bind together all information concerning each project (drawings, descriptive memories, municipal records, newspaper cuttings, and later amendments). Because they hold written justifications, alongside drawings, these folders become a precious insight into the intentions, criticism and ideas generated when the projects were first conceived. The LMA holds a variety of folders concerning Regent Street. The most relevant are: reintroducing the colonnade (1892) ; Norman Shaw's (1905); Frontage Lines (1906); Reginald Bloomfield's (1917); William Holford's (1960s); slides and photographs of the competition for Piccadilly Circus (including an unidentified project for the complete reconstruction of the Soho) (1960s); moving Eros (1980s).

Crown Estate Archives (CE)

The Crown Estate holds three very interesting collections: the complete Crown Record Atlas (1804), a series of original, unpublished, and very detailed drawings mapping the land owned by the Crown prior to Regent Street's construction; the Mayhen Survey (1834-5), a series of original, unpublished, and very detailed drawings mapping the land owned by the Crown subsequent to Regent Street's construction; a photographic survey (1910 to 1940) done by John Murray which displays Regent Street before and after the construction of Shaw and Blomfield's facades.

The National Archives of the United Kingdom (NA)

At the National Archives, information is not, necessarily, organized for municipal approval; thus, the drawings often appear as single elements, completely isolated from the author's written justifications or from other reports written by the administration. Nevertheless, it holds an (unpublished) original plan designed by John Nash (1824) and more information on the Redevelopment of the Piccadilly Circus by Holford and Buchanan (1960s-1970s).

V&A / RIBA Partnership (at the Victoria & Albert and on Banner Street)

This archive holds the detailed drawings (construction project) designed by Reginald Blomfield for the reconstruction of the Quadrant.

Guildhall (G_MS or G_PM)

The Guildhall holds two relevant collections: Prints, Maps and Drawings (PM) and Manuscripts (MS). The (PM) collection has several maps and prints concerning Regent Street (c.1813), which can be accessed online, and the (MS) has one folder regarding Regent Street. This folder holds newspaper cuttings and the Crown's views of the Quadrant's reconstruction (c. 1917) and also some of John Nash's original manuscripts.

British Library (BL)

The British Library holds John Nash's original designs for Regent Street (1813) and some published primary sources such as Fordyce's report. It also held an exhibition "London, a life in maps" (2007) where I was able to see the original historic maps.

British Museum (BM)

I went to the British Museum's Prints and Drawings Collection looking for prints by Le Nôtre but I ended up finding four volumes of original sketches by George Scharf which were exceptional, as referred to in the thesis.

PARIS, Archive Review

(Archives in Paris were visited in 2008)

A challenge to historical comparative studies is the difficulty in obtaining the same level of information for all case-studies. For this research, the hardships faced in the archive research in Paris were compensated by the fact that, unlike Regent Street or Avenida

da Liberdade, both *Avenue des Champs-Élysées* and André Le Nôtre had many monographs written by French authors who had used valuable primary sources. Concerning *Avenue des Champs-Élysées*: the most complete compilations of primary sources regarding maps and prints (namely those found in *Archives Nationales*, *Bibliothèque Nationale de France*, and *Musée Carnavalet*) were edited by Ariste and Arrivetz (1913) and by Chadych and Leborgne (2007); the most complete, regarding current events, were edited by Pozzo (1997) and regarding photographs by Caracalla (2002). Concerning André Le Nôtre, the most complete compilation of sources, regarding maps, was done by Brix (2004), and the best compilation of biographical facts by Orsenna (2000). Concerning Haussmann, Choay edited a most valuable source, *Haussmann's memoirs* (Haussmann 2000). Concerning Haussmann's reconstruction of Paris, maps were compiled for an exhibition in the *Centre George Pompidou* (Cars and Pinon, 1991). I must also note the exceptional edition of Pinon and Le Boudec (2004), published by Le Passage, Bibliothèque Nationale de France, Atelier Parisien d'Urbanisme, Paris Bibliothèques, which has the reproductions of historic maps of Paris with excellent quality, the maps' locations and further provides an explanation contextualizing the map's origin.

The shortcomings of this extensive literature are, as stated above, the lack of comparative studies which, in my opinion, leads to questionable conclusions, as is argued throughout the thesis.

Archives de Paris (AP)

The municipal archives are mainly kept in the Archives de Paris. These archives lack a digital catalogue; hence, the researcher faces a vast number of printed catalogues (as APUR, Perotin, and Archives d'Architecture) which have to be studied, individually, to access folders. Unlike the municipal archives in London or in Lisbon, all folders less than 30 years old cannot be accessed without special permission, which may take months to obtain.

CARAN, National Archives

CARAN, like the Archives de Paris, had only printed catalogues (a room full of printed catalogues). With the help of the archivist, I was told to look at the catalogue regarding « Cartes et plans. Série N. Tome I », from which I chose over 100 entries which could be of possible interest. To see the maps, I had to schedule an appointment with the archivist who is only available from Monday to Wednesday and from 14:00 to 17:00. In each appointment, no more than 8 maps may be seen (!) I ended up not seeing the maps and trying to trace the most important maps in published literature.

École Nationale des Ponts et Chaussées (ENPC)

I was lucky to have had the aid of Hubert Roux, ENPC alumnus, to seek what could be of interest in the archives at École Nationale des Ponts et Chaussées, regarding Ressano Garcia. What most impressed me was that these archives had no information on Ressano other than his records from when he studied at EIPC. They were unaware that he had been «the Portuguese Haussmann» changing the configuration of Lisbon.

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AP - Archives de Paris (Paris)

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AFL- Arquivo de Fotografia de Lisboa (Lisbon)

Espólio O Século

AMAC - Arquivo Municipal do Arco do Cego (Lisbon)

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EV- Espaços Verdes 7/18/35/39

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AMF - Arquivo Municipal Fotográfico (Lisbon)

AMI - Arquivo Municipal Intermédio (Lisbon)

Passeio Público (model)

BL - British Library (London)

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BM - British Museum - Prints and Drawings (London)

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CE - Crown Estate Archives (London)

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DGEMN - Direção Geral dos Edifícios e Monumentos Nacionais (Lisbon)

Espólio Faria da Costa and *Espólio Ribeiro Telles*

ENPC - École Nationale des Ponts et Chaussées (Paris)

Ressano Garcia's Records

FCG - Fundação Calouste Gulbenkian (Lisbon)

Espólio Cristino da Silva

GEO - Gabinete de Estudos Olisiponenses (Lisbon)

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National Gallery, London (visited several times from 2005-2008)