

**Planting the modern city.
The role of plants in the modernisation of Bogotá,
Colombia (1880-1920)**

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Department of Geography and Environmental Science

Diego Molina

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Abstract

Cities are inhabited not only by humans but also by plants. However, urban history has underplayed the role of plants in urban areas, largely perceiving them as a passive raw material in exclusively human-created cities. Drawing on the Latin American urban and gardening history, this thesis offers an alternative way of thinking about plants in cities, considering them as social actors actively involved in the symbolic and material development of the modern city. Specifically, this thesis examines how the modernisation of Bogotá involved a transformation in the ways of perceiving and interacting with plants, thereby engendering a change in the role of plants in the city. This research adopts a historical methodology based upon diverse sources, including newspaper articles, personal letters, maps, and photographs, as well as original sources such as literature and herbarium collections.

The thesis comprises the following empirical chapters. Chapter Four explores the urban spaces where human-plant interactions were performed in pre-modern Bogotá. This chapter reveals that whereas upper class citizens experienced ornamental plants in domestic spaces such as patios and backyards, lower class citizens were in contact with an array of spontaneous and wild plants that they exploited based on vernacular knowledge. Chapter Five shows that the modernisation of Bogotá involved the creation of public green spaces based on the systematic use of plants, and how plants were endowed with new meanings and played an essential role in the creation of urban civility. Chapter Six shows how this transition to modern urban flora was enabled through the active intervention of people who acclimatised introduced plants and translated European ideas of green spaces into the local conditions to thereby contribute to the creation of a hybrid city characterised by a blend of floras. Finally, taking the use of eucalyptus in Bogotá as an example, Chapter Seven reveals the socioecological contradictions and conflicts that arose when pre-modern botanical knowledge and practices were replaced with modern ways of being-with plants in the city.

The study reveals that the modernisation of Bogotá entailed a transformation in previous ways of using and understanding plants, and how the particularities of this emergent human-plant relationship endowed the city with a unique way of expressing its urban modernity. This thesis demonstrates that the city is not only a human-made product and elucidates the key role that plants have had in its historical development. The main contribution of this thesis is that it represents the first attempt to demonstrate that the transformation of green spaces as part of the city's modernisation in Latin America was not only a matter of design but also entailed a restructuring of historically-produced relationships between people and plants

Declaration

'I confirm that this is my own work and the use of all the material from other sources has been properly and fully acknowledged.'

Diego Molina

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Table of contents

I

INTRODUCTION

1.1 GEOGRAPHICAL AND HISTORICAL CONTEXT	13
1.2 THEORETICAL FRAMEWORK AND METHODOLOGY	19
1.3 THESIS CONTRIBUTIONS	21
1.4 THESIS STRUCTURE	23

II

LATIN AMERICAN MODERNISATION AND THE ROLE OF PLANTS IN THE MODERN CITY

2.1 INTRODUCTION	27
2.2 MODERNITY AND THE MODERNISATION IN LATIN AMERICA	27
2.3 THE MODERN LATIN AMERICAN CITY	37
2.3.1 Capital flows and urban transformation	37
2.3.2 The growth of cities	40
2.3.3 New urban behaviours and the sense of belonging	42
2.3.4 Poverty and infrastructure projects	45
2.4 MODERNISING THE RELATIONSHIP WITH PLANTS	48
2.5 LANDSCAPE DESIGN AND ITS MAIN CHARACTERS IN MODERN LATIN AMERICAN CITIES	51
2.5.1 Landscape design in the south of the continent	51
2.5.2 Landscape design in the la Habana, Ciudad de México, and Andean cities	58
2.6 RESEARCH GAPS	63
2.6.1 Plants in the Early Republican city	64
2.6.2 The silent roles of plants	65
2.6.3 Gardening practices and figures	68
2.6.4 Out-of-sight and non-planted urban plants	69

III

METHODOLOGY

3.1 INTRODUCTION	74
3.2. MODERN REPRESENTATION AND CIRCULATION OF BOTANICAL EVIDENCE	75
3.2.1 Botany and horticulture books	76
3.2.2 Botanical collections	79
3.2.3 Literature	81
3.2.4 Paintings	83
3.2.5 Traveller accounts	86
3.2.6 Photography	88
3.2.7 Maps and plans	91
3.2.8 Newspapers	93
3.2.9 Official documents	95
3.3 INTERPRETATION OF HISTORICAL DATA AND NARRATIVE CONSTRUCTION	97
3.3.1 Text-like analysis of historical sources	97
3.3.2 Contrast of sources and narrative construction	99
3.4 TREATMENT OF BOTANICAL IDENTITIES	103
3.5 FIELDWORK	103
3.6 ARCHIVES, LIBRARIES, AND MUSEUMS	104
3.6.1 National Archive	105
3.6.2 National Library	105
3.6.3 Luis Ángel Arango Library (Blaa)	105
3.6.4 Embellishment Society of Bogotá Archive	106
3.7 LIMITATIONS	108
3.8 CONCLUSION	108

IV

PRE-MODERN GREEN SPACES OF BOGOTÁ

4.1 INTRODUCTION	110
4.2. BOGOTÁ'S BUILT-ENVIRONMENT GREEN SPACES	111
4.2.1 The patios.....	111
4.2.1.1 The patio as a woman's place	114
4.2.1.2 Plants in the patio-gardens	117
4.2.2 The solares	120
4.2.2.1 People in the solares	122
4.2.2.2 Plants in the solares	123
4.2.3 The flora of unattended common places	125
4.3 BOGOTÁ'S OUT OF SIGHT GREEN SPACES	129
4.3.1 Non-timber forest products (NTFPs) as substitutes for industrial products.....	130
4.3.1.1 Plants as containers	132
4.3.1.2 Plants as hedges and fences.....	133
4.3.1.3 Plants as fuel	134
4.3.2. The NTFPs as raw materials in the construction of Bogotá's houses.....	135
4.3.3 Firewood and lumber. The historical lack of trees in Bogotá	139
4.3.3.1 The pre-Columbian state Bogotá's forests	139
4.3.3.2 The firewood supply in Colonial and Republican Bogotá	142
4.4 CONCLUSION	145

V

THE CREATION OF THE MODERN GREEN SPACES AND THE CONTROL OF CITIZEN BODIES IN BOGOTÁ

5.1. INTRODUCTION	148
5.2 HYGIENIC CONDITIONS IN BOGOTÁ AND IDEAS AROUND DISEASE	149
5.2.1 Hygienic conditions in Bogotá	149
5.2.2 The role of doctors as city-planners.....	155
5.2.3 Cleaning tropical environments.....	156
5.2.4 Plants as hygienic devices in Bogotá	159
5.3 THE CREATION OF MODERN GREEN SPACES IN BOGOTÁ	162
5.3.1 La Plaza de Bolívar.....	163
5.3.2 El Parque Santander.....	169
5.3.3 La Plaza de Los Mártires (Martyrs' Square) and other spaces	174
5.3.4 El Parque Centenario	176
5.4 THE RESTRICTIONS ON THE USE OF URBAN GREEN SPACES IN BOGOTÁ	180
5.4.1 Fences: symbol of modernity and devices of control in parks.....	180
5.4.2 Parks and gardens as alternative and restricted modern amenity	182
5.4.3 The role of plants in institutional spaces of reclusion	191
5.4.3.1 The social and spatial exclusion of others.....	192
5.4.3.2 Green spaces of exclusion and discipline: the therapeutic power of plants.....	193
5.5 CONCLUSION	197

VI

THE BODY OF KNOWLEDGE IN THE CONSTRUCTION OF THE MODERN AND HYBRID GREEN SPACE

6.1 INTRODUCTION	200
6.2 HISTORICAL CONDITIONS UNDERLYING THE LOCAL HORTICULTURAL KNOWLEDGE GAP	201
6.2.1 The historical lack of ostentation spaces in Bogotá	201
6.2.2 The lack of gardening knowledge.....	205
6.2.2.1 La Expedición Botánica and other botanical contributions.....	206
6.2.2.2 The underestimation of the ornamental plants by the Nineteenth-century botany in Colombia	209
6.2.2.3 The plant hunters.....	213
6.3. THE BODIES OF GARDENING KNOWLEDGE IN BOGOTÁ	217
6.3.1 External sources of gardening knowledge.....	218
6.3.1.1 The Italians	218
6.3.1.2 The British: Robert Thomson.....	223

6.3.1.3 The Japanese: Tomohiro Kawaguchi.....	227
6.3.2 The local and self-taught gardeners in Bogotá.....	229
6.3.2.1 Casiano Salcedo	229
6.3.2.2 Genaro Valderrama	231
6.4. THE HYBRID FLORA OF THE MODERN URBAN GREEN SPACE IN BOGOTÁ.....	233
6.4.1 Bogotá's pre-modern hybrid flora.....	234
6.4.2 Modern hybridisation.....	236
6.4.3 European plants in the creation of the Bogotá's green spaces.....	240
6.4.4 The role of native species in the green spaces' construction.....	242
6.4.5 People and institutions involved in the plant importation.....	244
6.4.5.1 Self-taught gardeners and commercial agencies.....	245
6.4.5.2 Antonio Izquierdo and the social organisations.....	254
6.4.5.3 The Sociedad de Mejoras y Ornato (Society of Improvements and Ornamentation).....	258
6.5 CONCLUSIONS.....	260

VII

THE ALL SOLUTION TREE: THE EUCALYPTUS AND THEIR ROLE IN IN THE MODERN BOGOTÁ

7.1 INTRODUCTION	262
7.2 EUCALYPTUS AS ICONIC MODERN TREE AND ITS INTRODUCTION AND ACCLIMATION IN BOGOTÁ.....	263
7.2.1 The eucalyptus era	263
7.2.2 Eucalyptus reaches Bogotá.....	267
7.3 THE RISE AND DECLINE OF THE EUCALYPTUS AS THE DEFAULT CITY-TREE IN BOGOTÁ.....	271
7.3.1 The adoption of eucalyptus	271
7.3.2 The decline of a trend.....	277
7.4 THE EUCALYPTUS AS A MULTIUSE TREE.....	282
7.4.1 Eucalyptus tree and its relationships with the water supply	282
7.4.1.1 The city and its rivers	282
7.4.1.2 Eucalyptus as a water control device.....	285
7.4.2 Other uses of eucalyptus in Bogotá.....	293
7.4.2.1 Eucalyptus as a raw material.....	293
7.4.2.2 Cleaning bodies and spaces with eucalyptus.....	298
7.5 CONCLUSIONS.....	300

VIII

CONCLUSION

THE CREATION OF A MODERN FLORA IN BOGOTÁ

8.1 INTRODUCTION	303
8.2. THE ROLES OF PLANTS IN BOGOTÁ PRIOR TO MODERNISATION.....	304
8.2.1 Plant uses as a reflection of pre-industrial social structures	304
8.2.2 The pre-modern urban flora.....	306
8.2.3 Uses of plants in the daily life of the city.....	308
8.2.4 The disappearance of the colonial urban green spaces.....	310
8.3 THE CREATION OF GREEN SPACES IN NINETEENTH-CENTURY BOGOTÁ	312
8.3.1 Circulation of plants, knowledge and ideas.....	313
8.3.2 The participation of locals in the adaptation of green spaces in Bogotá.....	317
8.4. SOCIOECOLOGICAL CHANGES AFTER THE MODERNISATION OF GREEN SPACES IN BOGOTÁ	319
8.4.1 The change in the relationship with plants as a symbol of modernity.....	320
8.4.2 The conflict over green spaces	322
8.4.3 The creation of a modern urban flora.....	325
8.5 SCIENTIFIC CONTRIBUTION AND FUTURE RESEARCH.....	329
EPILOGUE.....	334

BIBLIOGRAPHY	336
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Table of figures

Chapter 1

Figure 1.1. Time-line of significant events in Bogotá's history	18
---	----

Chapter 3

Figure 3.1. Scheme of the methodological flow followed in the research process of this research..	109
--	-----

Chapter 4

Figure 4.1. Diagram of the scalar analysis made in this chapter to present the ancient uses of plants in the creation of domestic spaces as well as sources of daily life elements and raw materials.	110
Figure 4.2. Patio and fountain in the Marques de San Jorge's House, 1988.	113
Figure 4.3. General view of a Colonial house, 1938.	117
Figure 4.4. Plan of a cold-weather garden in Bogotá (jardín de <i>tierra fría</i>), 1876.	119
Figure 4.5. Houses with <i>solares</i> , 1890	122
Figure 4.6. Some native edible plants grown in <i>solares</i>	124
Figure 4.7. Rural-like environment of Bogotá, <i>ca.</i> 1837.....	125
Figure 4.8. Typical tree species growing in the non-urbanised areas around Bogotá.....	126
Figure 4.9. Plan of a <i>solar</i> by the Rafaela Velasco shop.....	127
Figure 4.10. Botanical collection of <i>Arum italicum</i> along the San Francisco River, 1865.....	129
Figure 4.11. Mats made of <i>tatora</i> from the Tota Lagoon, <i>ca.</i> 1930.....	131
Figure 4.12. Sellers with especial plant-made poultry cage, 1848.....	133
Figure 4.13. Fern seller-woman with a load, 1848.....	133
.....	136
Figure 4.14. Firewood seller, 1848	145

Chapter 5

Figure 5.1. Population growth in Bogotá from 1851 until 1912.....	150
Figure 5.2. Calle del Observatorio, 1842	151
Figure 5.3. Avenida Jiménez, <i>ca.</i> 1910.	162
Figure 5.4. People gathered at the Altozano, <i>ca.</i> 1880.....	165
Figure 5.5. Market at Plaza de Bolívar of Bogotá, 1869.....	166
Figure 5.6. Gardens in Plaza de Bolívar <i>ca.</i> 1885.....	168
Figure 5.7. Garden in Plaza de Bolívar in Bogotá, <i>ca.</i> 1890	168
Figure 5.8. El Humilladero, 1871	171
Figure 5.9. Parque Santander, <i>ca.</i> 1880.....	173
Figure 5.10. Parque Santander, <i>ca.</i> 1910.....	173
Figure 5.11. San Diego quarter in Bogotá, 1843	177
Figure 5.12. Parque del Centenario, 1883	179
Figure 5.13. Parque de Bolívar, <i>ca.</i> 1890.....	186
Figure 5.14. Los de ruana and cahachos, 1918.....	190
Figure 5.15. San José Orphanage gardens, 1920	197

Chapter 6

Figure 6.1. Palacio Virreinal, 1884.....	202
Figure 6.2. Patios of the house rented by Nueva Granada's last viceroys.....	203
Figure 6.3. <i>Mutisia clematis</i> , <i>ca.</i> 1800	208
Figure 6.4. Plant hunting difficulties, 1869.....	217
Figure 6.5. Avenida Colon, <i>ca.</i> 1933	222
Figure 6.6. Plazoleta Caldas (Caldas Square), <i>ca.</i> 1933.....	223
Figure 6.7. Illustration of the Araucaria in a gardening book 1879.....	231
Figure 6.8. Araucarias in the Parque de Bolívar planted by Casiano Salcedo in 1892, <i>ca.</i> 1915 ..	231
Figure 6.9. Ericaceae plants from the Andes Mountains.....	242
Figure 6.10. <i>Amarrabollo</i> and <i>siete cueros</i>	249

Chapter 7

Figure 7.1. <i>E. globulus</i> -made promenade in the Parque Centenario in Bogotá, 1883	273
Figure 7.2. <i>E. globulus</i> -made promenade in Los Angeles, Ca. <i>ca.</i> 1900.	273
Figure 7.3. Parque de la Independencia, 1910.....	275
Figure 7.4. <i>Eucalyptus globulus</i> around Lourdes Church, <i>ca.</i> 1870.....	275
Figure 7.5. <i>Eucalyptus citrifolia</i> . Avenida de la República, early 20 th century	275

Figure 7.6. Isolated <i>E. globulus</i> tree growing in an orchard, ca. 1890.....	275
Figure 7.7. <i>Eucalyptus globulus</i> in the Las Aguas Chapel, ca. 1884.....	276
Figure 7.8. Chopping a eucalyptus tree in the Parque de la Independencia, ca. 1920.....	277
Figure 7.9. Municipal Nursery established by the Bogota's Embellishment Society, 1918.....	281
Figure 7.10. Cracks on the soil apparently produced by the eucalyptus plantation, 1924.....	290
Figure 7.11. Current appearance of the Cerros Orientales of Bogotá.....	293
Figure 7.12. Bogotá's 'Blood Tram', 1880s.....	294
Figure 7.13. Eucalyptus-made pole in Avenida Jiménez de Quesada, Bogotá's, 1930.....	297

List of maps

Map 1.1. Map of Bogotá, 1797.....	15
Map 5.1. English-style garden for Plaza de Bolívar, 1861.....	167
Map 5.2. Garden layout in the Plaza de los Mártires, ca. 1850.....	174
Map 5.3. Parque Centenario layout, ca. 1890.....	178
Map 5.4. Main green spaces in Bogotá, 1907.....	180
Map 7.1. Current distribution of the Eucalyptus genus.....	264
Map 7.2. Plano Geométrico de Santafé de Bogotá, 1818.....	283

List of tables

Table 3.1. Sources of information established in the first fieldwork in Colombia.....	107
Table 6.1. Some of the plants planted in parks and city gardens between 1892 and 1894.....	246
Table 6.2. Most of the trees present in the Bogotá's green spaces in 1897.....	248
Table 6.3. Worldwide nurseries where Izquierdo had contacts.....	257
Table 7.1. Commission of the Sociedad de Embellecimiento de Bogota and their members.....	279
Table 7.2. Trees in the municipal plant nursery established by the SEB.....	280
Table 7.3. Species of trees recommended by the engineer Diodoro Sánchez to be planted in Bogotá's river basins.....	286

Messenger *Gracious my lord, I should report that which I
say I saw, But know not how to do it.*

Macbeth *Well, say, sir.*

Messenger *As I did stand my watch upon the hill, I look'd
toward Birnam, and anon, methought, The
wood began to move.*

Macbeth *Liar and slave!*

Messenger *Let me endure your wrath, if't be not so: Within
this three mile may you see it coming;
I say, a moving grove.*

William Shakespeare
Macbeth

I

INTRODUCTION

When in 1852 the North American botanist Isaac Holton visited Bogotá he observed that the city's promenades were called Alamedas not because they were shaded with poplars — Alamos— but because a favourite walk near Madrid was so adorned.¹ Contrary to the Alameda in Madrid, the one in Bogotá was created using native willows, whose tops naturally growing downwards, had been oddly pruned to make them look like poplars of candle-like tree top.² The manipulation of the willows shapes shows how the native flora was moulded to fit into the cannons that, by the end of the eighteen century, had made of the urban promenades the most important green spaces of the Latin American cities.

By the time Holton visited Bogotá, the alamedas as a gathering point had survived the social and political transformations brought about by the independence from Spain and kept part of its importance as public spaces. However, by the same time, in Europe and the United States unfolded massive urban transformations that would change the ways of understanding and living the green spaces in urban life. Just after a year of Holton's visit to Bogotá, Georges-Eugène Haussmann started his renovation of Paris, which beside to integrate the promenades to a radial system of roads, endowed the city with a vast network of parks thought to be the city's lungs.³ Following the example posed by Haussmann in Paris, in 1857, Frederick Law Olmsted would start the construction of Central Park in New York, which became one of the most iconic green spaces of the nineteenth century. Thus, the second half of this century saw the emergence and consolidation of parks and other green public spaces as necessary facilities of the modern city.

Urban developments in the United States (e.g., Washington's Layout) and England (e.g., Hyde park) would exert an undeniable influence over the Latin American countries. However, by being considered as the quintessential of the modern city, the Haussmann's Paris would turn into the model of the city to be followed.⁴ Consequently, being a kind of a

¹ Issac Holton, *New Granada. Twenty Months in the Andes* (New York: Harper & Brothers, 1857).

² James Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months* (New York: Harper & Brothers, 1838).

³ David Harvey, *Paris, Capital of Modernity*, New Ed edition (New York, NY: Routledge, 2005).

⁴ José Luis Romero, *Latinoamérica Las Ciudades y Las Ideas*, Historia y Cultura (Buenos Aires: Siglo veintiuno, 2014); Arturo Almandoz, "Longing for Paris: The Europeanized Dream of Caracas Urbanism,

template, the Paris' urban developments and their related green spaces were put in circulation and in some cases rapidly implemented in several Latin American cities. However, the adaptation of European urban model across the continent was uneven. For instance, contrary to what happened in cities like Buenos Aires or Rio de Janeiro that underwent an early urban renovation, the adoption of modern urban models in Bogotá was rather late. Thereby, the introduction of new ideas about the city and its green public space only became a reality in Bogotá during the last decades of the century. It was from the decade of 1880 onwards that, while the eighteenth-century promenades disappeared, new parks and gardens emerged as a way to incorporate into the city the new green spaces imposed by modern urban models.⁵

This thesis seeks to understand how, just as in the case of the willows pruned as poplars, the modernisation of the green spaces in Bogotá led to deliberated manipulation of nature along with a transformation in the attitudes towards plants, and how this manipulation and change in the attitude to plants resulted in a particular version of the European-like green spaces that sought to be recreated in the city. To shed light on the process that made possible the creation of modern green spaces in Bogotá, this thesis pays special attention to i) the context in which these transformations occurred, ii) the plants and the people involved in the process, and, iii) the consequences that emerged as part of this transformation. Accordingly, this thesis aims to answer the following questions:

- What was the nature of human-plant interactions in pre-modern Bogotá and where these interactions materialised?⁶ Drawing on the ethnobotanical empirical research, this question is addressed in chapter 4, which offers a general overview of the relationship between humans and plants in the pre-industrial Bogotá and how it was transformed during the modernisation of the city.

1870-1940,” *Planning Perspectives* 14, no. 3 (January 1, 1999): 225–48, <https://doi.org/10.1080/026654399364210>.

⁵ Germán Mejía, *Los Años Del Cambio. Historia Urbana de Bogotá, 1820-1910*, Segunda edición, Colección Biblioteca Personal (Bogotá: CEJA Pontificia Universidad Javeriana Instituto Colombiano de Antropología e Historia, 2000); Claudia Cendales, “‘Un parque extenso y amplio para dotar con él a nuestra querida capital’: La exigencia de la creación de un parque y el panorama del arte paisajístico a finales del siglo XIX en Bogotá,” *Paisagem e Ambiente* 0, no. 29 (October 8, 2011): 25–38, <https://doi.org/10.11606/issn.2359-5361.v0i29p25-38>; María Guerrero, “Pintando de verde a Bogotá: visiones de la naturaleza a través de los parques del Centenario y de la Independencia, 1880-1920,” *Revista de Historia Ambiental Latinoamericana y Caribeña* 1, no. 2 (2012): 112–39.

⁶ In this thesis, the term ‘pre-modern’ is mainly used as a way to understand the city before the arrival of modern innovations such as the tramway, the telephone, or the sewer water system. See: Chapter 2.

- What urban transformations were undertaken in Bogotá as part of the modernisation of its green spaces? This question is addressed in Chapters 5 and 7. The former describes the creation of green spaces such as gardens and parks as part of the city's built environment. The latter describes the transformations of the green spaces around the city that occurred after the establishment of forestry plantations as a way to supply urban demands emerged with the modernisation of the city.
- What kind of plants were used in the construction of the modern green spaces in Bogotá and who were the people in charge of their introduction, acclimation and care? This question is addressed in Chapter 6 by analysing the plants used to create European-like gardens in Bogotá and highlighting the people responsible for their introduction and care. Chapter 7 also contributes to answering this question by presenting the people responsible for establishing eucalyptus plantations in the mountains close to the city.
- What were the socioecological consequences of the introduction of modern green spaces in Bogotá? Particularly, what transformations in the daily lives of people in Bogotá brought about with the establishment of modern ways to perceive, use and perform with plants? And, what were the ecological consequences emerged by the use of a new flora in the creation of modern green spaces? This question is answered in chapters 6 and 7 by showing how the introduction of modern green spaces and particular types of plants engendered socioecological conflicts not seen thus far in Bogotá.

1.1 Geographical and historical context

Bogotá is a tropical Andean city with a temperature and rainfall average of 13.5°C and 900 mm, respectively.⁷ It is located in a high-altitude plateau called *Sabana de Bogotá* (Bogotá's Plain), which is mostly simply known as the *Sabana*. The product of the sedimentation of an ancient lake drained later in the Pleistocene period,⁸ this plain surrounds the city on the north, south and west sides (Map. 1.1). Conversely, the east side of the city is flanked by the *Cerros orientales* (the Eastern Hills), an imposing mountain

⁷ Ernesto Guhl, *Colombia: bosquejo de su geografía tropical*, vol. 2, 2 vols. (Bogotá: Instituto Colombiano de Cultura, Subdirección de Comunicaciones Culturales, 1975).

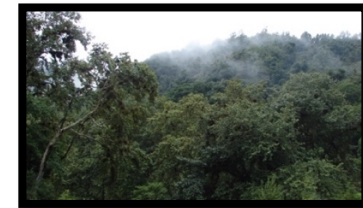
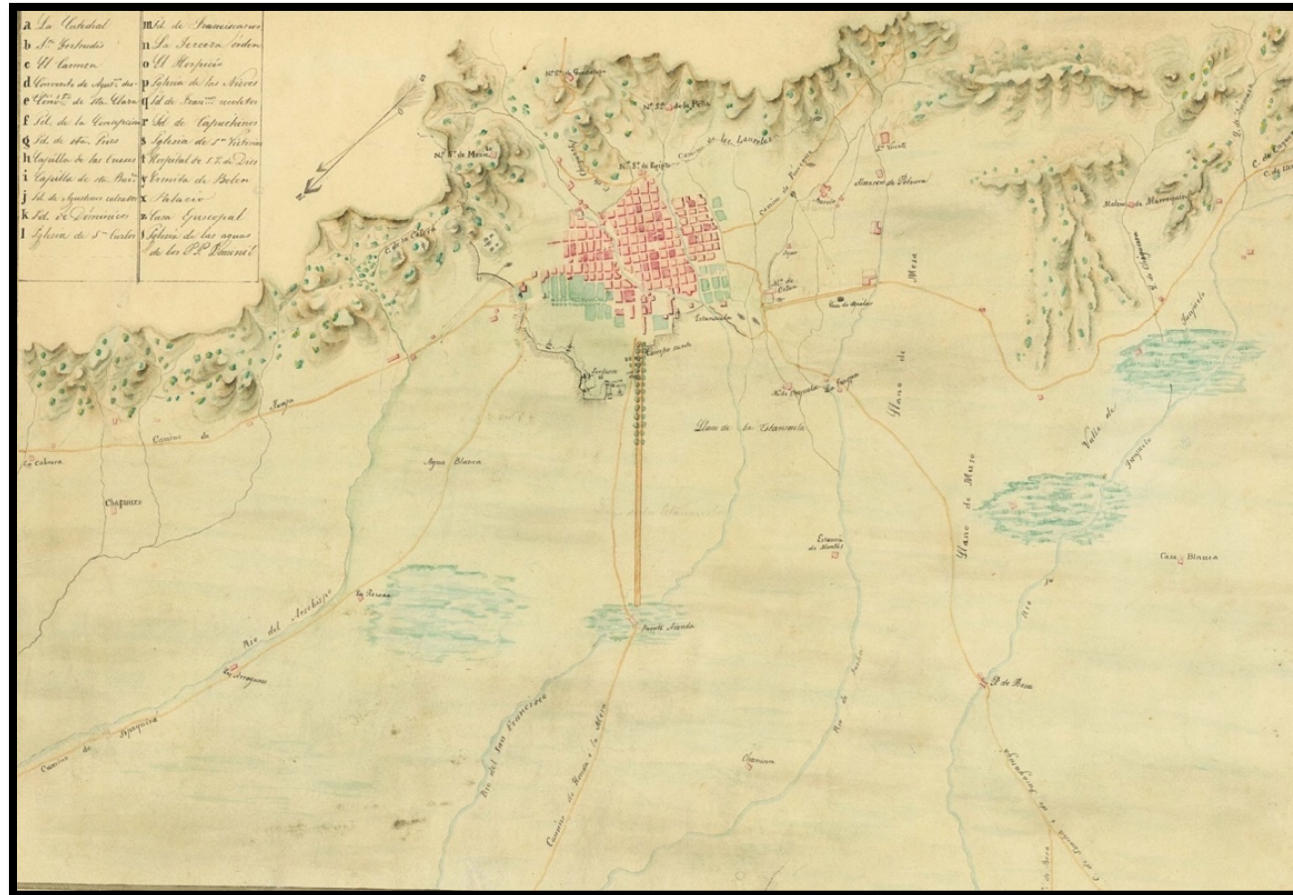
⁸ Guhl.

chain whose orogenesis initiated 20 million years ago (Ma) in the Miocene, when their summit was elevated to its current height 3,700 meters above sea level (m a.s.l., Fig. 1.2). The complex geological history of Bogotá is the reason for the highly diverse environments surrounding the city. For example, whereas it is possible to find *páramos* (moorlands) and *bosques de niebla* (cloud forest) in the Eastern Hills, the Sabana is characterised by its wetlands, which are locally known as *humedales*, its pastures, and some dry areas (Map 1.1).⁹ This ecosystemic mosaic confers the city with high-levels of biological richness and an exceptional concentration of endemic species, thus making the Tropical Andes one of the most important hotspots of biodiversity in the world.¹⁰

⁹ Byron Calvachi, “La Diversidad Bogotana,” *Revista La Tadeo*, no. 67 (2002): 89–98.

¹⁰ Norman Myers et al., “Biodiversity Hotspots for Conservation Priorities,” *Nature; London* 403, no. 6772 (2000): 853–58, <http://dx.doi.org/10.1038/35002501>.

Introduction



Map 1.1. Left. A. Dussán, Map of Bogotá in 1797 (Copy from 1853), 32 x 40 cm. Archivo General de la Nación [AGN], Bogotá (Mapoteca 4, ref: 142), Right: Author's images. Some of the ecosystems of Bogotá, from top to bottom: *páramo*, cloud forest, wetlands and sabana ecosystems.

Human presence in the Sabana can be traced to evidence of hunter-gatherer activities as early as 12,000 years ago (y.a.).¹ Although paleopalynological data suggest the presence of early agricultural practices around 5,000 ya, evidence of systematic agriculture did not appear in the Sabana until between 3,500 and 3,000 y.a.² Agricultural expansion facilitated an increase in the human population, which was accompanied by more complex social organisation. A pre-Columbian society currently known as the Muisca exhibited a hierarchical organisation based on confederations ruled by *caciques*. Apart of being heads of society, caciques regulated an economy based on agriculture, salt and coal mining, metalworking, and manufacturing, as well as the extensive trade of products such as coca leaves, copper, emeralds, salt, woven textiles, gold handicrafts, and coloured pottery. The diversity of the products used and traded by the Muisca society not only reveals its rich material culture but also indicates an extensive knowledge and control of the environmental diversity present in its territories.³

In 1537, the Spanish arrived in the Sabana. A year after breaking the Muisca's resistance to their conquest, they founded the city of Santa Fé de Bogotá. The new European-style city replaced the previous Muisca settlements and became the social, economic, and spiritual heart of the Spanish colonial enterprise. The Muisca were not permitted to live in Bogotá and rather were segregated in *Pueblos de Indios* [Indian towns], and the new rulers imposed *La Encomienda* (The assignment), a rigid and brutal economic and social control scheme of semi-slavery. This human and environmental exploitation system built upon the indigenous tribute of both traditional and new raw materials such as emeralds and wheat to create wealth for the conquerors.⁴ However, despite efforts to maintain the segregation of native Americans and Europeans, as occurred in most of the Latin-America regions, the encounter between different ethnic groups led to a large and complex process of biological, cultural, and ethnical miscegenation, thus creating a new hybrid culture, which in turn engendered hybrid ways of approaching the environment⁵

¹ Gonzalo Correal and Thomas van der Hammen, *Investigaciones arqueológicas en los abrigos rocosos del Tequendama: 12.000 años de historia del hombre y su medio ambiente en la altiplanicie de Bogotá*, Biblioteca Banco Popular (Bogotá: Banco Popular, 1977).

² Thomas Van der Hammen, "La Estratigrafía e Historia Del Neogeno y Cuaternario de La Cuenca Alta Del Río Bogotá.," *Análisis Geográficos*, no. 26. IGAC (2003): 101–20.

³ Carl Henrik Langebaek, *Mercados, Poblamiento e Integración Étnica Entre Los Muisca Siglo XVI*, Colección Bibliográfica (Bogotá: Banco de la República, 1987).

⁴ German Colmenares, *Historia Económica y Social de Colombia 1537 – 1719*, 2da ed. (Medellín: Editorial La carreta & La Oveja Negra, 1975).

⁵ Néstor García Canclini, *Hybrid Cultures: Strategies for Entering and Leaving Modernity* (Minneapolis, Minn. ; London: University of Minnesota Press, 1995); Serge Gruzinski, *El Pensamiento Mestizo* (Barcelona:

Introduction

Colombia's independence from Spain was proclaimed in 1819, thus ending a colonial period of nearly 300 years. The subsequent consolidation of the new nation-state involved a succession of internal disputes, which degenerated into eight civil wars between 1839 and 1902. These conflicts had enormous political and social consequences, among the most important of which was the worsening of general impoverishment conditions and social exclusion imposed during colonisation. Nevertheless, despite the social and political turmoil, Colombia soon entered into modernisation amidst its incipient integration into the international markets during the final decades of the nineteenth century and the beginning of the twentieth century. Despite its marked isolation, as the country's capital, Bogotá adopted the dynamics, logics, and innovations of modern life, and the arrival of electricity, a sewer system, public transportation, and gardens transformed the ways of living in the city. Among all these changes, ways of using and understanding urban nature were also transformed, which in turn radically changed ancient human-plant relationships. To study those changes, this thesis focuses on the modernisation process during the period from 1880, when Bogotá created its first public parks, and 1920, when the first municipal nursery was established (Fig. 1.1).⁶

Paidós, 2000); Octavio Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*, 3ra ed. (México, D.F.: Fondo de Cultura Económica, 1999); Edgardo Pérez, *La Obra de Dios y El Trabajo Del Hombre: Percepción y Transformación de La Naturaleza En El Virreinato Del Nuevo Reino de Granada*, 1ra ed., Colección Bicentenario de Antioquia 32 (Medellín: Universidad Nacional de Colombia, 2011).

⁶ However, this periodisation is not rigid. For example, in chapter 4, I will use examples from the earlier years of the nineteenth-century in order to explain pre-modern human-plant relationships in Bogotá.

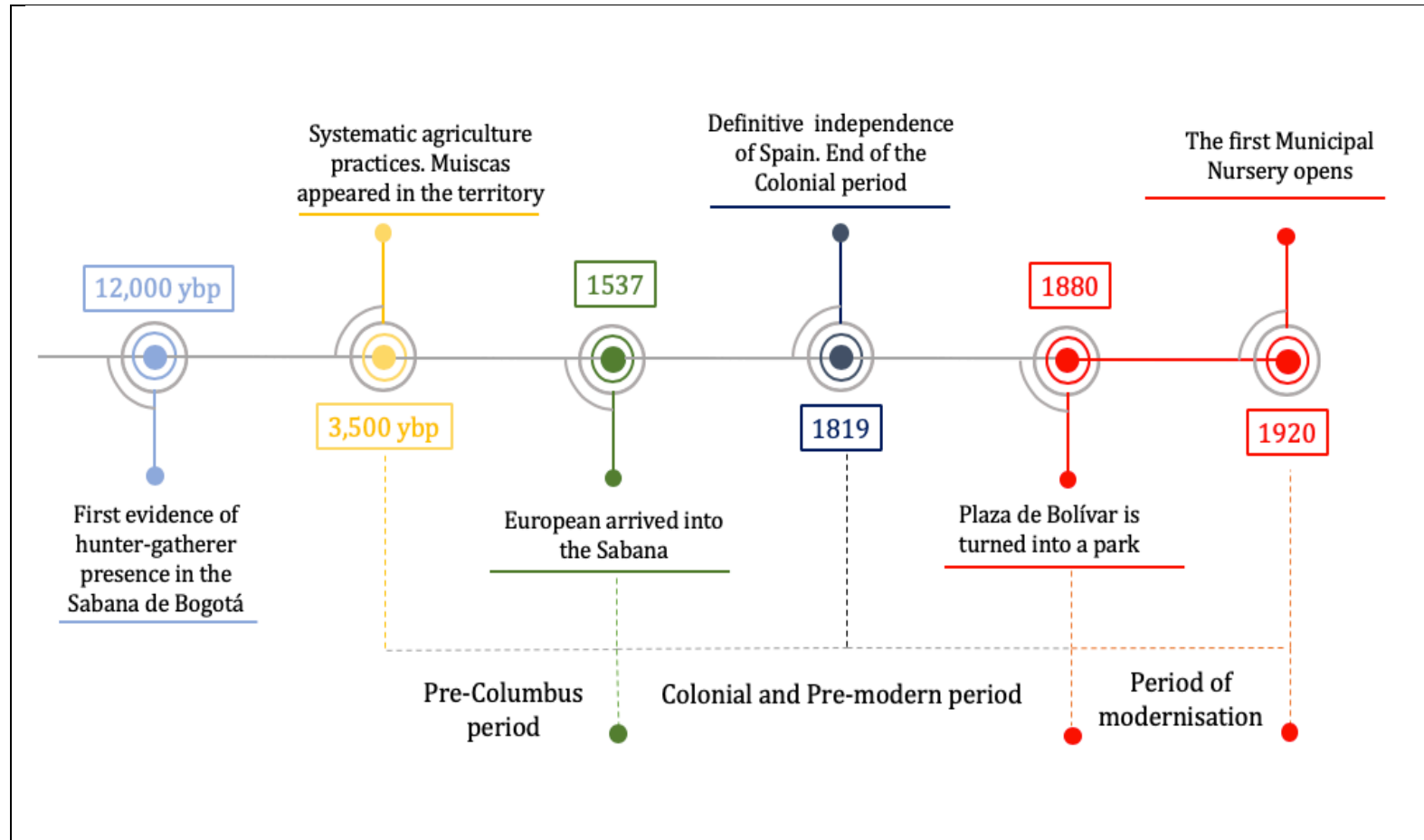


Figure 1.1. Time-line of significant events in Bogotá's history. Created by the author.

1.2 Theoretical framework and methodology

Plants are multidimensional actors. They include ‘any member of the kingdom Plantae, comprising multicellular organisms that typically produce their own food from inorganic matter by the process of photosynthesis’.¹ Plants can be considered as beings with autonomy, individualisation, self-identity, originality, and essentiality.² According to niche construction theory, the recognition of plant agency enables one to conceptualise plants as being actively involved in the production of their own environment.³ However, although this thesis embraces such ideas on plants in a way or another, this is not a merely botanical, more-than-human geography or an ecological evolutive investigation. Conversely, this thesis pursues an interdisciplinary approach by addressing the situated interactions between humans and plants that led to a particular production of past urban spaces. In other words, this investigation does not belong to a given area of knowledge, but rather integrates concepts and empirical outcomes from history, ecology, human geography, urban studies, philosophy and botany. Despite the epistemological constraints, this thesis builds on the porous borders of the above-mentioned disciplines as a means to shed light on a complex phenomenon such as the changing relationships between humans and plants.

To better understand human-plant interactions, this thesis builds on the idea of the relational ontology of all entities as social actors.⁴ Accordingly, the study conceptualises both humans and plants as actors whose interaction across open borders produces constant

¹ See the definition of plants in Dictionary.com: <https://www.dictionary.com/browse/plant>

² Lesley Head and Jennifer Atchison, “Cultural Ecology: Emerging Human-Plant Geographies,” *Progress in Human Geography* 33, no. 2 (Abril 2009): 236–45; Michael Marder, “Vegetal Anti-Metaphysics: Learning from Plants,” *Continental Philosophy Review* 44, no. 4 (November 1, 2011): 469, <https://doi.org/10.1007/s11007-011-9201-x>; Matthew Hall, *Plants as Persons: A Philosophical Botany*, SUNY Series on Religion and the Environment (Albany: State University of New York Press, 2011); John Ryan, “Passive Flora? Reconsidering Nature’s Agency through Human-Plant Studies (HPS),” *Societies* 2 (2012): 101–21, <https://doi.org/doi:10.3390/soc2030101>.

³ Kevin Laland, Blake Matthews, and Marcus W. Feldman, “An Introduction to Niche Construction Theory,” *Evolutionary Ecology* 30, no. 2 (April 1, 2016): 191–202, <https://doi.org/10.1007/s10682-016-9821-z>; Jeffrey V. Peterson et al., “Semiotic Mechanisms Underlying Niche Construction,” *Biosemiotics* 11, no. 2 (August 1, 2018): 181–98, <https://doi.org/10.1007/s12304-018-9323-1>; Lesley Head, Jennifer Atchison, and Alison Gates, *Ingrained: A Human Bio-Geography of Wheat* (Farnham: Ashgate, 2012).

⁴ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (London: Athlone Press, 1988); Bruno Latour, “On Recalling ANT,” in *Actor Network Theory and After*, ed. John Law and John Hassard, Sociological Review Monograph (Oxford: Blackwell, 1999), 15–25; Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford ; New York: Oxford University Press, 2005).

ontological hybrids, thereby resulting in the continuous creation of cyborgs,⁵ naturfacts,⁶ multiplicities and quasi-objects,⁷ or morphisms.⁸ Therefore, this thesis follows the approach presented by such scholars as Sara Whatmore in the case of genetic soy modifications by humans;⁹ the historical socioecological relationship between people and wheat revealed by Lesley Head;¹⁰ the domestication of plants and landscapes presented by Carl Sauer and Edgar Anderson¹¹; or the already voluminous ethnobotany research that—although not explicitly recognised as such—addresses the hybrid nature of the human and plant relationships.¹²

This thesis understands the green spaces as places where the hybrid relations between human and plants take place. Then, this thesis studies how the modernisation of Bogotá produced new green spaces and therefore *sui generis* relationships between people and plants. This investigation analyses these changes as a process that i) was triggered by the modernisation of the city; ii) was possible thanks to the mobilities and embodiments of people, plants and ideas; and iii) resulted in different levels of urban socioecological conflict and hybridisms.

To think of plants as part of a multidimensional network of actors is easier said than put into practice, particularly when, as in this thesis, the questions relate to already extinguished human and plant relationships. Furthermore, given that plants do not leave strong traces in the historical record, histories such as that proposed herein have to adopt creative strategies to retrieve the extinguished ‘voices of plants’. To face this significant constraint, this research uses a combination of historical sources. Apart of traditional historical sources of information such as newspapers, official documents and maps, this

⁵ Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (London: Routledge, 1991), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=1195818>.

⁶ George Basalla, *The Evolution of Technology* (New York: Cambridge University Press, 1989).

⁷ Deleuze and Guattari, *A Thousand Plateaus*.

⁸ Latour, *Reassembling the Social*.

⁹ Sarah Whatmore, *Hybrid Geographies: Natures Cultures Spaces* (SAGE, 2002); Lesley Head, Jennifer Atchison, and Alison Gates, *Ingrained: A Human Bio-Geography of Wheat* (Farnham, UNITED KINGDOM: Routledge, 2016), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=944777>.

¹⁰ Head, Atchison, and Gates, *Ingrained*, 2016.

¹¹ Edgar Anderson, *Plants, Man and Life* (Berkeley and Los Angeles: University of California Press, 1969); Carl Ortwin Sauer, *Agricultural Origins and Dispersals*, Bowman Memorial Lectures (New York: The American Geographical Society, 1952).

¹² Some outstanding examples of such ethnobotanical research are presented in the journal *Economic Botany*. See: <https://link.springer.com/journal/12231>

Introduction

study uses a broad spectrum of alternative sources encompassing, for instance, herbarium collections, fiction literature, and photography. Thence, interweaving historical sources of different natures enables the revelation of the social roles of plants as well as understanding them as historical actors with a story to be told.

1.3 Thesis contributions

By describing the people and plants linked to pre-modern green spaces such as solares and patios, this thesis represents an initial effort in the study of pre-modern green spaces and the social, economic and cultural circumstances that contributed to their existence. In this regard, this thesis represents an original contribution to knowledge by explaining how extremely hierarchical social structures in Bogotá led to a significant differentiation of the botanical knowledge among people living in the pre-industrial city. To advance the understanding of the importance of plants and Non Timber Forest Products (NTFPs) as a source of raw material and other objects in the daily life of the pre-industrial Bogotá. This thesis represents an initial effort to create a fluent dialogue between the environmental history and ethnobotanical studies as a way to understand the social role of plants in urban environments and how this latter can explain the relationships established between the city and its hinterlands.

This thesis paid especial attention to the botanical dimension of the urban modernisation of Bogotá. Particularly, this thesis has revealed the species of plants used as raw material in the construction of parks and gardens and has spotlighted how mechanisms such as circulation and adaptation of plants and botanical knowledge were indispensable for the modernisation of green spaces in Bogotá. Equally, this thesis has paid special attention to rescue the important role of local actors in the introduction of urban ideas, plants and botanical knowledge and as definitive translators of global urban trend into local social and ecological realities. Thus, by describing the plants and people involved in the construction of the modern urban green spaces in Bogotá, this thesis represents an original contribution to knowledge by pointing out that the transformation of green spaces as part of the modernisation process was not only a matter of design (as has been usually explained by scholars) but it meant a restructuration of the historically-produced relationships between people and plants.

This thesis sought to understand the consequences that emerged after the introduction of new forms of using the public places that the modernisation had turned into green spaces. By addressing this question, this thesis has revealed how the establishment of modern green spaces entailed both social and ecological effects. Although the social conflicts involved in the creation of gardens and parks in Latin American had been constantly presented by scholars, their analysis has been almost exclusively orientated to present the dispute over the access to green spaces such as parks. This thesis represents an original contribution to knowledge by expanding the ways in which the conflicts involved in the creation of modern urban green spaces have been perceived by scholars thus far. Particularly, this thesis is one of the first academic efforts to recognise the use of plants as organic biopolitical devices in the creation of disciplined behaviours either in parks and gardens or in other cultivated spaces of biopolitical control such as hospitals or orphanages. Equally, this thesis has highlighted how the conflict emerged as part of the new ecological reality in the city needs to be considered on the light of the species involved and not only as a general dispute between the vegetal real used in cities and the people. Also, an important contribution of this thesis is to have included in its analysis the ecological consequences brought about by the modernisation of green spaces in Bogotá.

This thesis represents an initial attempt to understand the social mechanisms behind the ecological patterns spotted by urban ecologists about the floristic particularities presented in modern cities. Specifically, this thesis has offered an initial strand of analysis to understand the process that led to modern cities to become ‘floristic islands’ whose botanical richness is higher than their nearby ecosystems. To do so, this thesis has explained how certain mechanisms such as the insertion of ornamental plants in the global trade system was a powerful force that increased the nineteenth-century exchange of floras between continents and therefore had a large impact in the ecological realities of the cities that, by that time, were in process of modernisation of their green spaces

In addition to the empirical contributions, by highlighting the unexplored possibilities of alternative historical sources as a means to deal with the ephemeral presence of plants in the historical record, this thesis also makes a methodological contribution. By attempting to overcome the apparent silence left by plants as historical actors, this thesis is among the

Introduction

first scholarly attempts to tangle this historical botanical blindness.¹³ Using a dialogue between sources, this thesis ‘gives voice to plants’ that have long disappeared through the use of both traditional sources of historical information such as official documents and letters as well as heterodox sources such as fiction literature, paintings, botanical collections, and photography. In the context of the latter, Silva et al. have highlighted the complete absence of photography in the research on historical ethnobotany.¹⁴ This thesis offers the very first use of photographic images as an important source of information about the presence and the uses of plants in a historical perspective.

1.4 Thesis structure

The thesis is divided into seven chapters excluding this introduction. Chapter 2 offers a context to interpret the empirical findings of this thesis. This chapter is divided into five sections. While section 2.2 establish what is understood here as modernisation, section 2.3 briefly describes how this process acquired certain particularities in Latin America. Section 2.4 discusses the modernisation of the new-born Latin American nations its predominant urban expression and outlines some of the transformations underwent by the Latin American cities during the second half of the nineteenth century, emphasising how these changes meant a profound difference in the daily life of these cities dwellers. Having sketched the general context in which this thesis develops, Section 2.5 explains how plants, considered as key actors in the production of healthy spaces, became essential elements of the modern city infrastructure. This section explains this process from the landscape design perspective using a set of examples to show the ideas and the people involved in the creation of green spaces such as parks and gardens in different Latin American cities. Finally, having presented how plants become important sources of raw material in the construction of the city, section 2.6 introduces the knowledge gaps identified in this thesis and provides an overview of how the result of this investigation can help in solving the identified gaps.

Chapter 3 explains how this thesis uses a historical ethnobotany methodology to investigate the changing relationships between people and plants in Bogotá. Specifically,

¹³ James H. Wandersee and Elisabeth E. Schussler, “Preventing Plant Blindness,” *The American Biology Teacher* 61, no. 2 (1999): 82–86, <https://doi.org/10.2307/4450624>; William Allen, “Plant Blindness,” *BioScience* 53, no. 10 (2003): 926–926, [https://doi.org/10.1641/0006-3568\(2003\)053\[0926:pb\]2.0.co;2](https://doi.org/10.1641/0006-3568(2003)053[0926:pb]2.0.co;2).

¹⁴ Taline Cristina Silva et al., “Historical Ethnobotany: An Overview of Selected Studies,” *Ethnobiology and Conservation* 3, no. 4 (2014): 1–12, <https://doi.org/10.15451/ec2014-6-3.4-1-12>.

this chapter critically discusses the historical context in which writing records and iconography sources of information used herein were produced, as well as the ways through which this information was retrieved and analysed. To do so, this chapter is divided into eight sections. Section 3.2 presents and contextualises the sources of historical information used during the process of data collection. Section 3.4 offers a brief overview of the fieldwork, and Section 3.5 describes the most important archives, libraries, and museums where most of the information was retrieved. Section 3.6 explains how data was interpreted through a textual analysis perspective. Section 3.7 explains the treatment given to the plants found in terms of botanical identity and names. Section 3.8 reflects on the narrative construction as the way of answering the initial questions, and Section 3.9 briefly discusses some of the limitations faced in the developments of this thesis.

Chapter 4 is the first of the empirical chapters. This chapter explores ‘pre-modern’ interactions between humans and plants in Bogotá. Drawing on a scalar analysis, sections 4.2 and 4.3 identify the places such as *patios*, *solares*, residual areas, and the out of sight environments where pre-modern interactions between humans and plants were deployed. The chapter highlights the heterogeneity of the pre-modern green spaces in Bogotá and concludes that in addition to environmental conditions, the diversity of places planted with characteristic types of plants also reflected the city’s marked social inequalities. This chapter shows how, for example, while upper-class people’s contacts with plants occurred in domestic spaces, the human-plant interactions of the poorest members of the population were deployed in the out of sight environments where they undertook the systematic exploitation of native plants based on their vernacular botanical knowledge.

Chapter 5 presents how modern ideas on health and disease found in plants an extremely important biological ally. Section 5.2 describes how, based on the bad air conception of disease, the discovery of the photosynthesis process led to the use of plants as organic filters that were able to clean the air, thereby providing people with physical and moral strength. Analysing these ideas through the lens of the environmental determinism and anticontagionism concepts, the chapter reveals that plants became an important tool used to reach the state of civilisation offered by the modernisation of the city. Section 5.3 explains how as a consequence of these ideas, the modernisation of Bogotá implied the creation of a series of parks and gardens as replacements for the ancient colonial squares, and how although these were initially conceived as public spaces providing generalised benefits to the population, they eventually became sources and sites of social discrimination and

Introduction

conflict. Finally, section 5.4 unveils the biopolitical role of plants as devices of control and discipline in places such as hospitals and orphanages.

Chapter 6 examines the people and plants involved in the creation of the modern green spaces in Bogotá. Drawing on the concepts of translation and embodiment of knowledge, section 6.2 explores the contextual circumstances that led to the poor development of gardening practices in Bogotá. Sections 6.2 and 6.3 illuminate how although foreign sources of knowledge were initially applied to address the gap in gardening practices, external figures had rather marginal participation in the creation green spaces in Bogotá. Section 6.3 reveals the central roles of local self-thought gardeners such as Casiano Salcedo, an important figure who not only oversaw the construction of gardens and parks, but was also responsible for the introduction and acclimation of several plant species into the city. Linked to this, section 6.4 explains how the construction of modern Bogotá was strongly influenced by a Eurocentric perspective, such that many temperate plants were largely introduced as a means to mimic Europe's more temperate settings under tropical conditions. The result was a hybrid flora that combined native and spontaneous plants and positioned earlier introduced species alongside the newly arrived species used to cover the demands of the modern city and its parks and gardens.

The last of the empirical chapters presents the outstanding role of eucalyptus trees in the modernisation of Bogotá. The chapter initially describes the biological characteristics that made *Eucalyptus* genus plants among the most used trees in the modernisation process worldwide, and how this led to an accelerated expansion of its natural range of distribution. Section 7.2 also describes the introduction of eucalyptus trees into Bogotá by the end of the nineteenth century as part of this spatial expansion. Based on travellers' accounts and on photographic historical evidence, section 7.3 reveals the generalised use of these trees in Bogotá and how the initial enthusiasm for eucalyptus was replaced by feelings of aversion when eucalyptus started to cause serious socioecological conflicts because they were too large for the city's reduced infrastructure. However, section 7.4 unveils that although eucalyptus trees lost their important role as ornamental plants within the built environment, they gained acceptance as an efficient means to regulate the currents of the city's rivers. As a consequence, eucalyptus trees were extensively planted in the outskirts of the city, altering its peri-urban environments. This section also shows that eucalyptus monoculture around the city meant a chance to overcome the lack of forestry resources that had resulted from the historical depletion of wood in Bogotá and how

eucalyptus wood was regularly used as a raw material in the construction of the urban infrastructure. Finally, the chapter briefly presents the use of eucalyptus trees as an efficient tool to fight ill environments. Turned into civilisation carriers, eucalyptus seeds were exported from Bogotá and planted in low-land tropical areas, where they were used as a sanitary measure that would strengthen human bodies even as they cleaned their environments.

The empirical chapters of this thesis are all interwoven. For this reason, rather than ending with a particular conclusion, each has a final section that summarises the most relevant findings accompanied by a short reflection of their meaning within the overall context. In contrast, Chapter 8 explaining the initial conditions that were transformed by the modernisation process Section 8.2 reflects on the social role of plants existing in Bogotá just before its modernisation. Section 8.3 discusses the social mechanisms that made possible the creation of gardens and parks in the nineteenth Bogota, stressing the circulation of plants, knowledge and ideas, as well as the participation of local characters as two of the most important characteristics behind the modernisation of the city's flora. Section 8.4 addresses the socioecological consequences of the establishments of modern green spaces in Bogotá. To do so, this section explores the transformation in the attitudes toward plants engendered by the modernisation. Likewise, this section analyses the conflict emerged with the establishment of green spaces in the city and the production of a unique type of flora in Bogotá as visible ecological aftermaths of the whole process. Finally, section 8.5 points out the contributions to knowledge made by this thesis and highlights avenues for future research that can complement this investigation.

II

LATIN AMERICAN MODERNISATION AND THE ROLE OF PLANTS IN THE MODERN CITY

2.1 Introduction

This chapter offers a context to interpret the empirical findings of this thesis. Specifically, it defines and describes some of the characteristics of modernisation during the historical period in which this investigation was developed. This chapter presents a general outlook of the social, economic, and ecological aspects that characterised the modernisation of Latin America, particularly focusing on the urban transformations and life changes that occurred during this period and their impacts on ways of using plants.

This chapter is divided into five sections. Section 2.2 elucidates the notion of modernisation adopted in this thesis, and then section 2.3 briefly describes the specific traits of the Latin American modernisation process. Section 2.4 elaborates on the predominant urban expression of modernisation in the new-born Latin American nations and outlines some of the urban transformations and daily life changes that occurred from the second half of the nineteenth century. Section 2.5 explains how plants came to be considered key actors in the production of healthy urban spaces and thereby became essential elements of the modern city infrastructure. This section also reviews the ideas and the human actors involved in the creation of green spaces such as parks and gardens in a number of illustrative Latin American cities. Finally, section 2.6 introduces the knowledge gaps that are addressed in this thesis and outlines its contribution to filling them.

2.2 Modernity and the modernisation in Latin America

Marshall Bergman provided one of the most detailed depictions of the spirit of change that characterised the historical period of modernisation. Berman explains that what we call *modern life* was the result of different social, economic, political, and environmental transformations:

[G]reat discoveries in the physical sciences, changing our images of the universe and our place in it; the industrialisation of production, which transforms scientific knowledge into technology, creates new environments and destroys old ones, speeds up the whole tempo of life, generates new forms of corporate power and class struggle, immense demographic upheavals, severing millions of people

from their ancestral habitats, hurtling them halfway across the world into new lives; rapid and often cataclysmic urban growth; systems of mass communication, dynamic in their development, enveloping and binding together the most diverse people and societies; increasingly powerful nation states, bureaucratically structured and operated, constantly striving to expand their powers; mass social movements of people, and peoples, challenging their political and economic rulers, striving to gain some control over their lives; finally, bearing and driving all these people and institutions along, an ever-expanding, drastically fluctuating capital world market.¹

Bergman's snapshot enumerates the constitutive elements of what has been commonly identified as modernity. Drawing on this description, this thesis adopts a notion of modernity that refers to the institutions and modes of living initially established in post-feudal Europe and then circulated worldwide through different processes of colonialism and local adaptations. Thus, modernity is primarily taken in this thesis as roughly encompassing the social, economic, and ecological consequences deriving from the capitalist system based on free-trade markets established between nation-states and constituted under political notions emanating from the French Revolution.² Nevertheless, using this rather limited definition of modernity does not mean that this thesis ignores the complexity of the modernisation process. Particularly, this thesis recognises modernisation as a complex process engendered by a close relationship between colonialism and capitalism that made possible the mobility of people, capital, raw materials, and ideas all over the world and radically changed old ways of living.³ However, the relations between capitalism and colonialism are just one of the possible frames of analysis through which to analyse modernisation. The literature and scientific debate on modernity is enormous, and it is beyond the scope of this thesis to discuss these debates, even geographically scaled

¹ Marshall Berman, *All That Is Solid Melts into Air. The Experience of Modernity* (London: Verso, 1982). 7.

² The definition of modernity taken here is adapted from the definition offered by Anthony Giddens and Alberto Moreiras. See: Anthony Giddens, *Modernity and Self-Identity: Self and Society in the Late Modern Age* / Anthony Giddens. (Cambridge: Polity, 1991); Alberto Moreiras, *The Exhaustion of Difference: The Politics of Latin American Cultural Studies*, E-Duke Books Scholarly Collection (Durham: Duke University Press, 2001).

³ Jorge Polo Blanco and Milany Gómez Betancur, 'Modernidad y colonialidad en América Latina . ¿Un binomio indisociable? Reflexiones en torno a las propuestas de Walter Mignolo,' *Revista de Estudios Sociales; Bogotá*, no. 69 (September 2019): 2–13, <http://dx.doi.org/10.7440/res69.2019.01>; Walter Mignolo, *The Idea of Latin America*, Blackwell Manifestos (Malden, MA ; Oxford: Blackwell Pub, 2005); Anibal Quijano, 'Modernity, Identity and Utopia in Latin America,' in *The Postmodernism Debate in Latin America*, ed. John Beverley, Michael Aronna, and José Oviedo (Durham, [NC: Duke University Press, 1995), 201–16; David Casassas and Peter Wagner, 'Modernity and Capitalism: Conceptual Retrieval and Comparative-Historical Analyzes,' *European Journal of Social Theory* 19, no. 2 (May 2016): 159–71, <https://doi.org/10.1177/1368431015600016>.

down to Latin America.⁴ Therefore, acknowledging the impossibility of providing an all-encompassing general narrative of modernisation in Latin America, this section offers an outline of the fundamental traits of the phenomenon on that continent.

The modernisation of Latin America was not an endogenous project; the political and economic innovations that engendered it (i.e. the French and the Industrial revolutions) were of foreign origin. Neither the steam engine nor the Declaration of the Rights of Man was created in Latin America. The economic, social, and cultural transformations that characterised modernisation were invented in Europe and diffused from there to circulate all over the world. However, as the voluminous literature on this topic has demonstrated,⁵ modernisation on the Latin American continent acquired unique shapes and nuances that endowed the process with a very distinctive dimension. For instance, although the modernisation process strengthened some pre-existing traditional as well as colonial institutions and conditions (e.g. religion, sharp social exclusion),⁶ it also produced fundamental changes in the ways that societies understood power, social institutions, nature, and the city.

The most important characteristic of Latin America modernisation was perhaps its alignment with the consolidation of nation-state structures on the continent.⁷ Following the independence campaigns and emancipation of Latin American people from Spanish and Portuguese domination by the end of the 1820s,⁸ the new-born nations underwent a series of intestine wars spanning over the nineteenth century, and a constant state of warfare brought about a generalised devastation and caused a general impoverishment of the

⁴ Alan Knight, 'When Was Latin America Modern? A Historian's Response,' in *When Was Latin America Modern?*, ed. Nicola Miller and Stephen M. Hart, 1st ed., Studies of the Americas (New York: Palgrave Macmillan, 2007), 91–120; Quijano, 'Modernity, Identity and Utopia in Latin America'; Radcliffe, 'Geographies of Modernity in Latin America: Uneven and Contested Development'; Luis Ochoa Bilbao and Paul Frankel, 'The Baroque, Modernity, and Postmodernity in Latin American Political Culture,' *Review of Policy Research* 22, no. 5 (2005): 727–35.

⁵ Peter Wade, 'Modernity and Traditions: Shifting Boundaries, Shifting Contexts,' in *When Was Latin America Modern?*, ed. Nicola Miller and Stephen M. Hart, 1st ed., Studies of the Americas (New York: Palgrave Macmillan, 2007), 49–68.

⁶ About the link between modernisation and colonialism see: Mignolo, *The Idea of Latin America*; José Luis Romero, *Latinoamérica Las Ciudades y Las Ideas*, Historia y Cultura (Buenos Aires: Siglo veintiuno, 2014), 175.

⁷ Mark T. Berger, 'Specters of Colonialism: Building Postcolonial States and Making Modern Nations in the Americas,' *Latin American Research Review; Pittsburgh* 35, no. 1 (2000): 151–71.

⁸ Cuba represent an exception of this patten since this country only gained its independence after the Spanish-United States war in 1898.

population.⁹ However, rapidly integrated into the flourishing international trade system headed by England, the new nations soon turned to the exploitation of their natural resources as a way to gain a position within this system. The exploitation of raw materials in mines and plantations gave the region a role as a supplier of a range of commodities such as coffee, tin, nitrates, sugar, cotton, hides, dried beef, copper, and guano.¹⁰ The consolidation of modern ways of life framed into the capitalist system in the North Atlantic nations produced the economic conditions that enabled most of the Latin American regions to embrace modern innovations such as running water, sewer systems, and electricity.¹¹ Nevertheless, although the economic structure in which these raw materials circulated had significantly changed during the second half of the century, the exploitation and extraction of commodities maintained the same production systems. Mines and plantations were exploited through the indiscriminate use of indigenous people, mestizos, slaves, and/or *mulatos* (generally the descendants of white men and black women) through what has been described as the modern expression of ‘colonial feudalism.’¹²

This particular form of economic integration into the new capitalist economic system had tangible consequences in Latin America. On the one hand, boosted by an economy based on the exportation of raw materials, local actors such as ranchers or mine owners gained regional power that allowed them to challenge national governments. The conflict between regions and central powers revived political disputes between proponents of federalism and centralism, which had mostly been resolved in favour of the latter in most of the new states

⁹ Beatriz González et al., eds., *Esplendores y miserias del siglo XIX: cultura y sociedad en América Latina* (Caracas: Equinoccio, 1995).

¹⁰ Reinaldo Funes, *From Rainforest to Cane Field in Cuba: An Environmental History since 1492*, *Envisioning Cuba* (Chapel Hill: University of North Carolina Press, 2008); Stefania Gallini and Gustavo Murga, *Una Historia Ambiental Del Café En Guatemala: La Costa Cuca Entre 1830 y 1902* (Asociación para el Avance de las Ciencias Sociales en Guatemala (AVANCSO), 2009); Adrián Gustavo Zarrilli, ‘Historia, ambiente y sociedad. La explotación forestal de los bosques chaqueños argentinos (1895-1948).’, *Diálogos Revista Electrónica* 4, no. 2 (August 8, 2004): 4–57, <https://doi.org/10.15517/dre.v4i2.6278>; Gregory Cushman, *Guano and the Opening of the Pacific World: A Global Ecological History* (New York: Cambridge University Press, 2013), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=1113042>; Juan Infante-Amate, Alexander Urrego Mesa, and Enric Tello Aragay, ‘Las Venas Abiertas de América Latina En La Era Del Antropoceno: Un Estudio Biofísico Del Comercio Exterior (1900-2016),’ *Diálogos Revista Electrónica* 21, no. 2 (June 16, 2020): 177–214, <https://doi.org/10.15517/dre.v21i2.39736>.

¹¹ Tulio Halperín Donghi, *Historia contemporánea de América latina*, Libro de bolsillo 192 (Madrid: Alianza Editorial, 1969).

¹² Octavio Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*, 3ra ed. (México, D.F.: Fondo de Cultura Económica, 1999).

following independence.¹³ Consequently, constant disputes between central governments and regional powers (usually built upon particular interests) triggered successive civil wars that imposed severe constraints to 'development' in places such as Colombia. An example of this is the massive displacement of tobacco farmers triggered by the collapse of the export of this commodity during the 1860 civil war.¹⁴

As a result of the constant warfare, the army, being the most active body of these new nations, was the only option that most people had to improve their life conditions (i.e. social mobility). Bolstered by the numerous armies formed by people without any other real job option,¹⁵ internal regionalist revolts sapped the energies of central governments, fragmenting the efforts to achieve national integration and making it easier for strong-armed dictators to emerge in the form of *caudillos* (leaders).¹⁶ A clear example of the dictatorial configuration associated with nineteenth-century democracy in Latin America was the case of Porfirio Díaz in México. Spanning for thirty-six years, Díaz's government promoted the material modernisation of Mexico through the implementation of large infrastructural projects such as roads, railways, and ports. However, the material prosperity based on economic liberalism (i.e. free trade), enjoyed by a minority of citizens, was imposed through the systematic erosion of social conditions and individual liberties.¹⁷ Thus, during the 'Porfiriato' period, poverty levels rocketed, and individual liberty and free press as well as the creation of trade unions were prohibited and severely punished.¹⁸ As a political experience that was replicated with nuances in most Latin American countries, the Porfiriato reveals the paradoxical nature of modernity in the region. The match between

¹³ México, Venezuela, Argentina and Brazil are remarkable exceptions to the of the centralist model of state taken by most of the countries in the region after their independence.

¹⁴ Wilson Romero, *Historia de El Carmen de Bolívar y su tabaco en los Montes de María: siglos XVIII-XX* (Universidad de Cartagena, 2010).

¹⁵ In the particular case of Colombian nineteenth century civil wars, Julian Jurado has explained how the army not only absorbed poorest but the any kind of people at the edge of society such as idle or vagabonds. Juan Jurado, 'Soldados, pobres y reclutas en las guerras civiles Colombianas,' *Revista de Indias* 64, no. 232 (2004): 673–96.

¹⁶ Federica Morelli, 'Entre el antiguo y el nuevo régimen. La historia política hispanoamericana del siglo XIX*a,' *Historia Crítica; Bogotá*, no. 33 (June 2007): 122–55; Arturo Almandoz Marte, *Modernización urbana en América Latina: de las grandes aldeas a las metrópolis masificadas*, Primera edición., Colección Estudios urbanos UC (Santiago, Chile: Instituto de Estudios Urbanos y Territoriales, Facultad de Arquitectura, Diseño y Estudios Urbanos, Pontificia Universidad Católica de Chile, 2013); Roberto Pareja, *Entre caudillos y multitudes: modernidad estética y esfera pública en Bolivia, siglos XIX y XX*, Juego de dados. Latinoamérica y su cultura en el XIX 3 (Frankfurt am Main: Vervuert Verlagsgesellschaft, 2014), <https://ezproxy-prd.bodleian.ox.ac.uk/login?url=https://doi.org/10.31819/9783954872909>.

¹⁷ Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*.

¹⁸ Ángel Manuel Ortiz Marín and María del Rocío Duarte Ramírez, 'El periodismo a principios del siglo XX (1900-1910),' *Revista Pilquen - Sección Ciencias Sociales*, no. 12 (2010): 1–9.

material improvements for some citizens and the lack of freedom for most others has led scholars to view the modernisation of Latin America as a process that lacked a genuinely modern spirit.¹⁹

Albeit with significant variations, towards the end of the century, most countries experienced a period of relative political stability and low levels of internal conflict. This stabilisation invited an increase of international capital inflow that was unevenly distributed among the countries, thereby contributing to significant economic differentiation on the continent. On the one hand, south Atlantic countries such as Argentina, south Brazil (i.e. Rio and Sao Paulo), and Uruguay were rapidly integrated into the international market economy. Having direct access to the European market through the Atlantic Ocean and large extensions of land available for cultivation, these countries soon turned into suppliers of beef and cereals to North Atlantic nations.²⁰ Similarly, despite facing the Pacific and being in a rather isolated geographical position, Chile acquired marked relevance for international markets when, having won the *Guerra del Pacífico* (1879-1884) against Bolivia and Peru, it annexed the Atacama region and its rich mines of *salitre* (potassium nitrate), a mineral that was used for fertilising lands in Europe.²¹ On the other hand, Central American and Andean nations experienced limited integration into the global market. For example, Ecuador, Venezuela, and Colombia, which were part of the same country until 1831, experienced modernisation relatively late due to deficient infrastructure, rough topographic conditions, and relatively higher levels of persistent social turmoil. Their economic integration into the international market was based predominantly on the export of coffee and oil.²²

Despite the marked contrast between countries, the way in which modern ways of living were adopted in the region was relatively homogeneous; this was in part due to the fact that modernisation was eminently an elite-driven project throughout Latin America.

Although the new-born elite classes were formed by locals in particular regions within the

¹⁹ Néstor García Canclini, *Hybrid Cultures: Strategies for Entering and Leaving Modernity* (Minneapolis, Minn. ; London: University of Minnesota Press, 1995).

²⁰ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

²¹ Jacinto López, *Historia de La Guerra Del Guano y El Salitre o Guerra Del Pacífico Entre Chile, Bolivia y El Perú* (New York: De Laisne & Rossboro, 1933).

²² For this investigation, the late entrance of the Andean region to the international market represent an important vein of analysis since it means the preservation of certain social and cultural conditions until the late nineteenth century when different ways of social expression (e.g. photography) allowed to envisage this colonial based practices. (see next section)

countries' borders (e.g. the region of Antioquia in Colombia), in general, these groups were mainly composed of foreigners. Using the bonds that connected them with Europe, foreigners (as well as local elites of foreign origin) gathered significant economic power that was accompanied by considerable political power.²³ Having replaced the nobility-based colonial ruling class, the bourgeois elites redefined the region's north, and the ideal of 'progress and civilisation' that emanated from Europe and specifically from London and Paris, was a ubiquitous concept embraced by elite members from across the ideological spectrum.²⁴ For example, in *Dogma Socialista* (1846), the Argentinian writer Estevan Echevarria (1805–1851) observed that 'The revolution for us is the progress. America believed that would improve after its emancipation from Spain. From this point onwards, we headed to the progress pathway. To progress is to become civilised or promote all the actions to reach well-being. Europe is the centre of civilisation and human progress.'²⁵ In the same spirit, in a critique of that country's political development, the Argentinian journalist, politician, and later national president, Facundo Domingo Sarmiento (1811-1888), argued in 1850 that:

The wealth of nations is entirely a product of cultivated intelligence. This is fostered by iron roads, steam, machines, and the fruits of science. The freedom of movement, the post offices, the telegraph, the press, the discourse give life and bring liberty for everyone. (You) barbarous. You are killing yourself. In ten years, your sons will be beggars or road thieves. Look to England, France, and the United States.²⁶

As the cornerstone of modernity, European positivism was filtered through the elites' vision, and they found their modern motto in the ideas of civilisation and progress.²⁷ However, unlike the relatively homogeneous France or England, the enormous social, ecological, and geological diversity existing in Latin America imposed severe limitations to the universalist progress envisioned by its elites.

²³ Eugene W. Ridings, 'Foreign Pred. Dominance among overseas traders in nineteenth-century Latin America,' *Latin American Research Review* 20, no. 2 (1985): 3–27.

²⁴ Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*, 128–63.

²⁵ Esteban Echeverría, *Dogma Socialista...* (Montevideo: Imprenta Nacional, 1846).

²⁶ Domingo Faustino Sarmiento, *Recuerdos de Provincia* (Santiago: Julio Belin i Compañía, 1850).

²⁷ Gregory D. Gilson and Irving W. Levinson, eds., *Latin American Positivism: New Historical and Philosophical Essays* (Lanham: Lexington Books, 2012); Quijano, 'Modernity, Identity and Utopia in Latin America.'

In their attempt to deal with the continent's social and environmental diversity, Latin American elites undertook notable campaigns epitomised by the large cartographical projects conducted in the region during the second part of the nineteenth century. Seeking to better know their own lands and the resources within them and thereby create a new territoriality,²⁸ political elites made substantial investments in the recognition and inventory of what existed within national boundaries. Expeditions such as the *Comisión Corográfica* in Colombia (1850–1862) illustrate the central role of knowledge about national territory as a structural element around which the modernisation project was undertaken.²⁹

The countries' delimitation and the inventory of what belonged within national boundaries demanded the participation of a considerable number of scientists and other professionals. Mathematicians, cartographers, and botanists, mainly from abroad, were hired by national governments to accomplish this task. The involvement of people that embodied a particular type of scientific knowledge would form a central aspect of modernisation and evinced the circulation of knowledge across the Atlantic through the mobility of people embodying such knowledge and expertise. Nearly every Latin America city imported a burgeoning colony of foreign managers, bankers, engineers, architects, technicians, and their families. Although in most cases, these foreigners did not mix socially with the local population,³⁰ the elites relied on them because they were seen as holding the critical knowledge to start the engine of the modernisation machinery.³¹ However, although foreigner human capital had a significant impact on the creation and administration of many economic sectors, the

²⁸ Jason Moore offers enlighten reflection about the cartographical exercise, the extraction of resources and capitalism. See Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015).

²⁹ Radcliffe, 'Geographies of Modernity in Latin America: Uneven and Contested Development'; Nancy Appelbaum, *Mapping the Country of Regions: The Chorographic Commission of Nineteenth-Century Colombia* (Chapel Hill: The University of North Carolina Press, 2016).

³⁰ Robert M. Levine, *Images of History: Nineteenth and Early Twentieth Century Latin American Photographs as Documents* (Durham, N.C ; London: Duke University Press, 1989).

³¹ As example of this, some efforts drawing on economic methodologies have been made to demonstrate the impact of the European immigration in the nineteenth century Latin American economies in places such as Cuba, Brazil and the River Plate area. See: Blanca Sánchez, 'The Other Europeans: Immigration into Latin America and the International Labor Market (1870–1930)*,' *Revista de Historia Económica - Journal of Iberian and Latin American Economic History* 25, no. 3 (January 2007): 395–426.; Dácil Juif, 'Skill Selectivity in Transatlantic Migration: The Case of Canary Islanders in Cuba,' *Revista de Historia Económica; Montevideo* 33, no. 2 (September 2015): 189–222; Ynonne Stolz, Joerg Baten, and Tarcisio Botelho, 'Growth Effects of Nineteenth-Century Mass Migrations: 'Fome Zero' for Brazil?,' *European Review of Economic History* 17, no. 1 (2013): 95–121.

labour force continued to be of local origin and was mainly formed by indigenous people, *mestizos*, and impoverished *creole* descendants.³²

As exemplified by the case of the Swedish citizen Ernst Röthlisberger (1858–1926), who was hired by the Colombian government as a lecturer at the Universidad Nacional from 1881 to 1885,³³ foreigners, mostly Europeans, had an important role in the creation of modern national universities and therefore in the consolidation of national guilds able to undertake infrastructure projects and administrate the national economies. With the acquisition of this human capital, modernisation could further unfold through infrastructural projects. Therefore, after having accumulated exorbitant debts with the North Atlantic banking institutions,³⁴ national governments developed large infrastructural projects such as railroads, bridges, port facilities, and roads, all of which were devoted toward connecting the centres of production or exploitation to the international market.

However, the logics underlying the economy of exportation produced uneven transformations within the countries' borders. Thus, some regions related to the exportation to certain products such as coffee, tin, nitrates, sugar, cotton, hides, dried beef, copper, or guano experienced an economic boom at the expense of other regions.³⁵ This uneven expansion of modernity through the capitalist economy in Latin America produced centres of modernity within a matrix of 'grey' rural areas that were not directly influenced by the nations' insertion into international trade networks. These areas were ecologically and culturally diverse, and the elites considered them frontiers or 'deserts' inhabited by barbarians in need of civilisation or elimination.³⁶ An example of this attitude is the well-

³² While the *mestizos* were all those of mixed cultural and genetic heritage, the *creoles* (*criollos* in Spanish) were all those the American-born people but of Spanish lineage.

³³ Ernst Röthlisberger, *El Dorado: Estampas de Viaje y Cultura de La Colombia Suramericana*, Edición facsimilar de la primera edición Colombiana, vol. I, II vols., *Apuntes Maestros* (Bogotá: Universidad Nacional de Colombia. Rectoría, 2016).

³⁴ These pressing financial obligations created a new matrix of colonialism dependency that later would have pernicious effects because the interest rates that made of them truly economic burdens for many countries. See Frank Whitson Fetter, 'History of Public Debt in Latin America,' *The American Economic Review* 37, no. 2 (1947): 142–50.

³⁵ Halperín Donghi, *Historia contemporánea de América latina*.

³⁶ The capitalist expansion that characterised the modernisation has been usually understood through idea of frontier initially presented by Frederic Jackson Turner to explain the expansion of white people of European origin over the indigenous lands in the nineteenth century United States. In tropical Latin America the frontier made reference to all the low-land of hot weather inhabited by people considered an uncivilised. towards the of the western Frederic Jackson Turner, *The Frontier in American History* (New York: Henry Holt, 1937); Jorge E. Brenna B., 'La mitología fronteriza: Turner y la modernidad,' *Estudios Fronterizos* 12, no. 24 (July 1, 2011): 9–34, <https://doi.org/10.21670/ref.2011.24.a01>; Germán Alfonso Palacio Castañeda, *Fiebre De*

known *Campaña del Desierto* undertaken by the Argentinian army general and president Julio Argentino Roca (1843–1914), which cost the lives of approximately 20,000 indigenous people of *Mapuche*, *Tehuelche*, and *Ranquel* nations and the physical exploitation of thousands in labour camps.³⁷ In sum, the Latin American geography and territorialities were extensively transformed by modernisation through international economic integration. The city as a point of raw material exchange thus turned into civilisation's lighthouse, 'shining' amidst vast areas devoted to primary economic activities and comprising large extensions of 'wild' territories.

Although the study of Latin America's modernisation remains an unfinished field of debate and re-conceptualisation, one of its most evident characteristics was the diversity and nuances acquired across the continent.³⁸ However, beyond particular national developments, this thesis highlights some of the general traits of Latin American modernisation. First, the social, political, and economic transformations engendered by modernisation did not emerge as a completely new chapter of the region's history. Rather, modernisation was a multidimensional phenomenon that was superimposed over certain historically-produced social and cultural structures, and the process was shaped by interactions and negotiations between ancient and new ideas and practices. Even as Latin American modernisation entailed profound changes in the social fabric, it also strengthened old structures such as *caudillismo*, which, at least in theory, was far from the liberal postulates promoted by modern states. Equally, the heterogeneous nature of a land covering 19.2 millions km² implied some regional differences between those countries that were highly inserted in the international trade system and others that were considered as lagging. Furthermore, these differences not only separated countries but also existed within national borders, thereby creating political contestation and heterogeneous landscapes in terms of inclusion in and exclusion from the new social and economic realities. As explained in the next section, cities became epicentres of modernisation at expense of other, 'backward' regions.

Tierra Caliente Una Historia Ambiental De Colombia 1850-1930, En Clave de Sur (Bogotá: Ilsa Universidad Nacional de Colombia Saber y Gestión Ambiental, 2006).

³⁷ Claudia Salomón Tarquini, 'Procesos de subalternización de la población indígena en Argentina: los ranqueles en La Pampa, 1870-1970,' *Revista de Indias* 71, no. 252 (August 30, 2011): 545–70.

³⁸ Alan Knight, 'When Was Latin America Modern? A Historian's Response,' in *When Was Latin America Modern?*, ed. Nicola Miller and Stephen M. Hart, 1st ed, Studies of the Americas (New York: Palgrave Macmillan, 2007), 91–120; Quijano, 'Modernity, Identity and Utopia in Latin America'; Radcliffe, 'Geographies of Modernity in Latin America: Uneven and Contested Development'; Luis Ochoa Bilbao and Paul Frankel, 'The Baroque, Modernity, and Postmodernity in Latin American Political Culture,' *Review of Policy Research* 22, no. 5 (2005): 727–35.

2.3 The Modern Latin American City

Having described the main characteristics of the modernisation process in Latin America, it is necessary to sketch out the spatial context on which this thesis focuses. This section presents some of the most visible transformations experienced by Latin American cities at the end of the nineteenth century. This section is extremely important for this thesis because it elucidates some of the urban characteristics that moulded particular ways of using and understanding plants in Latin America and particularly in Bogotá during the modernisation process.

2.3.1 Capital flows and urban transformation

As discussed in the previous section, modernisation in Latin America was primarily an urban phenomenon.³⁹ By the 1880s, nations had established their particular roles within the international trade networks, and the Latin American city underwent a transformation not seen in its earlier history. The city became the epicentre of modernity and the place where elites' vision of 'progress' was crystallised. Encompassing large physical (i.e. infrastructure projects) and symbolic (i.e. discourses) changes, these transformations engendered a completely new urban experience.⁴⁰ This section describes some of the essential characteristics of the modern Latin American city as a scene where new ways of understanding and using plants emerged as part of the modernisation process.

The flourishing of urban life in Latin America can be primarily explained by the relationships created between urban settlements and the exploitation of resources in rural and 'wild' regions (e.g. nitrates in the Atacama Desert). Functioning as central points of exchange, cities represented the visible side of capitalist strengthening and the linchpin of the tight relationship between urban development and the driving of capital.⁴¹ For instance, port cities such as Buenos Aires or Montevideo with large extensions of land previously taken from the indigenous people quickly consolidated their role of capitalist centres.

³⁹ Luciana Martins and Mauricio Abreu, 'Paradoxes of Modernity: Imperial Rio de Janeiro, 1808–1821,' *Geoforum*, Urban Brazil, 32, no. 4 (November 1, 2001): 533–50; Germán Mejía, *Los Años Del Cambio. Historia Urbana de Bogotá, 1820-1910*, Segunda edición, Colección Biblioteca Personal (Bogotá: CEJA Pontificia Universidad Javeriana Instituto Colombiano de Antropología e Historia, 2000).

⁴⁰ The idea of modernisation as a group of projects, discourses and experiences is based on John Jervis, *Exploring the Modern: Patterns of Western Culture and Civilisation* (Oxford: Blackwell Publishers, 1998); and Radcliffe, 'Geographies of Modernity in Latin America: Uneven and Contested Development.'

⁴¹ David Harvey, *The Urbanisation of Capital*, Studies in the History and Theory of Capitalist Urbanisation ; 2 (Oxford: Blackwell, 1985).

However, not only capital cities underwent drastic transformation; small towns and frontier cities also acquired a new status as points within this incipient urban network.⁴² For example, near the gold-rich district of Buriticá, the city of Medellín in Colombia gained a stable economic position because its local elites used gold as currency, which improved social and economic conditions as well as fostering the introduction of constitutive elements of modernity such as cars, electricity, and fashion magazines.⁴³ A more well-known example is the city of Manaus, which the rubber boom transformed from a group of huts in the joint between Amazon and Negro rivers to a capitalist enclave in the middle of the jungle and one of the most vibrant Latin America cities beginning in the twentieth century.⁴⁴ In short, the development of the modern Latin American city was made possible by the exploitation of natural resources, international trade, and related financial services; however, industry was either absent or of insignificant scale.⁴⁵

The economic growth of cities enabled the emergence of a new bourgeois elite that built its wealth through the trading connections between cities on both sides of the Atlantic.⁴⁶ Endowed with a *sui generis* long-distance mobility, members of the elite reached the ports of Manchester, Liverpool, or Marseille, where they discovered the urban innovations epitomised in London and Paris. Having experienced the urban dimension of modernity, Latin American elites expressed an intense enthusiasm for mimicking at home what they had seen abroad, and the model of the modern city was rapidly transplanted to Latin America.⁴⁷ Although London was widely perceived as a flourishing city, Paris was the template used for the construction of the modern Latin American city at the end of the nineteenth century. Primarily influenced by the Second Republic's Paris, which the urban

⁴² The idea of frontier is taken here in the sense presented by Turner to explain the expansion of the United States the east frontier. Turner, *The Frontier in American History*.

⁴³ Ann Twinam, *Mineros, Comerciantes y Labradores: Las Raíces Del Espíritu Empresarial En Antioquia 1763-1810* (Medellín: FAES, 1985).

⁴⁴ E. Bradford, 'Manaus, 1910: Portrait of a Boom Town,' *Journal of Inter-American Studies* 7, no. 3 (July 1965): 400–421.

⁴⁵ George Wythe, 'La Industrialización de Latinoamérica,' *El Trimestre Económico* 4, no. 14 (1937): 100–127.

⁴⁶ Ridings, 'Foreign Predominance among Overseas Traders in Nineteenth-Century Latin America'; Romero, *Latinoamérica Las Ciudades y Las Ideas*.

⁴⁷ About two illustrative examples of how the elites try to re-create in Caracas and Buenos Aires what they saw in their travels see J. P. Daughton, 'When Argentina Was 'French': Rethinking Cultural Politics and European Imperialism in Belle-Époque Buenos Aires,' *The Journal of Modern History* 80, no. 4 (2008): 831–64, <https://doi.org/10.1086/591112>; Arturo Almandoz, 'Longing for Paris: The Europeanized Dream of Caracas Urbanism, 1870-1940,' *Planning Perspectives* 14, no. 3 (January 1, 1999): 225–48, <https://doi.org/10.1080/026654399364210>.

planner George E. Haussmann had transformed into ‘the capital of modernity,’⁴⁸ Latin American cities underwent a systematic French-like transformation according to their economic possibilities.

In the second half of the nineteenth century, the modernisation of Latin America came with an intense need to erase the Spanish inheritance left by the Colonial period.⁴⁹ In the urban realm, this transformation would find in the Parisian model a replacement for the colonial city formed by narrow streets and white houses. Therefore, following the destructive force exerted by Haussmann on Paris, some of the most prosperous cities underwent massive urban interventions imposed on the old colonial grid-like designs. An example of this transformation is the case of Buenos Aires under the administration of Torcuato de Alvear (1883–1887), which entailed massive road paving and the extension of networks of public services such as electricity and running water. Sizeable urban infrastructure developments were undertaken, including the creation of the modern port of Puerto Madero (1889), the broadening of the ancient colonial streets, the Frenchification of the Plaza de Mayo, the establishment of an extensive road system, and the creation of parks such as La Recoleta and Palermo. By the end of the century, the urban transformation experienced in Buenos Aires reached such levels that French visitors delightedly observed how the Latin American city had been turned into a version of Paris on the other side of the Atlantic.⁵⁰

Buenos Aires is often considered the epitome of the modern urban trend in Latin America. However, the Argentinian capital was not an isolated case in the region. Urban life in Santiago de Chile, Rio de Janeiro, La Habana, and Ciudad de México flourished in a similar manner as a consequence of the economic improvements engendered by their integration into the world trade system as raw material exporters. In the case of Santiago de Chile, the transformation and beautification plan of 1874 was an ambitious endeavour led by Mayor Benjamín Vicuña McKenna (1831–1886). Conceived to be developed over a period of thirty-six years, this urban transformation entailed urban interventions such as the canalisation of the Mapocho River and the creation of the Parque Forestal (Forest Park).⁵¹ In Rio de Janeiro, the urban transformation promoted by Mayor Francisco Pereira Passos

⁴⁸ David Harvey, *Paris, Capital of Modernity*, New Ed edition (New York, NY: Routledge, 2005).

⁴⁹ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

⁵⁰ J. P. Daughton, ‘When Argentina Was ‘French’: Rethinking Cultural Politics and European Imperialism in Belle-Époque Buenos Aires,’ *The Journal of Modern History* 80, no. 4 (2008): 831–64.

⁵¹ Eugenio Garcés Feliú et al., ‘Urban Modernisation and Heritage in the Historic Center of Santiago de Chile (1818–1939),’ *Planning Perspectives* 35, no. 1 (January 2, 2020): 91–113.

(1836-1913) and known as the *era do demolição* (Demolitions' Era) produced the iconic Avenida Central and Beiría-Mar.⁵² In La Habana, whose late and rather peaceful independence from Spain partially prevented the calamitous economic consequences experienced in other countries, modernisation boosted by the sugar boom brought about the construction of the *Malecón* alongside sumptuous neighbourhoods such as El Vallado.⁵³ Although of considerably minor dimensions, and therefore generally ignored in Latin American urban historiography, cities such as Quito, Lima, Caracas, and Bogotá also underwent a 'Frenchification' process, examples of which include the construction of the Avenida de la República in Bogotá and the demolition of Lima's city walls for the creation of the Paris-like Avenida Pierola.⁵⁴

2.3.2 The growth of cities

Economic dynamism engendered an urban expansion and effervescence that attracted millions of regional and international migrants. In the case of cities in the south of the continent, migration from Europe meant not only a population increase but also a continuous input of European ways into the daily life of cities. The most representative case was that of Buenos Aires, where mostly European foreign-born people comprised 1.7 million of a total population of three million by 1890.⁵⁵ Other cities such as Caracas, Santiago, and Montevideo also underwent a considerable population increase due to transatlantic migration. In contrast, international immigration was rather insignificant in the Andean countries. In cities such as La Paz, Bogotá, and Quito, the urban population increase was predominantly explained by internal migration from different regions within the national borders. Cities in the Andean region grew as a consequence of the exploitation and social and ecological destruction of rural areas. At the same time, urban life suffered a sort of 'ruralisation' due to the large numbers of peasants who had abandoned their lands to move to the major Andean cities.⁵⁶ This rural migration reached significant dimensions in countries such as Colombia. In this country beaten by constant warfare, thousands of peasants were expelled from rural areas and met with prejudice and hostility by urban

⁵² Rodrigo Santos de Faria and Vera Rezende, eds., *O Rio de Janeiro e seu desenvolvimento urbano: o papel do setor municipal de urbanismo* (Rio de Janeiro: Letra Capital., 2017).

⁵³ Almandoz Marte, *Modernización urbana en América Latina*.

⁵⁴ Mejía, *Los Años Del Cambio*; Aldo Panfichi and Carlos Aguirre, *Lima, siglo XX: cultura, socialización y cambio*, Primera edición. (Lima: Fondo Editorial, Pontificia Universidad Católica del Perú, 2013).

⁵⁵ Almandoz Marte, *Modernización urbana en América Latina*.

⁵⁶ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

Literature review

citizens. For instance, José Luis Romero observed that ‘hordes of peasants got into the city like organised troops of an army, and the people [in the city] looked at their arrival with terror as they only obey their primary instincts.’⁵⁷

Most Latin American cities reached a definitive modern form between 1880 and 1910.⁵⁸ All of the capital cities grew significantly during this period. For instance, the population of Buenos Aires increased from 177,787 to more than 1,5 million inhabitants from 1869 to 1914. Similarly, although the figures are not clear, Montevideo had also accumulated over a million inhabitants in 1908, and Ciudad de Mexico increased its population from 327,512 to 720,753 inhabitants from 1877 to 1910. In Brazil, Rio de Janeiro’s 552,561 residents in 1890 increased to approximately 800,000 by 1906. Sao Paulo also experienced rapid demographic growth, growing from less than 7,000 inhabitants in 1822 to 30,000 in 1870 and 240,000 by 1900.

Although other Latin American capitals experienced similar demographic growth, their populations had hardly passed the half-million mark at the start of the twentieth century. For example, Santiago de Chile grew from 115,337 inhabitants in 1865 to 507,296 by 1920. La Habana had around 170,000 inhabitants in 1860, 46,455 of which lived in the centre and 122,730 in a new neighbourhood that had emerged beyond the city walls. Cities in the Andes presented rather small populations compared with their counterparts in the south. For instance, Quito had only reached 50,841 inhabitants in 1906, although the larger city of Lima’s population grew from 103,956 in 1891 to 173,000 by 1920. Bogotá experienced more substantial growth with an increase of 40,000 to almost 120,000 inhabitants from 1870 to 1912.⁵⁹ In sum, despite enormous demographic differences between cities such as Buenos Aires and Bogotá, Latin American cities experienced steady population growth at the end of the nineteenth century.

The urban population increase brought about new social and economic conflicts. First, not all of the people who moved into the city found employment or decent living conditions.

⁵⁷ Romero, 195.

⁵⁸ Almandoz Marte, *Modernización urbana en América Latina*.

⁵⁹ The demographic figures presented here have been taken from: Romero, *Latinoamérica Las Ciudades y Las Ideas*; Almandoz Marte, *Modernización urbana en América Latina*; Eduardo Kingman, *La Ciudad y Los Otros Quito 1860-1940 : Higienismo, Ornato y Policía*, Atrio (Quito FLACSO Ecuador Fondo de Salvamento del Patrimonio Cultural, FONSAL 2008, 2008); Mejía, *Los Años Del Cambio*; Panfichi and Aguirre, *Lima, siglo XX*.

As a consequence, most Latin American cities were overcrowded and filthy, making them suitable spaces for infections and seasonal diseases such as typhus or dysentery, which killed many people every year. Furthermore, limited industrial development made it impossible to absorb the immigrants within the production apparatus, which engendered a wide marginality that produced new forms of urban misery and violence.⁶⁰ The Latin American cities of the last decades of the nineteenth century were places where ostentation and modern innovations co-existed alongside high levels of social marginalisation, poverty, dirtiness, and delinquency.⁶¹ As a consequence, organised elites undertook vast real estate investments as a way to provide decent housing conditions and promoted campaigns to improve the quality of life and spread the ‘civility’ and modern ways of life (e.g. sports) they had learned in Europe and perceived to be essential parts of any city that wanted to look civilised.⁶²

2.3.3 New urban behaviours and the sense of belonging

Modernisation of the city not only involved technological innovations but also relied on a set of behaviours, social practices, and specific ‘moral infrastructures’ responsible for the construction of bodies suitable for a theatre of civilisation and progress. Accordingly, urban residents, particularly those of rural background, were exposed to vast education campaigns aiming to create ‘true’ citizens. As part of the new urban discipline, the so-called *educación popular* (education for the people) played a vital role in the modernisation of the cities. Thus, recognised members of the elite usually addressed this theme in newspapers and magazines, and sometimes, as in the case of Argentinian President Domingo Sarmiento, they managed to put their ideas into practice upon attaining national power.⁶³

⁶⁰ Juan Agustín García, *La Ciudad Indiana* (Buenos Aires: Angel Estrada y Cía - Editores, 1900); Miguel Samper, *La Miseria En Bogotá* (Bogotá: Universidad Nacional, 1898); Joaquín Capelo, *Sociología de Lima* (Lima: Impr. Masias, 1895).

⁶¹ González et al., *Esplendores y miserias del siglo XIX*.

⁶² Diego Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950* (Medellín: Editorial Universidad de Antioquia, 2015).

⁶³ A clear example of the role of education as a ‘fountain of civilisation’ is presented in the Sarmiento’s report in 1866 where he claimed for a general education for the popular classes. In contrast, the Cuban José Martí pledge not only for education campaigns for the popular classes but also for the ruling classes. See: Domingo Faustino Sarmiento, *Las Escuelas: Base de La Prosperidad i de La Republica En Los Estados Unidos: Informe al Ministro de Instrucción Publica de La Republica Arjentina* (Nueva York, 1866); José Martí, *Obras completas* (La Habana: Editorial Nacional de Cuba, 1963).

The education model established by the elite, the gravitational centres of which were God and Motherland (*Dios y Patria*), acquired particular traits for the people living in cities, and popular education became training in ‘civility’. Ways to behave in public and social manners emerged as distinctive traits that, like others, were influenced by the models of England or France, where such behaviours had reached incredible levels of sophistication. An example of this phenomenon is the extensive pedagogic use of Manuel Carreño’s (1812–1874) *Urbanidad* (1853), a guide to acceptable social behaviours severely censored organic manifestations of human bodies.⁶⁴ Elites also promoted civic education through philanthropic bodies usually recognised as *Sociedades de Mejoras o Embellecimiento* (Societies of Improvements or Beautification). Commonly in charge of the beautification of cities, these societies were in many instances also responsible for education campaigns that included dissuasive messages against alcohol use, domestic violence, and the destruction of urban nature.⁶⁵

An essential aspect of citizen education and therefore of the urban experience involved the strengthening of attachment to the republican social order. Following the aesthetic of monumentality imposed in Paris by Haussmann, the Latin American city turned into an elaborate propaganda machine embodied in a large number of statues and public buildings.⁶⁶ In the case of the former, due to the lack of heroes produced in the post-independence intestine wars, the leaders of the independence movement were turned into national heroes.⁶⁷ Thus, during the last decades of the century, European-made statues of Simón Bolívar or San Martín occupied prominent pedestals in symbolically important

⁶⁴ Carmen Díaz Orozco, ‘A falta de maneras, buenos son manuales. Modos de empleo del cuerpo y la fiesta en el Siglo XIX venezolano. El Manual de Urbanidad de Carreño’, *América. Cahiers du CRICCAL* 27, no. 1 (2001): 271–279. For example, the Carreño’s *Urbanidad* had explicit instruction on how to avoid burping when a gentleman had to dance with a young lady. See: Carreño Manuel, *Compendio Del Manual de Urbanidad y Buenas Maneras* (Bélgica: Editorial Bouret, 1900).

⁶⁵ In Colombia the Sociedad de Mejoras Públicas in Medellín (Society of public improvements) and the Sociedad de Embellecimiento y Ornato (Society of Beautification and ornamentation) in Bogotá represent two good examples of the social role played by the man of elite in the construction of the modern city. See: Ricardo Olano, *Memorias: 1918-1935* (Universidad Eafit, 2004); Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

⁶⁶ About the symbolic function of the city see Joel Kotkin, *La ciudad: Una historia global* (Debate, 2006).

⁶⁷ In the case of the sculptures used as decoration and symbolic elements in parks and gardens there is a rich information in this regard. It is well known that just as the city as a whole city decoration was imported from Europe. For example: The first monument in Buenos Aires was an equestrian statue of the National independence hero José San Martín made by the Frenchman Louis Joseph Daumas in 1862; equally in 1900 Auguste Rodin created the statue of another hero of the independence, Manuel Belgrano see: Voguel Hans, ‘Urban ritual and symbols in Buenos Aires, 1806–1910,’ in *Urban symbolism* (Leiden u.a.: Brill, 1993), 95–96; Carmen Pelosi, *Argentinos en Francia, Franceses en Argentina: una biografía colectiva* (Buenos Aires: Ciudad Argentina, 1999); Silvia Arango, *Ciudad y Arquitectura: Seis Generaciones Que Construyeron La América Latina Moderna*, Arte Universal (México, D.F: Fondo de Cultura Económica, 2012).

places (e.g. major squares) in most of the region's cities. The pedagogic use of national symbols was underpinned by the construction of large buildings to host the main republican powers and public facilities such as libraries and museums. Although immediately after independence, religious buildings had been used to host ministries or army barracks, during the last part of the nineteenth century, European architects were hired by Latin American governments to build monumental buildings to reflect the modern republican bureaucratic machinery. Most of the region's presidential houses, such as La Casa Rosada in Buenos Aires, La Casa de la Moneda in Santiago de Chile, and El Palacio de Miraflores in Caracas, were built during this period. Most of these buildings were palace-like buildings in Neoclassic style that in many cases exceeded the dimensions of their European counterparts.⁶⁸

Political powers embodied by statues and buildings were only part of the new urban reality. Having replaced the soul as the target of social control previously exerted by the church, bodies turned into new targets of control by the emergent social powers.⁶⁹ Consequently, the whole range of biopolitical devices embraced by modernisation gained a defined expression as part of urban development whereby hospitals, orphanages, and jails were built in the peripheries of cities.⁷⁰ Similarly, other institutions such as *lazarettos* or penal colonies were established in frontier regions, thus evincing the extent of the urban influence over peripheral and sometimes distant regions (see chapter 6). In sum, the massification of biological control by the state powers meant a transformation of the urban morphology by adapting new structures dedicated to controlling, isolating, or punishing bodies that transgressed the strict normalising structures aimed at shaping a particular type of citizen and behaviour.⁷¹

⁶⁸ Carlos Arturo Niño Murcia, *Arquitectura y Estado: Contexto y Significado de Las Construcciones Del Ministerio de Obras Públicas, Colombia 1905-1960*, 2a. ed (Bogotá: Universidad Nacional de Colombia. Unibiblos, 2003).

⁶⁹ M. Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979: Lectures at the College De France, 1978-1979*, ed. Arnold I. Davidson, trans. Graham Burchell, 2008 edition (New York: Palgrave Macmillan, 2010).

⁷⁰ Oren Yiftachel, 'Planning and Social Control: Exploring the Dark Side,' *Journal of Planning Literature* 12, no. 4 (May 1, 1998): 395–406, <https://doi.org/10.1177/088541229801200401>.

⁷¹ Oren Yiftachel, 'Planning and Social Control: Exploring the Dark Side,' *Journal of Planning Literature* 12, no. 4 (May 1, 1998): 395–406; Zandra Pedraza Gómez, 'La disposición del gobierno de la vida: acercamiento a la práctica biopolítica en Colombia,' *Revista de Estudios Sociales*, no. 43 (August 1, 2012): 94–107.

2.3.4 Poverty and infrastructure projects

As discussed above, the late nineteenth-century Latin American city experienced a dramatic population increase that was not equivalent to the material possibilities offered by the city (e.g. housing availability, hospital beds). Accordingly, as a housing alternative, old colonial houses were subdivided into many small and ill-ventilated rooms used by several people at the same time. Named *conventillos* or *casas chorizo* in Buenos Aires and Montevideo, *patios* in Mexico, and *tiendas* in Bogotá, these spaces were generally places of socialisation for the poor who inhabited them.⁷² However, given the agglomeration of people, this kind of communitarian life was considered by the elite to be a cause of disease and moral decay that needed to be wiped from the city to reach higher levels of progress. However, the common houses were not the most worrisome consequence of the lack of housing solutions and social marginalisation. Although it can be claimed that these room-rental houses were usually occupied by poor people, most of them at least had, in one way or another, a defined way of living (as a shoe-shiner for instance). In contrast, people on the extreme margins of society, usually those coming from remote rural areas and lacking any support networks, often ended up building perishable houses at the city's outskirts. This type of irregular settlements enlarged the *villas miserias* or *tugurios*, as the slums came to be known, that came to enclose the city in 'misery belts' by the mid-twentieth century.⁷³

The elites who had initiated the modernisation of cities also took on a prominent role in solving the problems engendered by this process. Thus, some members of the elite invested part of the wealth they had accumulated from their trading activities into the development of a national industrial sector. Although generally of small scale, the appearance of a national industry, which was mostly located in and around cities, created a demand for labour and hence helped to reduce unemployment. Equally, considering that Latin American governments did not undertake public projects for social housing until the 1940s,⁷⁴ the affluent classes contributed to solve the housing shortage through the

⁷² Sandra Caponi, 'Miasmas, microbios y conventillos,' *Asclepio* 54, no. 1 (June 30, 2002): 155–82; Mauricio Tenorio, *I Speak of the City* (Chicago: University of Chicago, 2012).

⁷³ Arturo Almandoz Marte, *Planning Latin America's Capital Cities, 1850-1950*, Planning, History, and the Environment Series (London: Routledge, 2002); Elia Saez Giraldez, José García Calderón, and Fernando Roch Peña, 'La ciudad desde la casa: ciudades espontáneas en Lima,' *Revista INVI; Santiago* 25, no. 70 (2010).

⁷⁴ Penélope Plaza, 'De Bentham a Le Corbusier: vigilancia y disciplina en la vivienda social moderna latinoamericana. El Complejo Habitacional Pedregulho, Río de Janeiro, Brasil (1947-1958),' *Atenea (Chile)*, no. 504 (2011): 111+.

establishment of real estate companies and private developments.⁷⁵ Among the most common housing solutions were those undertaken by men of industry who built entire neighbourhoods exclusively devoted to hosting their factory's laborers. Inspired by the industrial neighbourhoods implemented in England and the United States, these *barrios obreros* (labour quarters) would represent a big relief for some overcrowded cities.⁷⁶ However, this kind of housing solution was based on a patronage model that, while helping members of the early labour class to improve their well-being, also imposed social constraints; the factory owners could effectively extend their influence and discipline into the private lives of those laborers who resided in houses developed by the company. This intrusion was often delegated to the local church as the administrator of moral rectitude in the recently-created popular neighbourhoods.⁷⁷

One of the main characteristics of the neighbourhoods created during the transition to urban modernisation was the appearance of deliberately designed public spaces and the ornamentation of streets. These new ways of building reflected the central role played by public spaces in the modern city. The change of attitude towards spaces beyond the private sphere is well-exemplified by the transformation of the social role of the street. During the colonial period, streets were conceived as mere passageways or transit spaces, vessels that connected different points of the city much like today's avenues.⁷⁸ Except for spaces near the church's atrium, the market, and some peripheral uses of the promenades built as part of the Bourbonic reforms, streets were deprived of life. With modernisation, streets acquired a new meaning and become places of encounters, meetings, and places to be during both the day and the night. Once the electric light was established, urban streets become scenes of continuous quarrels, *serenatas* (serenades), and other forms of social disturbance.

Public spaces were also organised according to social class. Members of the elite who had helped to import the model of Paris to their cities had also adopted the social behaviours in fashion there. In some places such as Buenos Aires, many *porteños* (people from Buenos

⁷⁵ Arango, *Ciudad y Arquitectura*.

⁷⁶ Arango.

⁷⁷ Romero, *Latinoamérica Las Ciudades y Las Ideas*; Fernando Botero, 'El Espejismo de La Modernidad En Medellín 1890-1950,' July 1993, 13–57.

⁷⁸ Rodrigo Mejía, 'Colombian Photographs of the Nineteenth and Early Twentieth Centuries,' in *Windows on Latin America: Understanding Society through Photographs*, ed. Robert Levine (Coral Gables: SECOLAS, 1987), 49–62.

Aires) were often more than happy to adopt the trappings of French culture as their own.⁷⁹ In this regard, the opera, which was considered as the quintessence of the modern cultural refinement, was widely adopted by elites in the Andes, the *pampas*, and Caribbean alike. The opera was where high-class people presented themselves to society, displaying attires and accessories recently imported from Europe.⁸⁰ Mimicking of European public lifestyles would later take different expressions, such as engagement with sports such as tennis and golf, which were seen as indicators of good health and an efficient administration of one's free time.⁸¹ Along with the new freedom of movement through the city, the influence of French culture produced a completely different sensibility and expression within the emergent middle class comprised mostly of artisans and professionals, who created the first intellectual groups from which a significant number of writers would later emerge.⁸² In the meantime, the popular classes, who were unable to afford or utterly indifferent to the opera, continued using places such as the local pubs known as *chicherias* (local pubs) as gathering places.

As had occurred with the already mentioned ports, railways, and other infrastructure projects seeking to connect Latin American countries with the international market, the enormous transformation of the public space in Latin American cities also demanded the presence of a solid group of professionals able to undertake different types of urban developments. Having acquired social and economic visibility as new members of the elite, architects, doctors, and engineers became key actors in the creation of new streets, squares, and theatres. Especially important for the developments of this thesis, professionals were also highly involved in the design and production of green spaces that responded to some modern needs. Thus the parks, gardens, and sports courts built across the continent embodied the ideals of modernity, health, and morality that the elites had received from Europe encapsulated in the dogma of 'good airs' and leisure.⁸³ In the next section, I will further explain this relationship between green spaces and the modern Latin

⁷⁹ Daughton, 'When Argentina Was 'French'.'

⁸⁰ Rondy Torres, 'Tras las huellas armoniosas de una compañía lírica: La Rossi-D'Achiardi en Bogotá,' *Revista del Instituto de Investigación Musicológica 'Carlos Vega'* 26, no. 26 (2012): 162–200.

⁸¹ Almandoz Marte, *Modernización urbana en América Latina*.

⁸² Gabriel Di Meglio et al., 'Artesanos hispanoamericanos del siglo XIX: Identidades, organizaciones y acción política,' *Almanack*, no. 23 (December 2019): 275–315, <https://doi.org/10.1590/2236-463320192310>.

⁸³ Michel Foucault, *La Vida de los hombres infames: ensayos sobre desviación y dominación* (Madrid: Ediciones de La Piqueta, 1990).

American city, stressing the role played by plants as the most important raw material in the construction of green public spaces.

2.4 Modernising the relationship with plants

As part of the urban planning history, the presence of plants in modern cities cannot merely be explained as the consequence of their systematic use in the nineteenth-century renovation of European capitals. The rationale behind the use of trees and gardens as a crucial part of the modern urban experience relied on a series of scientific discoveries that where in turn linked to ideas about disease and contagion. Specifically, the discovery of blood circulation in humans, the discovery of oxygen and its relation to the photosynthesis, and ideas of dirtiness and bad airs can be considered as cornerstones of the existence of modern urban flora.

In 1628, the English physician William Harvey (1578–1657) published *Motus cordis* (The heart's Movement), in which he explained for the first time how blood was cleaned by transiting through the heart and lungs, thus challenging previous ideas that understood the blood's flow as caused by the human's body heat.⁸⁴ Towards the end of the eighteenth century, the English chemist and natural philosopher Joseph Priestley (1732–1804) revealed the existence of oxygen. Building on this discovery, a few years after, the Dutch physiologist, biologist, and chemist Jan Ingenhousz, discovered photosynthesis.⁸⁵ Through an empirical demonstration of having a rat and a plant living together for days in a sealed jar, Priestly found that both the rat and the plant survived; however, the rat died when sealed alone. During the same period, Ernst Platner (1744–1818) published a book explaining the skin as a membrane that allowed the body to breathe air in and out.⁸⁶ According to Platner, dirt was be the prime enemy of the skin's work; therefore, being obstructed by dirtiness, the skin could not work correctly, and it must be exposed to good airs to drag away the impurity.

⁸⁴ Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilisation* (London: Faber and Faber, 1994), 257.

⁸⁵ Joseph Priestley and Wm Hey, 'Observations on Different Kinds of Air. By Joseph Priestley' *Philosophical Transactions (1683-1775)* 62 (1772): 147–264; Jan Ingenhousz, *Experiments upon Vegetables, Discovering Their Great Power of Purifying the Common Air in the Sun-Shine, and of Injuring It in the Shade and at Night*. (London: printed for Elmsly; and H. Payne, 1779); According to Kuhn, Carl Wilhelm Scheele and Antoine Lavoisier also have strong claims to the discovery of oxygen. Thomas S. Kuhn, *The Structure of Scientific Revolutions*, International Encyclopaedia of Unified Science ; v. 2, No. 2 (Chicago ; London: University of Chicago Press, 1962), 53–60.

⁸⁶ Sennett, *Flesh and Stone*, 262.

Literature review

The nineteenth-century medical mindset conferred the origin and propagation of diseases to miasmas, namely deleterious vapours and telluric emanations produced by stagnant waters, excrement, decomposing organic materials, and underground emanations. Once in contact with the atmosphere and its humidity, dirtiness, or wind currents, these elements were thought to be responsible for the propagation of diseases.⁸⁷ Under this mindset, the above-mentioned scientific discoveries acquired substantial relevance when incorporated into the conceptual framework of managing space and, by extrapolation, the human body. Consequently, like the human body, a healthy city required open spaces with proper ventilation where the circulation of people and cars could freely flow.⁸⁸ Also, drawing on Platner's ideas, historically-related to the stain of the soul, impurity was now thought of as a product of social activities; therefore, both human and urban skin must be free of dirt to be healthy.⁸⁹ Finally, since the city also needed to breathe, green spaces were associated with the lungs, which were able to clean the air and bodies through the inhaling action of plants and the oxygen produced by them.

Having acquired a new meaning as an organic filter able to fight against bad airs while making spaces more beautiful, plants became essential elements in the construction of the nineteenth-century city. One of the most striking examples of this new role of plants in the creation of the modern city can be seen in the renovation of Paris undertaken by Haussmann between 1853 and 1870. As part of the urban transformations, the engineers working for Haussmann created a machine able to uproot trees and plant them in other places to create well-shadowed promenades from scratch.⁹⁰ Additionally, with the creation of an extensive network of green spaces that included parks such as *Bois de Boulogne*, Haussmann's renovation of Paris adopted plants as permanent organisms within the built environment, thereby changing both the physical and symbolic marginality of plants, which had historically been limited to the outskirts of the city.⁹¹

⁸⁷ Estela de la Merced Restrepo Zea, *El Hospital San Juan de Dios 1635-1895: Una Historia de La Enfermedad, Pobreza y Muerte En Bogotá* (Bogotá: Universidad Nacional de Colombia. Facultad de Ciencias Humanas. Departamento de Historia. Centro de Estudios Sociales (CES), 2011), 170.

⁸⁸ Sennett, *Flesh and Stone*.

⁸⁹ Sennett, 262.

⁹⁰ Sigfried Giedion, *Space, Time and Architecture the Growth of a New Tradition*, 4th ed, The Charles Eliot Norton Lectures 1938–1939 (Cambridge, Mass: Harvard University Press, 1963).

⁹¹ Trees and other kind of plants historically existed within cities, promenades, urban gardens and some green squares were common in the western cities since the Renaissance as has been nicely presented by Henry Lawrence. However, is in the nineteenth-century industrial and capitalist city where trees and plants were adopted as an intrinsic part of the urban layout. In the case of the Haussmann renovation of Paris, it could be considered as the breakpoint in terms of creation of urban nature. See: Henry W. Lawrence, *City Trees: A*

Despite the indisputable importance of Paris as a model for the adoption of plants as part of the Latin American city, Haussmann's work was not the only large urban project that adopted plants as a raw material. An earlier example of this is the layout of the city of Washington made by the French city planner Pierre Charles L'Enfant in 1791 which, inspired by the Versailles gardens, designed a city crossed by long roads and lined with planted trees. Equally, Idelfonso de la Cerdá presented another excellent example of the use of plants as key actors in the construction of cities in his widening plan of Barcelona of 1859. De la Cerdá planned a city with ample and tree-lined streets and residential blocks with buildings of no more of five stores around a small and communitarian park.⁹² Finally, a later example is the garden city, which was introduced in England by Ebenezer Howard in 1898 and embodied an entirely different conception of human dwellers whereby rural nature was interwoven with urban reality. Thus, tree-lined streets were replaced in Howard's imagination by a concentric ring of gardens that alternated with residential and cultural buildings.⁹³

Mimicking the urban transformations in Paris, Barcelona, or London, the modernisation of the Latin American cities equally involved enormous changes in the roles played by plants. In one way or another, cities across the region underwent significant transformations of their urban aspects through the establishment of green spaces such as parks, urban forests, or botanical gardens.

Despite the importance as a means to create modern green spaces, horticulture practices and related uses of plants have had a marginal role within the urban historiography in Latin American (see section 2.6). However, recently, although still few, rigorous studies have begun to spotlight the details involved in the transformation of urban nature as a consequence of the modernisation of Latin American cities. The following sections examine the approaches and scope of the emergent literature on Latin-American urban horticulture and highlights some gaps that this thesis intends to cover.

Historical Geography from the Renaissance Through the Nineteenth Century (Charlottesville and London: University of Virginia Press, 2008).

⁹² About the use of trees as part of the consolidation of the modern city see: Lawrence, 133–264.

⁹³ Ebenezer Howard, *Garden Cities of To-Morrow* (London: Swan Sonnenschein, 1902).

2.5 Landscape design and its main characters in modern Latin American cities

Having presented the main characteristics of the modernisation process and its urban expression in Latin America and explaining the rationale behind the use of plants as part of the modern city, this section offers a brief outlook of how the use of plants in the modernisation of cities was translated into Latin American urban realities. Although it is impossible here to analyse the modern ‘revegetalisation’ process in each country of the region, this section presents some of the most remarkable examples of this process and highlights the ideas and people involved in each of the urban developments presented herein. Equally, it is crucial to make clear that although the aims of this investigation extend beyond a mere history of the parks and gardens in Bogotá, a poorly addressed ethnobotanical history unable to elucidate, for example, the quotidian uses of certain types of plants, requires the application of landscape architecture as an analytical frame capable of illustrating the changes of the human-plant relationships studied herein. Linked to this, it is also important to underscore that this review has paid close attention to the rather scarce information about species or botanical networks (e.g. between nurseries or botanical gardens) involved in the creation of the construction of modern nature in Latin American cities during the nineteenth and early twentieth centuries (see section 2.6 on knowledge gaps).

2.5.1 Landscape design in the south of the continent

Latin American cities are indistinctly European in their origin and design.⁹⁴ Following independence from the Spanish crown, the general rejection of everything related to the previous rulers also included the city’s shape. As mentioned above, with Latin America’s integration into the world capitalist market, modernisation exalted France and England as the new models to follow, thereby making French and English landscape designs the primary influences for the region.⁹⁵ However, despite having the same pattern to follow, horticulture knowledge and practices developed differently across Latin American country. Like the unequal urban development experienced across the region, the creation of green spaces as part of the urban facilities required by any modern city responded to local

⁹⁴ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

⁹⁵ Sonia Berjman and Anatole Tchikine, ‘Landscape Architecture in Latin America: Nineteenth and Twentieth Centuries,’ *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 175–77.

possibilities and constraints. Consequently, the establishment of gardens, parks, and promenades reached higher levels of sophistication in cities that had reached a more efficient integration with the global markets. As mentioned above, cities turned into commercial hubs such as Buenos Aires, Montevideo, Santiago, or Rio de Janeiro were the epicentres of urban development in Latin America. Consequently, it was in these cities that modern horticultural expressions first appeared.

The creation of public parks, gardens, and promenades in such different cities as Buenos Aires and La Habana shared a marked French influence as a common trait. However, rather than a static influence, the creation of green spaces in the Latin American cities rested on the mobility of this influence as embodied in a relatively large number of landscape designers who crossed the Atlantic to participate in the ‘revegetalisation’ of Latin American cities (Table 2.1). Urban historiography has recently unveiled the active participation of a series of characters, mostly Frenchmen, who were hired by local authorities to undertake ambitious urban renovations and shared as a common trait that they had either worked close to Haussmann or been involved in the landscape designs for the international exhibitions hosted in Paris in 1867 and 1900.⁹⁶

Often called the ‘South American Paris,’ Buenos Aires represents the best example of the importation of European urban designs into Latin America.⁹⁷ The blooming of economic activity triggered by the large-scale exportation of beef, wool, and cereals led to a significant population increase and a blast of urban life (see section 2.3). As part of urban development, massive infrastructure projects such as the construction of the artificial port of Puerto Madero amid the mud flats of the Rio de la Plata in 1889 strengthened the capital’s central role in enriching urban structures and systems. As a consequence of this flow of capital and the consolidation of a solid bourgeois class, the city underwent a profound transformation. Following Haussmann’s demolition-based renovations in Paris, the local administration flattened several colonial buildings (e.g. La Recova Vieja) to make space for modern spaces such as the Avenida de Mayo and the Plaza de la Victoria.

⁹⁶ Berjman and Tchikine.

⁹⁷ James R. Scobie, *Buenos Aires: Plaza to Suburb, 1870-1910* (New York: Oxford University Press, 1974); Agustina Martire, ‘Imported and Translated Landscapes: Buenos Aires Nineteenth-Century Waterfront Parks,’ *Studies in the History of Gardens & Designed Landscapes* 32, no. 4 (October 1, 2012): 258–76.

Literature review

The creation of parks and gardens played a central role in the modernisation of Buenos Aires. French landscape architects were hired by the city's municipal government to oversee massive projects of new infrastructure. The most important of these foreigners was the botanist and landscape designer Charles Thays (1849–1934), whose most representative work was the 1893 Parque Tres de Febrero (Palermo Park), which was initially designed by writer and journalist (later president) Domingo Faustino Sarmiento in 1855. Thays' park design reflects an approach to landscape architecture that aligned with the French guidelines while also evincing a certain versatility in adapting to local conditions. For example, Thays divided the park into four areas. In the southern area designed in earlier plans, Thays proposed to continue the work on the acclimation garden and Ring Avenue, enlarge the water reservoir, open general views and break the regularity of some of the tree groups in that area. The eastern area was naturally equipped for a landscaped garden, and Thays focused on enhancing its similarity to southern European parks by introducing vegetation species from that continent. The less-developed northern area was thought by Thays as a place to plant Argentinian species for the public to recognise the beauty and richness of its local flora. Finally, the western part was to be a mixed landscaped park with species from warm and temperate regions, including a sector for a small French garden and another for the Botanical Gardens.⁹⁸ In sum, having been educated in Paris by internationally recognised figures such as Adolphe Alphand and Édouard André, Charles Thays accurately embodied the essence of the French landscape architect. As Director of Parks and Promenades, Thays managed to imprint a Paris-like environment that amazed all visitors to Buenos Aires' green spaces.⁹⁹

The French influence on Buenos Aires did not end with Thays' work. In preparation for the independence centenary in 1910, city authorities invited the well-known landscape architect Joseph Antoine Bouvard (1840–1920) to work in the city. Bouvard had been Adolph Alphand's assistant and participated in the project for the French pavilion for the Vienna Exhibition of 1873 as well as the preparations for French pavilions in the London Fair (1874), Brussels Fair (1876), and Amsterdam Fair (1883). Alphand also requested his assistance with creating the City of Paris pavilion for the 1878 Universal Exposition. Bouvard succeeded Alphand as *directeur administratif des services d'Architecture, des*

⁹⁸ Martire, 'Imported and Translated Landscapes'; Sonia Berjman, *Plazas y parques de Buenos Aires: la obra de los paisajistas franceses, André, Courtois, Thays, Bouvard, Forestier, 1860-1930*, 1a ed. (Buenos Aires: Fondo de Cultura Económica de Argentina, 1998).

⁹⁹ About the similarity between Buenos Aires and Paris remarked by visitors see: Daughton, 'When Argentina Was 'French'.'

Promenades et Plantations de la Ville de Paris. (Administrative Director of Architectural Services, Promenades, and Plantations of the City of Paris) after his death in 1891. The prestigious figure of Bouvard was given the responsibility to create an extensive and elegant network of small parks across Buenos Aires. In addition, inspired by Haussmann's work, Bouvard designed a group of diagonal avenues in the centre of the city and, particularly notably, was the leader of the Plaza de Mayo renovation undertaken in 1910.¹⁰⁰ As was the case for many other Latin American capitals, the French influence on landscape design in Buenos Aires extended over the first decades of the twentieth centuries. Jean Claude Nicolas Forestier (1861–1930) a former pupil of Haussmann and Alphard was among the most important transmitters of French landscape architecture, and his designs were materialised in cities in Spain, Cuba, and Morocco. In Argentina, his contribution was focused on designs for green spaces for the Avenida Costanera and the new neighbourhood of La Ribera, both of which were included in the *Plan Regulator y de Reforma de la Ciudad of Buenos Aires* (Renovation and Regulation Plan for Buenos Aires) of 1925.¹⁰¹

Buenos Aires and Montevideo's histories have been described as 'mirrored' and 'symbiotic',¹⁰² and the French influence was also overwhelmingly evident in Uruguay's capital. In 1891, the municipality invited Édouard André (1840–1911) to produce the *Plan de Ensanche y Embellecimiento para Montevideo* (Enlargement and Beautification of Montevideo). Although André's plans were not materialised, they were partially adopted by the already mentioned Charles Thays, who was called on in 1907 to design the Parque Central and work on the unrealised expansion of the Parque Urbano (1912). Thays was also invited to propose a landscaping scheme for Boulevard General José Artigas (1911) and a project for the new *Balneario Carrasco* (Carrasco River Beach Resort, 1912).¹⁰³ In the early twentieth century, another Frenchman, Charles Racine (1859–1935), was appointed head gardener of Montevideo's Botanical Garden—of which he was also the creator—and superintendent of Parque El Prado. Between 1907 and 1915, Racine also served as Director of Public Promenades of Montevideo, after which, in 1916, he designed

¹⁰⁰ Berjman, *Plazas y parques de Buenos Aires*; Almandoz Marte, *Modernización urbana en América Latina*.

¹⁰¹ <https://www.modernabuenosaires.org/proyectosurbanos/proyecto-organico-para-la-urbanizacion-del-municipio-plan-regulador-y-de-reforma-de-la-capital-federal>

¹⁰² Daniel Richter, 'Mirrored Imaginaries: Urban Chroniclers in Buenos Aires and Montevideo, 1910-1936', *Journal of Urban History* 46, no. 3 (May 1, 2020): 541–60.

¹⁰³ Alicia Torres Corral, 'A Paradoxical Paradise: Parque Nacional Santa Teresa, Uruguay,' *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 199–212.

Parque Nacional de Carrasco another ‘national park’ and the first that was ultimately an artificial creation.

Latin American urban historiography has recently revealed the unusual participation of a self-taught gardener and landscape designer in Uruguay. Rather than a professional gardener, Horacio Arreondo (1888–1967) was a self-taught historian and archaeologist who had investigated the Hispanic fortress in the Santa Teresa Region (189 miles east of Montevideo) and was appointed by Uruguayan President Baltasar Brum (1883–1933; president from 1919–1923) to undertake a huge transformation of this space into a natural park. To accomplish this, Arreondo studied the books of recognised landscape designers such as André and Eugène-Emmanuel Viollet-le-Duc (1814–1879). Importantly, although some areas of this park were built using introduced species, Arreondo showed a particular commitment to integrating the natural coastal vegetation into his designs. Although the Santa Teresa National park designed by Arreondo was not part of any city, his work deserves special mention here given two reasons: i) Arreondo is the first self-taught landscape designer revealed by the historiography, and ii) his attitude towards the native vegetation of the country represents a breaking point concerning the use of European species in the region’s landscape constructions.¹⁰⁴

Another remarkable case of Latin American urban transformation occurred in Rio de Janeiro. Made the Brazil capital in 1763, the city underwent a drastic transformation beginning in 1808, when the British Army helped the Portuguese royal family and court to escape the pressure imposed by Napoleon through his forces in Spain, and they arrived in Rio. The court’s transfer to Rio had immediate consequences in terms of population when approximately 15,000 people linked to the crown arrived in a city of 40,000 inhabitants.¹⁰⁵ As part of its new status of ‘imperial city’, Rio underwent a series of urban transformations that included, among others, the creation of a botanical garden in 1808. Nonetheless, the urban flora that had been historically enriched with Asian species such as mangoes, jackfruit, and bamboo was only directly intervened with in the early twenty century as part of the ‘demolition era’ headed by then-mayor Pereira Passos (1902–1906).¹⁰⁶ Considered the maximum expression of Haussmann’s influence in Brazil, the urban renovations

¹⁰⁴ Alicia Torres Corral, ‘A Paradoxical Paradise: Parque Nacional Santa Teresa, Uruguay,’ *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 199–212.

¹⁰⁵ Martins and Abreu, ‘Paradoxes of Modernity.’

¹⁰⁶ Martins and Abreu.

undertaken by Passos included a significant number of parks and green spaces. Emblematic of this time was the creation and ornamentation of the Avenida Central, whose boulevard-like trees would make it an emblematic symbol of the Brazilian *Belle Époque* in the *Cidade maravilhosa*, as Rio would be exalted during the Passos administration.¹⁰⁷

During the early stage of the bicephalous urban structure in Brazil, Sao Paulo began to rival Rio in importance, and it acquired a modern physiognomy in the early twentieth century. Growing at a similar pace as Manchester or Chicago mainly due to its coffee exportation activities, the city adopted a baroque conception of the monumental space that was partially imposed by Joseph Antoine Bouvard.¹⁰⁸ After completing his work in Buenos Aires, Bouvard was hired by the Sao Paulo City Council in 1911 to mediate between two competing proposals for the city centre renovations by the elites in charge of the city development.¹⁰⁹ As he had been hired for only three months, Bouvard's solution did not start from zero; rather, he drew on the designs previously made by Portuguese urbanist and engineer Vítor da Silva Freire (1869–1951). However, Freire's vision of creating a variation of Haussmann's Paris for the city were partially rejected by Bouvard, and ignoring the new urban trends presented in Camillo Sitte's *Der Städtebau nach seinen künstlerischen Grundsätzen* (City Planning According to Artistic Principles, 1889), he carried on doing what had previously won him international recognition.¹¹⁰ However, although ephemeral, Bouvard's work in Sao Paulo left important spaces such as the Anhangabaú and Várzea do Carmo. The designs of these parks were strictly similar to those of the gardens that Bouvard had used for the 1900 Paris exhibitions as a high expression of a movement later known as City Beautiful.¹¹¹ However, it is not clear what types of plants Bouvard used to create French-like gardens in the 'Metropolis of the Coffee,' as Sao Paulo was known at the time.

Finally, among the Southern Latin American cities, the case of Santiago de Chile is of particular interest. Relatively isolated in comparison with the already mentioned Atlantic

¹⁰⁷ Lawrence, *City Trees*.

¹⁰⁸ Almandoz Marte, *Planning Latin America's Capital Cities, 1850-1950*.

¹⁰⁹ Almandoz Marte, *Modernización urbana en América Latina*.

¹¹⁰ Roseli Elboux, 'Joseph-Antoine Bouvard in São Paulo, 1911: Antecedent Events and Repercussions,' *International Journal of New Technology and Research* 2, no. 5 (2010).

¹¹¹ Almandoz Marte, *Modernización urbana en América Latina*.

cities, this study experienced less migration than many of its counterparts.¹¹² However, the French influence was also important in this country and reached similar levels of sophistication not seen in other cities facing the Pacific Ocean. The *Plan de transformación y embellecimiento* (Transformation and Beautification Plan) was developed between 1872 and 1874. Formed for the completion of more than twenty infrastructure projects by 1910 (for the independence centenary celebration), this plan included the canalisation of the city's rivers, the opening of new and blocked streets, and the construction of new market places and schools. This plan also sought a complete transformation of the city's landscape through the creation of parks, gardens, and an urban forest.¹¹³

In 1873, the Frenchman Guillaume Renner (1843–1924) was hired to complete Santiago's landscape transformation and named as General Director of Planting. Renner was responsible for designing the city's most prominent public and private green spaces. For example, he led the transformation of Santiago's central Plaza de Armas, a public square that would be the first in Chile to incorporate trees (the historiography does not mention their species), planting beds, sculptures, and a fountain. Renner's work in Santiago represents a clear instance of the strenuous attempts to transplant the European city model into Latin America. For one of his celebrated projects devoted to building the new Parque Cousiño, Renner's directions demanded that plants and even such accessories as the gardeners' uniforms had to be imported from abroad.¹¹⁴ In the same vein, as part of the late stage of the transformation plan of the city, the local government hired another Frenchman, George Dubois (1866–1964), to design and build the new Parque Forestal (Forest Park) on the south bank of the recently canalised Mapocho River. Intended as an ideal setting for the new National Museum of Fine Arts, this park featured a vast promenade area along the river bank, a pond that faced the museum's main entrance. Importantly, Dubois' design also included a system of trails meandering through gardens that alternated with groves of

¹¹² Richard J. Walter, *Politics and Urban Growth in Santiago, Chile, 1891-1941* (Stanford, Calif.: Stanford University Press, 2005).

¹¹³ Ibarra, 'Hygiene and Public Health in Santiago de Chile's Urban Agenda, 1892–1927'; Katherine Vyhmeister-Fábregas, 'La Transformación de Santiago: Un Caso Frustrado de Intervención Urbana a Gran Escala (1872-1929),' *EURE (Santiago)* 45, no. 134 (January 2019): 213–35.

¹¹⁴ Marta Viveros Letelier, 'Oscar Prager (1876–1960): A Career across the Americas,' *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 234–54.

unidentified non-native trees.¹¹⁵ In sum, the modernisation of Santiago, although unusual among the cities of the Pacific Basin due to its high development, followed the same European models observed in Rio de Janeiro and Buenos Aires.¹¹⁶

Compared with the urban developments introduced in the cities in the southern part of Latin America, other countries experienced urban developments of smaller proportions. However, cities such as México and La Habana also deserve at least a brief mention here.

2.5.2 Landscape design in the la Habana, Ciudad de México, and Andean cities

In México, its capital has had deep urban transformations as part of the Bourbon Reforms. Belonging to this period is Ignacio Casteras' plan on 1794, which sought to use a rational approach to solve endemic urban problems such as flooding and housing shortages. An important episode of the city's nature during this period was the construction of urban promenades such as the Bucareli and the Azanza, while the most important of the previous La Alameda (built at the end of the sixteenth century) was widened at the expense of nearby religious properties.¹¹⁷ During the Segundo Imperio Mexicano (1863–1867), as the brief attempt of Napoleon III to establish a French monarchy in Mexico was known, Maximiliano I (1832–1867) undertook some urban modernisation reforms, including an effort to reinforce the link between the city centre and the new imperial residence at Chapultepec Castle. To do so, the Paseo de la Emperatriz (Empress Promenade) was laid out in 1865. This promenade evoked Haussmann's works in Paris and also resembled the Versailles gardens' physiognomy whereby tree-lined roads converged at the monarchical residence.¹¹⁸

During the last decades of the nineteenth century, México's physiognomy underwent some rather slow transformations. The most significant change observed in the city was the production of modern structures such as theatres, stores, and public offices built after a

¹¹⁵ Inherently, although the Dubois plans was never materialized, in 1930 was re taken by Oscar Prager. Along with the change of the Dubois's initial propose there is a transformation in the attitude toward native species of trees that now are privileged over the European species. See: Letelier.

¹¹⁶ Feliú et al., 'Urban Modernisation and Heritage in the Historic Center of Santiago de Chile (1818–1939).'

¹¹⁷ Enrique Ayala, 'Génesis de la modernización urbana la ciudad de México en la época Borbónica,' in *Arquitectura y urbanismo virreinal* (UADY, 2000), 137–44.

¹¹⁸ Tenorio, *I Speak of the City*.

joint process of expropriating church properties and aggressive demolitions.¹¹⁹ However, the city was transformed on a large scale in preparation for the independence centenary celebration. Considered the heyday of the *mestiza Belle Époque*, the city's modernisation as part of the centenary presented the opportunity to create new monumental buildings as a symbol of the republic and progress. Examples of this include the Palacio Legislativo (1897) produced by Émile Bernard (1844–1929) and the Palacio de Bellas Artes (1904) built by Adamo Boari (1863–1928). One of the most important urban transformations was the renovation of the Paseo de la Emperatriz. Renamed as Paseo de la República, this promenade's remaking included a boulevard lined with planted trees and coronated by the sculpture of the Angel de la Independencia (Independence's Angel), which embodied modernity and sovereignty and would become one of the most important symbols of México City.¹²⁰

The urban transformation of México was a particular case in the modernisation process in Latin America. First, although it was enormously influenced by the ideas of progress and order advanced by Porfirio Díaz, it also incorporated elements of the native Aztec culture as the central motif of national links.¹²¹ Equally, in relation to the urban landscape and the use of plants, its history is also particular. For instance, in contrast to the prominent role of French architects in the cases of Buenos Aires and Santiago, the main character in México's landscape design and urban garden creation was a Japanese national. Tatsugoro Matsumoto was a significant figure in the constitution of urban nature in México City. Having arrived in the city in 1896 after creating several Japanese-style gardens for upper-class people in Perú, Matsumoto obtained considerable recognition as a gardener and 'landscape designer,' and the dictator Porfirio Díaz commissioned his services for the planting and ornamentation of Chapultepec Forest in 1910. After the Díaz regimes overthrow by the revolutionary government in 1911, Álvaro Obregon hired Matsumoto to oversee the ornamentation of the city's road system. Matsumoto planted the roads with thousands of flamboyant *Jacaranda mimosiflora*, an Argentinian/Brazilian native tree that created a colourful spectacle. This artistic innovation would soon become one of the most important natural symbols of México's capital.¹²²

¹¹⁹ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

¹²⁰ Seth Dixon, 'Making Mexico More 'Latin': National Identity, Statuary and Heritage in Mexico City's Monument to Independence,' *Journal of Latin American Geography* 9, no. 2 (2010): 119–38.

¹²¹ Tenorio, *I Speak of the City*.

¹²² Sergio Galindo, *Los que vinieron de Nagano: una migración japonesa a México* (México: Artes Gráficas Panorama, 2015).

La Habana similarly represents a distinct form of urban modernisation in Latin America. In contrast to cities along the south Atlantic, the historical and environmental conditions of a Caribbean city such as La Habana imposed a particular form of urban development and a unique perception of its urban nature. As mentioned above, having obtained its independence from Spain later (in 1898), Cuba avoided the social and economic decay that occurred in other Latin American countries in the aftermath of the independence campaigns, and the transition between an elite linked to the Spanish crown to a bourgeois class was much easier than in other countries. The preservation of economic and human capital was readily evident in the rapid urbanisation process that expanded the city beyond its walls.¹²³

However, what is important here is that because environmental conditions at La Habana encompassed hot and dry tropical weather, it could not be simply a tropical version of Paris. Furthermore, green spaces in the city were commonly perceived as being healthier than in its European counterparts and in many instances were presented as a tropical Eden.¹²⁴ However, the fame reached by La Habana as a healthy tropical paradise was criticised by locals who attributed the recurrent epidemics of cholera and dysentery to the city's lack of urban infrastructures (i.e. running water or sewer systems). As a partial solution for the urban problems, in 1857, Antonio María de la Torre (1815–1873) proposed a plan to endow the area beyond the city's walls (in what is known today as the Habana Vieja) with parks and gardens; however, his plans were never materialised.¹²⁵ The people had to rely on a series of green spaces such as the botanical garden opened in 1817 and the gardens in the Quinta de Los Molinos, both of which imposed the rigid social segregation rules that had historically governed the city.¹²⁶ However, important for the aims of this thesis is that the modern Habana represents a truly particular case of Latin American urban development in that it evinced a syncretic combination of the 'exotic' tropical nature and the main characteristics of modernity. In other words, in nineteenth-century Habana, modernity was uniquely unified with what is generally viewed as its obverse: a phenomenological perception of the world. As such, the modernisation of La Habana is in

¹²³ Guadalupe García, *Beyond the Walled City: Colonial Exclusion in Havana* (Univ of California Press, 2015).

¹²⁴ Ana Amigo, 'Identidad, Modernidad, Ocio: Jardines Urbanos de La Habana En El Siglo XIX,' *Cuban Studies* 46 (April 20, 2018): 87–112.

¹²⁵ Amigo; García, *Beyond the Walled City*.

¹²⁶ Amigo, 'Identidad, Modernidad, Ocio.'

some ways paradoxical, as it was deliberately presented as an image of uniqueness rather than a simple copy of what had been done in Paris.¹²⁷

Finally, it is important to mention that their modest size has led to central American and Andean cities such as San José, Lima, or Managua sometimes being overlooked in historical regional narratives of the creation of modern urban nature in Latin America. However, there is not a lack of studies addressing these cities. Local scholars have revealed the particular characteristics of urban modernisation in these cities. For instance, Eduardo Kingman's research on Quito's modernisation provides a detailed explanation of the complex power relationships involved in the construction of a Paris-like city mostly inhabited by indigenous people but ruled by white governors.¹²⁸ In the same vein, Arturo Almandoz shows how, despite its Caribbean weather and modest dimensions, during the period of Antonio Guzmán Blanco's presidential terms, also known as the 'Guzmanato' (1870–1888), Caracas become one of the most accurate expressions of the *Belle Époque* in the entire region.¹²⁹

It is worthy of highlighting the few efforts that have been made to describe and analyse nineteenth-century landscape transformations in Bogotá. For example, Claudia Cendales investigated the creation of the two most important parks of the city until 1934, namely Parque Centenario y Parque de la Independencia. Cendales focused her research on understanding the designs and social functions of these parks; however, although it is among the first investigations of its nature in Bogotá, the role of the plants and horticultural practices involved in the creation of these spaces is rather marginal.¹³⁰ In another study, Cendales examined the participation of Robert Thomson in the landscape development of Bogotá. Thomson was a professional horticulturist educated at the Kew Botanical Gardens in London who visited Bogotá several times and proposed a series of urban transformations that were never materialised.¹³¹ Importantly, Cendales work

¹²⁷ Amigo.

¹²⁸ Kingman, *La Ciudad y Los Otros Quito 1860-1940*.

¹²⁹ Almandoz, 'Longing for Paris.'

¹³⁰ Claudia Cendales, 'Un parque extenso y amplio para dotar con él a nuestra querida capital': La exigencia de la creación de un parque y el panorama del arte paisajístico a finales del siglo XIX en Bogotá,' *Paisagem e Ambiente*, no. 29 (October 8, 2011): 25–38.

¹³¹ Claudia Cendales, 'Robert Thomson (1840-1908): A Kew Gardener in Bogotá, Colombia,' *Garden History* 40, no. 2 (2012): 239–52.

constitutes a remarkable starting point for this thesis due to her localisation of key historical documents that are used herein.

Complementing the landscape design history presented by Claudia Cendales, Maria Guerrero highlights the social and cultural factors that underpinned the need for green spaces in the city by the end of the nineteenth century. Guerrero reflects on the role played by the organised nature embodied in parks as a representation of the modern city. She attempts to trace the ideas of nature expressed by elites that fostered the creation of parks in Bogotá and describes some of the uses of parks (e.g. entertainment) in the nineteenth century city.¹³² Like Cendales' research, Guerrero ignores the ecological characteristics of the city, including the plants involved in the creation of green spaces. Finally, the substantial investigation on Bogotá's modernisation undertaken by German Mejía offers detailed descriptions of the city physiognomy prior to the modernisation process. Although Mejía's investigation is not specifically focused on the transformation of the city's nature, some sections offer interesting details of the city's flora. In view of the foregoing, this thesis draws on Mejía research as a source of historical information about nineteenth century Bogotá.¹³³

The above-mentioned investigations represent foundational attempts to understand how modernising Bogotá involved the creation of a completely new urban nature. However, despite their historiographical importance, they have followed a rather descriptive approach to elucidating a modern urban nature, which has resulted in the neglect of some strands of analysis such as: i) the pre-modern urban flora replaced by the modernisation; ii) the roles of plants in the creation of green facilities; iii) the participation of local gardeners; and iv) the ecological transformation of nearby ecosystems following the city's growth due to modernisation. Considering this, in the next section, I will define and explain the knowledge gaps identified in this thesis.¹³⁴

¹³² María Guerrero, 'Pintando de verde a Bogotá: visiones de la naturaleza a través de los parques del Centenario y de la Independencia, 1880-1920', *Revista de Historia Ambiental Latinoamericana y Caribeña* 1, no. 2 (2012): 112–39.

¹³³ Mejía, *Los Años Del Cambio*.

¹³⁴ Berjman, *Plazas y parques de Buenos Aires*; Martire, 'Imported and Translated Landscapes'; Alicia Novick, 'Planes y proyectos para Buenos Aires, siglo XX,' *Semanario de Crítica*, no. 94 (1998): 31.

Table 2.1 Main landscape designers in Latin-America during the late nineteenth century

Name	Nationality	Place of works
Robert Thomson (1840–1908)	English	Bogotá
Édouard André (1840–1911)	French	Montevideo
Joseph–Antoine Bouvard (1840–1920)	French	Buenos Aires, Sao Paulo
Guillaume Renner (1843–1924)	French	Santiago de Chile
Charles Thays (1849–1934)	French	Montevideo, Buenos Aires, Santiago
Charles Racine (1859–1935)	French	Montevideo
Jean Claude Nicolas Forestier (1861–1930)	French	Buenos Aires, La Habana
Tatsugoro Matsumoto (1865–1957)	Japanese	México City, Lima
George Dubois (1866–1964)	French	Santiago de Chile
Alberto Mackna Subercaux (1875–1952)	Chilean	Santiago de Chile
Orcar Prager (1876–1960)	Chilean	Chile and Argentina (several cities)
Horacio Arreondo (1888–1967)	Uruguayan	Park Santa Teresa (Uruguay)

2.6 Research Gaps

The creation of urban natures as part of the modernisation process in Latin America was not a homogenous process. Although framed within the same broad framework as concepts such as progress and order and generally materialised through the importation of the Parisian model created by Haussmann, the particularities presented in every Latin American region represent a usually ignored vein of analysis. A teleological historiography ‘mesmerised’ by how some cities such as Buenos Aires made of themselves accurate versions of Paris has prevented the exploration of how the modern urban nature was created in regions characterised by varying social, ecological, and economic conditions. Local particularities such as the role of a self-taught gardener such as Horacio Arreondo in Uruguay, the Japanese participation in the landscape history of México City embodied by Tatsugoro Matsumoto, or the deliberate representation of the ‘exoticisms’ in La Habana’s gardens reveal a diversity of approaches and perspectives of nature in the city. Although recent efforts have been made to understand the process from a broader perspective, in focusing on European emulation and its best-known examples (i.e. Buenos Aires or Rio), the history of the urban nature in Latin America has ignored some important aspects of the modernisation process. Specifically:

- i) We still know little about the uses and the roles of plants in the cities prior to their modernisation.
- ii) We largely ignore the types of plants used in the creation of the modern European-like green infrastructure and the means by which some species circulated and were later climatized.
- iii) With the exception of the case of Horacio Arreondo in Uruguay, we still know too little about local gardeners and landscape designers as key actors in the production of gardens and parks.
- iv) We know almost nothing about how cities' growth during their modernisation created an entirely different relationship with nearby ecosystems and their floral communities.

To help address these gaps, in the next section I will present these gaps within the specific context in which they can be interpreted and understood in historical perspective.

2.6.1 Plants in the Early Republican city

The uses and presence of plants in Latin American urban settlements were constants among pre-Columbian cities. For instance, a few days after Cristobal Columbus arrived in the Americas, he found in one island of the Bahamas Archipelago a six-house town 'with many surrounding gardens as beautiful as the Castilla ones during May.'¹³⁵ It is well known that the Aztec's study of useful plants led this culture to reach extremely high levels of horticulture knowledge. For example, Aztec cities had up to five different types of green spaces such as ludic gardens, botanical gardens, orchards, *chinampas*, and forest.¹³⁶ Archaeological investigations have also revealed complex pre-Aztec garden developments within the urban world of the Central American Maya culture.¹³⁷

The extensive information about the uses of plants in pre-Columbian urban settlements contrasts with the lack of attention to their role in Colonial and Early Republican Latin American cities. In current urban historiography, there exists a large gap in this regard that extends from the fifteenth century to the second half of the nineteenth century, when, albeit

¹³⁵ Manuel Patiño, *Plantas Cultivadas y Animales Domésticos En América Equinoccial*, vol. III (Cali: Imprenta Departamental, 1967), 342.

¹³⁶ Doris Heyden, 'Jardines Botánicos Prehispánicos,' *Arqueología Mexicana*, no. 57 (2002): 18–23; José Morales, 'Jardines Prehispánicos de México En Las Crónicas de Indias,' *Archivo Español de Arte* 77, no. 308 (2004): 351–73.

¹³⁷ Barbara Stark, 'Ancient Open Space, Gardens, and Parks: A Comparative Discussion of Mesoamerican Urbanism,' in *Making Ancient Cities. Space in Early Urban Societies*, ed. Andrew Creekmore III and Kevin Fisher (Cambridge University Press, 2014), 437.

marginally, plants begin to appear as part of the construction of the modern city. For example, apart from some investigations on the consumption of lumber and firewood, we have largely ignored the types and uses of plants in the Colonial and Early Republican city.¹³⁸ In the same vein, except for some works published in Spanish as part of international conferences, colonial gardening in the Latin American city seems to have been almost entirely ignored by academics.¹³⁹ The limited information concerning gardening in Colonial and Early Republican cities has prevented us from achieving a comprehensive understanding of the changes in daily life interactions between people and plants imposed by the modernisation of the Latin American cities. Although it is important to recognise the methodological restrictions caused by the limited historical traces left by plants, this thesis presents some initial steps to address this constraint and contribute to our knowledge of the uses of plants that preceded the incorporation of modern urban nature in Latin American.

2.6.2 The silent roles of plants

The creation of green spaces as an important characteristic of the modern city has received considerable attention from scholars of diverse disciplines (e.g. human geography, history, architecture). One of the most commonly addressed topics is the creation of parks, gardens, and urban forests in cities in both the Global North and Global South.¹⁴⁰ Although vibrant debates have emerged from these investigations, they have been strongly oriented toward highlighting the human creators of these green urban spaces. The narrative has tended to focus on urban planners such as Pierre Charles L'Enfant, Georges-Eugène Haussmann, Ildefons Cerdà Ebenezer Howard, or Le Corbusier, thereby neglecting the role of lesser-

¹³⁸ See for instance: Cristina Vanegas, 'Los Pueblos de Indios y El Abasto de Leña de Las Ciudades de Tunja y Santafé, Siglos XVI y XVII,' *Fronteras de La Historia* 20, no. 2 (2015): 92–122.

¹³⁹ Marta Beatriz Silva, 'La vivienda a patios de origen hispánico y su difusión en Iberoamérica,' in *Actas III* (Congreso Internacional del barroco Americano: Territorio, Arte, Espacio y Sociedad, Sevilla: Universidad Pablo de Olavide, 2001), 70; Sonsoles Nieto, 'El jardín barroco español y su expansión a Nueva España,' in *Actas III* (Congreso Internacional del barroco Americano: *Territorio, Arte, Espacio y Sociedad: Universidad Pablo de Olavide, Sevilla, 8 al 12 de octubre de 2001, 2001, pág. 102, 2001, 102.*

¹⁴⁰ In addition to the works mentioned in the previous sections, some investigations about the creation of green spaces in cities such as New York or Paris have been made by Matthew Gandy, Nicholas Green, Richard Sennett and David Harvey. See: Matthew Gandy, *Concrete and Clay: Reworking Nature in New York City / Matthew Gandy*, Urban and Industrial Environments (Cambridge, Mass: MIT Press, 2002); Nicholas Green, *The Spectacle of Nature: Landscape and Bourgeois Culture in Nineteenth Century France / Nicholas Green*. (Manchester University Press, 1990); Sennett, *Flesh and Stone*; David Harvey, *Paris, Capital of Modernity*, New Ed edition (New York, NY: Routledge, 2005).

known figures such as gardeners and all but ignoring the participation of plants in the process of spatial co-production.¹⁴¹

Apart from some sporadic mentions of the ‘use of native or non-native species’, research on the creation of modern cities has ignored the roles played by plants as key raw materials in the entire process. The absence of plants in such studies is reflected in the tendency of urban historians, city planners, architects, and landscape designers to call places inhabited by plants as ‘greenspaces’, which makes the plants’ blindness evident.¹⁴² By gathering all plants under the label of ‘green’, such perspectives have ignored the aesthetic, symbolic, and material potential of plants, thereby also neglecting their central role in the creation of unique landscapes beyond ‘landscape design’. There has been a constant overlooking in understanding, for example, the ways in which plants were commercialised, cultivated, climatised, and planted in parks or gardens. The neglected acknowledgement of plants as historical agents in the construction of modern urban environments has overlooked the fact that new ways of understanding plants in public spaces entailed the production of sui-generis urban floral communities that were not present in previous stages of the city’s history.

Although the vegetal reality as a whole has been rather ignored in urban historiography, trees and the history of urban tree-planting have received considerable attention from scholars. Among the most outstanding of such studies is the work of Henry Lawrence tracing the history of the urban tree from the Renaissance to the twentieth century.¹⁴³ Studies have also been carried out addressing the history of urban trees in specific countries with a dominant Anglo-Celtic culture, including the United Kingdom, New Zealand, Australia, Canada, and the United States.¹⁴⁴ In contrast to the investigations

¹⁴¹ Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects*, vol. II, II vols. (Secker & Warburg, 1961); Dorothee Brantz, Sonja Dümpelmann, and Inc Ebrary, *Greening the City. Urban Landscapes in the Twentieth Century* (Charlottesville and London: University of Virginia Press, 2011).

¹⁴² James H. Wandersee and Elisabeth E. Schussler, ‘Preventing Plant Blindness,’ *The American Biology Teacher* 61, no. 2 (1999): 82–86; William Allen, ‘Plant Blindness,’ *BioScience* 53, no. 10 (2003): 926–926.

¹⁴³ It is important to highlight that although Lawrence’s work ostensibly pursued a global aim, the outcome was rather a description of the urban tree experiences in European and European-like cities. See: Lawrence, *City Trees*.

¹⁴⁴ Mark Johnston, *Trees in Towns and Cities: A History of British Urban Arboriculture*, 2015; Paul Star, ‘Tree Planting in Canterbury, New Zealand, 1850-1910,’ in *Trees*, ed. Sarah Johnson, Themes in Environmental History 5 (Cambridge, UK: The White Horse Press, 2015), 101–19; Jodi Frawley, ‘Campaigning for Street Trees, Sydney Botanic Gardens, 1890s to 1920s,’ *Environment and History* 15, no. 3 (2009): 303–22; Joanna Dean, ‘“Said Tree Is a Veritable Nuisance”: Ottawa’s Street Trees 1869-1939,’ *Urban History Review / Revue d’histoire Urbaine* 34, no. 1 (2005): 46–57; Anna Wilson, ‘Uprooting Melbourne. A Story of a City as Revealed by Trees’ (Tasmania, University of Tasmania, 2014); Catherine

undertaken in the Anglo-Saxon Global North, studies addressing the role of trees in Latin American cities have been rather scarce. Examples include the work undertaken by Regina Horta Duarte on the political dimension of trees in the Brazilian city of Belo Horizonte,¹⁴⁵ the creation of ‘paradise-like’ urban environments in La Habana, Cuba through the exaltation of its tropical trees,¹⁴⁶ as well as my previous research on the trees species introduced into Medellín, Colombia towards the end of the nineteenth century.¹⁴⁷

All of the above-mentioned histories of urban-trees have contributed to our understanding of the ideas—such as the use of trees to clean polluted airs,¹⁴⁸ and in some instances the political forces that led to the massive presence of trees in so many cities. Nevertheless, the overwhelming concentration on trees has neglected the enormously significant relations produced between humans and other-than-trees plant actors. Although there is an acknowledgement that cities are not only recipients of foreign influences but also active agents in their own urban transformations, this understanding has not permeated the environmental dimension of the landscape and gardening history in Latin America. This thesis argues that to fully understand the creation of modern urban flora and the diversity of urban spaces inhabited and produced by plants, it is necessary to transcend the emphasis on trees and devote attention to other ways of being a plant in urban contexts. This thesis seeks to contribute in this direction by taking the first steps toward revealing the environmental history and historical ethnobotany related to the establishment of gardens in Bogotá.

Phillips and Jennifer Atchison, ‘Seeing the Trees for the (Urban) Forest: More-than-Human Geographies and Urban Greening,’ *Australian Geographer*, September 6, 2018, 1–14; Ellen Stroud, *Nature next Door. Cities and Trees in the American Northeast*, Weyerhaeuser Environmental Book (Seattle: University of Washington Press, 2012).

¹⁴⁵ Regina Horta and Natasha Ostos, ‘Entre Ipês e Eucaliptos,’ *Nômadas* 12, no. 1 (2005): 74–85; Regina Horta, ‘Urban Trees and Urban Environmental History in a Latin American City: Belo Horizonte 1897-1964,’ *Global Environment*, no. 3 (2009): 120–53.

¹⁴⁶ Amigo, ‘Identidad, Modernidad, Ocio.’

¹⁴⁷ Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

¹⁴⁸ See: Richard White, *The Organic Machine* (New York: Hill and Wang, 1996); Wilson, ‘Uprooting Melbourne. A Story of a City as Revealed by Trees’; Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

2.6.3 Gardening practices and figures

When other-than-trees have been considered in the history of the city, the analysis has been through their use in gardens.¹⁴⁹ However, the exploration of gardens as a particular type of urban plant arrangement has ignored the deep relationship between the emergence of the capitalist city and the popularisation of gardening, thereby underemphasising issues such as the social inequality reflected in varying access to gardens.¹⁵⁰ Hence, despite the volume of studies on this topic, most works addressing the modern understanding of plants seem to ignore the urbanisation phenomenon as a trigger of these practices.

Moreover, the majority of publications on urban gardening have focused on practices in European countries, particularly England.¹⁵¹ It is true that the ‘loving for plants’ had one of its maximum historical expressions in imperial cities such as London, where importing and breeding exotic species was a symbol of power and refinement.¹⁵² However, with very few exceptions,¹⁵³ the historical perspective of gardening practices in other regions or under other cultural milieus has not been comprehensively addressed. For instance, despite the continuous use of varying kinds of gardening practices in Latin America since pre-Columbian times,¹⁵⁴ except for a few studies addressing the construction of urban gardens as part of parks or promenades or the private works made by recognised landscape architects such as Prager in Santiago,¹⁵⁵ almost nothing has been done to understand the

¹⁴⁹ William Robinson, *The Wild Garden, or, The Naturalisation and Natural Grouping of Hardy Exotic Plants, with a Chapter on the Garden of British Wild Flowers* (London: John Murray, 1894); Monique Mosser and Georges Teyssot, *The History of Garden Design: The Western Tradition from the Renaissance to the Present Day* (London: Thames and Hudson, 1991); Sue Bennett, *Five Centuries of Women and Gardens* (London: National Portrait Gallery, 2000).

¹⁵⁰ Lawrence, *City Trees*.

¹⁵¹ Jill Francis, ‘“A Filthy Place for Any Gentleman”?: Gardens, Gardeners and Gardening in England and Wales, C1560- 1660’ (Ph.D., England, University of Birmingham (United Kingdom), 2011); Yu Liu, ‘Transplanting a Different Gardening Style into England: Matteo Ripa and His Visit to London in 1724,’ *Diogenes* 55, no. 2 (May 1, 2008): 83–96; Nicola Verdon, ‘Cecilia Gowdy-Wygart, Cultivating History: The Women’s Land Army and the Victory Garden Movement,’ *Environment and History* 21, no. 1 (February 1, 2015): 168–70.

¹⁵² Rebecca Preston, ‘“The Scenery of the Torrid Zone”: Imagined Travels and the Culture of Exotics in the Nineteenth-Century British Gardens,’ in *Imperial Cities*, ed. Felix Driver and David Gilbert (Manchester: Manchester University Press, 1999), 279.

¹⁵³ Dianne Glave, ‘“A Garden So Brilliant with Colors, So Original in Its Design”: Rural African American Women, Gardening, Progressive Reform, and the Foundation of an African American Environmental Perspective,’ *Environmental History* 8, no. 3 (2003): 395–411.

¹⁵⁴ Morales, ‘Jardines Prehispánicos de México En Las Crónicas de Indias.’

¹⁵⁵ Ramona Pérez, ‘La Construcción de Paseos y Jardines Públicos Modernos En La Ciudad de México Durante El Porfiriato. Una Experiencia Social,’ in *Los Espacios Públicos de La Ciudad Siglos XVII y XIX*, ed. Carlos Aguirre, Marcela Cávalas, and María Pos (México: Casa Juan Pablo, 2002), 314–34 *Estudios*

use of plants in the construction of public spaces in the region. This thesis seeks to contribute toward closing this gap by addressing the role of plants in the consolidation of horticulture in Bogotá, a tropical city of the Global South.

Finally, it is worthy of highlighting that the historical narrative has enormously privileged the well-known, mostly European gardeners involved in the process, and only recently have efforts been made to unveil the participation of local figures in the adaptation of French-like landscapes in Latin American cities, perhaps the most remarkable example of which is the participation of Horacio Arreondo in the landscape production of the Santa Teresa Park in Uruguay.¹⁵⁶ In general, the participation of local gardeners and other figures in close contact with plants has received significantly reduced attention by scholars interested in urban history in Latin America. In addition, as mentioned above, the history of gardening in the region has presented a clear bias to explain the creation and evolution of urban natures in cities such as Buenos Aires or Santiago, thereby creating a considerable gap in relation to local gardening developments in other regions. The uses of plants in the construction of modern cities in regions such as the Amazon, the Andes, the Brazilian Northeast, and Central America has received marginal attention by scholars. Using Bogotá as a case study, this thesis seeks to contribute to revealing the participation of local people as translators of the modernisation of the city. Finally, this thesis also aims to elucidate the particularities of the gardening process in cities such as Bogotá as part of Latin American gardening history.

2.6.4 Out-of-sight and non-planted urban plants

The city cannot be understood as being self-contained within its borders. As illustrated by William Cronon in the case of Chicago or Mathew Gandy in New York,¹⁵⁷ the city entails a symbolic and physical expansion far beyond its ‘built environment.’ The expansion of the city, which Gandy termed the out-of-sight nature, has had a paradoxical outcome when analysed in relation to plants.¹⁵⁸ As has been extensively demonstrated by urban ecologists,

Mexicanos 23, no. 1 (February 1, 2007): 101–23; Cendales, “Un parque extenso y amplio para dotar con él a nuestra querida capital”; Letelier, ‘Oscar Prager (1876–1960).’

¹⁵⁶ Corral, ‘A Paradoxical Paradise’.

¹⁵⁷ William Cronon, *Nature’s Metropolis: Chicago and the Great West*, 3. print (New York: Norton, 1992); Gandy, *Concrete and Clay*.

¹⁵⁸ Gandy, *Concrete and Clay*.

the city's flora is richer than those of its surrounding areas.¹⁵⁹ This pattern exists because although the city's expansion entails a deleterious influence on its nearby areas, at the same time, there is a continuous process of plant introductions, and therefore floral enrichment is continuously happening within urban borders.¹⁶⁰

Despite its complexity, the modern city as a 'floristic island' is a topic that has not been analysed from a multidisciplinary perspective.¹⁶¹ Considered as a phenomenon mostly within biological and ecological studies, the creation of 'floristic islands' and the interactions between humans and plants as the main driving force in their production has been systematically ignored by scholars within human geography and history. As a result, this thesis explicitly asks about the human-plant relationships involved in the active alteration or even complete replacement of a set of plants (flora) as social actors by another set of plants.¹⁶²

Beyond the biodiversity losses entailed by growing urbanisation,¹⁶³ explorations of interactions between cities and their nearby plants have emphasised the use of plants as raw materials and/or commodities. Therefore, on the one hand, there is the human-plant relationship based on extractive procedures, as reflected, for instance, in the historical dependence on lumber and firewood as one of the most important resources of the pre-modern and modern city.¹⁶⁴ On the other hand, there is the scenario in which a particular

¹⁵⁹ S.M. Walters, 'The next Twenty Years,' in *The Flora of a Changing Britain*, ed. F Perring (Hampton: Classey for the Botanical Society of the British Isles, 1970), 136–41; P. Pyšek, 'Factors Affecting the Diversity of Flora and Vegetation in Central European Settlements,' *Vegetatio* 106, no. 1 (March 1993): 89–100; Annett Wania, Ingolf Kühn, and Stefan Klotz, 'Plant Richness Patterns in Agricultural and Urban Landscapes in Central Germany—Spatial Gradients of Species Richness,' *Landscape and Urban Planning* 75, no. 1–2 (February 2006): 97–110; Myla F. J. Aronson et al., 'Urbanisation Promotes Non-Native Woody Species and Diverse Plant Assemblages in the New York Metropolitan Region,' *Urban Ecosystems* 18, no. 1 (March 1, 2015): 31–45.

¹⁶⁰ Kirstin Deutschewitz et al., 'Native and Alien Plant Species Richness in Relation to Spatial Heterogeneity on a Regional Scale in Germany,' *Global Ecology and Biogeography* 12, no. 4 (July 1, 2003): 299–311.

¹⁶¹ Pyšek, 'Factors Affecting the Diversity of Flora and Vegetation in Central European Settlements.'

¹⁶² A relational perspective enables the creation of endless connections between humans and other living beings. However, in this thesis, I assume that although they may be present in the human realm (for instance, in the guise of scientific names), many animals, plants, and other forms of life are not fully social actors, or at least their role is extremely peripheral. These *obscure* interactions were termed ontological/detachment by Franklin Ginn (2014) in his examination of the relationship between gardeners and slugs in Great Britain.

¹⁶³ Michael L. McKinney, 'Urbanisation as a Major Cause of Biotic Homogenisation', *Biological Conservation*, Urbanisation, 127, no. 3 (January 1, 2006): 247–60.

¹⁶⁴ William Cronon, *Nature's Metropolis: Chicago and the Great West*, 1st Edition (W. W. Norton & Company, 1992); John Perlin, *A Forest Journey: The Story of Wood and Civilisation* (New York & London: W. W. Norton & Company, 1989); Joachim Radkau, *Wood: A History* (Polity, 2012); Charles Watkins, *Trees, Woods and Forests: A Social and Cultural History*, 1st Edition edition (London: Reaktion Books, 2014).

type of plant has been turned into a profitable commodity and is deliberately used in the replacement of a previous complex set of biological interactions in the forest or swamps close to the city. Examples of the latter include the transformation of the native Cuban forest into an extensive sugar cane plantation illuminated by Reinaldo Funes and the massive ecological transformation that occurred after the British conquest of New Zealand and entailed the replacement of the native bush by a forested landscape of exotic trees.¹⁶⁵ However, studies of such phenomena have tended to ignore the central role of the city as the most important transformative force in the replacement of certain types of floras by others. Consequently, while remaining aware of the problems inherent in setting the limits of the city highlighted by Henry Lefebvre, Ash Amin, and Nigel Thrift,¹⁶⁶ this thesis conceives of the city as an omnipresent transformative force driving the creation of city-influenced landscapes outside the built environment.

Finally, the vast majority of studies on plants and cities have been almost exclusively focused on species that have been deliberately introduced, planted, and bred into the city. This bias has led to limited consideration of the urban roles of plants whose presence in the city is not necessarily a result of human volition. Keeping in mind the existence of spontaneous urban flora termed *Baumscheiben* ('the area around street trees') in Germany,¹⁶⁷ this thesis attempts to produce a more comprehensive understanding of the presence of plants in modern cities. To do so, this thesis expands beyond a consideration of certain types of plants solely based on their use in the creation of tree-lined avenues, gardens, and urban forests. Despite the obvious methodological constraints, this thesis pays special attention to spontaneous plants and their obscured presence in highly modified urban environments as they persist 'against the grain of expert designs.'¹⁶⁸

¹⁶⁵ Star, 'Tree Planting in Canterbury, New Zealand, 1850-1910.'

¹⁶⁶ 'To what extent is each city expanded?' 'Where are the limits of the city?' were questions often posed by Henry Lefebvre. Amin and Thrift (2002, p. 1) reply to these questions to some extent when they state that *city is everywhere and in everything?* Does the contemporary city leave spaces free of its influx? For example, the intensive and destructive gold extraction in the Amazon Basin is not the extension of a single city; however, it can be conceived of as a consequence of the 21st century's overwhelming global expansion of urban life. In this sense, this thesis aligns with the statement proposed by Amin & Thrift, (2002, p. 1)

¹⁶⁷ Rüdiger Wittig and Ute Becker, 'The Spontaneous Flora around Street Trees in Cities—A Striking Example for the Worldwide Homogenisation of the Flora of Urban Habitats,' *Flora - Morphology, Distribution, Functional Ecology of Plants* 205, no. 10 (October 1, 2010): 704–9.

¹⁶⁸ Steve Hinchliffe and Sarah Whatmore, 'Living Cities: Towards a Politics of Conviviality,' *Science as Culture* 15, no. 2 (June 1, 2006): 123–38.

In general, studies on the re-vegetation of Latin American cities have underlined the role of European urban planners and landscape designers. Equally, the investigation has ignored the participation of plants in the entire process. Thus, the urban historiography of the region has not only overlooked how all of these changes were adapted to the local environments (e.g. local people and native species) but has also ignored the impacts of this process on urban daily life. For instance, social and ecological contestation emerged following the pre-modern–modern encounter, and modern and emergent ways to understand and use plants have not usually been considered by scholars. Additionally, the ecological conditions of each city (e.g. temperature, precipitation) are not considered as part of urban historiography. Therefore, it has been challenging to understand the ecological conflicts that arose when a model of temperate-like parks and gardens was implemented in tropical regions.

Despite the critical role of the city in the transformation of its nearby flora, studies of peri-urban ecological changes have tended to ignore the human-plant relationships that emerged with the city as a vital force influencing this process. Moreover, narratives centered on the built environment have not addressed the role of the city in the shift of rural-like environments in the Latin American context, thereby overlooking the social conditions that have turned cities into distinctive floristic islands in places such as Bogotá that were already biodiverse even before their modernisation.

Conclusion

Conceived of as a contextual framework, this chapter has presented the main characteristics of what is understood as modernisation in this thesis. Focused on the particularities acquired by this process in Latin America, this chapter has also shown how the incorporation of a series of elements considered modern by elites engendered drastic social, political, cultural and ecological changes. At the same time, modernisation also resulted in the prolongation of ancient social structures, including massive socioeconomic inequalities and significant dependence on foreign nations.

Understanding that the modernisation was eminently an urban phenomenon, this chapter has described how the late nineteenth-century Latin American city faced a radical multidimensional transformation. This chapter has explained, for example, how the incorporation of the new-born countries into the international trade system entailed a flourishing of urban life and the consolidation of a new bourgeois class. It has elucidated

Literature review

how after gaining access to power spaces (mainly embodied in the figure of the mayor), the new elites were responsible for substantial physical reforms in the cities such as the introduction of urban facilities (e.g. ports, tramways). The creation of a modern infrastructure under the motto of progress as the representation of enlightened ideas was accompanied by a set of new social behaviours and manners promoted by the elites as emblems of civilisation.

This chapter has explained how plants were ensured a permanent role as members of the modern city when by the end of the eighteenth century, the discovery of oxygen and its relationship with photosynthesis was adapted to a mindset that understood the body as a figurative model of the city. As part of this mindset, plants were perceived as lungs and indispensable to having healthy spaces. Seeking to understand how these ideas were translated into modern Latin America, this chapter has reviewed the rich historiography about the creation of parks and gardens in some Latin American cities. This chapter has presented the enormous influence that Haussmann's renovations in Paris had on the region and how French landscape designers and horticulturists were responsible for the introduction of these ideas in Latin America. Nevertheless, this chapter has also shown how even as the Haussmann influence was structured around ideals of progress and civilisation, it was adapted differently in each country in response to their own particular social, economic, and political realities.

Finally, after reviewing the state of the art of the current research on the green spaces produced as part of the urban innovations in Latin America, this chapter has presented some knowledge gaps identified in relation to the place given to plants in the whole process. This chapter has also highlighted the relatively low attention paid to the participation of local gardeners and self-taught landscape designers as the characters responsible for adapting European urban trends into local environments. Finally, this section has equally revealed the poor understanding of the historical role of the city as a force that produced severe ecological changes but also created new ways to use and relate to plants.

III

METHODOLOGY

3.1 Introduction

Plants left scarce traces of their presence in cities. In contrast to the rather perennial existence of buildings that inform studies on architectural histories, the ephemeral existence of plants makes reconstructing their histories in urban environments a harder task. As a way to overcome the constraints imposed by the limited historical record left by plants and investigate the changing relationships between people and plants, this thesis uses a historical ethnobotany methodology. In contrast to similar methods such as palaeobotany, historical ethnobotany uses written records and iconography as a primary source of information.¹ Thus, in order to inquire about the role of plants as historical actors, studies based on a historical ethnobotany methodology have to deal with an enormous universe of culturally-created botanical representations. The botanical analysis of diverse cultural elements (e.g. images, handcrafts, literature, decoration motifs) informs about the symbolic or material existence of certain species of plants among societies. However, and perhaps more importantly, the analysis of cultural representations of plants enables the interpretation of the cultural and ecological conditions that promoted particular ways in which past societies perceived and used plants.

This thesis studies the species and their linked ethnobotanical practices that emerged in the urban environment of Bogotá. Therefore, this chapter describes the writing records and iconography that emerged as part of the modernisation of urban life and were used as sources of information in the reconstruction of the role of plants in the modernisation of Bogotá. Likewise, this chapter presents the ways through which the historical data were retrieved and analysed. To do so, this chapter is divided into eight sections. Section 3.2 explains and contextualizes the sources of the historical information used during the process of data collection. Section 3.3 describes how the data were interpreted through a textual analysis perspective and the interpolation of sources and narrative construction to give sense to the historical evidence. Section 3.4 explains the treatment given to the plants in terms of botanical identities and names. Section 3.5 offers a brief overview of the

¹ While palaeobotany retrieves information about the pre-historic uses of plants through physical vegetal remnants (i.e. phytoliths, pollen or carbonised seeds) Taline Cristina Silva et al., 'Historical Ethnobotany: An Overview of Selected Studies,' *Ethnobiology and Conservation* 3, no. 4 (2014): 1–12, <https://doi.org/10.15451/ec2014-6-3.4-1-12>.

fieldwork, and section 3.6 describes the most important archives, libraries, and museums where most of the information was retrieved. Finally, section 3.7 briefly discusses some of the limitations faced in the development of this thesis.

3.2. Modern representation and circulation of botanical evidence

Modernity cannot merely be defined through its technical-based innovations and the consolidation of the capitalist system (see Chapter 2). Modernity produced substantial changes in the ways of communicating emotions and ideas and the ways that societies represented themselves and ‘nature’. For example, traditional methods of representations such as painting were transformed with the appearance of technological advances that engendered new forms of social communications (e.g. photography).² However, with some limited exceptions (e.g. travellers’ botanical descriptions or scientists’ botanical illustrations), plants, their botanical identities, and their associated knowledge had a marginal place in the universe of representations that emerged with modernisation. The relatively marginal role of plants largely contributes to the lack of historical traces of their presence in cities. The role of plants as historical agents and particularly as urban actors has been especially overlooked in Latin America, where the absence of modern institutions entirely devoted to the study of plants during the last decades of the nineteenth century prevented the establishment of archives entirely dedicated to plants, their uses, representations, and circulation. As a consequence, the silenced participation of plants in the urban history of Latin America poses a significant methodological constraint that can only be addressed by interweaving and creating a ‘dialogue’ between a considerable diversity of primary historical sources.

In this section, I present the social context in which the sources of information used in this research were produced and discuss how they can inform us about the botanical representation and circulation of the plant species involved in the modernisation of Bogotá. Finally, as will be explained in depth in section 3.3, it is crucial to bear in mind that all of the sources of information presented in this section respond to subjective representations of reality. Therefore, as is the case when dealing with any historical source of information, the analysis undertaken in this thesis has considered the period of time (when), the

² Roland Barthes, *Camera Lucida, Reflections on Photography*, Hill and Wang (New York, 1981).

geographical space (where), and the creator (by whom) behind any piece of historical data retrieved from archives, libraries, or museums.

3.2.1 Botany and horticulture books

A considerable number of gardening and horticulture books, manuals, and catalogues were published in Europe and North America from the end of the eighteenth through the nineteenth century.³ The publication of materials explaining how to grow, care for, and buy plants targeted both rural and urban audiences, and reflect how, beyond the cabinet and the laboratory, Enlightenment-born botanical advances had a tangible impact in the daily lives of many people. However, the popularisation of gardening and horticulture within urban societies in the Global North did not find an echo in Latin America. Despite the botanical enterprises undertaken by the Spanish crown as part of the Bourbonic reforms in places such as today's Colombia, Mexico, or Perú,⁴ and despite the incredible floristic richness present in tropical and sub-tropical Latin America, local gardening publications were not produced in Latin America until the last decades of the nineteenth century, when these kinds of books began to be published in Argentina.⁵

Colombia had to deal with the aftermath of the bloody Spanish reconquest campaign (1810–1819) and later faced a constant warfare state that lashed the territory throughout the nineteenth century. Mainly due to social turmoil, the economic situation in Colombia throughout the nineteenth century was of extreme poverty. A clear consequence of the

³ Thomas Whately, *Observations on Modern Gardening, Illustrated by Descriptions [Electronic Resource]*., The second edition. (London: printed for TPayne, 1770); John Abercrombie, *Every Man His Own Gardener: Being a New, and Much More Complete Gardener's Kalendar than Any One Hitherto Published ..* (London, 1782); Charles H. B. Breck., Charles H. B. Breck, and Henry G. Gilbert Nursery and Seed Trade Catalog Collection, *Catalogue of Vegetable, Herb, Tree, Flower and Grass Seeds, for Sale at the New Seed Store, No. 45 North Market Street, Corner of Merchants' Row (up Stairs,) Boston, / by Charles H. B. Breck, Seedsman and Florist.*, vol. 1842 (Boston: Charles H. B. Breck :, 1842); *The Flower Garden: Or, Breck's Book of Flowers; in Which Are Described All the Various Hardy Herbaceous Perennials, Annuals, Shrubby Plants, and Evergreen Trees, Desirable for Ornamental Purposes, with Directions for Their Cultivation* (JPJewett & company;--Sheldon, Blakeman & company; etc, etc, 1856); George Nicholson, *The Illustrated Dictionary of Gardening: A Practical and Scientific Encyclopædia of Horticulture for Gardeners and Botanist* (GTKing etc, etc, 1884).

⁴ Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012),

⁵ A remarkable example of the gardening manual produced in Latin America was the Fernando Maudui & Vicente Peluffos' *El Jardinero Ilustrado*. See: Fernando Mauduit and Vicente Peluffo, *El Jardinero Ilustrado. Contiene La Descripción, Cultivo y Multiplicación de Las Principales Plantas Útiles y de Adorno y Su Mejor Empleo En Los Parques, Jardines y Paseos Públicos, La Creación de Parques, Jardines, Bosques Artificiales, Etc. Ilustrada Con Mas de 600 Grabados Intercalados En El Texto y Planos de Jardines, Parques, Cascadas, Grutas, Invernáculos, Etc.* (Buenos Aires: Departamento Nacional de Agricultura, 1886).

economic constraints faced by the country was the difficulty implied in the construction of republican ostentation spaces (e.g. government palaces); under the circumstances, the creation of gardens and landscape design was considered to be a superfluous task (see Chapter 6). However, in the absence of locally-produced gardening knowledge, the presence of some horticulture and gardening books in the Biblioteca Nacional published as early as 1592 reveals how, although poor and isolated in the middle of the Andes, some gardening, horticultural, and landscape design books reached the city throughout its history.

Early publications on gardening and horticulture owe their presence in Bogotá to Jose Celestino Mutis (1731–1808). The head of the Expedición Botánica (1783–1813), Mutis established solid relationships with influential contemporary naturalists such as Carl Linnaeus.⁶ In part due to constantly exchanging botanical collections for books, Mutis managed to create a library of spectacular dimensions that contained more than 4,600 volumes, some of which were unknown even to Alexander von Humboldt.⁷ As part of the Mutis collection, today it is possible to find books such as *Agricultura General...* (General Agriculture, etc.) by Gabriel Alonso Herrera. Initially published in 1620 and repeatedly re-printed afterwards, Herrera's book was a compendium of different topics on plants and animals that included the important 1592 book *Agricultura de Jardines* written by Gregorio de los Rios.⁸ Another example of the legacy of Mutis' library is an interesting book addressing the cultivation of trees from the *Rosaceae* botanical family (which includes peaches) written by the Frenchman Henri Louis Duhamel in 1768 with the title *Traité des Arbres Fruitières: Contenant Leur Figure, Leur Description, Leur Culture, etc.* (Treatise on Fruit Trees: Containing Their Figure, Description, Culture, etc.)⁹

⁶ José Antonio Amaya, *Mutis, apóstol de Linneo: historia de la botánica en el virreinato de Nueva Granada, 1760-1783* (Bogotá: Instituto Colombiano de Antropología e Historia, 2005).

⁷ About Mutis' library, Humboldt asserted that excepting the Bank's library in London, he had not seen a library that nourished. See: Alejandro de Humboldt, *del Orinoco Al Amazonas*, trans. Adolf Meyer-Abich (Barcelona: Guadarrama, 1982); Julio Mora, 'El fondo José Celestino Mutis de la Biblioteca Nacional de Colombia,' *Boletín de historia y antigüedades* 93, no. 833 (2006): 359–74; José Amaya, 'Los Libros de Historia Natural Del Fondo José Celestino Mutis de La Biblioteca Nacional de Colombia. Maqueta Para Levantar Su Inventario Comentado,' in *Independencia: Historia Diversa*, ed. Bernardo Tovar Zambrano (Bogotá: Universidad Nacional de Colombia, 2012), 77–107.

⁸ Gregorio de Los Rios, *Agricultura de Iardines: Que Trata de La Manera Que Se Há de Criar, Governar, y Conservar Las Plantas* (Madrid: P. Madrigal, 1592); Alonso de Herrera, *Agricultura General: Que Trata de La Labranza Del Campo, y Sus Particularidades, Crianza de Animales, Propiedades de Las Plantas Que En Ella Se Contienen, y Virtudes Provechosas a La Salud Humana* (Madrid: Don Antonio de Sancha, 1620).

⁹ Henri-Louis Duhamel Du Monceau, *Traité Des Arbres Fruitières: Contenant Leur Figure, Leur Description, Leur Culture ...* (Paris: chez Saillant, Desaint... 1768),

For the particular aims of this investigation, I have used the presence of gardening books in present-day libraries in Bogotá to evince the exposure of local characters responsible for the modernisation of the city to specific aesthetic and botanical influences. Therefore, the use of this kind of historical source was valuable to understand how the circulation of books exerted a significant influence in the shapes acquired by the local green spaces in the city.

3.2.2 Medical and scientific literature

In nineteenth-century Latin America, architects and physicians were usually the social actors on the front lines of urban modernisation. For instance, the emergent figure of the architect, mostly educated in Europe, was responsible for the introduction and adaptations of foreign models into Latin American urban realities.¹⁰ Another crucial figure was the medical guild, which administered life and death and embodied scientific knowledge and ultimately acquired significant relevance in the administration of urban spaces.¹¹ Building on the notion of miasmas as the source and propagation of disease, doctors fought a constant battle against the filthy and antihygienic conditions of the city. Consequently, they became experts in the organisation and administration of markets, cemeteries, wandering animals, epidemic diseases, rivers and swamps, houses, forests, and many other aspects of daily urban life.¹²

During the nineteenth century, medical knowledge had already incorporated the role of plants as prophylactic elements due to their capacity to transform carbonic exhalations into oxygen. At least until the appearance of landscape designers and forestry engineers at the end of the nineteenth century, doctors were the most authoritative voice around the administration of forests, trees, and plants in the city.¹³ Organized under the Sociedad de

¹⁰ Silvia Arango, *Ciudad y Arquitectura: Seis Generaciones Que Construyeron La América Latina Moderna*, Arte Universal (México, D.F: Fondo de Cultura Económica, 2012); Arturo Almandoz, 'Urban Planning and Historiography in Latin America,' *Progress in Planning*, Urban planning and historiography in Latin America, 65, no. 2 (February 1, 2006): 81–123.

¹¹ Diego Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950* (Medellín: Editorial Universidad de Antioquia, 2015); Sandra Caponi, 'Miasmas, microbios y conventillos,' *Asclepio* 54, no. 1 (June 30, 2002): 155–82; Macarena Ibarra, 'Hygiene and Public Health in Santiago de Chile's Urban Agenda, 1892–1927,' *Planning Perspectives* 31, no. 2 (April 2, 2016): 181–203, <https://doi.org/10.1080/02665433.2015.1070280>.

¹² Fernando González, *Medellín, los orígenes y la transición a la modernidad: crecimiento y modelos urbanos 1775-1932* (Medellín: Escuela del Hábitat-CEHAP, Facultad de Arquitectura, Universidad Nacional de Colombia, 2007).

¹³ Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

Medicina y Ciencias Naturales (Society of Medicine and Natural Science) the medical community of the last quarter of the nineteenth century published the *Revista Medica* (Medical Journal). This journal was used as a platform where the medical community shared their findings and spread medical science that had initially been published abroad. Also educated as botanists, doctors made considerable efforts to search for local medicinal plants.¹⁴ In scientific papers published by doctors, it was common to see guidelines about how to undertake the initial planting process that was happening in Bogotá by the end of the century.¹⁵

The publications of medical doctors in the *Revista Medica* and other magazines or newspapers offered a rich vein for the historical ethnobotanical research of Bogotá. Therefore, medical publications were used in this thesis to recognize the active participation of doctors in managing both the rural-like flora spontaneously growing nearby the city and the flora willingly planted in Bogotá as a symbol of progress. Placing plants at the epicentre rather than as a peripheral actor as they were treated in other historical sources, medical publications proved to be very informative sources for the development of this thesis; for instance, by widely showing the social role of plants as hygienic raw materials in the construction of modern Bogotá.

3.2.2 Botanical collections

The history of Colombian herbariums and their botanical collections has been marked by tragedy. The first herbarium created in the country, which opened in 1823 as a dependence of the Museo de Historia Natural (Museum of Natural History), disappeared after just a few years due to a lack of economic support, and the botanical collections of the museum's herbarium were lost after its closure. The second herbarium in the country, opened by the De la Salle Brothers in 1912, was destroyed amidst the social uprising that occurred in Bogotá the 9th of April in 1948. The herbarium of the Escuela Departamental de Agricultura de Antioquia in Medellín opened in 1927, and only two years later, the

¹⁴ Diana Obregón, 'La sociedad de naturalistas neogranadinos y la tradición científica,' *Anuario Colombiano de Historia Social y de la Cultura* 0, no. 18–19 (Enero 1, 1991): 101–23.

¹⁵ Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

National Herbarium (COL) was established as part of the Universidad Nacional de Colombia in Bogotá.¹⁶

The history of the botanical collection is older than that of the herbariums. The collection of plants in today's Colombia began with the Expedición Botánica's gathering of more than 20,000 botanical specimens during its thirty-three years of functioning.¹⁷ However, all of this botanical material was sent to Madrid in 1816 as part of the Spanish reconquest and was only partially recovered by the Colombian government when Spain agreed to send back a sample of 1,500 duplicates in 1964.¹⁸ A similar fate was experienced by the botanical collections made by the nineteenth-century botanist José Jerónimo Triana (1828–1890). Considered the most important Colombian botanist ever,¹⁹ during his time in the country, Triana collected about 8,000 species of plants that, including duplicates, added up to 60,000 botanical collections.²⁰ Although Triana officially gave his collections to the Colombian government, they were forgotten until more than seventy years later, when a portion of them that had survived bugs and humidity was rescued by the botanist Enrique Pérez Arbeláez (1886–1972) who used these collections as an initial contribution to the National Herbarium.²¹

In light of the aims of this investigation, it is worthwhile to note that despite its enormous potential as a source of historical data, the botanical collections kept within Colombian herbariums are fragmented, which in turn limits the data that can be retrieved from them. Nevertheless, some botanical collections were used as a source of information about the plants that thrived in the rural-like landscapes of Bogotá before the modernisation process. Botanical collections were used in this thesis as an alternative to traditionally used historical evidence. Their use herein helped to shed light on the floristic transformations undergone in Bogotá by the end of the nineteenth century.

¹⁶ Carlos Parra and Santiago Díaz-Piedrahíta, *Herbarios y Jardines Botánicos: Testimonios de Nuestra Biodiversidad*, Biblioteca José Jerónimo Triana, no. 32 (Bogotá: Universidad Nacional de Colombia (Sede Bogotá). Facultad de Ciencias. Instituto de Ciencias Naturales Jardín Botánico José Celestino Mutis, 2016).

¹⁷ P. Blanco, 'El Herbario de Mutis,' in *Mutis y La Real Expedición Botánica Del Nuevo Reyno de Granada*, ed. Pilar San Pío Aladrén, 1. ed (Bogotá, Colombia : Barcelona, España: Villegas Editores ; Lunwerg Editores, 1992), 275–90.

¹⁸ Parra and Díaz-Piedrahíta, *Herbarios y Jardines Botánicos*.

¹⁹ Santiago Díaz Piedrahíta, *José Triana: Su Vida, Su Obra y Su Época* (Colombia: Academia Colombiana de Ciencias Exactas, Físicas y Naturales, 1991).

²⁰ Díaz Piedrahíta.

²¹ Parra and Díaz-Piedrahíta, *Herbarios y Jardines Botánicos*.

3.2.3 Literature

The last decades of the eighteenth century witnessed the rise of the Romantic movement. Stretching to the mid-nineteenth century, this particular approach to reality was a reaction against Enlightenment-based rationality as the most accepted way to interact with the world.²² Synthesized in the thoughts of Jean-Jacques Rousseau, Romantic ideas included the free expression of emotions, the need to return to nature, and the exaltation of the noble savage.²³ Notably, a persistent grief for a lost paradise was commonplace within the romantic movement. The romantic sense of banishment, then, has been recognized as a reaction against the social, cultural, economic, and cosmogonic realities imposed by industrialisation and the emergence of capitalism.²⁴

The notion of nostalgia characteristic of the Romantic movement would find its expression in the Hispanic world through what has been known as the *costumbrismo* movement. Formed by different artistic expressions, the *costumbrismo* in literature was generally produced under the name of *cuadros de costumbres* ('sketches of customs'). As a reflection of the romantic *costumbrismo*, the *cuadros de costumbres* appealed to the common social traits and costumes that, despite being rooted in the ancient colonial regime, were used as an instrument of social cohesion.²⁵ However, despite being a reaction to Enlightenment rationality, the *cuadros de costumbres* attempted to capture with their descriptions 'the world as it was' in something that has been acknowledged as 'mimicking *costumbrismo*'.²⁶ Striving to act as a reality's mirror, the *cuadros de costumbres* addresses a range of aspects of pre-modern daily life in Bogotá (e.g. fashions, food, ways of celebrating), which makes them a very informative historical source. In the same vein, the society that was 'textualized' in the *cuadros de costumbres* worked as the raw material from which the romantic novel emerged in both Spain and Latin America.²⁷ Deriving from

²² Menene Gras Balaguer, *El romanticismo: como espíritu de la modernidad* (Barcelona: Editorial Montesinos, 1983).

²³ Robert Reinhold Ergang, *Europe from the Renaissance to Waterloo* (Boston: Heath, 1954), <http://hdl.handle.net/2027/uc1.32106005926008>.

²⁴ Michael Löwy, *Révolte et mélancolie: le romantisme à contre-courant de la modernité*, Critique de la politique (Paris: Payot, 1992).

²⁵ Alejandra Diosa, 'El Romanticismo en el movimiento artesano de mediados del siglo XIX (1838-1854) en Santafé de Bogotá.', *Revista Ciencias y Humanidades*, no. 4 (2017): 91–122.

²⁶ Tzvetan Todorov, 'Présentation', in *Littérature et réalité*, ed. Roland Barthes, Points 142 (Paris: Seuil, 1982).

²⁷ José Escobar, 'Costumbrismo entre el Romanticismo y Realismo,' Biblioteca Virtual Miguel de Cervantes, 1998, <http://www.cervantesvirtual.com/obra/costumbrismo-entre-el-romanticismo-y-realismo-0/>.

Methodology

the detailed inventory of the reality supplied by the *cuadros de costumes*, the novel gave life to these descriptions and, as was the case with all of the romantic literature, was marked by a sense of nostalgia for the lost paradise. Through its descriptions and the emotions with which the romantic novel endowed its characters, this type of literature constitutes a key vein of historical analysis.

For this investigation, romantic literature was used as a rich source of information on the historical ethnobotany of Bogotá. In its attempt to rescue the lost paradise wiped by modernisation, romantic literature stressed relationships between people and natural environments, which usually involved different uses of plants. For instance, in the *cuadros de costumbres*, authors offered vivid descriptions of rural-like landscapes of early nineteenth century Bogotá, which included ubiquitous allusions to certain kinds of trees such as *suaces* (willows, *Salix babilonica*) or *nogales* (Colombian Chestnut, *Juglans neotropica*). They also mentioned certain types of plants commonly planted in gardens, orchards, and kitchen gardens.²⁸

The constant mention of plants was also a characteristic of the romantic novel. Highly influenced by the enormous symbolic charge that Madame Charlotte de La Tour had presented in her 1819 book *Lenguage des fleurs* (The Flower's Language),²⁹ referencing of flora was an important strand of many nineteenth-century and early twentieth-century Latin American novels that used plants as a way to send a sort of encoded message.³⁰ Novels framed within the romantic movement also offered a particular view of bucolic spaces. It was common for authors to describe gardens or other bucolic scenarios as spaces where the typical romantic character, marked by tragedy, would finally find peace.³¹ In conjunction with the floriography that stemmed from the La Tours' book, the description of idyllic spaces also involved detailed accounts of the flora where the narratives unfolded.

²⁸ Lesley Wylie and her work about the types of trees and other plants within the romantic novel *La María* is a good example of the role of plants within the romantic literary movement. See Lesley L. Wylie, 'Floriography, Sexuality and the Horticulture of Hair in Jorge Isaacs' *María*,' *Bulletin of Spanish Studies* 95, no. 9–10 (November 26, 2018): 147–58, <https://doi.org/10.1080/14753820.2018.1547000>.

²⁹ Charlotte de La Tour, *Le langage des fleurs* (Bruxelles: Périchon aine Libraire, 1819).

³⁰ For instance, as Lesley Wylie has nicely presented in the case of *La María*, the carnations in several scenes of the novel represent the sexual go-between between the two main characters: Efraín and María. See Wylie, 'Floriography, Sexuality and the Horticulture of Hair in Jorge Isaacs' *María*.'

³¹ Example of the meaning of places such as the garden is found in the Jorge Isaac's *María* (1867) and Gertrudis Gómez' *Sab* (1841). In the first one, the garden represents a love truncated by the disease and in the latter by the differences in social classes. See: Naomi Lindstrom, 'El convento y el jardín: La búsqueda de espacios alternativos en *Sab*,' *Decimónica* 4.2 4, no. 2 (2007): 49–59; Wylie, 'Floriography, Sexuality and the Horticulture of Hair in Jorge Isaacs' *María*.'

Finally, it is worthwhile to stress that although loaded with a significant amount of subjectivity and idealisation, *cuadros de costumbres* and romantic novels offered an appealing outlook of the floristic situation of the city prior to the modernisation endeavour. For the development of this thesis, these botanical and ecological descriptions were always contrasted with other sources such as the botanical collections made by José Jerónimo Triana (see section 3.3). Finally, given its constant exaltation of rurality's virtues, this kind of literature generally overlooked the creation of urban gardens as a manifestation of modernity and urban life. Therefore, rather than being a historical source able to inform about how plants were introduced and used as part of the modern city, romantic literature was mainly used as a way of informing about the pre-modern ways of using plants as well as the rural environments of nearby cities that would be dramatically transformed by the end of the nineteenth century.

3.2.4 Paintings

The nineteenth-century Colombian painting had two important milestones: i) the above-mentioned Expedición Botánica and ii) the Comisión Corográfica. As broadly recognized among scholars, modern painting in the country began with the Expedición Botánica.³² Building on the ability of painters to draw plants as close to reality as possible, when Humboldt visited him in 1801, thirty painters were working under Mutis' direction.³³ Throughout the expedition's thirty-three years of functioning, artists created 5,607 botanical illustrations, 1,001 smaller drawings called *anatomias*, 1,032 picture cards—probably made by Francisco José de Caldas (1768–1816), and 594 drawings copied from books from Mutis' personal library.³⁴ Considering the critical role of artists for the expedition, when the headquarter of the Expedición was moved to Bogotá in 1793 amid political differences with the viceroy, Mutis decided to open the first painting school in today's Colombian territory.³⁵ Therefore, the Expedición Botánica, which was an utterly

³² Eugenio Barney Cabrera, 'Reseña del arte en Colombia durante el siglo XIX,' *Anuario Colombiano de Historia Social y de la Cultura* 0, no. 3 (January 1, 1965): 71–118; Marta Fajardo de Rueda, 'La flora de la Real Expedición Botánica, primera escuela de arte en el Nuevo Reino de Granada,' *Anuario Colombiano de Historia Social y de la Cultura* 0, no. 13–14 (January 1, 1986): 41–61.

³³ Humboldt, *del Orinoco Al Amazonas*.

³⁴ Cristina Canchado, 'La Descripción Del Fondo José Celestino Mutis Del Archivo Del Real Jardín Botánico,' in *Mutis y La Real Expedición Botánica Del Nuevo Reyno de Granada*, ed. Pilar San Pío Aladrén, 1. ed (Bogotá, Colombia : Barcelona, España: Villegas Editores ; Lunweg Editores, 1992), 293–95; Bleichmar, *Visible Empire*.

³⁵ Florentino Vezga, *La Expedición Botánica*, Biblioteca Aldeana de Colombia (Bogotá: Editorial Minerva, 1936).

enlightened project, would become the cradle from which the future generation of Colombian painters would emerge.³⁶ Thus, interestingly, the emergence of a solid painting movement in Colombia was a product of the Bourbon Crown's interest in inventorying the biological richness in their American Colonies.

Part of the Expedición Botánica's artistic legacy was revived after thirty-five years by the Comisión Corográfica. Established during the government of Tomas Cipriano de Mosquera (1798–1878) and led by the Italian engineer Agustin Codazzi (1793–1859), this commission aimed at creating a complete description of the country through highlighting its borders, natural resources, and peoples. During its nine years of functioning (1850–1859), the Comisión Corográfica had three painters: Carmelo Fernandez (1809–1887), Henry Prince (1819–?) and Manuel María Paz (1820–1902). The watercolours produced by these artists depicted the enormous biological and cultural diversity of the peoples and landscapes of the new-born country. In doing so, they interwove the landscape with traditional expressions of the popular culture, the former a constant topic within Romantic naturalism and the latter a hallmark of *costumbrismo*.³⁷ As would be recognized much later, Colombia discovered herself in the 152 images produced as part of the Comisión Corográfica.³⁸

The visual *costumbrismo* envisaged by the artists of the Comisión Corográfica would actively develop in subsequent years. Not entirely influenced by the artistic trends in fashion in Europe, although the images produced by a generation of artists in the mid-nineteenth century are widely viewed as naïve, they proved to be an extremely important stage of the country's artistic transformation. Images created by several anonymous painters along with outstanding figures such as Ramón Torrez Mendes (1809–1895) responded to the ingenuity, spontaneity, and immediate objectivity of an isolated region such as Colombia (see Fig. 4.11).³⁹ The pieces of art produced during this period are entirely devoted to registering the types of people who co-existed in society and, the artists sought to create with their paintings a 'true copy of the reality' perceived by them. However, like any other representation of the world, the pictures made by the members of

³⁶ Cabrera, 'Reseña del arte en Colombia durante el siglo XIX.'

³⁷ Nancy Appelbaum, *Mapping the Country of Regions: The Chorographic Commission of Nineteenth-Century Colombia* (Chapel Hill: The University of North Carolina Press, 2016).

³⁸ Cabrera, 'Reseña del arte en Colombia durante el siglo XIX.'

³⁹ Cabrera.

the Comisión Corográfica were not free of cultural bias (e.g. ideas of progress vs. barbarism) and pre-formed ideas about the places and the people they portrayed (see section 3.2.6).⁴⁰ Fortunately, the Comisión Corográfica paintings were usually accompanied by detailed descriptions of the plants and ethnobotanical practices that the expeditionists encountered throughout the country. Finally, it is worth highlighting that the generation of painters working for the Comisión Corográfica can be considered responsible for the creation of the visual counterparts of the above-mentioned written *cuadros de costumbres*.

By the end of the nineteenth century, when modernity and its technological developments had become a tangible reality, *costumbrismo* began to fade. The decline of *costumbrismo* opened the door to the emergence of new artistic manifestations likewise represented through a range of techniques. An example of this is the generation of painters educated in Europe, among whom was Andres Santa María (1860–1945), who is considered the first Colombian impressionist.⁴¹ In many cases, artists were hired by newspapers, which had begun to accompany news with illustrations. This participation of artists in the recently created press would transform their social role when their new job as news-illustrators forced them to pay more attention to contemporary issues related to urban life⁴²

Every part of the above-described history is informative in its own way about the use of paintings as a way to inquire about people and their plants in the city. For instance, in the case of the Comisión Corográfica, perhaps due to the influence left by José Jeronimo Triana when he was part of this scientific endeavour (1851–1857), painters made real efforts to accurately portray the flora of the locations they painted. In general, the watercolours from the commission carefully reproduced botanical details that reflected the scientific aims of this project.⁴³ As part of naïve and *costumbrista* movements, figures such as Ramón Torrez Mendes vividly portrayed daily life scenes of Bogotá alongside details of nearby landscapes. For this thesis, I have used Torrez Mendes' paintings as an important source of information to retrieve specific uses of plants that were turned into products or raw materials such as charcoal and made part of the day-to-day lives of the people in

⁴⁰ Appelbaum, *Mapping the Country of Regions*.

⁴¹ Museo Nacional de Colombia, *Andrés de Santa María (1860-1945): Un Precursor Solitario* (Bogotá, Colombia: Museo Nacional de Colombia, 1998).

⁴² Cabrera, 'Reseña del arte en Colombia durante el siglo XIX.'

⁴³ Nancy Appelbaum, *Dibujar la nación: La comisión corográfica en la Colombia del Siglo XIX* (Bogotá: Ediciones Uniandes-Universidad de los Andes, 2017).

Bogotá (e.g. use of baskets). Equally, analysed through a botanical lens and triangulated with other historical sources (e.g. landscape descriptions in the *cuadros de costumbres*), his wonderfully coloured rural landscapes were treated as important visual depictions of the ecological reality of Bogotá by the middle of the century.

3.2.5 Traveller accounts

Improvements in transport systems in the nineteenth century produced a compression of time-space, which fostered increased mobilities of people across the globe.⁴⁴ Accordingly, soon after the consolidation of the independence process, recently formed Latin American nations were frequently visited by foreigners, many of whom were naturalists. Naturalist travellers crossing the continent were moved by the desire to see the luxuriant nature described by Humboldt through their own eyes.⁴⁵ As the century wore on and Latin American nations entered into the global trade system, travellers acted as pioneers of capitalism in the region. During the second half of the century, Latin American countries received a range of visitor types that, among others, included diplomats, teachers, botanists, mining engineers, photographers, and fortune hunters. The importance of this kind of historical source lies in the fact that, regardless of the reasons that attracted foreigners to Colombia, most of them produced a set of tales of their adventures that (notwithstanding their narrative quality) were often published by presses in London or New York.

Commonly accompanied by detailed drawings, travel accounts covered essential aspects of the reality they encountered; however, their written and visual descriptions were generally permeated by their authors' cultural pre-conceptions, thus embodying what Felix Driver and Luciana Martins have described as the 'idea of projection', whereby 'Europeans often saw what they wanted to see when they travelled into tropics, projecting and imaginative geography of natural and cultural differences onto the world they encountered'.⁴⁶ Evidence of such projection is replete in the drawings made by travellers during their trips.

Europeans drew the world they saw using the painting techniques then in use in Vienna,

⁴⁴ David Harvey, 'Between Space and Time: Reflections on the Geographical Imagination' *Annals of the Association of American Geographers* 80, no. 3 (September 1, 1990): 418–34, <https://doi.org/10.1111/j.1467-8306.1990.tb00305.x>.

⁴⁵ Pablo Diener, 'Traveling Artists in America: Visions and Views,' *Culture & History Digital Journal* 1, no. 2 (December 30, 2012): m106, <https://doi.org/10.3989/chdj.2012.m106>.

⁴⁶ Felix Driver and Luciana Martins, *Tropical Visions in an Age of Empire* (Chicago: University of Chicago Press, 2005).

London, or Paris, and when they portrayed the people and landscapes they encountered, travellers imposed a very particular aesthetic to the reality they had in front of them. For example, the large range of colours present at tropical sites were depicted with the same pigments normally used to illustrate a scene of the Sienna river.⁴⁷ Travellers' images sometimes recalled a certain romantic perspective of nature that portrayed places as full of a radiant nature empty of humans (i.e. green deserts). Nonetheless, the idea of projection as a bias in travelogues has not halted its use as an important source of historical evidence. On the contrary, as Stefania Gallini has argued, the subjectivity expressed in the travelogues has made them extremely useful for unveiling the construction of discourses about American nature.⁴⁸

Travellers such as the Englishwoman Rosa Carnegie-Williams (1867–1935) or the Swedish Ernest Röthlisberger (1858–1926) left vivid descriptions of the Bogotá they encountered. However, this research particularly relied on descriptions by travellers educated as botanists as first-hand historical sources. Embodying a solid botanical knowledge, characters such as Isaac Farwell Holton or Édouard André, whose writings are intensively used in this thesis, not only described the state of the city, in many instances, they also devoted considerable space in their diaries describing the plants they found in the city.⁴⁹ In contrast to the botanical descriptions made by other types of travellers, which were more focused in cultivated species such as roses or eucalyptus, botanists also devoted attention to the spontaneous flora of the city. The descriptions of non-cultivated plants made by travellers trained in their recognition often included botanical identities or scientific names. The plant descriptions of the urban pre-modern flora made by travellers such as the botanist Isaac Holton (Chapter 4) were used as a rich source of historical data in this research; through them, it was possible to better understand how the urban transformation brought about by modernisation implied an enormous floristic change in

⁴⁷ Claudio Greppi, 'On the Spot' Traveling Artist and the Iconographic Inventory of the World, 1769-1859,' in *Tropical Visions in an Age of Empire*, ed. Felix Driver and Luciana Martins (Chicago: University of Chicago Press, 2005), 23–42.

⁴⁸ Stefania Gallini, 'Problemas de métodos en la Historia Ambiental de América Latina,' *Anuario IHES (Argentina)*, no. 19 (2004): 147–71. As examples of what Gallini highlights, see: Edgardo Pérez, *La Obra de Dios y El Trabajo Del Hombre: Percepción y Transformación de La Naturaleza En El Virreinato Del Nuevo Reino de Granada*, 1ra ed., Colección Bicentenario de Antioquia 32 (Medellín: Universidad Nacional de Colombia, 2011); Jaime Jaramillo Uribe, 'La visión de los otros. Colombia vista por observadores extranjeros en el siglo XIX,' *Historia Crítica*, April 19, 2017, <https://doi.org/10.7440/historcrit24.2002.01>.

⁴⁹ Isaac Holton, *New Granada. Twenty Months in the Andes* (New York: Harper & Brothers, 1857); Édouard André, 'La Vuelta al Mundo, Nuevo Diario de Viajes. La América Equinoccial (Colombia-Ecuador-Peru),' in *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. I (1858-1876), III vols. (Bogotá: Villegas Editores, 2013).

which certain types of plants were systematically replaced with others endowed with very different cultural meanings.

3.2.6 Photography

As in every other place of the world, the invention of photography had enormous repercussions in Latin America. The modern techniques that combined the art and the science in ‘capturing images’ acquired an aspirational dimension in the region. The new regional elites used the image to claim that despite their immersion in backward environments and cultures, they, too, could actively participate in the benefits of progress.⁵⁰ Thus, photography was used as a sort of vehicle in the creation of a nebulous transnational identity in relation to what was considered modern.

The enthusiasm for photography in Latin America led to its rapid adoption in the region, thus making possible an extensive recording of the scenarios where modernity was unfolding during that time. Consequently, despite critiques concerning its merely illustrative nature and lack of ‘objectivity’, the photographic image (read in context and alongside other sources) have proved to be a valuable tool for enhancing our understanding of the modernisation of Latin America. In a region of profound social, natural, and economic contrasts, the use of images as part of the historical narrative has illuminated diverse themes such as power relationships, daily life activities, commerce, religions, ethnicity, and many others.⁵¹ As Robert Sobieszek has explained, photographers ‘came close to botanists and naturalists in their ability to produce a systematic inventory of material culture’.⁵² Furthermore, in the same way that aerial photography has been broadly used to understand twentieth-century land transformations,⁵³ images of everyday life during the last decades of the nineteenth century can also contribute to our understanding of historical floristic transformations.

⁵⁰ Robert M. Levine, *Images of History: Nineteenth and Early Twentieth Century Latin American Photographs as Documents* (Durham, N.C; London: Duke University Press, 1989).

⁵¹ Levine.

⁵² Robert Sobieszek, ‘Historical Commentary,’ *Aperture* 15, no. Spring (1970): iv–xi.

⁵³ An interesting example of how aerial images can be used as part of the environmental history research is found in the Alejandro Tortolero’s research on the water in Mexico. See: Alejandro Tortolero, *El agua y su historia: México y sus desafíos hacia el siglo XXI*, 1a ed., Umbral de México. Cultura y sociedad (México, D.F.: Siglo Veintiuno Editores, 2000).

In spite of its tremendous potential, photography has not thus far been used in historical ethnobotany research.⁵⁴ In the particular case of the floristic transformations that occurred in urban environments, photography has been an underestimated resource of historical information (pers. obs.). A striking example of this situation is an early daguerreotype of a central street in Bogotá dated 1842. Taken by the French ambassador in the New Granada only three years after Daguerre announced his innovation at the French Academies of Science and Fine Arts in August 1839, the image is full of analysable details (see Fig 5.2). The image shows a Bogotá of narrow streets as a legacy of colonial urban legislation based on the premise that streets were passageways rather than centres of social activity.⁵⁵ As a consequence, streets were poorly transited and unattended spaces often bisected by open sewers. Importantly for the aims of this thesis, such images enable one to see that plants did not make part of streets in Colonial Bogotá. Finally, photography enables us to see how Bogotá's eastern mountains were fully deforested and marked by signs of erosion. In short, the introduction of early photographic techniques into Bogotá yielded visual evidence of the persistence of the colonial urban aspect into the mid-nineteenth century, when the city embarked upon its transition towards modernisation.

Photos were extensively used as source of botanical information in this thesis. For instance, whereas early photographic images of Bogotá portray a colonial city without the evident presence of plants, photos of the modern Bogotá illustrate a city where plants were abundant. An important reason for the increase of images depicting plants was that the notion of progress was generally linked to certain types of places such as parks, gardens, and promenades. Consequently, open spaces and their plants were extensively photographed. In this research, photographic images were not only used to prove the actual physical existence of plants as part of modernist urban facilities, they were also used to track the floristic transformation undergone by the city. However, to consider the botanical information delivered by images, this thesis had to shift the focus in the way the image is read. Unless taken indoors, plants are often non-invited but tolerated presences in photos.

⁵⁴ Some research has used pictures as a source to explore historical changes in biodiversity. See Eduardo Dopico, Alba Ardura, and Eva Garcia-Vazquez, 'Exploring Changes in Biodiversity Through Pictures: A Citizen Science Experience,' *Society & Natural Resources* 30, no. 9 (September 2, 2017): 1049–63, <https://doi.org/10.1080/08941920.2017.1284292>. However, Silva et al, through a metadata analysis of 103 studies published between 1949 and 2012, have concluded that none ethnobotanical investigation made thus far has used photography as a source of information. See Silva et al., 'Historical Ethnobotany'

⁵⁵ Rodrigo Mejía, 'Colombian Photographs of the Nineteenth and Early Twentieth Centuries,' in *Windows on Latin America: Understanding Society through Photographs*, ed. Robert Levine (Coral Gables: SECOLAS, 1987), 49–62.

Methodology

To obtain a certain amount of information about the plants that were unwillingly captured in these images, photographs were read in an opposite manner that entailed paying more attention to the background than the elements on which the camera was focused. This process was possible here due to my own basic training. Just as architects require a certain type of underlying knowledge about how certain types of buildings responded to particular, temporal frames, or artistic movements, I have used the botanical knowledge accumulated through my experience as a botanist in Colombia to recognize species of trees based on their botanical architecture,⁵⁶ which has enabled me to track the floristic and ecological transformations that Bogotá experienced during the period studied in this thesis.

Images can reveal how the existence of plants in the city served other-than-ornamental purposes in gardens or parks. With the partial democratisation of photography during the last part of the century, photographers did not limit their attention to symbols of progress such as building and parks; immersed in a sort of image *costumbrismo*, mostly foreign photographers began to capture snapshots of daily urban life. Accordingly, attempting to feed a European market interested in the exotic scenes of distant places, a considerable number of images produced in Latin America portrayed poor people: the diseased, indigenous people, slaves, and so on.⁵⁷ These images represent an important historical vein of analysis in this thesis, as they display a reality that had been hidden by the elite's attempt to present the city as modern. Some of these snapshots presented people who had a constant relationship with plants as part of their jobs. For example, Ernest Bourgarel, a French diplomat in Bogotá between 1893 and 1902, photographed market vendors posing with their goods; such images illuminate how even by the last years of the nineteenth century, the city still broadly relied on products coming from nearby ecosystems such as firewood or straw (see Fig. 4.13 & 4.15).⁵⁸ Photography reveals how the presence of plants in Bogotá was not only due to their ornamental uses; rather, plants were used in many different ways not explored thus far by historians.

Finally, photographic images were used in this thesis as physical evidence of the production and circulation of images boosted by modernisation. As a form of 'immutable

⁵⁶ About the trees architecture see Francis Hallé, Roelof Oldeman, and Philip Tomlinson, *Tropical Trees and Forests: An Architectural Analysis* (Berlin; New York: Springer-Verlag, 1978).

⁵⁷ Examples of this type of exotic images were produced by photographers such as William Gaensly with his series on Brazilian slaves or Marc Ferrez with images of usual vendors on the Buenos Aires streets. See: Levine, *Images of History*.

⁵⁸ Bourgarel, *le Colombien: voyages d'un diplomate français dans la Colombie du XIXe siècle*, 1 vols. (Paris: EdiSens, 2017).

mobile',⁵⁹ images from both sides of Atlantic travelled as postcards, reinforcing stereotypes or creating illusions about how other places (must) look like. Thus, while Latin America looked to images of Paris as a model to follow, the images of Latin America disseminated in Europe showed an ambivalent expression of a 'modern' region that co-existed with exotic signals of backwardness.⁶⁰

3.2.7 Maps and plans

Maps and plans are not mere representations of space; they are cultural artefacts that also portray a series of changing social values, powers, and aspirations.⁶¹ The history of cartography in Latin America reflects how maps have undergone constant symbolic and physical transformations according to the changing relationships between land and the powers working over it. Whereas early maps of the region produced by the conquistadors responded to the initial encounter with the unknown, maps produced amidst the so-called scientific revolution during the sixteenth and seventeenth centuries purported to provide a vivid image of the lands they displayed. Following this logic, maps created as part of the Bourbonic reforms were used as instruments for the Spanish Crown's efficient administration of its American colonies.⁶² Later, the already republican maps would find in the autochthonous representation of space a symbol of emancipation even as the region had to deal with inherited unsolved borderline conflicts; thus, the instability of the new-born Latin American nations would be echoed in their depictions in maps. In Colombia, for instance, the first republican map produced in London (dated 1823) was followed by a succession of maps that would not acquire its present-day form until 1901, when the Panamá region declared its independence with the backing of the United States government.⁶³

⁵⁹ Bruno Latour, 'Visualisation and cognition: drawing things together,' *Knowledge and Society* 6 (1986): 1–40.

⁶⁰ Although photos can be analysed as cultural-produced objects, highlighting for instance, who produced them, who owned them and where they appeared. The value of the photography as a source of historical information herein relies in the moment captured by the camera. This means, that rather than the context around the photography as an object, this thesis uses 'the image on the photography' as a visual representation able to inform about the species and the ecological reality of a given place in a given moment. Thus, although the contextual analysis of images can be extremely informative, this goes beyond the purposes established by this thesis.

⁶¹ J. B. Harley and Paul Laxton, *The New Nature of Maps: Essays in the History of Cartography* (JHU Press, 2002).

⁶² Sebastián Díaz Angel, Santiago Muñoz Arbeláez, and Mauricio Nieto Olarte, *Ensamblando La Nación: Cartografía y Política En La Historia de Colombia* (Bogotá: Universidad de los Andes, 2010).

⁶³ Díaz Angel, Muñoz Arbeláez, and Nieto Olarte; Appelbaum, *Mapping the Country of Regions*.

Following independence, Latin American cities acquired a notion of their nature as political and cultural centres of the republican reality. This means, among other things, that cities such as Bogotá represented scenes where modernity was unfolding. The existence of the city as a large set of symbolic representations is reflected in maps.⁶⁴ Accordingly, maps of Bogotá produced during the second half of the nineteenth century were not only a physical representation of the city but also used as elements of propaganda. It was a common practice to decorate maps with a visual representation of the most important patriotic symbols displayed in the city. Thus, maps turned into a visual mechanism that, by displaying elements such as national heroes' statues, modern buildings, or gardens, contributed to the creation of a common feeling of belonging and modernist identity. Moreover, in addition to conveying ideas of national identity, maps also reflected the consolidation of the capitalist system. The map of Bogotá produced by Carlos Clavijo in 1894 makes evident that the city was fully immersed in the capitalist dynamic. More than a mere reproduction of local landmarks and physical structure, Clavijo's representation of Bogotá is an illustrated commercial guide full of advertising that included the locations of factories, workshops, restaurants, and theatres.⁶⁵ Finally, during the first decades of the twentieth century, especially from 1920 onwards, recognised European urban planners such as Le Corbusier, Karl Bruner, and José Luis Sert travelled to Colombia to assist with the design of 'future cities'. As urbanisation advanced in Colombia, the city map was turned into a master plan; consequently, it would become a sort of aspirational object, a guide that traced the desirable future of the city.⁶⁶

What can maps tell us about the history of urban flora in Bogotá? As mentioned above, maps not only seek to represent a space as 'it is' but are also a reflection of social values and vehicles in which the powers holding territorial control willingly show or hide particular elements of the spaces they oversee. In the context of plants, the colonial maps of Bogotá depicted areas under the name of *potreros* (pasturelands) or swamps indicate

⁶⁴ About the city as a material expression of human symbols see: Joel Kotkin, *The City: A Global History* (London: Weidenfeld & Nicolson, 2005); Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (London: Faber and Faber, 1994).

⁶⁵ Isaac Briceño, 'Inventario Cartográfico Del Plano Topográfico de Bogotá Levantado Por Carlos Clavijo En 1891 y Reformado En 1894' (MsC, Bogotá, Universidad Distrital Francisco Jose de Caldas, 2014), <http://repository.udistrital.edu.co/handle/11349/4895>.

⁶⁶ Jorge Hardoy, 'Teorías y Prácticas Urbanísticas En Europea Entre 1850 y 1930. Su Traslado a América Latina.', in *Repensando La Ciudadada Latinoamericana*, ed. Jorge Hardoy and Morse Richard (Buenos Aires: Grupo Editor Latinoamericano / IIED América Latina., 1998); Hofer Andreas, *Karl Brunner y El Urbanismo Europeo En América Latina* (El Áncora Editores, 2003); Almandoz, 'Urban Planning and Historiography in Latin America.'

places occupied by a different type of vegetation than was seen in later periods.⁶⁷ Maps are used in this thesis as initial confirmation of the ecological diversity of the city. Maps also presented urban areas where nature has been controlled and organized. For example, a 1797 map of Bogotá depicted a promenade with lines of planted trees stretching from the most important entrance to the city (see Map. 1.1). Although these promenades clearly were important venues and continued to be shown in the maps produced throughout the nineteenth century, they disappeared as cartographical representations in the 1907 map even before their physical end (see Map 5.4). Why were these promenades initially worthy of being portrayed, and why did they vanish in the later map? Their presence or absence in maps was not only used to corroborate the physical existence of plants within the city, they also helped to unveil the position toward plants exhibited by the powers involved in the management of space.

3.2.8 Newspapers

Introduced in Colombia by the Jesus Company in 1737, the press was initially used to press religious images. However, by the end of the eighteenth century, the religious uses of the press shifted with the publication of the *Papel Periodico de la Ciudad de Bogotá* (Periodic Paper of the City of Bogota), which was printed between 1791 and 1797.⁶⁸ Later, leaving behind these initial steps, the press would acquire particular relevance in the formation of public opinion during the construction of the new-born republic. Following the region's independence of Spain in 1819, the nineteenth century was characterized by social turmoil as a result of constant clashes between different political factions. Boosted by the promulgation of the 'absolute freedom of press' enacted in 1851, various political factions would find in the press a space to spread ideas, call for war, and propose truces.⁶⁹ In sum, during most of the nineteenth century, the press in Colombia was mostly a political instrument that vacillated between different visions of the ideal country. As such, in addition to its role in the formation of public opinion, the press was in part responsible for

⁶⁷ Stefania Gallini and Carolina Castro, 'Modernity and the Silencing of Nature in Nineteenth-Century Maps of Bogotá', *Journal of Latin American Geography* 14, no. 3 (October 2015): 91–125.

⁶⁸ Renán José Silva, *Prensa y Revolución a Finales Del Siglo XVIII: Contribución a Un Análisis de La Formación de La Ideología de Independencia Nacional*, 2a. ed, La Carreta Histórica (Medellín: La carreta, 2004).

⁶⁹ David Bushnell, 'The Development of the Press in Great Colombia,' *The Hispanic American Historical Review* 30, no. 4 (1950): 432–52, <https://doi.org/10.2307/2509284>; Juan Zapata, 'Balances y Perspectivas. Estudios Sobre La Prensa En Colombia Durante El Siglo XIX,' *Revista Mexicana de Opinión Pública*, no. 23 (December 2017): 83–100.

Methodology

the creation of identities around the idea of nation or homeland that were exploited by different political sectors.

The second half nineteenth-century press was also a space where modernisation was deployed. Following the link between journalism and capitalism in Europe and the United States,⁷⁰ the Colombian newspapers of this period reflected the insertion of Colombia in the worldwide mercantile system. The last decades of the century witnessed the emergence and sophistication of advertising, as tradesmen used newspapers to portray a range of social behaviours and modern devices in fashion in Paris or London. Modernisation also turned the press into an instrument devoted to communicating news, and newspapers and magazines became vehicles that both spread local political ideas and circulated various events and situations occurring abroad.⁷¹ Thus, newspapers would become a fundamental means of overcoming Bogotá's historical isolation. Moreover, with the incorporation of photography, the press also put into circulation visual scenes of the places where news developed, thereby even further widening readers' experience of the world.

The expansion of the world reflected in the modern press enabled an enormous number of non-human social actors to acquire visibility, and as new members of the modern city, plants were not an exception. Although rarely addressed as main objects of concern, the presence of plants in the city usually appeared as part of 'more prominent' social issues. For example, as presented in Chapter 6, publications were periodically produced by philanthropic organisations complaining about the ill infrastructure of Bogotá and underscoring the lack of attention put of plants on gardens and parks. I have considered the advertising included in newspapers as a rich source of historical information, as they were often used to find either individuals or commercial houses offering seeds or seedlings of vegetables and ornamental plants. Finally, the images displayed to illustrate the news in the late nineteenth-century press in Bogotá were also used as a source of information in this thesis. For example, images from the *Papel Periódico Ilustrado* (Enlightenment Newspaper), which was the first local newspaper to use illustrations, proved valuable for recognising the types of vegetation thriving in some locations within the city.

⁷⁰ Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge: Polity, 1989).

⁷¹ Eduardo Achurra, 'Prensa y Modernización En América Latina y Chile En La Segunda Mitad Del Siglo XIX: La Crónica y Los Cronistas,' *Estudios Sobre El Mensaje Periodístico* 17, no. 2 (2011): 647–660.

Despite largely being a scenario of power display that has generally left behind the voices of subordinated social actors, Latin American environmental histories have used the press as an invaluable source of information.⁷² However, the potential of this historical source has been underestimated as a tool able to give an account of the urban ecological transformation. The use of magazines and newspapers in this thesis is an attempt to show how the press is a unique piece of historical evidence for recreating the role of plants throughout the successive transformations of the city.

3.2.9 Official documents

Official documents are considered herein as written evidence that reveals the relationship between the powers and their subordinates. Given the fact that official records have been systematically stored in archives as a way to keep the ‘collective memory’, they have been the most important sources of historiographical data.⁷³ In the case of Latin America, official documents span different periods, covering the colonial, republican, and modernist history of these countries. Thus, official documents have usually been used as the primary source of information to track social, cultural, political, or economic transformations throughout the history of Latin America.

Despite its enormous importance as a privileged source of historical evidence, the ‘diffuse nature of archives’ has forced studies concerning the historical transformations of the environment to engage in a deeper and more creative exploration of official sources. For example, whereas studies of the economic development of agriculture can easily find information in official economic documents from commerce or agriculture ministries, the environmental history of agriculture requires understanding not only the numbers related to production or exportations but also the quality of soils, the types of vegetation, and the types of machines used in agricultural practices.⁷⁴ Therefore, as presented by Stefania Gallini, the researcher that addresses historical themes on the environment ‘must develop a particular sensibility and strong capacity to access to the scientific results produced by

⁷² Stefania Gallini, ‘Problemas de Métodos en la Historia Ambiental de América Latina,’ *Anuario IHES (Argentina)*, no. 19 (2004): 147–71.

⁷³ For a further reflection focused on the relationship between official documents and archives see: Guillermo Zermeño Padilla, ‘Traveling on the Search of the Encounter between Archive and Historiography,’ *Historia y Grafía*, no. 38 (June 2012): 13–57.

⁷⁴ A excellent example of this can be found in: Reinaldo Funes, *From Rainforest to Cane Field in Cuba: An Environmental History since 1492*, Envisioning Cuba (Chapel Hill: University of North Carolina Press, 2008).

Methodology

natural sciences'.⁷⁵ In practical terms, Gallini's statement also means that the researcher needs to be able to track and know how to read within official documents the historical contributions of science and other social actors.

Addressing the historical ethnobotany of Bogotá, what official documents say about the history of plants in the city and their uses largely depends on circumstances prevailing both the city and the country at large. In contrast to countries such as England, where the imperial past facilitated the creation of powerful institutions such as the Kew Botanical Gardens, historical records explicitly addressing the role of plants as social actors are non-existent in 'peripheral' countries like Colombia. Consequently, to understand the change of the urban flora and the transformation of ethnobotanical practices, this research has turned to the local government offices directly responsible for ornamentation of the city. In this regard, most of the official information I have used within this thesis was retrieved from documents produced as part of the Ministry of Infrastructure Functioning. However, valuable information was also obtained in official documents from the Ministry of Education and those produced in official departments dealing with land ownership.

It is worth mentioning that like any other historical sources, official documents also speak through what they usually keep quiet.⁷⁶ In the case of urban historical ethnobotany, the archives say little about the ways that plants participated in Late Colonial or Early Republican Latin America, and the official voice usually obscures ways of using and understanding plants by people not included within the official memory. In this regard, other historical data, such as literature, have proved to be more useful.

To close this section of the methodological chapter, it is worth stressing that any environmental history is only possible through a transdisciplinary knowledge able to create a 'dialogue' between a great and diverse number of historical sources.⁷⁷ The interweaving of sources is especially necessary for a study attempting to track the presence of plants in human history. The ephemeral nature of plants and their systematically overlooked presence as members of urban life have made historical ethnobotany a complex

⁷⁵ Gallini, 'Problemas de métodos en la Historia Ambiental de América Latina.'

⁷⁶ Gallini and Castro, 'Modernity and the Silencing of Nature in Nineteenth-Century Maps of Bogotá.'

⁷⁷ See: Emilio Vargas, 'Problemas metodológicos de la historia ambiental. Autocrítica de una experiencia de investigación con fuentes orales en el Volcan Barva--Sacramento y Paso Llano--', *Revista de Historia*, no. 70 (2014): 229–57.

task. In order to understand plants as historical and social actors actively involved in the creation of urban spaces, the development of this research involved the localisation of actors linked to plants, such as gardeners, and using them to reach the plants used in the city's modernisation. The methodological constraints imposed by the nature of this investigation means that the researcher needs to not only seriously consider what can be actually found as historical evidence but also recognise that historical silences are very eloquent and informative in many cases.⁷⁸

3.3 Interpretation of historical data and narrative construction

Historical sources alone cannot give an account of the transformation of the role of plants during Bogotá's modernisation. Therefore, the historical data were analysed and interpreted in order to endow them with context, and they were organised through the construction of a narrative with sense, coherence, and cohesion. To do so, the primary historical information used in this thesis was i) individually interpreted through a textual analysis approach; ii) verified and contrasted with other sources through a process of triangulation; and iii) organised through a narrative construction process.

3.3.1 Text-like analysis of historical sources

The study of history entails the impossibility of creating data; historical traces cannot be modified and manipulated to obtain a specific result. Consequently, the achievement of outcomes rests on the researcher's ability to interpret the traces left by past social actors. In this thesis, I used a textual analysis approach to interpret historical data. Specifically, I applied a qualitative content analysis whereby all historical sources are understood as cultural productions that exhibit text-like qualities that may be analysed like any other written document. This expanded notion of text enabled me to treat the city as a large multidimensional text,⁷⁹ the history of which can be interpreted through a textual analysis of the historical sources. In this thesis, the historical sources were interpreted in adherence with the critical parameters of source analysis presented by Gilbert Garraghan & Jean Delanglez.⁸⁰

⁷⁸ Gallini, 'Problemas de Métodos en la Historia Ambiental de América Latina.'

⁷⁹ James S. Duncan, *The City as Text: The Politics of Landscape Interpretation in the Kandy Kingdom* (Cambridge University Press, 2005).

⁸⁰ Gilbert Garraghan and Jean Delanglez, *A Guide to Historical Method*, 1947, 168.

Methodology

- When was the source, written or unwritten, produced (date)?
- Where was it produced/used (localisation and circulation)?
- By whom was it produced (authorship)?

The parameters used in the interpretation of individual pieces of historical sources provided a guideline for their contextualisation and theorisation. The question concerning the time in which the sources were created is of vital importance to a historical investigation. Understanding when the evidence was produced enables one to recognise whether the source is primary or secondary. Primary sources were considered as those that provided direct information about nineteenth-century plants regardless of whether the original records or transcripts were primary or secondary. Conversely, secondary sources were regarded here as all those produced *a posteriori*, which in this case comprises the historiography of Bogotá produced from 1930 onwards. Although these secondary sources represent indirect information, they usually inform about the existence and location of invaluable primary sources (e.g. folders in archives quoted in previous historical investigations). In short, a critical analysis of the historical sources in relation to the period in which they were created has been used herein to conduct a type of mediation between the studied phenomenon and the sources used to understand it. In other words, whereas the primary sources were created by direct witnesses of the studied phenomenon, the secondary sources were the result of a subsequent interpretation of the historical evidence.

A critical approach to their geographical dimension is a key stage in the initial analysis and interpretation of sources. Initially defined by Gilbert Garraghan and Jean Delanglez as the analysis of the places where historical evidence was produced,⁸¹ for the purposes of this thesis, it is necessary to extend beyond merely taking the place of production into account. For that reason, I have also included the places where the historical evidence was used or found in the geographical analysis. A comprehensive analysis of the historical sources has enabled this thesis to understand that, in the same way that the nature of the historical evidence responds to specific temporal characteristics, what the historical evidence says reflects the place where it was created. For example, as explained by Giorgia Alù and Sarah Hill, in many instances, the illustrations included in nineteenth-century travel books were made by French or English artists who had not been abroad, but rather were

⁸¹ Gilbert Garraghan and Jean Delanglez, *A Guide to Historical Method*, 1947, 168.

completed based on the oral descriptions provided by the travellers.⁸² Consequently, as presented by Felix Driver and Luciana Martins, a critical analysis of the places where a given piece of evidence was created can say more about the ideas and pre-conceptions present in certain places (e.g. European notions of tropicality) than about the elements these cultural manifestations sought to represent (e.g. the tropical environments as it is).⁸³ Equally, a critical geographical analysis of the sources sheds light on the connections between places. Thus, although in many cases, the evidence was found at the same place where it had been produced (e.g. information of Bogotá in the city's archives), it was not uncommon to find sources in different places of their production. Thus, the mis-match between the place of production and the place of consultation informed about the circulation of the historical evidence as well as the networks that made these mobilities possible, which was exceptionally important for the aims of this dissertation.

Finally, having a clear idea of the temporal and spatial context of the sources has enabled me to recognise the creators of this evidence as part of an extensive network of human and non-human historical actors characterized by its own structure, power relationships, and social conflicts. A critical analysis of the people behind any source (the whom?) and their positions within the social fabric was enabled through the use of discourse analysis. As used in this thesis, discourse analysis enquires about the relationships between power and knowledge through a critical approach to the language and speech that specific social actors used to express their ideas in order to probe their inner subjectivities and biases. Finally, the critical parameters of source analysis in relation to the authorship of historical evidence were used to place each of the human and non-human social actors in a web of power relationships that defines who, what, and how they 'talk' or not.

3.3.2 Contrast of sources and narrative construction

Interpreting the historical sources as if they were texts helped to capture the social and historical contexts in which they were produced and circulated. This approach to the sources made the subjectivity of each of the historical pieces even more evident. In addition to the subjectivity inherent to the historical data, this thesis had to deal with the conspicuous silences of plants as a result of their ephemeral existence within the historical

⁸² Giorgia Alù and Sarah Patricia Hill, 'The Travelling Eye: Reading the Visual in Travel Narratives,' *Studies in Travel Writing* 22, no. 1 (January 2, 2018): 1–15, <https://doi.org/10.1080/13645145.2018.1470073>.

⁸³ Driver and Martins, *Tropical Visions in an Age of Empire*.

Methodology

records. Under this scenario, this subsection explains how the thesis dealt with fragmented evidence and subjective data to explain the transformation of plants' role with the modernisation of Bogotá.

The subjectivity and silence of the historical records were addressed here by gleaning the best-informed interpolations and contrasts considering the quality and availability of the sources. However, it is essential to clarify that beyond the inherent subjectivity and bias existing in every piece of information, in order to create a dialogue between sources, it is vital to trust in the material existence of what the sources describe. For instance, the illustrations produced as part of the Comisión Corográfica expeditions portray domestic spaces where elements such as fibre baskets or mats are common. To track the presence of the plants used in the creation of these baskets or mats, I need to trust the physical existence of these elements in the illustrations. Therefore, beyond the subjectivity of the representation, there is no reason to believe that the fibre baskets or mats were not actually there. Without a certain level of trust in the historical evidence, it is not possible to make any history at all. Being sure of the physical existence of the specific elements pointed out by the evidence, the second step is an interpolation with other sources of historical data.

The interpolations and contrasts between different pieces of historical evidence enabled me to understand i) the recurrence of the plants and botanical knowledge in Bogotá and ii) different perspectives towards them in the nineteenth-century society. For instance, I found mention of willows in many sources. *Cuadros de costumbres* and other forms of literature such as poems and romantic novels note the presence of willows as part of nineteenth-century Bogotá's flora. Additionally, this tree's particular type of tree-top makes it easily recognisable in paintings and other iconographic representations. Moreover, paleopalynological studies have revealed the presence of willows in today's Bogotá area for at least millions of years. The substantial presence of willows in Bogotá is finally confirmed through simple recognition fieldwork. In short, the evident predominance of willows in Bogotá due to either biological or cultural reasons largely explains its recurring appearance within the historical records.

However, the massive existence of willows in Bogotá cannot explain the diversity in approaches to this tree. Hence, the interpolation of different sources was a significant task. When analysed through various sources, willows acquired different connotations. For instance, willows pruned as poplars were extensively used in the creation of the European-

like promenades in the eighteenth century; at the same time, due to their branches' flexibility, willows were extensively used by handcrafters in the construction of baskets and other elements. The diversity of botanical uses in Bogotá is evinced in their co-existence in nineteenth-century society. Differences in the ways of using plants were used as a guide to identifying varying attitudes to plants. Consequently, the recognition of both the uses and attitudes toward plants was used herein to track conflicts involved in the use and control of plants imposed by the city's modernisation. This is important because conflicts regarding the different uses and approaches towards the plants provided an inestimable vein of historical data in the development of this thesis.

In addition to revealing the recurrence of plants, ethnobotanical diversity, and their associated conflicts, the contrast of sources also serves as a means to deal with plants' historical silence. Just as the use of different historical sources makes evident various approaches towards plants, the presence of plants in some sources helped to address the silences existing in others. For example, the lack of information on the people involved in the creation of green spaces in the nineteenth-century Bogotá displayed in iconography was resolved with information obtained in official documents belonging to the municipality. Thus, due to differences between social actors' approaches to plants, the joint use of sources helped to partially cover the silences that plants leave as historical characters. Furthermore, the critical approach toward sources and their interconnections was used to understand the nature of the silences found in the historical records. To put it simply, the contrast between sources helped to know whether the gaps in the history represented real physical absences or they were, as usually happens, a deliberate attempt to hide or a product of a lack of attention. Such questions are exemplified herein by the complicated task of retrieving the presence of plants that thrived in the rural-like environments that characterized Bogotá before its modernisation. With the exception of few botanical collections made in the early nineteenth century, this ruderal flora of Bogotá disappeared, leaving an extremely poor register of their biological composition, thus making it extremely difficult to understand the ecological consequences of the city's growth over its hinterlands.

The interpolation of sources used in this thesis contributed to a better perspective of the active (or absent) role of non-human actors such as plants within the social fabric. However, simply using interpolation as a way to cope with the silence and subjectivity of the historical record does not build a narrative by itself. Although they were evaluated and

Methodology

contrasted, it is through the factual evaluation of the sources that a dialogue between them is possible. This dialogue is created herein through the construction of a narrative. Building on William Cronon's ideas on narrative being 'essential to our understanding of history and the human place in nature',⁸⁴ argument construction was one of the most critical methodological stages of this thesis. In the development of this investigation, I used argument construction not only as a means of delivering the findings but also as a way to engage in further analysis. Through the construction of an efficient narrative, the historical sources turned into audible voices in dialogue with other voices and their subjectivities. Rather than merely including the voices of humans, this dialogue included a significant diversity of non-human actors. Thus, the 'voice of plants' was retrieved not only from people in close relation to them such as gardeners but from also from a series of non-human social actors such as books, botanical collections, rivers and soils, all of which embodied in one way or another the existence of plants in the nineteenth-century Bogotá. In addition, it was during the narrative construction that the historical evidence was examined in light of its social, economic, and political context. For the purposes of this thesis, without a narrative, any history is nothing more than an unshaped collection of data. In sum, using narrative construction, this thesis created multiple connections between elements, drew scenarios, and ultimately developed an explicative hypothesis that helped me to answer questions concerning the history of Bogotá's modernisation from a plant perspective.⁸⁵

Finally, it is imperative to remark that this thesis did not seek to recreate the past as it was, which is an impossible task. Rather, the thesis aimed to interpret a portion of the Bogotá's history through the study of its plants. Therefore, much like the field of palaeontology, in which practitioners attempt to reconstruct different past scenarios based on fossils, measures of CO₂ enclosed in ice, or pollen, the history retrieved here was an interpretation of the past built through a careful analysis of the historical data. Nevertheless, the data used in this research were fragmented, full of silences and biases, and importantly, interpreted by a researcher endowed with his own background and historical bias. Therefore, rather than a laboratory process, the creation of this history was a well-

⁸⁴ William Cronon, 'A Place for Stories: Nature, History, and Narrative,' *The Journal of American History* 78, no. 4 (March 1, 1992): 1350, <https://doi.org/10.2307/2079346>.

⁸⁵ Stefania Gallini, Sofía de la Rosa, and Sandra Frieri, 'Historia Ambiental,' in *Hojas de Ruta. Guías Para El Estudio Socioecológico de La Alta Montaña En Colombia*, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. (Bogotá, 2015), 58.

documented interpretation of the historical evidence whose outcome is not free of contestation and debate.

3.4 Treatment of botanical identities

Rather than generate a complete list of the entire botanical universe present in the nineteenth-century Bogotá, this research seeks to highlight the constant presence of plants and ethnobotanical knowledge in the daily life of the pre-modern city. However, to get the botanical identification of the species found, the scientific name of plants recognised by their common names were retrieved using the Common Names of Plants in Colombia (<http://www.biovirtual.unal.edu.co/nombrescomunes/en/>). When a common name matched with more than one scientific name, it was used the Catalogue of Colombian Plants (<http://catalogoplantasdecolombia.unal.edu.co/en/>) to identify the species based on their biological distribution and collection points. Scientific names were checked and updated using The Plants List (<http://www.theplantlist.org/>). However, despite the efforts to give a clear taxonomical identification to each plant initially identified by its common name, this was not always possible; identified here with a question mark in between brackets, this unidentified species highlighting the methodological constraints of any historical ethnobotany research.

Regarding the ways to present the plants, commonly used plants such as potatoes or roses keep their English names. However, the botanical identities of local plants are initially presented as founded in historical sources and later explained as follow: *Common name in Spanish (name in English if it exists, Scientific name)*. After its first mention, names of plants appear in English when are well-known species and Spanish when they particular type of local species in both cases without the Scientific name. Importantly, the lack of information about the scientific botanical identity of a given species is represented by a question mark between brackets like this (?).

3.5 Fieldwork

Although some valuable sources of data were consulted remotely enabled by the advances in archival digitalisation, the vast majority of the data was retrieved directly in the field during three different stages:

- i) consulting local sources in the UK;
- ii) preliminary fieldwork of recognition in Bogotá; and
- iii) a definitive visit to Colombian archives, libraries, and museums.

The first stage in the UK was conducted between October 2015 and April 2016 and included visits to the Kew Botanical Gardens archives, the British Library, the Royal Institute of British Architects (RIBA) Library in London, the Bodleian Libraries in Oxford, and the Museum of British Rural Life in Reading. Initial fieldwork in Colombia was undertaken between May and August 2016 and aimed at the identification of the country's most significant archives, libraries, and museums. In doing so, I met and received important advice from a number of scholars concerned with Bogotá's history and ecology. After identifying places to obtain relevant information, the next stage was to contact the institutions and get the required authorisations. Finally, the last and definitive fieldwork stage extended over eight months from June 2017 to February 2018, during which I retrieved most of the historical data through active work in libraries, herbariums, museums, and archives in Bogotá and Medellín (Table 3.1).

3.6 Archives, libraries, and museums

Giving its historical nature, this thesis builds on an archive-based methodology. In this regard, although some attempts have been made to guide the procedures to follow in any archive-based research⁸⁶, the fact is that no single *step by step* protocol can be followed due to the diversity of the particular characteristics of each individual archive, library, or museum. Historians and historical geographers dealing with archives have often found them to be places of collective memory 'full of ghosts'⁸⁷, 'fragments'⁸⁸, and 'scattered, mutilated and very fragmented 'debris'',⁸⁹ or 'riddled with intermittent traces and echoes'⁹⁰. Under this scenario, prepared to complement the scattered and incomplete information of individual archives, I visited 23 institutions, including herbariums, archives,

⁸⁶ Robin Flowerdew and David Martin, *Methods in Human Geography: A Guide for Students Doing a Research Project / Edited by Robin Flowerdew and David Martin.*, 2nd ed. (Pearson-Prentice Hall, 2005).

⁸⁷ Sarah Mills, "Cultural-Historical Geographies of the Archive: Fragments, Objects and Ghosts," *Geography Compass* 7, no. 10 (October 1, 2013): 701–13, <https://doi.org/10.1111/gec3.12071>.

⁸⁸ Karen E. Till, "Fragments, Ruins, Artifacts, Torsos," *Historical Geography* 29, no. 0 (2001): 70–73.

⁸⁹ Ian Black, "Analysing Historical and Archival Sources," in *Key Methods in Geography*, ed. N Clifford, S French, and G Valentine (London: SAGES, 2010), 466–84.

⁹⁰ Cheryl McGeachan, "Historical Geography II," *Progress in Human Geography* 42, no. 1 (February 1, 2018): 134–47, <https://doi.org/10.1177/0309132516651762>.

newspapers libraries, and museums (Table 3.1). Nevertheless, although relevant data came from some small places, the most important historical data were retrieved from four institutions in Bogotá. In the following sections, I present some of the characteristics of these institutions to offer an overview of the places where this research was mainly developed.

3.6.1 National Archive

The National Archive is the largest and most important archive in Colombia. Founded in 1826, it keeps historical traces of the Spanish conquest, the Colonial period and the era of national-state consolidation, among other events. Although devoted to preserving the history of the country as a whole, given the extremely centralist nature of Colombia's government, Bogotá's history is very well represented among the thousands of boxes and folders maintained in the archive. When consulting this archive, I focused on the vast number of official documents from the Ministerio de Obras Públicas (Ministry of Infrastructure), a governmental department responsible for the creation and maintenance of 'urban green spaces' during the period addressed in this investigation (Fig. 3.6).

3.6.2 National Library

Founded in 1777, the National Library of Colombia is the oldest of its type in Latin America. It has one of the most representative collections of periodic publications in the country as well as one of the largest collection of books, booklets, and any other sort of printed papers. My work in the National Library was explicitly focused on nineteenth and twentieth-century press information about the city as well as the extensive collection of books concerning topics such as agriculture, horticulture, and gardening.

3.6.3 Luis Ángel Arango Library (Blaa)

Working as a branch of the Banco de la República (National Central Bank), I used the Luis Ángel Arango Library as a complementary source of information from newspapers and magazines. I also found extremely useful information for my research in the library's strictly controlled-access room of Sala de Libros Raros y Manuscritos (Rare Books and Manuscripts Room). For example, in its broad *Miscellaneous* section, the library has conserved a significant number of official reports, speeches, images, and other historical

sources useful for understanding the political ideas that transformed Bogotá during the period under investigation.

3.6.4 Embellishment Society of Bogotá Archive

Small, uncatalogued, and underestimated as a source of historical information, this archive administrated by the Museo Mercedes Sierra de Pérez' El Chico, also known as the Museo del Chicó, contains the minutes of the Sociedad de Embellecimiento de Bogotá (Embellishment Society of Bogotá). Founded at the beginning of the twentieth century, this non-official organisation comprising males of the elite class played a key role in the transformation of the city landscape during the modernisation process. In their minutes, for instance, I found several discussions about urban trees as well as park designs, which offered essential data about the creation of modern environments in Bogotá.

Table 3.1. Places and sources of information established in the first fieldwork in Colombia

Type	Name	Place	Type of historical information
Libraries	Biblioteca Luis Ángel Arango BLAA	Bogotá	Rare books, Magazines, literature, arts
	Biblioteca Nacional de Colombia	Bogotá	News Papers, Gardening books, pieces of art
	Biblioteca Médica Universidad de Antioquia	Medellín	Medical registers and reports
	Kew Botanical Gardens Library	London	Watercolours, Official documents
	Biblioteca Universidad de Antioquia	Medellín	Literature
	Biblioteca Pública Piloto	Barranquilla/Medellín	Photographies
	Hemeroteca Nacional	Bogotá	News Papers
	Bodleian Library	Oxford	Books
Archives	Archivo Nacional de Colombia	Bogotá	Official documents & maps
	Archivo de la Sociedad de embellecimiento	Bogotá	Documents from the Sociedad de Embellecimiento
	Archivo de Bogotá	Bogotá	Photographies
	Kew Botanical Gardens Archive	London	Letters and official documents
	Archivo del Museo Nacional de Colombia	Bogotá	Photographies
	Archivo del Museo de Bogotá	Bogotá	Photographies
	Archivo de la Universidad Nacional	Bogotá	José Jerónimo Triana documents
	Archivo del Atlántico	Barranquilla	Maps
Museums	Museo de Bogotá	Bogotá	Books and
	Museo Nacional de Colombia	Bogotá	Official documents, arts and handcrafts
	Museo de Arquitectura Leopoldo Rother	Bogotá	Plans and maps
	Museo de la Independencia, Casa del Florero	Bogotá	Photographies and maps
Herbariums	Herbario Nacional de Colombia (COL)	Bogotá	Botanical collections
	Royal Botanical Garden Kew Herbarium (KEW)	London	
	Herbario Joaquín Antonio Uribe (JAUM)	Medellín	

3.7 Limitations

One of the most important limitations in the development of this investigation was retrieving information produced by both human and non-human marginalised social actors. Although the historical silence left by actors outside of the power spheres has been recognised as one of the most important restrictions in the practice of history,⁹¹ these constrictions reach another level when non-humans are included. The underestimation of the historical roles of non-human organisms made their traces difficult to identify in archives and libraries. To collect sufficient information, I had to expend considerable time and resources looking for the scarce traces left by plants in order to reveal their heretofore unrecognised roles in the modernisation of Bogotá.

3.8 Conclusion

This chapter reviewed the most relevant sources used to obtain historical evidence of the roles played by plants in the modernisation of Bogotá. Rather than short descriptions of the sources, this chapter analysed them as cultural manifestations produced in the very particular circumstances emerged as part of the Latin American modernisation. Equally, for each of the sources described and analysed it was explained in what way they informed the aims of this thesis. Having explained the sources, its social context and its utility as historical data, this chapter explained how the information was analysed. This chapter explained how once collected data were analysed from a textual analysis perspective, interpreted through interpolation of sources and organised and endowed with sense through the construction of an efficient narrative. This chapter showed how this way of handle the data enabled this thesis to address the subjectivities of the evidence and the silence left by plants as social and historical actors. Likewise, this chapter has shown how the method used here made possible the recognition of the relations between humans and plants embedded in a set of power relationships and economic, social and political networks, that in turn, while gave voice to specific social actors silenced others.

This thesis pays significant attention to the botanical identities of the plants involved the city's history, for that reason, this chapter explained the taxonomic treatment given to the plants found in the historical record. Also, this chapter highlighted how the natural

⁹¹ Ranajit Guha, *Elementary Aspects of Peasant Insurgency in Colonial India* (Delhi: Oxford University Press, 1983).

conditions of archives and the scattered of the traces left by plants in history was partially solved by an exhaustive search for information in more than 23 institutions encompassing libraries, museums, botanical gardens and archives. Linked to this, this chapter has also described in-depth the libraries and archives that were used intensively as important sources of historical information. Additionally, the last part of the chapter briefly outlined the intrinsic limitations implied in trying to track down the historical roles of plants as organisms that have left ephemeral documentary traces.

Finally, it is important to mention that the methodological development of this thesis followed an iterative flow. Therefore, across the developments of this thesis, each of its stages not only modified the subsequent phases but also contributed to the reformulation of the research questions and the data collection and analysis (Fig. 3.1).

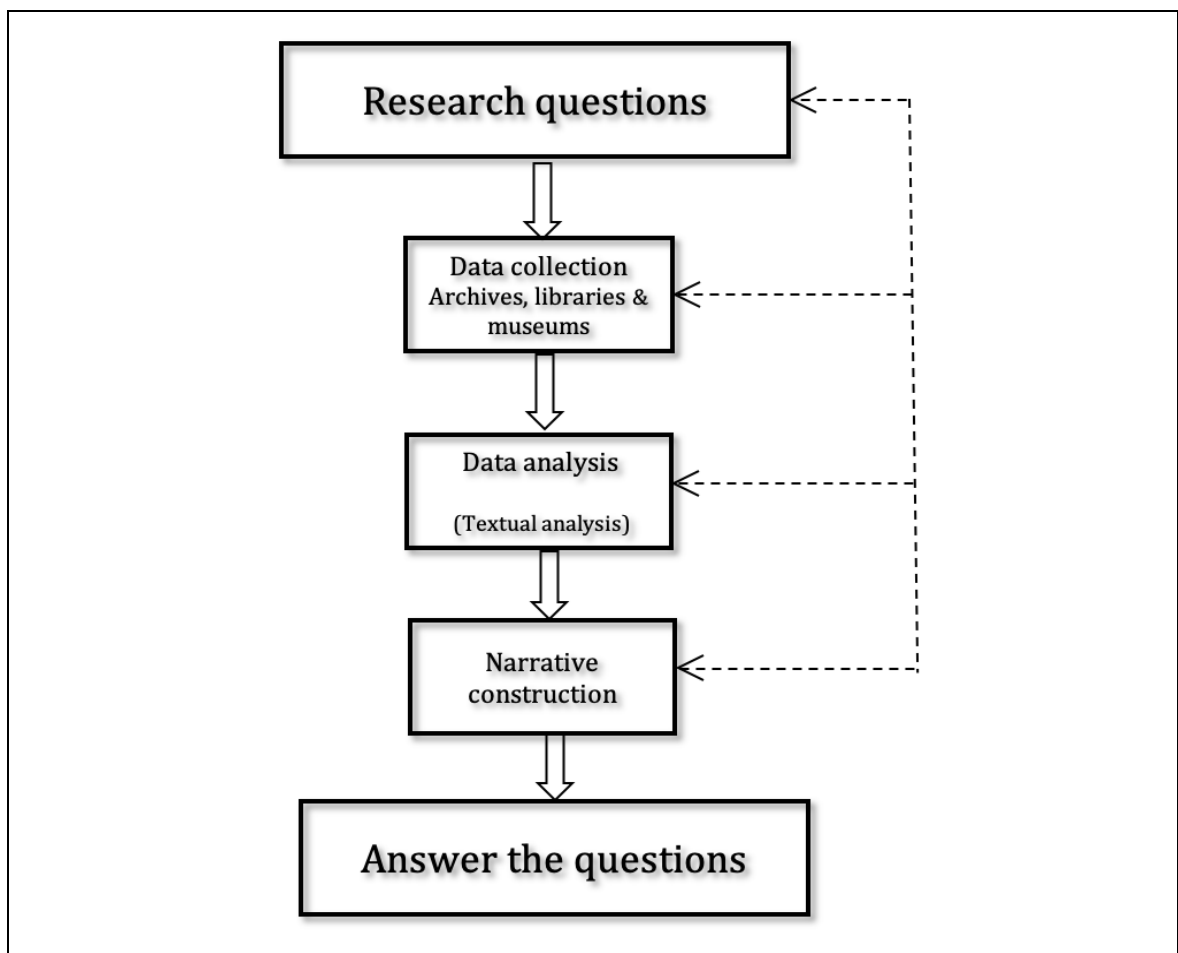


Figure 3.1. Scheme of the methodological flow followed in the research process of this research. The dotted arrows denote multiple feedback processes between research phases which occurred in this study.

IV

PRE-MODERN GREEN SPACES OF BOGOTÁ

4.1 Introduction

This chapter seeks to reveal the green spaces present in Bogotá prior to the modernisation process. In doing so, the chapter offers a description of a set of ‘pre-modern’ vernacular botanical knowledge and practices that would be radically transformed when Bogotá left behind its colonial past to embrace modernity. In order to provide an account of the pre-modern roles of plants in this city, this chapter applies a scalar analysis of the urban spaces produced totally or partially by the interactions between human bodies and plants. Starting from private spaces such as *patios* and *solares* (inner courts and backyards) and zooming out the analysis until it reaches the wild and out of environments, this chapter examines the specific people and plants interacting in each of these urban spaces (Fig. 4.1).

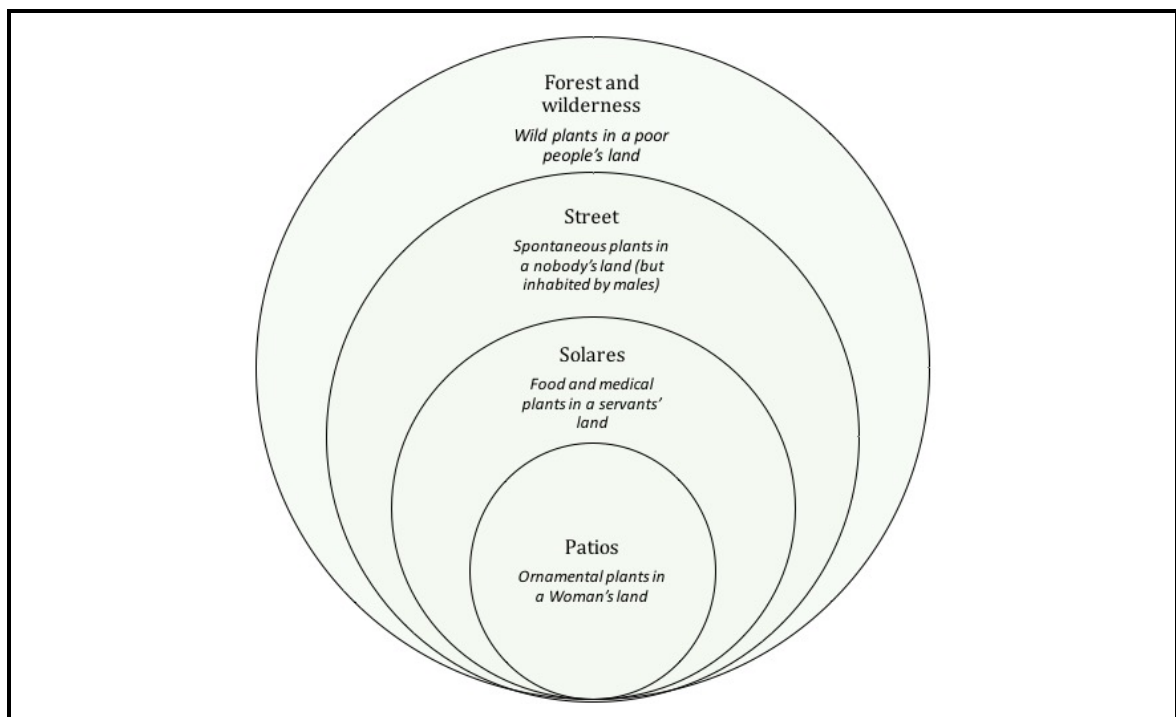


Figure 4.1. Diagram of the scalar analysis made in this chapter to present the ancient uses of plants in the creation of domestic spaces as well as sources of daily life elements and raw materials.

This chapter is divided into two main parts. Section 4.2 is devoted to exploring the uses of plants in the creation of the built environment in Bogotá. Firstly, it addresses the private spaces produced as a result of domestic human-plant interactions within the walls of some colonial houses in Bogotá. This section highlights the existence of specific floras related to

patios and *solares* as a reflection of different conceptions and uses of domestic space. Following that, it briefly presents how the lack of attention and maintenance of streets and other public and non-urbanised spaces led to a very particular type of ruderal flora characterised by a mixture of cultivated plants in the adjacent fields and *solares* and wild plant species thriving together in places highly modified.

The second part of this chapter illustrates the intensive appropriation of nature beyond the citizens' eyes. Section 4.3, shows how pre-industrial Bogotá relied on a huge range of plants for its everyday life. Through the use of selected examples, this section details the large number of uses given to non-timbered forest products (NTFPs) and highlights the quotidian use of some specific local plants in the construction of buildings in Bogotá. This section also examines how the consumption and supply of charcoal and firewood entailed an even further appropriation of nature and plants in woodlands located far from the city. It explains how the environmental conditions of Bogotá made easy access to woodlands impossible, and how the exploitation of these resources mainly by the city's poorest people transformed the urban natural landscape, which created the scenario in which the modern practices of nature control would take place at the beginning of the 20th century.

4.2. Bogotá's built-environment green spaces

4.2.1 The patios

The domestic spatial organisation of houses imposed in Latin America by the Spaniards following the conquest was strongly influenced by the architectural traditions of their homeland. The patio house (*Casas de patios*) was a dominant cultural trait among many of the ancient inhabitants of the Iberian Peninsula. The Phoenician society, whose palaces had patios, had arrived in the region by 700 BCE, and when the Romans later won control of the territory, they imposed their own way of life, including patio houses inherited from Hellenic culture. The Islamic occupation of the Iberic Peninsula between the 8th century and the end of the 15th century further enriched the architectural tradition of patios, adding new symbols related to introversion, sensuality, and the sacred meaning of culture.¹

¹ Juan Chávez, *Casa, Hogar y Cielo. Las Tres Miradas Debreyanas Sobre El Espacio Doméstico En El Valle de Los Aburráes*, Colección Arquitectura, Hábitat y Urbanismo (Medellín Universidad Nacional de Colombia (Sede Medellín). Facultad de Arquitectura, 2017, 2017), 89.

The social importance of patios among the historical Spanish and particularly within the Castellan and Sevillian societies has been related to the concept of a spiritual connection through spatial openness towards the sky.² Representations of the patio as a place of transcendence appear to have endured into the modern era. For example, in his investigation of the ideas and feeling about patios among 20th century Sevillians, Joaquin Romero obtained the following answer from one of his informants:

The patio represents the happiness and the luxury of Sevillians. We ignore what mysterious and overwhelmed spirit take us, Sevillians of any social class, to think that our life aim consists in a marble ground, a water stream, a set of arches over columns and a piece of heaven (...) This is essential, a piece of heaven for ourselves. The heaven inside the house. I mean, a heaven lonely contemplated sitting on our favourite stool, with a book or a newspaper in our hands or with the daily affairs in mind. The patio isolates you from the world and only admits one neighbour: the heaven, the supreme God's house. (...) And in this patio isolation among flowers —hydrangeas, geraniums, foxgloves— The Sevillian is driven by a weird happiness. What is this about? Maybe in the fact of being a selfish witness of the wonderful order of the divine creation.³

In contrast to the above richly detailed explanation, it is more difficult to reconstruct the 16th century Spaniards' feelings about patios with great precision. Nonetheless, the extensive presence of houses with patios in America reveals how the patio was reproduced in Spanish colonies as a prolongation of the homeland abandoned by the conquerors and their troops. Later, however, the existence of patios in Americas as a clear manifestation of the transnational urbanism of early modernity⁴ had to be adapted to local economic, climatic, and social conditions, as presented by Marta Silva in the cases of la Habana, Trinidad, Cartagena, Lima and Quito.⁵ This thesis argues that the adaptation of Spanish houses with patios in America not only included changes in their number, size, and shape,

² Marta Beatriz Silva, "La vivienda a patios de origen hispánico y su difusión en Iberoamérica," in *Actas III* (Congreso Internacional del barroco Americano: Territorio, Arte, Espacio y Sociedad, Sevilla: Universidad Pablo de Olavide, 2001), 70; Antón Capitel, *La Arquitectura Del Patio* (Barcelona: Gustavo Gili, 2005); Juan Chávez, *Casa, Hogar y Cielo. Las Tres Miradas Debreyanas Sobre El Espacio Doméstico En El Valle de Los Aburráes*, Colección Arquitectura, Hábitat y Urbanismo (Medellín Universidad Nacional de Colombia (Sede Medellín). Facultad de Arquitectura, 2017, 2017).

³ Joaquín Romero, *Los Jardines de Sevilla (Curso de Conferencias Sobre Urbanismo y Estética En Sevilla)* (Sevilla: Academia de Bellas Artes de Santa Isabel de Hungría, 1955). *It is important to highlight that hereinafter, unless saying the opposite, all the quotes used in this thesis are my translations and interpretations from Spanish to English.*

⁴ Ash Amin and Nigel Thrift, *Cities: Reimagining the Urban* (Wiley, 2002); Eugene McCann and Kevin Ward, *Mobile Urbanism: Cities and Policymaking in the Global Age*, Globalization and Community; v. 17 (Minneapolis: University of Minnesota Press, 2011), <https://ezproxy-prd.bodleian.ox.ac.uk/login?url=http://ebookcentral.proquest.com/lib/oxford/detail.action?docID=730143>.

⁵ Silva, "La vivienda a patios de origen hispánico y su difusión en Iberoamérica."

as highlighted by Silva, but also in the ways that local and introduced plants interact within them, specifically by making patios a very particular type of versatile garden.

However, not all the houses in Bogotá contained patios. The bloody conquest and the subsequent dispossession of the native peoples were reinforced by the establishment of an extremely hierarchical society rife with social, political, and economic inequalities. Immense levels of marginalisation were evident in the ways the different social layers inhabited the city. Whereas the upper classes, mostly descendant of the Spaniards, lived in palatial (or at least spacious) houses with patios and other relatively luxurious features, thatched huts were the traditional habitation of most Bogotánians. A house's size, the type of raw material used to construct it, the number of stores, and the number and size of patios were all elements of social distinction in Bogotá.⁶ In this regard, one of the most important houses in colonial Bogotá belonged to the Marquess of San Jorge. Built on the 17th century, this house of outstanding manufacture deployed the typical viceroyalty architecture produced for the higher-class people of Bogotá, and among its most prominent characteristics was the patio. Recognised in the history of Bogotá for being one of the few houses with its own *pila* (fountain) and used not only by the marquess and his family but by his neighbours, as depicted in the Figure 4.2, this patio was also used to cultivate ornamental plants, therefore making it a particular type of urban garden.



Figure 4.2. Gladis Gonzalez, Patio and fountain in the Marques de San Jorge's House, 1988, postcard. In *Santafé de Bogotá 450 años* (Without any further information)

⁶ Margarita Garrido, "La vida cotidiana y pública en las ciudades coloniales," in *Historia de la vida cotidiana en Colombia* (Bogotá: Grupo Editorial Norma, 1996), 135.

The Marquess of San Jorge patio watercolour was produced in 1988 as part of the celebration of the 450th anniversary of Bogotá's founding. However, there is evidence that plants played an important role in the ornamentation of patios in the early Republican period at the beginning of the nineteenth century. In this regard, Soledad Acosta de Samper, considered the most important nineteenth century Colombian woman writer, left a piece of extremely rare evidence concerning the domestic use of plants in the Bogotá's *patios* before the modernisation process. In her book *Mi Madrina* (My Godmother), written in 1870, Acosta described the typical *patio* of a colonial house thusly:

I still remember that place as it was before. I can see the tall rosemary always in blossom, the Quito tomato, the cherry tree and the gorse surrounded by hollyhocks growing in between the loose rocks, alongside many Jericho roses in whose shadow grew a fluffy carpet made out of chamomile and tinged *trinitarias*—replaced now by non-fragrant violets—and strawberries. I also remember a strawberry plant whose leaves I always stopped to admire whenever I encountered the fruits. There were geraniums of open mound and pigeon feet classes. In the stone bench that separated the patio and the corridor there were bowls whose flowers were more carefully tended: they had blue and white *farolitos*, yellow *ridículos*, dark and fragrant *pompas*, *boton de oro*, *pajaritos* of all colours. The columns were climbed by *donzones* and *madreselvas*. And finally, on the floor by four moulded clay pots—they were used to collect water during winter—, you could find flowerpots and broken plates in which some seedlings grew waiting to be transplanted at the appropriated time. Almost all the flowers loved by my godmother back in the days have lost their importance, and only can be found in the old-fashioned gardens of those decadent Santaferenses.⁷

4.2.1.1 The patio as a woman's place

The lack of information about the human-plant relationships in domestic spaces in colonial houses in Bogotá confers the rich-in-details descriptions offered by Acosta de Samper with special relevance. Firstly, it is important to highlight the role of women in the creation, ornamentation, and maintenance of the patio-garden, as expressed in domestic horticultural practices such as letting seedlings grow in suitable broken pots as they await a good moment to be transplanted. The role of women in the maintenance of the patio-garden is not surprising given their social and spatial positions in colonial and early post-colonial Bogotá. For example, Aída Martínez has highlighted how women's domain during colonial times was restricted to the rooms around the main patios.⁸ Furthermore, the existence of

⁷ Soledad Acosta de Samper, "Mi madrina," in *Recuerdos de Santafé*, Libro al Viento Capital (Bogotá: Instituto Distrital de las Artes-Idartes-, 2013), 17–32.

⁸ Aída Martínez, "La vida material en los espacios domésticos," in *Historia de la vida cotidiana en Colombia* (Bogotá: Grupo Editorial Norma, 1996), 337–62.

the patio in itself has been linked with the priority to maintain a strong defence of the private world against the interference that the outside world could present in the woman's house. According to Amos Rapoport, 'the fact that the court house is very much the same in Greece, North of Africa, and Latin America, suggest that the latter relates to some social factor, which may be the extreme need for privacy for women who are cloistered. The windows and roofs of these court houses are designed to prevent anyone from intruding into the intimacy of the house'.⁹

Rapoport's statements could be considered gender-determinist, as it ignores, for example, weather considerations, local variations, and the extremely important issue of women's agency; nonetheless, it is widely accepted that the role of women in pre-modern Colombian society, at least among the wealthy and middle classes, was eminently linked to the domestic sphere. As a consequence of the spatial segregation of genders, women devoted most of their time engaged in domestic activities, among which, as Acosta de Samper's description suggests, gardening practices played an important role. Although there is lack of solid historical sources about this topic, this thesis suggests that the organisation, management, and transformation of *patios* into a particular sort of garden space could have represented unique chance for the mistress of the house to express her aesthetic sensibility as well as a way of socialising with other gardening enthusiasts through the exchange of seeds and seedlings, as still happens today among many women in rural environments (observ. pers.)

Finally, it is worth to point out how the reduced mobility of woman in the colonial society of Bogotá paradoxically produced a particular kind of mobile garden characterised by easily transported plants planted in pots that could be interspersed with the more fixed planting spaces (see the upper part of Fig. 4.3). As presented by Aída Martínez the house's mistress was in charge of the use, care, and control of a large number of objects, ranging from grills, bellows, mortars, and brooms to other, more distinctive objects like dressers, settees, and jewellery boxes.¹⁰ Given her characteristic as non-human administrator inside the house, mistresses such as Acosta de Samper's godmother were able to link inanimate objects such as broken plates, pots, and vessels with plants. In doing so, she was able to

⁹ Amos Rapoport, *House Form and Culture* (Englewood Cliffs (N.J.); Hemel Hempstead: Prentice-Hall, 1969), 65.

¹⁰ Aída Martínez, "La Vida Material en los espacios domésticos," in *Historia de la vida cotidiana en Colombia* (Bogotá: Grupo Editorial Norma, 1996), 337–62.

produce a very distinctive type of private garden endowed with certain levels of internal mobilities that allowed her (for example) to move plants between different areas of the house and change their localisation according to the changes in sunlight throughout the year.

Although women from upper class families had certain sort of mobility within the city, their displacements through the city generally responded to activities related to their social status such as philanthropic causes support. Opposed to labour class women such as washerwoman or chocolate-millers, whose job involved a constant transit along streets, women belonged to the elite had not free transit around the city.

Although the historiography of private spaces in the colonial Bogotá gives not enough evidence on the ways how women created, managed and used their gardens, the social reality of the early nineteenth century Bogotá, the levels of care observed in the photographic evidence and the fine description produced by Soledad Acosta make evident the woman presence in the private garden of colonial houses in Bogotá.

Nonetheless, the lack of direct evidence able to present in detail the women's role in the creation of gardens has been a topic deeply addressed by literature studies from a whole range of epochs and geographies.¹¹ In the particular case of Latin America, analysing the women's role in the Cuban society deployed in the Novel Sab, the scholar Naomi Lindstrom shows how in the nineteenth century Latin America, shows how urban like private gardens as well as those located in converts represent and attempt to create a space where they could enjoy of ways of satisfaction denied by the society.¹²

¹¹ Stephen Bending, "Melancholy Amusements: Women, Gardens, and the Depression of Spirits," *Studies in the Literary Imagination; Atlanta* 44, no. 2 (Fall 2011): 41-62, 133; Elizabeth A. Augspach, *The Garden as Woman's Space in Twelfth- and Thirteenth-Century Literature*, Studies in Mediaeval Literature ; v. 27 (Lewiston, N.Y. ; Lampeter: Edwin Mellen Press, 2004); Christine Coch, "The Woman in the Garden: (En)Gendering Pleasure in Late Elizabethan Poetry," *English Literary Renaissance* 39, no. 1 (January 1, 2009): 97-127, <https://doi.org/10.1111/j.1475-6757.2009.01041.x>; Stephanie Li, "Domestic Resistance: Gardening, Mothering, and Storytelling in Leslie Marmon Silko's Gardens in the Dunes," *Studies in American Indian Literatures* 21, no. 1 (2009): 18-37.

¹² Naomi Lindstrom, "El convento y el jardín: La búsqueda de espacios alternativos en Sab," *Decimónica* 4.2 4, no. 2 (2007): 49-59.



Figure 4.3. Sociedad de Mejoras y Ornato de Bogotá [SMOB], General view of a Colonial house, 1938, photograph. In SMOB, *Bogotá*. (Bogotá: Sociedad de Mejoras y Ornato, 1938).

4.2.1.2 Plants in the patio-gardens

The plants used as raw material in patio houses reflect two of the most important and apparently contradictory characteristics of the urban construction in Bogotá: i) the symbolic importance of European-introduced plants and ii) the persistence of native plants in the construction of private spaces.

The use of plants in the ornamentation of *patios* can be thought of as the prolongation of a Hispanic inheritance. The Europeans not only brought their Christianity, private property and patriarchal society to America, they also carried their sensibilities and particular aesthetic approaches toward the ‘natural’ world in general and to plants in particular. As a consequence, ornamental plants were introduced quite early during the conquest campaign.¹³ It seems that the remarkable isolation of Bogotá across colonial times did not radically change the composition of the flora used for the ornamentation of private spaces, which indicates a massive overlooking of the potential presented by some native species of plants. In 1899, José María Cordovez left evidence of this botanical bias when describing the types of flowers used as ornamentation for the *bailes* (home parties) in colonial Bogotá:

¹³ See: Manuel Patiño, *Plantas Cultivadas y Animales Domésticos En América Equinoccial*, vol. III, 8 vols. (Cali: Imprenta Departamental, 1967).

Regarding flowering plants, it is necessary to confess it, the number known by them (ancient Bogotians) was reduced. By that time, there was no notion about the immense richness and variety of the Colombian flora. The Castilla roses, used nowadays only to produce *colirios*, single and small carnations, poppies, nasturtiums, birds, satin flowers, hollyhocks, Guadalupe parasites [local orchids], Madonna lilies, and some other species, were the main material from which the flower decorations were made by those days.¹⁴

The French Édouard-François André also observed the predilection for European ornamental plants as raw materials in the construction of domestic spaces within the *patios*. Recognised as a botanist, plant hunter, and horticulturist, André left an interesting testimony when describing one of the *patios*-gardens he found during his stay in Bogota between 1875 and 1876:

A detailed survey of one garden allows me to understand one of Bogotá's traits. The plan expresses better than any description their *gardening for entertainment* in cold weather. It shows a parallelogram in the house's patio divided into rectangles and diagonal lines. It also has paths paved with baked clay tiles and a central drain to gather the rain-water. The vegetal 'furniture' is almost always the same. The rose bushes, rarely trimmed, blossom all the year through. Sometimes (in this garden) they plant a Colombian walnut (*Junglans bogotensis*) in the centre, this tree has beautiful leaves and thick fruits covered by a grey pericarp. The list of flowering plants randomly placed cover violets, fuchsias, geraniums, asparagus —As ornaments!— verbenas, balms, lilies, wallflowers, poppies, knight's spurs, lupines, spindles, common marigold, arum-lily and primrose always flowered. Everywhere is evident the efforts in choosing the flowers brought from Europe.¹⁵

To accompany his description, André made a blueprint of the garden, as depicted in the Figure 4.4:

¹⁴ José Cordovez, *Reminiscencias Escogidas de Santafé y Bogotá [Recurso Electrónico]* (Bogotá: Ministerio de Cultura: Biblioteca Nacional de Colombia, 1899), 19.

¹⁵ Pablo Navas Sanz de Santamaría and Benjamín Villegas Jiménez, eds., *Colombia en Le Tour du Monde*, vol. II (Bogotá: Villegas Editores, 2013), 82–83.

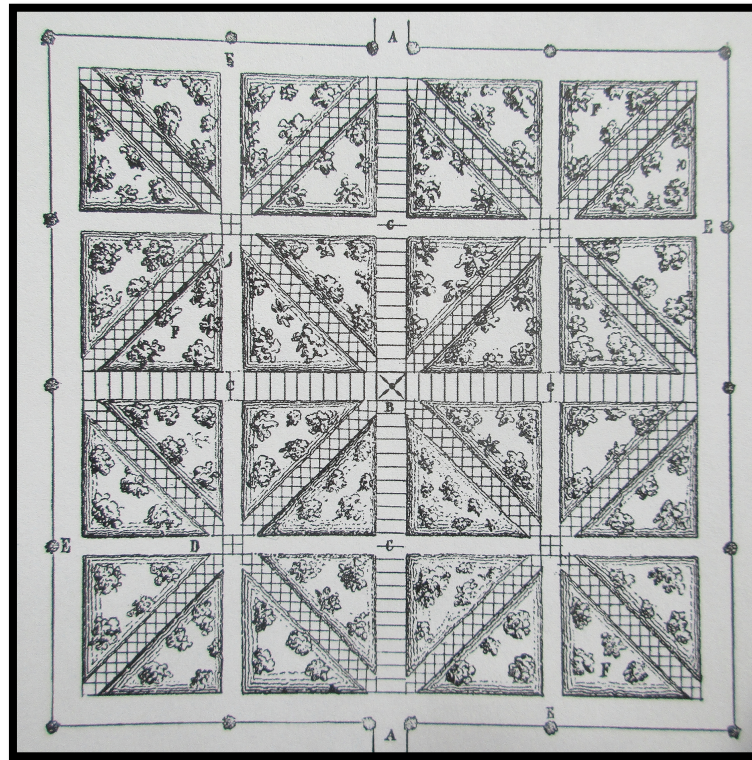


Figure 4.4. Édouard André, Plan of a cold-weather garden in Bogotá (jardín de *tierra fría*), 1876, woodcut. In Édouard André, 'La Vuelta Al Mundo, Nuevo Diario de Viajes. La América Equinoccial (Colombia-Ecuador-Peru)', in *Colombia En Le Tour Du Monde*, ed. Pablo Navas Saenz de Santamaría, vol. II (1876-1878) (Bogotá: Villegas Editores, 2013), 83.

The combination of both the plan and the description made by André are extremely important since they reflect two different things: i) an inflection point and ii) a continuity in relation to the use of plants in Bogotá. On the one hand, what is described by the French botanist is a change in the way of living in and building private spaces like *patios* in colonial houses. In opposition to the almost organic expression of plants in colonial *patios*, what is presented by André is the manifestation of a change in the attitude towards the presence of plants in domestic spaces. This is exemplified by the use of straight lines and geometric beds in gardens, a practice that reflects a strong influence of the French garden styles and is strongly reminiscent of garden knots and parterres. However, this garden geometry reflects more than a change of fashion. It reveals how by the latter decades of nineteenth century, the modernisation influence had begun to modify the human-plant relationships developed in the private spaces of Bogotá, which before that time had maintained the same general characteristics for more than 300 years.

Despite this irruption of the modern human-plant relationships manifested in the spatial organisation of plants within some *patios*, the use of European plants continued. André's views of the Bogotánians' effort to use plants from Europe does not represent a change in

the directionality of the plants introduction; rather, it can be seen as a continuation of Europeanist attempts in Bogotá. These practices did not represent the transportation of a green space produced through the migration of people, such as that which occurred in the previously mentioned transatlantic early modern urbanisms, but rather a process of mimicking, which—as will be further explained in later chapters—would be a constant characteristic of the modernisation of Bogotá. However, as in the cases of the Quito tomato of the colonial *patio* presented by Soledad Acosta de Samper, the Guadalupe parasites mentioned by José María Cordovez, and the *Junglands bogotensis* mentioned by André, the native plant species of the Tropical Andes, the most biodiverse region of world, were also present, as they were to some extent also present in the colonial and republican and modern societies' words, food, and symbolic universe of indigenous origin. In conclusion, plants in the private spaces of a minority living in houses with *patios* reflect the city's hybrid flora, which, as I will argue throughout this dissertation, is one of the most interesting expressions of urban life.

4.2.2 The solares

A common characteristic of the conquest campaign was the usurpation of the native Americans' land. As a consequence, European ways of dwelling replaced ancient pre-Columbian settlements through a foundational act in which the conquest head, commonly known as *el conquistador* (the conqueror), distributed square plots of land named *solares* among his people. This geometric repartition of land aimed to establish urban planning for grid-like cities produced as ordered in the so-called *Leyes de Indias* (Indian's Laws) issued by the kings Fernando el Católico in 1513, Carlos V in 1526, and Fernando II in 1573.¹⁶

The Spaniards planned the colonial city according to a strong religious symbolism. They organised the city to represent the earthly reflection of divinity and the order of the universe.¹⁷ Consequently, the centre of this new urban universe was the main square, in which the ruling institutions of the new society, such as the church and the *cabildo* (the administrative building) were located; equally, *el conquistador*, sent by the king on behalf of God, reserved a place in the main square to build his house. Around this core, which was usually the size of a quarter of a block, the city was organised in a concentric

¹⁶ Silvia Arango, *Historia de la arquitectura en Colombia* (Bogotá: Centro Editorial y Facultad de Artes, Universidad Nacional de Colombia, 1991), 87.

¹⁷ The idea of city as a manifestation of the divinity that represents a 'psyche unity' is well presented by Joel Kotkin. See: Joel Kotkin, *The City: A Global History* (London: Weidenfeld & Nicolson, 2005).

hierarchy, such that the distance to the main square was proportional to the social positions of those entitled to have a *solar*. High-ranking soldiers, members of the new bureaucratic body (e.g. judges and notaries), and recognised members of the society, such as those holding any kind of nobiliary title received a *solar*. According to the *Leyes de indias*, they were required to build their houses in their assigned plots within a year or else lose their right to the land. As a result, people first built temporary houses using straw and planks and mimicking the muisca's vernacular buildings. Once they had established possession over the given *solar*, the conquerors built their permanent houses. In this process, they combined their knowledge about ideal Sevillian and Castellan houses with the raw materials found in the tropical highlands (see section 4.3.2). It is worthy to remark that the importance of establishing domain over the *solar* through its edification went beyond its physical use as shelter. In the medieval-born Spanish tradition implanted in America, any individual should be part of a recognisable house and *solar* (*casa y solar conocido*), this meant that any man or woman, whether they be noble or servant, must belong to a given place. Thus, while promoting a sense of belonging to the community, this attachment of people to land also entailed an efficient way of political control.¹⁸

Following the construction of the colonial cities, the term *solar* was used to designate the part of the plot that remained following a house's construction (Fig. 4.5). Often flanked with wide walls of rammed earth (*tapia*), the *solar* was a kind of backyard, or more accurately, it was a sort of condensed rural environment used to supply domestic requirements in terms of food, storage, and animal keeping. Although Bogotá was surrounded by arable land, where many wealthy families owned *encomiendas* from which they supplied food to their households,¹⁹ the *solar* persisted as the most immediate productive and multifunctional piece of land. In contrast to *patios*, which were places devoted to contemplation through the aesthetic organisation of ornamental plants, the *solares*, which were devoted to the cultivation of edible and medicinal plants, were places linked with the human bodily functions, specifically those related to the digestive processes.

¹⁸ Pablo Rodríguez, "Casa y Orden Cotidiano En El Nuevo Reino de Granada, s. XVIII," in *Historia de La Vida Cotidiana En Colombia* (Bogotá: Grupo Editorial Norma, 1996), 103.

¹⁹ *La encomienda* was a vassalage relationship in which the Spanish Crown assigned a group of indigenous people whose souls must be saved to an outstanding Spanish overseer. This person was called *el encomendero*, and he received the products of indigenous labour in exchange for his spiritual services over the 'barbarians'. See: German Colmenares, *Historia Económica y Social de Colombia 1537 – 1719*, 2da ed. (Medellín: Editorial La carreta & La Oveja Negra, 1975).



Figure 4.5. Anonymous, Houses with *solares*, 1890, photograph. In: *Fundación Amigos de Bogotá, Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010).

4.2.2.1 People in the *solares*

The colonial house was a scenario of co-existence of two adjacent but contrasting worlds. If the main rooms and *patios* were the territory of the house's mistress and family, the *solares* and related areas like the kitchens were the domain of servants and non-human domestic actors such as dogs, cats, hens, chickens, horses, and, of course, varying kinds of plants.²⁰ Despite the scarcity of available information concerning the social dynamics within the *solares*, it is easy to think of them as vivid places where the strict norms that ruled the central part of the house were blurred.

One could consider the *solares* as being the most permeable part of the colonial house, a porous membrane constantly crossed by flows of matter and energy embodied in groceries, gossip, deliveries, and varying kinds of human and non-human social actors that—unwelcomed to enter via the principal door—accessed the house from the backyard. For instance, it was through the *solar* entrance that the chocolate grinder woman came from time to time to produce the chocolate balls to be drunk by the family during dinner, as did the laundry woman who delivered cleaned clothes. The visits made by servants' lovers

²⁰ Aída Martínez, "La vida material en los espacios domésticos," in *Historia de La Vida Cotidiana En Colombia* (Bogotá: Grupo Editorial Norma, 1996), 351.

occurred there, and it was the playground used by the youngest members of the household. Not all of the *solares* were surrounded by big rammed earth walls; some merely were merely bordered by a wooden fence or a line of giant planted *cabuya* plants (*Agave* spp. and *Furcraea* spp.) (see Fig. 4.15). As a consequence, mischievous children frequently found success in entering the *solares* looking for fruits or vegetables to steal. Likewise, wandering cows or horses, very common street inhabitants, often went into the *solares* in search of food.²¹

4.2.2.2 Plants in the *solares*

As mentioned above, whereas *patios* were places for relaxation and contemplation, *solares* were associated with most organic human body functions and needs, which was reflected in the kinds of plants that grew in these spaces. *Solares* were versatile spaces used simultaneously as medicinal herb gardens, kitchen gardens, and orchards. Considering that medicinal herbs were ‘abundant in any vegetable garden’,²² and judging from the ‘astonishing’ number of medicinal plants still present in Bogotá’s markets and their therapeutic uses,²³ it is easy to speculate that many well-known plants like chamomile and dandelion, which were surely thriving in *solares*, were used as part of a vernacular pharmacopoeia in the initial home-treatments of less serious ailments such as diarrhoea, fever, stomach aches, or the flu.

A second group of plants growing in *solares* were edible plants. Local plants were directly bound with the cooking process, complementing the basic staples coming from warmer provinces to contribute to the supply of vegetables consumed as part of local diets. Some of the edible plants commonly found in *solares* across nineteenth century Bogotá included potatoes, spinach, *curuba* (banana passion fruit, *Passiflora tripartita*), anise, blackberries, strawberries, green peas, fava beans and other beans, maize, cucumbers, and pumpkins, along with traditional tubercles used since pre-Columbian times such as *cubios* (*Tropaeolum tuberosum*) and *ibias* (*Oxalis tuberosa*) (Fig. 4.6).

²¹ Soledad Acosta de Samper, “Mi madrina,” in *Recuerdos de Santafé*, Libro al Viento Capital (Bogotá: Instituto Distrital de las Artes-Idartes-, 2013), 102.

²² Felipe Pérez, *Geografía General de Los Estados Unidos de Colombia y Geografía Particular de La Ciudad de Bogotá*, vol. I (Bogotá: Imprenta de Echavarría Hermanos, 1883), 16.

²³ Rainer W. Bussmann et al., “Astonishing Diversity—the Medicinal Plant Markets of Bogotá, Colombia,” *Journal of Ethnobiology and Ethnomedicine*; London 14 (2018), <http://dx.doi.org/10.1186/s13002-018-0241-8>; Sara E. Giraldo et al., “Ethnopharmacological Studies in Traditional Markets from Bogotá D.C. (Colombia): Advances and Perspectives for the Search of Medicinal Plants with Therapeutic Potential,” *FarmaJournal; Salamanca* 4, no. 1 (February 2019): 253–54.



Figure 4.6. Some native edible plants grown in *solares*. From left to right: *curuba* (*Passiflora tripartita*), *cubios* (*Tropaeolum tuberosum*) and *ibias* (*Oxalis tuberosa*). Author's photographs..

Compared with other Colombian cities such as Medellín or Cali, whose warm weather enables an incredible diversity of fruit trees to thrive, Bogotá had rather fewer types of such trees. However, European-introduced apple, pear, fig, and cherry trees were commonly present in the orchards of the *solares*, along with native *uva caimarona* (?), *mortiños* (Colombian blueberries, *Vaccinium meridionale*) or *papayuela* (mountain papaya, *Vasconcellea pubescens*) trees.²⁴ Fruits were both consumed fresh and used in the preparation of desserts, as is still very typical in Bogotá's culinary tradition.²⁵ Thus, the presence of plants of different origins in reflects the cultural hybridism expressed in culinary form. By the Eighteenth century, European and American tastes, ingredients and culinary practices had essentially melded, making it difficult for most people to distinguish between what had been introduced and what was native.²⁶ Finally, it is important to mention how, as in the case of *patios*, where the house's mistress drove the hybridisation between ornamental plants of diverse origins, women played prominent roles in the hybridisation of medicinal and dietary flora in the *solares*. Responsible for keeping the fire burning and transforming fruits and vegetables from the market and the *solar* into dishes,²⁷ women's hands moulded the endless re-production of hybrid Latin American culture through culinary practices. Hence, this hybrid culinary knowledge was driven by the development of a hybrid botanical knowledge about the fruits, vegetables, grains, and

²⁴ Felipe Pérez, *Geografía General de Los Estados Unidos de Colombia y Geografía Particular de La Ciudad de Bogotá*, vol. I (Bogotá: Imprenta de Echavarría Hermanos, 1883), 16–17; Isaac Holton, *New Granada: Twenty Months in the Andes*. (Scholarly Publishing Office, University of Michigan Library, [1857] 2006), 9.

²⁵ James Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months* (New York: Harper & Brothers, 1838), 151.

²⁶ Martínez, “La vida material en los espacios domésticos,” 351.

²⁷ Rodríguez, “Casa y orden cotidiano en el Nuevo Reino de Granada, s. XVIII,” 120.

staples used in the kitchen, many of which were cultivated and maintained by women in urban *solares*.²⁸

4.2.3 The flora of unattended common places

Although colonial squares served as public spaces for excellence in colonial Bogotá, other spaces beyond the private sphere in the pre-modern city were generally places of transit or simply residual areas: interstices, remaining spaces, dead zones, or urban voids.²⁹ In the colonial city, these residual and transit spaces were either paved or unpaved streets, abandoned houses and *solares*, undeveloped plots, meadows and paddocks, and riverbanks. Together, all of these spaces made the city a heterogeneous landscape where urban, rural, and wild realities constantly interwoven and influenced each other (Figs. 4.7).



Figure 4.7. Ramón Torrez Mendez, rural-like environment of Bogotá, ca. 1837, oil on canvas. Museo de la Independencia, Bogotá (no. de registro: 57, Mdi).

Contrary to what occurred at the end of the nineteenth century, when the creation of parks and gardens entailed the installation of people responsible for their management and care (see chapter 6), colonial streets and residual spaces were unattended common places. The

²⁸ Ian Cook and Philip Crang, “The World On a Plate: Culinary Culture, Displacement and Geographical Knowledges,” *Journal of Material Culture* 1, no. 2 (July 1, 1996): 131–53,; Germán Patino Ossa, *Fogón de Negros: Cocina y Cultura En Una Región Latinoamericana*, Segunda edición, Biblioteca Básica de Cocinas Tradicionales de Colombia 8 (Bogotá: Ministerio de Cultura, 2012).

²⁹ Claudio Curzio, “El Origen y las características de los fragmentos urbano-público residuales,” *Cuadernos Geográficos*, no. 42 (Enero 1, 2008): 53–82.

botanical result was the colonisation of these unattended spaces by spontaneous and proto ‘urbaniphilous species’ adapted to the urbanised environments.³⁰ It is worthy to remarking that in gathering species of plants introduced during different periods of the city’s history, the pre-modern and unattended urban areas of Bogotá was a ‘botanical palimpsest’ formed by native plants alongside with introduced species that became naturalised and thrived and reproduced under the particular environmental conditions of that city. Therefore, in the nobody urban spaces (today and then), European weeds and spontaneous plants such as dandelion, plantain, clover, chamomile, commonly grew side by side with the native *curuba*, *uchuva* (*Physalis peruviana*) and *guasca* (*Galinsoga parviflora*).

Transit and residual spaces in Bogotá were not only inhabited by weeds and ‘escaped’ plants from *patios* and *solares*, they had also trees. For example, species thriving in highly modified environments (Fig. 4.8), such as *sauce llorón* (Humboldt’s willow, *Salix humboldtiana*), *aliso* (*Alnus acuminata*), or *cerezo* (black berry, *Prunus serotina*) were common in the city’s riverbanks, meadows or abandoned *solares* as depicted in Figure 4.9.



Figure 4.8. Typical tree species growing in the non-urbanised areas around Bogotá. From left to right: *sauce llorón* (*Salix humboldtiana*), *aliso* (*Alnus acuminata*) and *cerezo* (*Prunus serotina*). Author’s photographs.

³⁰ Rüdiger Wittig, Dagmar Diesing, and Michael Gödde, “Urbanophob — Urbanoneutral — Urbanophil Das Verhalten Der Arten Gegenüber Dem Lebensraum Stadt,” *Flora* 177, no. 5 (January 1, 1985): 265–82, [https://doi.org/10.1016/S0367-2530\(17\)30180-9](https://doi.org/10.1016/S0367-2530(17)30180-9); Rüdiger Wittig and Ute Becker, “The Spontaneous Flora around Street Trees in Cities—A Striking Example for the Worldwide Homogenization of the Flora of Urban Habitats,” *Flora - Morphology, Distribution, Functional Ecology of Plants* 205, no. 10 (October 1, 2010): 704–9, <https://doi.org/10.1016/j.flora.2009.09.001>.

espino (Thorn-plant Street), *Calle de la papaya* (Papaya Street), *Calle del nenúfar* (Water Lily Street), *Calle del Chocho* (Chayote Street).³² As occurred with the today's barren of trees *Calle del Cedro* (Andean Cedar Street), street names have sometimes outlived the physical existence of the plants on which behalf they had been named. The result of this was a lingering symbolic presence of plants in the modernised city whereby the trees and bushes present in pre-modern Bogotá were memorialised as 'ghost flora'.

Considering the historical lack of large-sized trees in *la sabana* (see next section), the existence of streets named after large size trees such as *cedro* or, moreover, the still existing *nogal* (Colombian walnut), which gave its name to an entire neighbourhood in the north side of the city is notable. Since most of the big pre-Columbian trees around the muisca's settlements disappeared with the construction of the European colonial city, it is possible that such trees would have been planted during the early colonial period. However, a lack of evidence prohibits an estimation of the number and density of trees growing in the residual and transit areas of the city.

Finally, whereas large size trees were scarce on streets, some wild plants remained in their habitats and were barely affected by the initial urbanisation process, as exemplified by the presence of native plants associated with rivers and wetlands in Bogotá. However, given their lack of use by local people, these plants were part of an 'invisible flora' that are challenging to track in the city's botanical history, therefore making extremely difficult to understand how the urbanisation process affected the spontaneous flora of the pre-modern city. One remarkable exception is the contribution made by the botanist José Jerónimo. In the development of his unfinished work *Flora de Bogotá*, he collected, among others, plants thriving on the city riverbanks since pre-Columbian times. When the city's rivers were turned into a sewer and became channelized and covered, the only evidence of this spontaneous flora remained in the herbarium collections made by Triana during his botanical practice (Fig. 4.10).

³² Posada, 73–74.



Figure 4.10. José Jerónimo Triana, botanical collection of *Arum italicum* along the San Francisco River, 1865, Botanica voucher, 30 x 20 cm. Herbario Nacional de Colombia (COL), in <https://goo.gl/aaEzGQ>

4.3 Bogotá's *out of sight* green spaces

Thus far, this chapter has presented human-plant relationships occurring within the built environment of the city. However, plants not only played a prominent role as elements in the construction of hybrid and heterogenous places such as *solares*, *patios* and residual spaces. Drawing on the ideas of out of sight nature,³³ this section presents how interactions with plants in pre-modern Bogotá also occurred in the city's hinterlands. Hence, through a series of selected examples, this second part of chapter presents instances of how the city used plants from forests, swamps, and *páramos* around Bogotá, and how this extractive process was possible thanks to the vernacular botanical knowledge of the socially excluded people who were responsible for ensuring a steady supply of indispensable raw materials for daily urban life functioning.

³³ Matthew Gandy, *Concrete and Clay: Reworking Nature in New York City* / Matthew Gandy., Urban and Industrial Environments (MIT Press, 2002).

4.3.1 Non-timber forest products (NTFPs) as substitutes for industrial products

Nineteenth-century Bogotá was a city anchored in its past. Its cultural practices still reflected the ‘ritual atmosphere’ that came with the mediaeval ideas implanted by Spaniards during the conquest.³⁴ Contrary to many other countries, in Colombia industrial development proceeded slowly and on a rather small scale. Although it had increased since independence in 1819, trade developed slowly due to precarious infrastructural conditions worsening the city’s historical isolation.³⁵ Under these circumstances, most of the material elements consumed by people in Bogotá were extracted or produced locally and regionally using non-timber forest products (NTFPs) as raw materials. Therefore, these plants or products deriving from them were used in an incredible range of activities. In 1888, a journalist pointed this situation as shown below:

Many years will pass, centuries perhaps before cultivated Europe gains sufficient knowledge about the richness, variety and luxury of the Colombian plants. Was right the person who declared to have been found in the vegetal realm almost everything produced by humans around the world. Plants of nails, wire and springs; of wires, cords and cables, of vessels. Strong cups and spoons, [plants] of all diameter tubes, of candles, of liquors, of tills, and know not what more else, produced by our generous nature to make bearable the isolation in which we live; and to compensate in part the difficulties that do not allow us to be in contact with the large civilisation centres.³⁶

Colombia’s enormous biodiversity, relative geographic isolation, and underdeveloped national industry presupposed the prevalence of the use and exploitation of products coming from the wild. The Bogotans of the pre-modern city slept on mats made of *titora* (*Schoenoplectus californicus* subsp. *titora*) a semi-aquatic plant abundant in the *Tota* lagoon (20 km. away from the city). Also used as carpets, these vegetal mats were used to provide effective isolation against the chilly weather of a city located at 2,600 m a.s.l. in the Andean mountains (Fig. 4.11).³⁷ Plants were also used to produce garments.

³⁴ José Luis Romero, *Latinoamérica Las Ciudades y Las Ideas*, Historia y Cultura (Buenos Aires: Siglo veintiuno, 2014).

³⁵ Although Bogotá’s isolation has been widely accepted by historians, its confinement was rather relative. On the one hand, Bogotá was the centre of a huge network of paths that linked the Muisca’s territories with other regions; hence, the city became isolated after the conquest campaign when the local world was expanded and the administrative centre was located in Madrid. On the other hand, the poor physical conditions of trade paths and resulting long travel and communication times did not prevent the establishment of connections between Bogotá and the rest of the Western world.

³⁶ Ramón Guerra, “La Guadua”, *Papel periódico Ilustrado* (Bogotá), Oct. 1, 1888.

³⁷ The use of mats in Bogotá can be viewed as an example of cross-cultural convergence when compared with the Japanese *tatami* mats made of rice straws.

For instance, the so-called *sombrero de Panamá* (Panamá hat), a highly estimated piece of handcraft commonly worn by men, was made through the use of a vegetal fibre obtained from the *iraca* (*Carludovica palmata*), a middle elevation plant collected on the steep sides of Andes mountains. Similarly, people used the fruit of a gourd-like Asian plant called *estropajo* (sponge ground, *Luffa aegyptiaca*) as a sponge to clean bodies and dishes. Mops and brooms were also made through the use of plants. Likewise, bamboo sticks were used as tubes for water collection from public fountains in a city that long ignored the existence of hoses.



Figure 4.11. Gumercindo Cuellar, mats made of *totora* from the Tota Lagoon, ca. 1930, photograph. Biblioteca Luis Ángel Arango, Bogotá (Colección Fotográfica Gumercindo Cuellar 750719-2, r, Blaa.

Given the importance of the NTFPs in Bogotá's history, the following subsections briefly describe the uses of plants as containers, fences, and fuel and present a more detailed analysis of the wide use of plants as a construction raw material and source of lumber and firewood. The inclusion of these examples seeks to reveal the dependency of the pre-modern city on the human-plant relationship emerged in its out of sight green spaces.

4.3.1.1 Plants as containers

Plants were not only present in Bogotá's kitchens in the guise of vegetables used in the hybrid Colombian cuisine, they were also broadly used as kitchen utensils. Taking into account that the first pottery factory was not opened in Bogotá until 1833 and that there was not a single cutlery factory in Colombia during the first decades of the nineteenth century,³⁸ the simplest kitchen tools were derived from plants. Perhaps the most remarkable example is the use of *totumos* (calabash trees, *Crescentia cujete*), a low-land plant producing thick and durable fruit, in the production of spoons, plates, bottles, and cups. In a time in which glass was not a common material and plastic was far from being invented, *totumo* bottles were the most available vessel to carry and transport liquids. The traveller James Steuart left an interesting (and biased) description of the extensive use of *totumos* as cups and glasses:

Chicha is in general use. This is a peculiarly the drink of the poor, although I have seen even foreigners use it. It is kept in huge earthen jars, wrapped round with green hide to preserve it; it sells for about four or six cents a quart. A large *tituma* (sic) is filled, which is passed round from one to another throughout even a large company!³⁹

He also highlights how:

The coffee and the chocolate are not drunk with their meat, but immediately afterwards, and then the same small cup is made use as in the morning. The disgusting habit of a whole family using one red earthen goblet or a *tituma* (sic) in common for drinking from is universal prevalent.⁴⁰

Whereas *totumos* were used to transport small quantities of liquid, woven baskets were largely implemented for carrying various kinds of solid products. Much like modern plastic bags, woven baskets made of fibres or vine shoots were broadly used by the Bogotians. However, their most important role was probably at the market. Baskets were used as containers in which people from the countryside brought their merchandise to be sold at the Friday market in the main city square (see chapter 5). For instance, it was common to see people transporting hens or chickens in small fibre-made cages specially made for poultry (Fig. 4.12). Similarly, people who transported other NTFPs used woven bags to

³⁸ Prior to this first pottery factory known as '*Locería Bogotana de Nicolás Leiva*' both pottery and glass were imported from England, France and Germany making of this object sumptuous elements Martínez, the see: '*La vida material en los espacios domésticos*' 350.

³⁹ James Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months*, 152–53.

⁴⁰ Steuart, *Bogota in 1836-7*, 153.

bring their herbs or tree barks to Bogotá (Fig. 4.13). Moreover, baskets and vegetal woven bags were profusely sold in the market. With no other elements on hand to transport goods, these baskets and vegetal bags were quotidianly used by people carrying home the groceries they bought in the market.



Figure 4.12. Anonymous, Sellers with especial plant-made poultry cage, 1848, photograph, 13.8 x 9.6 cm. In: Dubail, C. and M. Dubai-Acero (eds). *Bourgarel, le Colombien: Voyages d'un diplomate français dans la Colombie du XIXe siècle* (Paris: EdiSens, 2017), 210.



Figure 4.13. Anonymous, fern seller-woman with a load, 1848, photograph, 11 x 17 cm. In: Dubail, C. and M. Dubai-Acero (eds). *Bourgarel, le Colombien: Voyages d'un diplomate français dans la Colombie du XIXe siècle* (Paris: EdiSens, 2017), 214.

4.3.1.2 Plants as hedges and fences

Before the introduction of barbed wire into the city, plants played a particular role in plot delimitation and as yard hedges and fences. Generally speaking, there were three basic types of property borders involving plants in the rural-like parts of Bogotá and its adjacent areas, the simplest of which was the stick fence produced from wood interwoven to form a wall. However, due to the constant lack of firewood in the city, these fences were not missed by thieves always looking for planks, sticks, or any flammable element for cooking.⁴¹ Consequently, it seems that the best method to keep away wandering cows, horses, thieves, and mischievous children trying to steal vegetables was the use of *pencas* (*Furcrea* sp. or *Agave* sp.). With their acute spines aligned along the borders of sword-like

⁴¹ Stealing wood from the fences appears to have been a rather generalised practice. See: *La Siesta*, 'El patio de los Milagros', Mayo 4, 1886, 27.

leaves, *pencas* were an extremely efficient fence that could only be crossed with the help of a sharpened *machete*.

Frequently used in the more rural environment of the surrounding Sabana, *saucos* (willows) were the most common physical border for plots. Planted in rows, they revealed the size and shape of each property. However, the existence of *saucos* as a land delimitation device appears to have been a rather subsequent development over the ancient way of land delimitation by digging. The excavation of ditches was also a common practice in colonial Bogotá and the neighbouring grasslands. Known as *chambas*, these long and deep holes avoided the movement of cattle among the pasturelands (*potreros*) and prevented animals from entering the roads and being lost forever.⁴² The high-water table level of *la Sabana* rapidly flooded the ditches, thereby creating a certain small aquatic ecosystem broadly used by frogs and ducks. Considering the *saucos*'s ability to grow from sticks, plus their predilection for flooding soils, these trees were widely used as hedges whose vertical development worked alongside with the *chambas* as distinctive spatial delimitators.

4.3.1.3 Plants as fuel

Another example of the importance of the out of sight green spaces in pre-modern Bogotá is related to transport. Given the lack of engines and the scarcity of lumber, plants, particularly grasses, were used as everyday fuel. Considering that the widespread African grass-feed species were not introduced into Colombia until the last decades of the nineteenth century, the cattle that served as beasts of burden had to be fed with native grasses such as *caña brava* (giant cane, *Arundo donax*) or sugarcane (*Saccharum officinarum*). Considering Bogotá's relative isolation, green-fuel as energetic food for animals was extremely important in many aspects of the city's daily life. Oxen, horses, and mules, for instance, were used in trading as well as the transportation of many raw materials involved in the physical construction of the city (e.g., lumber), and they also played a central role in the development of the urban transport system (see chapter 7). Without those native grass species and the later introduced African grasses, the isolation and the poor material-development of Bogotá, reeling upon bad-nourished animals and in the shoulders of human transportation, would have been even worse.

⁴² About the *chambas*, the Scottish born New York citizen James Steuart affirmed: 'The road to the city, from the moment you enter the plain, is as wide as a European turnpike, having on each side a ditch and turf dike for the purpose of confining the cattle.' See: Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months*.

However anecdotic this section may seem, what it aims to highlight is that all of these uses of NTFPs were driven by people with a particular botanical knowledge enabling them to know the perfect moment to pick the *estropajos* and *totumos* from their plants, what kinds of vines were suitable for the construction of baskets, how to avoid the agave blossoms that would kill the plant and thereby leave the *solares* and rural areas unprotected, or what type of willow branches were suitable for its asexual reproduction. This vernacular botanical knowledge enabled the animal keepers to know the perfect moment to cut the sugarcane to take advantage of their sweet juices, or prior to the intensive introduction of African grasses, what kinds of native species to use in order to feed horses or mules. Such vernacular botanical knowledges and practices have been only scantily represented in the pre-modern history of Bogotá; however, given their vital importance for the city functions, the following examples addressing housing construction and the firewood extraction have left more evidence to shed light on the underestimated human-plant relationship in Bogotá's pre-modern out of sight green spaces.

4.3.2. The NTFPs as raw materials in the construction of Bogotá's houses

To create a Spanish-like city, the conquerors had to take advantage of what was at hand. This meant to employ a native workforce: people embodying vernacular building practices, which included a knowledge-set of the natural resources involved in construction. Consequently, although the colonial city was eminently a European project, the truth is that it had to be developed using local people's building knowledge, which largely involved a deep botanical knowledge of plants used as a construction raw materials.

Beyond the evident use of timber, colonial building construction demanded significant amounts of other types of vegetal raw materials. The bamboo-like *chusque* (*Chusquea scandens*) and the *pajonal* (*Calamagrostis effusa*) played prominent roles in the construction process. From the latter, the Muisca produced a highly-resistant braid known as *cuan* used to join *chusque* rods and in doing so, roof both natives' and conquerors' houses (Fig. 4.14).⁴³

⁴³ *Cuan* is the Spanish translation of the muisca word *pquamne* that literally means *cord of straw*. See: <http://muisca.cubun.org/MU/cuan>



Figure 4.14. Up: Chusque and pajonal cord (*cuan*). Author's image, refurbishing process of the 16th century convent of Santo Domingo, Tunja, 2017. Down: *cuan* net as part of the roof in a sixteenth-century house. Author's photographs

Although economic constraints imposed serious limitations on the urbanisation process, due to their physical resistance and the durability, the *chusque-cuan* couple was used each time a new house or public building was built (Fig. 4.14). Thus, the transplantation of the colonial house originating in Spain, which was inhabited mainly by Spanish or Spanish descendants (known as *criollos*), was made possible thanks to the accumulated botanical and architectural knowledge used in the construction of indigenous people's spaces.

The outstanding physical characteristics of *chusque-cuan* roofs also enabled this building technique to be integrated into the city's material transformation under modernisation, as evidenced by the presence of *cuan* and *chusque* in a construction list published in the *Anales de Ingeniería* (Engineering Annals) in 1887. The list reveals that among many other construction raw materials such as timber or nails, *chusque* was sold in parcels of twenty-five pairs and a package of twenty-five pairs of *cuan* fibre were sold for twenty-five pesos.⁴⁴ Some years later, when Tomas Cipriano de Mosquera's government seized the Catholic Church's assets in 1906, he planned to build a new armoury inside the San Agustín Monastery. As part of the requirements to accomplish the building, the engineer, a Mr. Jaramillo, requested 880 packages of *chusque* and the same quantity of *cuan*. Each of those packages was composed of twenty-five pairs of *chusque* sticks and twenty-five *caun* braids; thus, the overall number of those two vegetal products required for the armoury construction was around 20,000! This figure suggests a steady high level of exploitation of *chusque* and *pajonal*, therefore implying an intensive alteration of their natural populations, which likely enormously affected the *páramo* and cloud-forest ecosystems where *chusque* and *pajonal* respectively develop.⁴⁵

Despite the high quality of the native materials used in the construction of Bogotá, the consolidation of modern ideas brought about a scorn for the city's Hispanic heritage and the consequential abandonment of colonial ways of building, and the French-like paradigm became the model of progress. Modern architecture meant not only new building styles but also the use of new materials such as cement, which was first introduced in 1881, and

⁴⁴ Julián Lombana y Francisco Ayala. Precios de los materiales de construcción en la ciudad de Bogotá. *Anales de Ingeniería* 1, no.1 (Agosto, 1887). 32.

⁴⁵ Arsenal y parque que se proyectó construir en el edificio de San Agustín, 20 Octubre 1906. Tomo 857 (parques, plazas y jardines), folio 285-7, Sección República, Fondo Ministerio de Obras Públicas. AGN.

Pre-modern green spaces

perceived as one of the traits of progress.⁴⁶ The technological transformation during the last decades of the nineteenth century would forever replace the autochthonous techniques of the pre-Columbian vernacular architecture, at least in the homes and buildings of the ruling classes and other elites. Thus, along with the desperate attempts to erase the colonial past emerged another contradiction: the end of the conqueror era meant the erosion of some of the Muisca cultural traditions and knowledge that had previously survived among the upper and middle classes.

However, the modernising French architecture influx did not spread among all Bogotianians. The historically marginalised native American population continued applying certain traditional botanical and architectural knowledge in the construction of their houses. After centuries of spatial segregation in the *pueblos de Indios*, the Muisca's descendants gradually moved into Bogotá, carrying their building practices with them. Lacking the resources (or willingness) to build their own houses according to the modern styles, they applied vernacular techniques and vegetal raw materials such as *chusque* and straws to build their own houses. For instance, they used *chusque* as a sort of structural skeleton in the construction of mud walls in the so-called *casas de bahareque*. Straw, coming from the same *pajonal plant* or wheat plantation leftovers, was not used in the fabrication of *cuan* braids; rather, it was devoted to roof construction. Overall, this process produced the *casas pajiza* (thatched huts) that have been historically synonymous with poverty.

The high levels of poverty present throughout the history of Bogotá led to a process in which suburbs formed of thatched huts slowly surrounded the traditional colonial city. However, the physical creation of the today's so-called *poverty belts* not only owes their existence to the systematic social exclusion present in Bogotá, these marginal spaces were also to a certain extent possible due to the people responsible for searching, collecting, and transporting these raw materials into the city, people, that likewise, were among the poorest of the society (Fig. 4.12 & 4.13).

In short, the extensive use of *chusque*, *pajonales*, and other local plants in the construction of houses in Bogotá reflects a solid indigenous knowledge that was expressed not only in the people in charge of braiding the fibres and creating the roofs and walls, but also in

⁴⁶ Luis González, *Del Alarife al Arquitecto: El Saber Hacer y El Pensar La Arquitectura En Colombia: 1847-1936* (Medellín: OjoXojO, 2013), 172–79.

those who collected these plants. These plant collectors must have developed an incredible understanding of the local environments, which informed them of the most appropriate plants to use and their proper harvesting times. However, despite the importance of having a constant supply of NTFPs into the city, people dealing with these kinds of materials rarely ascended in the social hierarchy. Consequently, *chusque*, *pajonales*, and straw collectors, as well as *cuan* breeders and firewood seekers remained at the bottom of society. Since their knowledge did not involve other skills beyond the implicit knowledge of local ecosystems, they were not considered as crafters, which was a rather steady position with some material benefits, such as the chance to afford a house in the urban perimeter. Rather, the people in charge of procuring and transporting the raw materials employed in an endless range of daily activities in Bogotá were largely excluded from the city; as a consequence, they carry on linked to small indigenous towns closer to the source of the NTFPs carried on their backs to Bogotá's Friday market.

4.3.3 Firewood and lumber. The historical lack of trees in Bogotá

Whereas the exploitation of NTFPs did not lead to significant destruction of the forests close to Bogotá, the extraction of wood, particularly for firewood and lumber, had a massive impact on the nearby plant communities. This final section examines the large-scale impacts of the city's functioning on its neighbouring forest and wild areas. In overviewing the ecological conditions around Bogotá before the modernisation process, this section helps to understand how the transition towards modernity involved vast transformations in the peri-urban ecological conditions. In doing so, this section offers the bases to understand how, as presented in chapter 7, the modernisation of Bogotá entailed a shift from *ethnobotanical* practices to *technobotanical* ways of using plants around the city.

4.3.3.1 The pre-Columbian state Bogotá's forests

When Spanish conquerors arrived at the highland plateau where Bogotá would be founded, they found a well-organised and hierarchical civilisation, whose people they called *los moscas* (flies), because of the enormous population that they perceived as swarming around the region. Despite the implicit difficulty of calculating the pre-Colombian indigenous population in any region of the 'New World',⁴⁷ the chronicler Joaquin Acosta

⁴⁷ Scholars have made many interesting contributions concerning the native American population at the time of the European conquest; see for instance: William M. Denevan, *The Native Population of the Americas in 1492* (Univ. of Wisconsin Press, 1992); William M. Denevan, 'The Pristine Myth: The Landscape of the Americas in 1492,' *Annals of the Association of American Geographers* 82, no. 3 (1992): 369–85; William

estimated that 1,200,000 Muisca were living in an area of 600 square acres at the time of the contact between Americans and Europeans.⁴⁸ This large population engaged in intensive use of natural resources. In 1547, Miguel Daza de Armendariz wrote to the Spanish King that within the 32 leagues separating the towns of Velez and Tunja, ‘there are not four (leagues) that do not present signals of maize or potatoes culture (...) or beans, cotton or coca’.⁴⁹

However, the Muisca’s territories were not environmentally homogenous. Their social organisation was structured through the matriarchal lineages, and familial groups known as *cacicazgos* were scattered across the Muisca’s territories. Those organised clans were further structured into confederations, and their use of the environmental resources took advantage of the different climates in the mountains of their territories. Through a practice named microverticality,⁵⁰ the people of a particular *cacicazgo* living in the cold highland plateau could reach the arable land in the lowest parts of the mountains in a one-day round trip and thereby have access to a large range of products. Moreover, each *cacicazgo* developed an economic specialisation based on the available resources in its territory. Therefore, whereas the indigenous settlements of Fosca and Pasca near the cold *páramos* hunted deer and rabbits, people from the north side of the Muisca’s territory near the *Chicamocha* river grew coca leaves, yuca, potatoes, and other crops. Similarly, people in other regions exploited salt or coal mines. All of these products were inserted in a large net of trade based on commodities exchange between the *cacicazgos* as well as with the indigenous groups of other regions.⁵¹

The spatial distribution of the Muisca’s economy also encompassed differential access to forestry resources. Some activities highly-demanding of wood such as pottery production, salt production through the evaporation of salty water, or later, the construction of Catholic churches and other buildings in the early colonial period, extensively relied on the use of

M. Denevan, ‘Carl Sauer and Native American Population Size,’ *Geographical Review* 86, no. 3 (July 1, 1996): 385–97, <https://doi.org/10.2307/215502>.

⁴⁸ Ernst Röthlisberger, *El Dorado: Estampas de Viaje y Cultura de La Colombia Suramericana*, Edición facsimilar de la primera edición Colombiana, vol. I, Apuntes Maestros (Bogotá: Universidad Nacional de Colombia. Rectoría, 2016), 170.

⁴⁹ Juan Freide, *Documentos Inéditos Para La Historia de Colombia (1509-1550)*, vol. VIII (Madrid: Arco, 1955), 308; Carl Langebaek, *Mercados, Poblamiento e Integración Étnica Entre Los Muisca Siglo XVI*, Colección Bibliográfica (Bogotá: Banco de la República, 1987), 58.

⁵⁰ Langebaek, *Mercados, Poblamiento e Integración Étnica Entre Los Muisca Siglo XVI*.

⁵¹ Langebaek, 47–102.

large amounts of local wood. Nonetheless, at least in particular areas on the highland plateau, the wood supply was not seriously affected by the indigenous economic activities developed prior to the conquest.⁵² However, due to the ecological diversity of the Muisca territory and, perhaps because of some distinctive cultural practices of each *cacicazgo*, the lack of wood was recognised as one of the most significant environmental constraints in settlements such as Tunja and Bogotá.⁵³

Gonzalo Jimenez de Quesada, who is officially recognised as the ‘father’ of Bogotá, highlighted the city’s abundance and fertility in a declaration during the official founding ceremony.⁵⁴ However, the site was likely not chosen to be the main administrative centre of the entire Spanish colony of Nuevo Reino de Granada, which encompassed provinces across the northern part of South America, due to its implicit environmental richness, but rather for political reasons. As demonstrated in many other cities all over America (e.g., Mexico City or Cuzco), the Spaniards superimposed their cities on highly populated native settlements with strong vertical political structures, generally ignoring the environmental consequences of new ways of understanding the local resources. Accordingly, problems around the firewood supply emerged rather early in the period of Spanish colonisation during the first decades of the sixteenth century. In an early description of Santafé (Bogotá’s original name) published in the *Relación de Popayan y del Nuevo Reino 1559-1560*, its anonymous author highlights how the city was located in a ‘very chilly valley, lacking wood, which must be brought from six leagues away from this Spanish settlement’.⁵⁵

The lack of trees in Bogotá would be a constant in the city’s history. Already evident in early colonial times, the city’s barren landscape was a constant among the accounts written by travellers visiting the city throughout the nineteenth century. When the Scottish traveller James Steuart reached the Bogotá plain in 1836, he described:

⁵² Langebaek, 98.

⁵³ Although the Bogotá’s colonial name was Santa Fé, I use the same name to avoid confusion among the reader not familiar with the local history of the city.

⁵⁴ In words of the Spaniard Chronicler Juan de Castellanos, in the foundational act of Bogotá, Gonzalo Jimenez de Quesada pronounced the following poem: ‘*Land of gold and well supplied / Land to build an eternal house/ Land of abundant food /Land of big civilizations /Plain land of dressed people (...) /Holy land, calm and serene / Land that puts end to our sorrow*’. See: Juan De Castellanos, *Elegias de Varones Ilustres, Canto IV*, vol. II, II vols. (Bogotá: Biblioteca de la Presidencia de la República, 1955).

⁵⁵ Anónimo, *Relación de Popayán y Del Nuevo Reino de Granada, 1559-1560*, n.d.; Cristina Vanegas, ‘Los Pueblos de Indios y El Abasto de Leña de Las Ciudades de Tunja y Santafé, Siglos XVI y XVII,’ *Fronteras de La Historia* 20, no. 2 (2015): 92–122.

Pre-modern green spaces

The mist clearing away, we had a fine view of the whole plain (...) We saw a very fine field of barley here just in the ear, and another field of very short but heavily topped wheat. We passed here and there on the road some very comfortable-looking and capacious farmhouses; but the entire want of tress (there being nothing but a fungous sort of willow; shaped like the Lombardy poplar) gives the plain throughout an air of great dreariness and desolation, particularly after having travelled, as we had done, for months through a constant succession of beautiful forest.⁵⁶

In short, it could be stated that the ecological conditions, along with the historical use of resources demanded to cover the needs of both the native and Spanish societies, led to a historical erosion of the woodlands near the city. As a consequence, since early colonial times, Bogotá and its surroundings have been recognised as a tree-less environment, a situation that would be paradoxically transformed when modern ways of understanding urban life led to systematic planting schemes in the city (see Chapter 5 & 7).

4.3.3.2 The firewood supply in Colonial and Republican Bogotá

The Spaniard domination over the Muisca was not only manifested in the enormous cultural transformations that occurred after the conquest, but also entailed domination over the Muisca's environments and their non-human actors. However, their control was executed using the previously developed indigenous knowledge over the territory and their plants. This situation is clearly illustrated through the establishment of a vassalage structure through which the Spaniard rulers ensured a constant supply of firewood. Known as *Mita de leña*, the scheme forced people from certain *pueblos de indios* to transport specific amounts of daily firewood loads into the city.

One of the most significant constraints faced by the *Mita de leña* scheme was the historical lack of large trees in the mountainous environments near Bogotá, which forced the indigenous people to undertake large trips to obtain the demanded firewood. For instance, records in 1593 reveal how the indigenous people of Teusacá (currently La Calera) travelled 24 km on foot to deliver firewood to Bogotá.⁵⁷ However, it seems that the middle-elevation woodlands beyond the Easter Hills and around the current towns of Cáqueza and Fómeque had an outstanding role in the supply of wood to the city. For example, the ledgers of one of Bogotá's most important *Mitayo de leña* (person in charge

⁵⁶ Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months*, 107.

⁵⁷ Langebaek, *Mercados, Poblamiento e Integración Étnica Entre Los Muisca Siglo XVI*, 99.

of the *mita de leña*) document how during the years 1616-27, he obtained thousands of firewood loads coming from the indigenous town of Ubaque, located 35 km away from the city.⁵⁸ The large distance between the woodlands and the city, the indigenous population's decline, and the permanent prohibition on native people's ownership of beasts of burden resulted in a constant renegotiation of the *Mita de leña*. The firewood supply scheme became less stable and rather inefficient over the years, with periods of excessive availability alternating with others of profound scarcity.⁵⁹

Despite these troubles, the consolidation of the colonial city led to the diversification of many daily life activities relying on a steady firewood supply. An example of this was the wood consumption in the production of *Aguardiente*. One of the most important alcoholic beverages of Bogotá, *aguardiente* was produced through the distillation of the sugarcane juices, which were later flavoured with anis. In contrast to *chicha*, the traditional alcoholic and 'barbarian beverage' of the native Americans made through the fermentation of maize grains, the production of *aguardiente* requires heat and, therefore, wood. In a report made by Isidro Lazzo, the outgoing manager of the Real Estanco (Royal Monopoly, a term used to denote the Spanish crown's control over various commodities), to his successor, Miguel de Galves in 1770, Lazzo enumerated all the raw materials purchased to produce the *aguardiente*, including 17,475 earthenware pitchers and one *totuma* of honey, 1,030 arrobas and 8 ½ pounds of anise, and 17,177 and a half *carga* of firewood.⁶⁰ Although the time period during which this firewood was obtained is unspecified, the liquor factory's high demand clearly had large implications on the consumption of the forest resources beyond Bogotá's mountains, and therefore a transformation in the out of sight green spaces of the colonial city.

The city's consumption of firewood increased throughout the nineteenth century. For instance, by 1868, the Colombian Mint used a considerable amount of firewood in water distillation to obtain something named as 'normal solution' used in the elaboration of

⁵⁸ Quadernos de pago de leña que hace Pedro de Vergaño, 1616-27. 35,D.3, folio 10-24, Sección Colonia, fondo Caciques e Indios, AGN.

⁵⁹ Quadernos de pago de leña que hace Pedro de Vergaño, 1616-27. 35,D.3, folio 10-24, Sección Colonia, fondo Caciques e Indios, AGN.

⁶⁰ Consumo de mieles, leña y anises en el Real Estanco de Santafé, 1770, Sección Colonia, fondo misceláneas: SC 39, folios 515-518, AGN.

coins.⁶¹ However, beyond punctual activities as presented in the case of the national mint, the city's kitchens were the final destination of a large number of trees turned into logs used for cooking. As late as 1870, the 40,883 inhabitants of Bogotá relied on firewood or coal for cooking their meals, and their demand was supplied by indigenous people who sold sticks and trunks in the so-called *mercados de maderas* (wood markets). Although it is impossible to accurately track the amount of wood consumed by each household, the continuous cutting of public trees and the existence of this market suggest that the circulation of this resource was highly intensive, which would have large repercussions on Bogotá's nearby environments.

Ongoing requirements for firewood and coal in Bogotá led to the systematic exploitation of these resources, which required a continuation of the extractive dynamics established with the *Mita de leña* scheme into the late nineteenth century. However, following the colonial period, the people responsible for the wood supply were not the Muiscas, but rather their descendants, impoverished rural-dwelling mestizos (*campesinos*), who continued this traditional pattern of subsistence (Fig. 4.15). As was the case for the people trading NTFPs, those in charge of selling firewood had to face the arduous conditions presented by the wild mountain environments close to Bogotá.⁶² In his book *Bruna la Carbonera* (Bruna the coal-maker woman), Eugenio Díaz Castro explained the environments faced by the novel's protagonist:

Toward the East, on the top of the Monserrate and Guadalupe mountains, there is a huge extension of land covered by scrublands. From there, the coal and firewood sellers obtain their subsistence products that supply of combustible the city. The vegetation of those mountains, barren at first glance, diminish gradually until the hills covered by *pajonales* and the sad *frailejon*. This is the end of the vegetal realm.⁶³

In that context, it is important to highlight that by the end of the nineteenth century, whilst some illustrated Bogotianians were making plans to create an organised and European-like

⁶¹ Talones de Vales, Septiembre 1868. Placed in Db 306. Archivo Histórico Casa de la Moneda. Banco de la República, Bogotá, Colombia.

⁶² It is important to mention that until the first decades of the twentieth century, forests and other wild places were thought to be inhabited by demons. The Romantic idea of nature as a representation of divinity reached Colombia late as a result of its delayed modernisation. See: Edgardo Pérez, *La Obra de Dios y El Trabajo Del Hombre: Percepción y Transformación de La Naturaleza En El Virreinato Del Nuevo Reino de Granada*, 1ra ed., Colección Bicentenario de Antioquia 32 (Medellín: Universidad Nacional de Colombia, 2011).

⁶³ Eugenio Díaz, *Novelas y Cuadros de Costumbres: Bruna La Carbonera*, vol. II (Bogotá: Procultura, 1985), 2.

nature in the city through the establishment of parks, a larger number of people worked daily in the forests and *páramos* to supply the basic needs of a city that, despite conceiving itself as modern, was strongly attached to the indigenous and medieval cultural roots developed in colonial Bogotá.



Figure 4.14. Anonymous, Firewood seller, 1848, photograph, 11.4 x 16.6 cm. In: Dubail, C. and M. Dubai-Acero (eds). *Bourgarel, le Colombien: Voyages d'un diplomate français dans la Colombie du XIXe siècle* (Paris: EdiSens, 2017), 213.

4.4 Conclusion

This chapter has described the pre-modern green spaces existing in Bogotá from the colonial period to the end of the nineteenth century, thereby illuminating the initial stage in which interactions between humans and plants changed as part of the city's modernisation. In doing so, this chapter has applied a scalar analysis to present relations between spaces, people, and plants within both the built environment and the *out of sight* green spaces of Bogotá. Initially focused on the human-plant interactions in domestic spaces, section 4.2 described various types of plants and their uses in places such as *patios* and *solares*. That section revealed how whereas *patios* were mainly used by the house's mistress, who engaged in a close relationship with ornamental plants, *solares* were mainly used by servants, who grew medicinal and edible plants. These findings have revealed how the

Pre-modern green spaces

upper-class houses in the nineteenth-century Bogotá exhibited two kinds of small-scale environments embodying contrasting symbolic and material characteristics.

Zooming out the scalar analysis, section 4.2 also shed light on the usually ignored spontaneous flora thriving in residual areas such as abandoned houses and *solares*, undeveloped plots, meadows, and paddocks, along with transit areas such as streets and paths. By examining these unattended green spaces, the section has revealed how the lack of maintenance of some urban places brought about the co-existence of plants of diverse origins. Residual and transit places, then, resulted in a sort of botanical palimpsest composed of cosmopolitan *urbaniphilous* species encompassing edible plants, fruit trees, ornamental plants, and weeds alongside the native species that evolved in Andean ecosystems.

As a final stage of the scalar analysis, section 4.3 illuminated the relationships between the pre-modern city and its hinterland by elaborating on the systematic use of plants of the nearby out of sight green spaces of Bogotá. The city's enormous dependence on plants was exemplified through the key role of non-timber forest products (NTFPs) in the functions of daily life. Section 4.3 also highlighted the importance of the out of sight green spaces as places containing non-cultivated plants used as building raw material, firewood, or lumber. Regarding the people involved in the supply of these vegetal products, this chapter examined the close relationship between the exploitation of plants around Bogotá and the social exclusion prevalent in the city. Based on the vernacular botanical knowledge that enabled the poorest to take advantage of the nearby ecosystems, these socially excluded people became a critical link between the built environment and the plants growing in the mountains beyond the eyes of Bogotá's citizens.

This chapter has revealed the heterogeneous characteristics of urban nature. The scalar analysis presented herein demonstrates that rather than being homogenous units with clear margins, the urban green space is comprised of diverse and interacting discrete planted areas. However, it has been revealed that the diversity of green spaces is not only a manifestation of local environmental variations (e.g., *páramos* or cloud forests) or the inner diversity implied in a culturally and genetically mixed society such as Bogotá, the diversity of the green space can also be explained through the social inequalities that had deep consequences on the shapes acquired by human-plant interactions. Therefore, whereas women of Bogotá's upper-class living in spacious houses with *patios* and *solares* had a relationship with plants based on ornamentation and aesthetic joy, their servants

were physical labourers involved with plants bound with the organic functions of the human body. On the other extreme of the social spectrum, excluded people established contact with plants growing at the margins of the built environment. Responsible for supplying the city with various kinds of plant products, they had very particular ways of understanding the plants of the forest and the *páramos*, thereby, the constant work of the poorest in those out of sight environments made of them particular kinds of green spaces of social and ecological exclusion and exploitation.

V

THE CREATION OF THE MODERN GREEN SPACES AND THE CONTROL OF CITIZEN BODIES IN BOGOTÁ

-The nineteenth-century man has become pulmonal.¹

5.1. Introduction

In early nineteenth-century Bogotá, human-plant relationships were natural expressions of the city's social organisation. Hence, the ways that people perceived, used and performed with plants was clearly differentiated across environments (e.g., in patios vs. woodlands). Combining the concept of hybrids and cyborgs with reflections about biopolitics,² this chapter will reflect about how the modernisation of Bogotá entailed a new kind of human-plant hybrid in response to the adoption of new ideas on how to build and live the city. In doing so, it will address the scientific and ideological symbolic machinery that, in seeking to create a particular type of citizen, also tended to create homogenous green spaces. It will highlight how this process was possible due to the pulmonal nature acquired by the nineteenth century person, and how this mindset transformed humans and plants into a conflictive cyborg. Ensembled as a result of scientific and political speeches and writings promoting them as filter-like organic devices, plants acquired a prominent role in the physical and moral strengthening of the city's ill and degenerated citizens.

This chapter is divided into four sections. Section 5.2 will address the hygienic conditions of nineteenth-century Bogotá and how that period's medical perspective positioned plants as important elements in the moral and physical improvement of both the city and the bodies that inhabited it. Section 5.3 will explore the creation of the first planned green spaces in Bogotá. This section will elucidate how the systematic production of floras was initially created through the transformation of the city's colonial squares into gardens, and

¹ Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (New York: Vintage Books, 1975).

² On hybrids and cyborgs, see Donna Haraway, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late twentieth century,' in *Simians, Cyborgs and Women: The Reinvention of Nature* (London: Routledge, 1991); Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (London: Athlone Press, 1988); Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford ; New York: Oxford University Press, 2005). On biopolitics, see Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979: Lectures at the Collège De France, 1978-1979*, ed. Arnold I. Davidson, trans. Graham Burchell, 2008 edition (New York: Palgrave Macmillan, 2010).

how this change brought about a series of social transformations in the daily lives of those places. Section 5.4 will examine how besides being used as hygienic devices, the new gardens and parks were also symbols of modernity, where people embodying pre-modern and ‘uncivilised’ manners were not always welcomed. Linked to this, Section 5.4 will also reveal how asylums, orphanages, and hospitals regarded plants as an essential part of the re-construction and normalisation of human bodies incarcerated within them. In these institutional spaces, plants and gardens were used not only as essential elements of a healthy environments, but also as opportunities for physical activity, since horticultural and gardening works were understood as a way to strengthen the moral and physical conditions of those bodies.

5.2 Hygienic conditions in Bogotá and ideas around disease

To elucidate the reasons underlying the adoption of plants as urban elements in nineteenth-century Bogotá, it is first necessary to introduce the social and environmental context in which these urban transformations occurred. Accordingly, this subsection will present the problems associated with the hygienic conditions of the city and how ‘bad airs’ ideas on the origin and cure of diseases turned doctors into ‘city planners’ who largely relied on plants as therapeutic organic devices.

5.2.1 Hygienic conditions in Bogotá

The post-independence period in Latin America brought about massive social, political, cultural, and environmental transformations, among the most significant of which was the drastic increase in urban populations. For example, Bogotá’s population grew four-fold between 1851 and 1912 (Fig. 5.1). However, contrary to what happened in other capitals such as Rio de Janeiro or Buenos Aires,³ the economic constraints inherited from the colonial era forestalled an urbanisation process that could properly host the city’s growing population. Without the resources to undertake housing solutions and infrastructure projects, the city became more compacted rather than expanding. Consequently, the

³ Rio de Janeiro, for example, had several large urban transformations: overwhelmed by Napoleon I, King Juan VI of Portugal relocated his royal residence to Rio de Janeiro. In order to bring royal splendour to the Brazilian city, French urban planners such as Auguste Grandjean de Montigny and Auguste Glaziou opened new streets and refurbished others, as well as creating new squares and parks. See: Francis Korn and Lidia de la Torre, ‘La Vivienda En Buenos Aires 1887-1914,’ *Desarrollo Económico* 25, no. 98 (Julio 1, 1985): 245, <https://doi.org/10.2307/3466807>; Romero, *Latinoamérica las ciudades y las ideas*, 223.

colonial built environment was used to host a modern way of life, thus creating an overcrowded and worsening environment for the city's inhabitants.

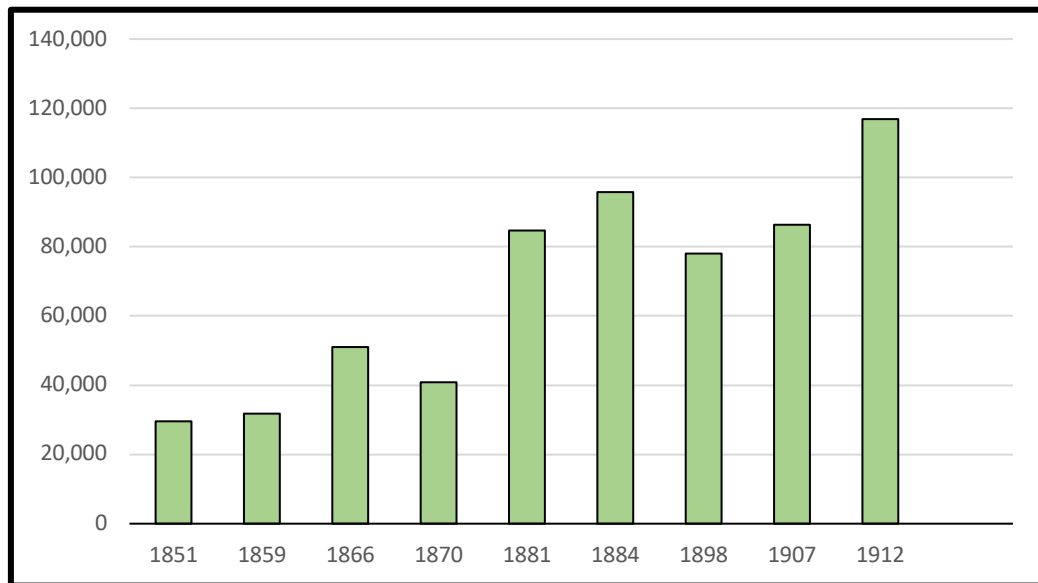


Figure 5.1. Population growth in Bogotá from 1851 until 1912. Base on: Mejia Germán, *Los Años del Cambio*, 230.

The accounts of nineteenth century travellers reveal the typical colonial nature of Bogotá as a city formed by single-storey constructions of white houses with reddish-tiled roofs. For instance, the American botanist Isaac Holton Isaac wrote in 1852: ‘As we arose [Monserrate Mountain], the plain opened out beneath us, and the city displayed itself as in a map. It is anything but a beautiful sight, for you to see but little except tiled roofs, and the ugly towers of churches’.⁴ This scene remained throughout the second half of the century, as the built environment of the city did not undergo any large physical transformations. In 1883, when the city was in the midst the modernisation process, British traveller Rosa Carnegie-Williams described the view of Bogotá from the base of the *Cerros Orientales*: ‘the city was at our feet, with its red-tiled roofs, its dirty and narrow streets, and its citizens (to my eye) wonderfully dressed’ (Fig. 5.2).⁵

⁴ Isaac Holton, *New Granada: Twenty Months in the Andes*. (Scholarly Publishing Office, University of Michigan Library, [1857] 2006), 72.

⁵ Rosa Carnegie-Williams, *Un Año En Los Andes, o, Aventuras de Una Lady En Bogotá*, Colección Viajantes y Viajeros (Colombia: Academia de Historia de Bogotá, 1990), 70.



Figure 5.2. Jean Baptiste Louis Gros, Calle del Observatorio, 1842, daguerreotype, 19.8 x 14.7 cm. In Levine R., *Images of History. 19th and 20th century Latin American photographs as documents*. (London: Duke University Press, 1989), 14.

Carnegie-Williams' description reflects the image of Bogotá as a small and compact colonial city; however, it also highlights one of its most significant problems: the deficient hygienic conditions. The growing population of Bogotá occupied the same colonial infrastructure, thus causing terrible conditions in both public and residential spaces. An example of the former was the extremely dirty conditions of the streets throughout the nineteenth century. An overview of the city during this period indicates that although some streets were stone paved, they were generally in very poor condition. As French traveller Jorge Brisson observed in 1899, 'The streets are generally in an unbearable state, bad stone-paved, dirty most of the times, plenty of holes, mud and filthy'.⁶ Added to this, free-roaming animals and those used to transport Bogotá's wealthy residents in carriages and similar conveyances filled the streets with excrement and urine.⁷ However, what seems to have contributed most to the low levels of cleanliness of the streets was the lack of a proper sewer and drain system. Due to the lack of any other place to deposit their human

⁶ Jorge Brisson, *Viajes Por Colombia En Los Años 1891 a 1897* (Bogotá: Imprenta Nacional, 1899), 158.

⁷ Germán Mejía, *Los Años Del Cambio. Historia Urbana de Bogotá, 1820-1910*, Segunda edición, Colección Biblioteca Personal (Bogotá: CEJA Pontificia Universidad Javeriana Instituto Colombiano de Antropología e Historia, 2000), 139–41.

faeces, streets were used as public latrines,⁸ as was described by Sir James Steuart in 1836 when writing about the waters from the mountains that passed across the city:

the smaller streams [of the city], which run down from the fountainheads, and merely follow the indented pavement in the centre of the streets through which they flow, are an immense value to the citizens, as they empty into them every kind of filth and offal; the poor make their toilet by them...⁹

As a consequence of this behaviour, the streets of Bogotá were fetid places, particularly during the dry season, when the currents of the small rivers that crossed the city were considerably decreased, leaving rubbish and excrement on the streets. The aftereffect of these practices, which were mostly undertaken by the poorest members of the population, who lacked access to latrines or the water supply, was common outbreaks of gastrointestinal diseases, in some cases fatal, such as the typhus outbreaks of 1887 and 1889.¹⁰

The filthy street conditions, however, were a public expression of what was happening inside the buildings of Bogotá. Despite the constant bucolic descriptions of Bogotá produced by travellers, the colonial-like city was experiencing an internal transformation. In order to host its increasing population, colonial houses became split into two sections,¹¹ such that whereas *the family* owners lived in a well-isolated and cleaner first floor, the ground floor was subdivided into small rooms called *tiendas*.¹² The *tiendas* were occupied by the poorest city citizens, and as their inhabitants did not have access to the inner patio, their only source of light and ventilation was a single door opening into the dirty street. In

⁸ Estela de la Merced Restrepo Zea, *El Hospital San Juan de Dios 1635-1895: Una Historia de La Enfermedad, Pobreza y Muerte En Bogotá* (Bogotá: Universidad Nacional de Colombia. Facultad de Ciencias Humanas. Departamento de Historia. Centro de Estudios Sociales (CES), 2011), 260.

⁹ Steuart, *Bogota in 1836-7: Being a Narrative of an Expedition to the Capital of the New-Granada and a Residence There of Eleven Months*, 134.

¹⁰ Restrepo Zea, *El Hospital San Juan de Dios 1635-1895*.

¹¹ Mejía, *Los Años Del Cambio*, 147–51.

¹² The confinement of poor people in ancient colonial houses transformed in order to host them was a common practice in the main Latin-American cities. Such big houses hosting poor people were called *vecindades* in México City and *conventillos* in Buenos Aires. However, one significant difference between the *tiendas* in Bogotá and those homologous places in other cities was the interactions between the same class people in the patios. Whereas the marginalised people of Mexico or Buenos Aires gathered as a political and social manifestation in the patios, in Bogotá, the poor people did not have those spaces of social display. As a result, the poverty in Bogotá was eminently a lonely way of life, although the *tiendas* were usually shared by many people. In the case of México City, see Mauricio Tenorio, *I Speak of the City* (Chicago: University of Chicago, 2012), 64–76.

1852, the already mentioned botanist Isaac Holton gave an interesting account of the situation:

Look at the houses. None are more than two stories; most are but one (...) The poor live on the ground floor of the two-story house, in tenements of one room, with no access to court or yard. It seems incredible, but they have none of the outbuildings or domestic conveniences thought necessary elsewhere. There are not sewers —no drainage— and the ground floor are generally damp; hence the second floors are occupied by the rich, and so the extremes meet.¹³

Although descriptions of the domestic spaces occupied by the city's poorest citizens were extremely rare, Holton went further in his narration, giving an account of the single-roomed home inhabited by the washerwoman in charge of cleaning his garments:

She lives in a tenement on the ground floors of a casa alta. Cold as the weather is in Bogotá, the door is open to admit some light, for she has no glass. To prevent intrusions of prying eyes, a screen —manpara— is placed before the door. It is too high for a five-foot Indian to look over, and placed just so that we can run round it. The little room looks like a prison cell, only it has no grated window, nor loop-hole, nor-breathing-hole, except the open door. Within is an inner cell, smaller than the outer, with no door, and all its light and air comes from the outer door. A table as large and as high as an ottoman, a low stool, the seat of which is made of two equal surfaces descending to the centre like a trough, two or three little earthen dishes, the poyo or immovable seat built around the walls, pieces of raw-hide or mats for beds, and the mampara, are all her furniture. The washtub? It is in the river. The ironing apparatus? Another woman does the ironing.¹⁴

The housing problems of Bogotá were severe to the point of endangerment. For example, in 1890, the city had 10,000 buildings, 900 thatched huts and a population of 100,000 inhabitants. Those figures suggest that, on average, each of those buildings were inhabited by at least nine people.¹⁵ Overcrowding of this magnitude in a city with poor infrastructure in terms of sewers and without a proper water supply resulted in a constant presence of tuberculosis, typhus, smallpox, measles, and dysentery, as well as other contagious and non-contagious diseases.¹⁶ The poor health conditions in Bogotá were reflected in the mortality rate; in 1865, 1,074 people were born in Bogotá; however 1,078 people died in the same year. Despite the high mortality rate, a steady migration process led to an overall

¹³ Holton, *New Granada. Twenty Months in the Andes*, 50.

¹⁴ Holton, *New Granada. Twenty Months in the Andes*, 58.

¹⁵ Julio Vergara y Vergara, *El Desarrollo Urbano de La Capital. Las Obras Del Cuarto Centenario* (Bogotá: Editorial Nueva, 1936), 6.

¹⁶ Restrepo Zea, *El Hospital San Juan de Dios 1635-1895*.

increase in Bogotá's population during the nineteenth century.¹⁷ Consequently, although its modern innovations such as electric energy and theatres made Bogotá the brightest and most alluring city in the country, its poor hygienic conditions and underdeveloped infrastructure ultimately made it little more than a *moridero*, 'a place to go and die'.

Another consequence of the city's population growth was the expansion of social exclusion. Bogotá became the destination for many coming from nearby regions, as people uprooted by independence wars quickly moved towards the city. However, the lack of industry and other economic activities meant that the migrant population struggled to find adequate living standards and generally faced harsh conditions.¹⁸ As the century progressed, there was a steady increase in poverty, which did not pass unnoticed by the traditional elites. The local press frequently published articles denouncing the presence of herds of 'immoral' beggars, ill people, orphans, and thieves on the city's streets. In an interesting intellectual effort to understand the origins of poverty in the city, Colombian lawyer and politician Miguel Samper, a member of the Liberal Party, published a small book titled *La Miseria en Bogotá* (1867), in which he decried how 'Streets and squares of the city are infested by thieves, drunks, vagabonds, lepers and even lunatics.'¹⁹ Certainly, as will be presented next, the increase of poor people was perceived by the traditional inhabitants of Bogotá as a cause of shame, and was perceived as a problem that must be solved in order to achieve the civilised status associated with the modern lifestyle.

¹⁷ Although Bogotá experienced an overall population increase over the course of the nineteenth century, German Mejía Pavony has shown how growth occurred through two different pulses, one between 1801 and 1848 and a sharper increase between 1870 and 1912. Germán Mejía, *Los Años Del Cambio* (Bogotá: Pontificia Universidad Javeriana, 2000), 227–55.

¹⁸ *By 1883 the all the capitalist production was represented by: six factories, eight banks, one insurance company, one theatre, twenty-one hotels, thirty official newspapers, one company of gas-based public illumination, one factory of glass, twenty presses, ten binding shops, sixty ateliers and shoe, fifty tailoring, forty saddleries, twelve watch shops, fifteen jewelleries, twenty-five smithy, twenty sheet metal shops, one hundred carpentries, twenty carpet ateliers, sixteen hairdressing shops, fifteen dentist, thirty pharmacies, twelve dressmaking shops, four photography shops, two lithographs, ten carving offices, two of sculpture, twenty-four of painting, some architects and endless masonries. Thirty-five commercial agencies, sixteen carriage agencies, twelve fretting agencies, two musical agencies, four mortuary agencies, four auction agencies, more than one hundred and fifty solicitors, fifty doctors and twenty engineers. See: Pérez, *Geografía General de Los Estados Unidos de Colombia y Geografía Particular de La Ciudad de Bogotá*, I:402.*

¹⁹ Miguel Samper, *La Miseria En Bogotá* (Bogotá: Universidad Nacional, [1898]1969).

5.2.2 The role of doctors as city-planners

As an assemblage of human and non-human actors immersed in the web of life, cities are dynamic manifestations of the bodies that inhabit them.²⁰ Nowhere was this more evident than with the production of the modern city during the nineteenth century. To solve the emergent urban social and environmental issues, the overcrowded, ill, and ‘degenerate’ city was put into the hands of doctors. The medical guild was regarded as the most important consultative body in terms of the organisation of urban space, and physicians’ knowledge was used as a guideline in the transformation of both urban spaces and citizens’ bodies. Hence, doctors have been reconsidered as the early planners of the industrial city.²¹

In their role as urbanists, doctors’ opinions spanned a range of urban topics. In Bogotá, for instance, the chief of police sent a letter to the *Sociedad de Medicina y Ciencias naturales* (Medical and Natural Science Society) in 1886 asking for guidelines to improve the moral and health conditions of the city. In response, the Society devised and carried out a series of investigative commissions to devise solutions to many of the city’s problems, including public water (latrines, river, sources and distribution of drinking water); street cleaning, including the collection of rubbish and dead animals; hygienic conditions within industrial and trade places such as pharmacies, taverns, bakeries, breweries, or stables; pornography; education; and the regulation of public spaces including marketplaces, cemeteries, hospitals, orphanages, jails, and *parks, gardens, and public promenades*.²²

The prominent role of doctors in decisions concerning the city reflects how the nineteenth century city was perceived as an expression of the human body and vice versa. As such, doctors were not only in charge of curing bodies through the prescription of medicines, they were also considered to possess expert opinions on the ways of building and living in the city. The following section will present some of the most significant factors that turned

²⁰ See: Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (London: Faber and Faber, 1994); Lloyd Jenkins, ‘Geography and Architecture: 11, Rue Du Conservatoire and the Permeability of Buildings,’ *Space and Culture* 5, no. 3 (August 1, 2002): 222–36.; Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford ; New York: Oxford University Press, 2005); Ignacio Farias and Thomas Bender, *Urban Assemblages: How Actor-Network Theory Changes Urban Studies*, Questioning Cities Series (London: Routledge, 2009); Jason Moore, ‘The Capitalocene, Part I: On the Nature and Origins of Our Ecological Crisis,’ *The Journal of Peasant Studies* 44, no. 3 (May 4, 2017): 594–630.

²¹ Jon A. Peterson, ‘The Impact of Sanitary Reform upon American Urban Planning, 1840-1890,’ *Journal of Social History* 13, no. 1 (1979): 83–103; Luis González, *Medellín, Los Orígenes y la Transición a la Modernidad: Crecimiento y Modelos Urbanos 1775-1932* (Univ. Nacional de Colombia, 2007).

²² P. Ibañez, ‘Sesión del 14 de junio de 1886’, *Revista Médica*, Jul. 20, 1886.

doctors into key actors in the construction of modern human-plant interactions and the resulting green spaces of power.

5.2.3 Cleaning tropical environments

Miasmatic ideas that stressed the role of the environment as the primary cause of disease were adopted (and updated) by social and natural philosophers during the Enlightenment. Intellectuals such as Montesquieu (1689-1755), Buffon (1707-1788) and Rosseau (1712-1778) argued that the environmental characteristics of given zones would determine the political, moral, physical, and intellectual traits of the populations living under those conditions.²³ Written mostly from a Eurocentric perspective, European populations and their environments were regarded as the most suitable for reaching moral and physical ‘progress’.

Accepting the ideas expressed by these fathers and grandfathers of the French Revolution entailed a significant contradiction in some Latin American countries. Whereas their politic ideals promoted the Creoles’ drive to seek independence from the Spanish crown, on the other hand, their determinist ideas about the environment condemned tropical countries such as Colombia to an endless state of savagery. Accordingly, enlightened environmental determinism was selectively assimilated by the elites in Colombia and other parts of Nueva Granada.²⁴ After all, they were born in a tropical country, and any acceptance of the complete influence of the natural elements upon human development would close the door on the social improvements sought by the enlightened Creoles. An example of this is Francisco José de Caldas’ publication *Del influjo del clima sobre los seres organizados* (On the influence of weather on the organised organisms), in which the author highlighted how the weather (understood by him as the combination of temperature, atmospheric pressure, mountains, rivers, winds, rains and food) could not be considered as a determinant influence. According to Caldas, ‘It is true that the weather has an influence, but only by enhancing or diminishing the stimuli of the machine (the body). Hence, our

²³ Jean-Jacques Rousseau, *A Discourse upon the Origin and Foundation of the Inequality among Mankind*. (London: printed for Rand J. Dodsley, 1761); Georges Louis Leclerc Buffon, *Buffon’s Natural History, Abridge. Including the History of the Elements, the Earth, and Its Component Parts... with a General View of the Insect World. Illustrated with Great Variety of Copper-Plates, Elegantly Engraved*. (Dublin: printed for P. Wogan, P. Byrne, A. Grueber, W. M’Kenzie, J. Moore and 8 others in Dublin, 1791); Charles de Secondat Montesquieu, *The Spirit of Laws*, A new edition. (London: printed for P. Dodesley, R. Owen, 1794).

²⁴ During the post-independence period the Nueva Granada was the political administration formed by today’s Venezuela, Colombia and Ecuador whose capital was Santa Fé de Bogotá

willing is free to embrace the good or the bad. The virtue or the vice will always be the result of our choices under all the temperature and in all latitudes.²⁵ However, when he reviewed the physical and moral traits of the country's populations, Caldas concluded that most lowland regions were not suitable for human development, which was possible only in the more European-like temperatures of the Andean regions: 'All the races have been defeated by the good influence of the weather. The inhabitants of our mountains differ to the ones at the bottom of them, having the first bright and determined personalities'.

Another example of the importation of environmental determinism is the eminent physician José Félix Merizalde's translation of Estevan Tourtelle's book from French to Spanish in 1828,²⁶ which Merizalde titled *Epítome de los elementos de higiene* (Epítome on hygienic guidelines). Used as a textbook in the study of medical practice in Bogotá, this work presents a compendium of ideas concerning health and disease produced by the end of the eighteenth century. The influence of the environment as a key role in the development of the physical and moral virtues of humans is highlighted among the book's most important ideas:

The personality of a given population is largely connected with the countries they inhabited. *The native from the Caribbean, born and raised in the forest, will not have the French urbanity and elegance.* The African, due to the excessively hot weather cannot have the strength and the vigour present in the nations of the north. The hot weather is not the only cause of inertia e indolence of their inhabitants. Soil fertility counts a lot. In fact, the savage in the north is more active than the African or the Caribbean as for the latter nature have given them everything. The ignorance and stupidity follow the same direction. What are the populations where the qualities of the soul are less developed? *Without any doubt are those where their non-cultivated trees provide them solution for all their needs...*[emphasis added]²⁷

²⁵ Francisco José de Caldas, 'Sobre el influjo del clima sobre los seres organizados', *El Semanario del Nuevo Reino de Granada* (Bogotá), Mayo 19, 1808.

²⁶ Doctor Merizalde seemed to be one of the most outstanding people in the Nueva Granada. After being received the medical instruction by José Celestino Mutis, in 1812 established and taught a Medicine seminar in the San Bartolomé school. Afterwards, in 1852, Isaac Holton described him as a 'venerable physician' with the 'most interesting private library I have seen in this country'. See: Pedro Ibañez, 'Memorias para la historia de la medicina en Santafé de Bogotá', *Revista Médica*, Sep. 20, 1882; Holton, *New Granada. Twenty Months in the Andes*, 78.

²⁷ Stevan Tourtelle, *Epítome de Los Elementos de Higiene o de La Influencia de Las Cosas Físicas i Morales Sobre El Hombre i de Los Medios de Conservar La Salud*, trans. José Merizalde (Bogotá: Imprenta de Pedro Cubides, 1823).

Such general ideas about hot weather and the exuberant vegetation of *non-cultivated trees* as a constraint on the development of physical and moral qualities were assimilated by the local doctors. For example, in his dissertation concerning the constant presence of fevers in the lowland regions of the Magdalena River basin, the doctor Luis Cuervo observed in 1886 that ‘Our hot weather, and especially in the vicinity of large rivers, where exuberant vegetation thrives in an always wet and condense atmosphere are the most suitable in the generation of miasmas, which founding weak bodies as the same consequence of the weather, thrive and multiply.’²⁸

Thus, the relation between bodies, civilisation, and weather posed a dual perception of the country. Whereas their more temperate weather made the mountain areas suitable for moral development and civilisation, the vast majority of the Colombian territory comprised lowland areas of hot weather with exuberant life forms was therefore susceptible to corruption. As the geographer and doctor Manuel Uribe Angel asserted in 1888:

In the high mountains (...) the effects of the physical elements multiply their actions to the infinite, usually given robustness and strength to the man who inhabits them. The opposite occurs in the extensive plains of the torrid zones. There its inhabitants are weaker and present notorious poor physiology. We argue that must not be the same medical treatment used for the people in the torrid zones than those applied to our Swede, Danish, Germans, Russians, Austrians, English and French compatriots, usually with more resistant organs than ours [emphasis added].²⁹

Ángel’s words are revealing, as they show how medicine dealt with bodies produced in the south which, in general terms, were considered weaker than those ‘stronger bodies’ produced in the north. The physician reiterated his predecessors’ views of the beneficial influence of mountains over human bodies. According this generalised idea, cities located in the Andean mountains could reach a certain level of development, and Bogotá’s own ‘favourable’ environmental conditions were celebrated by more than one traveller. For example, Jorge Brisson observed in 1899 that ‘The weather is rather cold (...), but once you see the pink colour of the inhabitants [skin] and their physical constitution, you can say it is healthy weather’.³⁰ Similarly, the French traveller Sr. Édouard-François André mentioned how travellers experienced a sort of mirage when they arrived to the plain

²⁸ Luis Cuervo, ‘Apuntes para el estudio clínico de las fiebres del Magdalena’, *Revista Médica*, Jul. 20, 1886.

²⁹ Manuel U. Ángel, ‘La medicina en la zona tórrida’, *Anales de la Academia de Medicina de Medellín* No. 4, febrero de 1888, 102.

³⁰ Brisson, *Viajes Por Colombia En Los Años 1891 a 1897*, 157.

where Bogotá is located: ‘He sees the building and houses of Bogotá shining from more than six leagues of distance with an incredible clearance’. André explains that this physical phenomenon was due to the clean atmosphere of the city.³¹

In short, the miasmatic ideas of disease produced in the 5th century BC and boosted during the Renaissance were adopted and expanded during the Enlightenment. Furthermore, these enlightened ideas of bad air and the strong influence of environments over organisms were extrapolated to moral traits, thereby imposing a dichotomic narrative whereby some environments were more adequate to host civilisation than others. However, despite having all of the characteristics supposedly required to achieve a certain level of human and material development, nineteenth century Bogotá was an isolated urban settlement, hounded by diseases and the scenario of an unprecedented social crisis. To explain this apparent contradiction of a pleasant environment with a growing ‘immoral’ and ill population, the bad air ideas were updated in terms of the ‘scale of the environments’ used to explain the source and spread of diseases. The concept of the environment as a critical element in the physiological constitution and the personalities of its inhabitants developed into a health and disease perception focused primarily on the moral traits of marginalised social groups. Geographical determinism thus became argued in terms of morality. With this turn, which in any case represented a continuation of bad air notions, certain groups of socially excluded people were blamed for the continued outbreaks of epidemic diseases, which, as will be presented later in this chapter, could be most effectively cured by the prophylactic characteristics of plants.

5.2.4 Plants as hygienic devices in Bogotá

After being extensively used as part of the modern urban transformations in many European cities such as Paris, the role of plants as an intrinsic element in the construction of healthy cities was imported from temperate countries in the north to tropical Latin America. In Colombia, for example, Genaro Valderrama, the General Inspector of Parks and Gardens of Bogotá, affirmed in 1868:

Here we have believed that cleaning some houses and streets, would be enough to keep the healthiness of the city. This is rather an insignificant palliative when there are many reasons for insalubrity in the populations. As a consequence, once

³¹ Édouard André, ‘La Vuelta al Mundo, Nuevo Diario de Viajes. La América Equinoccial (Colombia-Ecuador-Perú),’ in *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. I (1858-1876) (Bogotá: Villegas Editores, 2013), 234.

it is well known that vegetation is the most potent agent that works upon the public health, it must be undertaken all the possible efforts to increase the vegetation of the city since what we have in parks, and public and private gardens it is not enough for a population as the one we have in the capital.³²

Considering the hygienic role of plants in ameliorating the filthy conditions of Bogotá, the medical body endeavoured to spread the virtues of having plants as part of the city. Through their mass media magazine, the *Revista Médica de Bogotá* (Medical Journal of Bogotá), they regularly extracted sections of books published overseas addressing the importance of plants in cities. One telling example of this is the reproduction of the book entitled *Higiene Pública y Privada* (Public and Private Hygiene) published by the Spanish physician Francisco Javier Santero in 1886.³³ Santero remarked upon the hygienic properties of plants in urban environments:

Squares and promenades fill a real hygienic need. They are true chimeneas of breath in relation to the streets that end in them and, therefore, they create air currents that purify the atmosphere (...) Promenades must be formed by trees and not exposed to neither strong airs nor close to points that emanate miasmas or unpleasant smells. Those (promenades) must be multiplied in the centre and the urban borders (...) Trees influence the air composition given to it humidity, oxygen and ozone. However, the real importance of urban trees is its role as drainage trough their roots.³⁴

Santero's opinions do not only reflect the hygienic dimension of trees; he also provided guidelines to consider at the moment of planting trees on the streets. For example, he advises that 'streets with less than twenty-five meter-wide must not have trees', and recommends that planters 'take care that the tree's branches head the centre of the street and never toward houses'. Santero also mentioned a list of fourteen species fourteen suitable species of trees to be planted on the streets of *Spanish cities*.³⁵ Santero's guidelines for structuring urban nature reveal how in addition to city planners, doctors could be

³² Correspondence between Genaro Valderrama and Ministerio de Hacienda, 4 Abril 1897, folio 114, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

³³ 'Bibliografía. Higiene Pública y Privada', *Revista Médica*, Jun. 20, 1886.

³⁴ Francisco Javier Santero, *Elementos de Higiene Privada y Pública*, vol. II (Madrid: El Cosmos editorial, 1885), 13–14.

³⁵ For Bogotá, however, the discussion around the best kind of trees to be used on street, with very few exceptions, was a topic not addressed by doctors. As it will be presented in chapter six, the discussion about the best trees to be planted in Bogotá came during the first decades of the twentieth century as a response to the conflict emerged after the adoption of the eucalyptus as the typical urban tree.

considered among the first modern urban landscape designers and the first experts in urban forestry.

Doctors' opinions about trees were not limited to published extracts of books addressing this topic. In many cases, they played an active role in suggesting the most suitable places and species for tree planting in the city. For example, in 1889, the Medellín-based physicians Francisco Arango and Francisco Mejia proposed that trees be planted near the city cemetery to tackle the diffusion of gases toward inhabited areas.³⁶ Furthermore, the beautifying power of trees was highlighted alongside their health benefits as a part of the arguments presented by doctors in defence of urban trees. For example, in 1888, Francisco Uribe, another physician from Medellín, argued that hygiene '...is not only related to the maintenance of the healthy conditions, but it must address the physical and moral improvements and to embellish our surroundings used as public ornament'.³⁷ The aesthetic dimension of plants, namely their ornamental characteristics, was therefore assimilated by hygienist ideas that influenced the layout of the modern city. In some instances, including in Bogotá, the hygienic aspect of plants was subordinate to their ornamental use as instruments of embellishment. For example, while in the process of transforming La plaza de las Nieves (Nieves Square) into a public garden in 1889, Sebastian Castell from the police department sent a letter to the Minister of Economic affairs in which he recommended that 'Knowing that the Honourable Member receives with his characteristic kindness any suggestion looking for the city improvements. I allow myself to highlight that the Las Nieves Square, because of its current condition is suitable to make of it an adorn of the city.'³⁸ Therefore, urban spaces endowed with plants were not only used as an organic filter to clean the air, they also served as a raw material to embellish the places through which urban life passed.

Although the urban transformations in Bogotá were not at the same level as those of other Latin America capitals, parks and promenades were gradually created in the city following modern urban ideas based to a certain degree on the hygienic and ornamental power of plants (Fig. 5.3). Slowly, in a small town located 2,600 m a.s.l., plants that had previously

³⁶ Francisco Arango, Francisco Uribe, 'Cementerios: informe de una comisión', *Anales de la Academia de Medicina de Medellín*, Jun. 1889.

³⁷ Francisco Uribe, 'Higiene local', *Anales de la Academia de Medicina de Medellín*, Feb. 1888.

³⁸ Correspondence between Sebastian Castell and the Minister of Economic Affairs, 22 Mayo 1889, folio 56, tomo 828, fondo Ministerio de Obras Públicas, AGN.

been confined in *patios* and *solares* leapt into public spaces and helped to recreate the urban green spaces required for any city that wanted to be perceived as modern.



Figure 5.3. Anonymous, Avenida Jiménez, ca. 1910, postcard. Museo de Bogotá, Bogotá (MdB 2198).

5.3 The creation of modern green spaces in Bogotá

As presented at the beginning of this chapter, the modernisation of Bogotá was superimposed upon its colonial built environment. The constant lack of money, which was exacerbated by social turmoil amid the continuing civil wars, prevented the city from emulating the large urban infrastructural projects undertaken in Haussmann's Paris. However, by the end of the nineteenth century, the colonial face of Bogotá began to be transformed due to unfolding technological innovations associated with modernity. For example, the installation of a telegraph system and electricity imposed the use of poles, the expansion of a tramway system forced the modification of some of the traditional streets, and the introduction of iron pipes for the sewer system meant the continual opening and re-opening of the city's surface. As part of this modernising milieu, there was also a systematic transformation of the most representative public spaces, which were transformed into garden and parks over the course of a few decades.

In 1866, José Maria Vergara, a diplomat, journalist, politician, and writer published the book *Almanaque de Bogotá* as a city guide for foreigners, which highlighted the main historical, geographical, political and quotidian features of the city. According to Vergara, the city had a population of 40,000 inhabitants in that year, and his inventory of Bogotá's infrastructure and buildings enumerated four parish districts (urban political divisions), eighty *carreras* (north to south streets), 690 *calles* (east to west streets), 2,720 houses, 3,127 *tiendas*, thirty-two *quintas* (countryside houses), twenty-five public buildings, fifty primary schools, six public baths, an astronomical observatory, three secret societies, three cemeteries, a telegraph office, and a Protestant chapel.³⁹ Vergara's list also revealed the significantly smaller size of mid-nineteenth century Bogotá in comparison with other Latin American cities. For instance, besides thirty Catholic churches and the single Protestant chapel, only six squares and nine *plazuelas* (small squares) served as places of gathering and social sharing. However, only eleven years after the *Almanaque's* publication, a discrete transformation of the city's squares was undertaken, changing not only the urban landscape but also the daily lives of the people that used those spaces. The next section will elucidate how the transformation of Bogotá's public spaces through the use of plants brought about not only a shift in the human relationships but also in the ways that people in the city perceived, understood, and performed with plants.

5.3.1 La Plaza de Bolívar

In 1880, the country's Minister de Education designated the *self-taught gardener* Casiano Salcedo to build a park or garden in the *Plaza de Bolívar* (Bolívar Square).⁴⁰ Originally a significant Muisca astronomical site from which to observe the solstices and equinoxes,⁴¹ established as the *Plaza Mayor* (Major Square) by the Spanish, re-named in 1821 as *Plaza de la Constitución* (Constitution Square), and finally turned into Plaza de Bolívar in 1846, this square was surrounded by significant buildings that have long served as the symbolic

³⁹ José Vergara and José Gaitán, *Almanaque de Bogotá, Guía de Forasteros para 1867* (Bogotá: Imprenta de Gaitán, 1866).

⁴⁰ Claudia Cendales, 'Un parque extenso y amplio para dotar con él a nuestra querida capital': La exigencia de la creación de un parque y el panorama del arte paisajístico a finales del siglo XIX en Bogotá,' *Paisagem e Ambiente*, no. 29 (Octubre 8, 2011): 27, <https://doi.org/10.11606/issn.2359-5361.v0i29p25-38>.

⁴¹ Julio H. Bonilla Romero, 'Aproximaciones al observatorio solar de Bacatá-Bogotá-Colombia,' *Revista de Topografía AZIMUT* 3(2011): 9-15; Julio H. Bonilla Romero, Edier H Bustos Velazco, and Jaime Duvan Reyes, 'Arqueoastronomía, alineaciones solares de solsticios y equinoccios en Bogotá-Bacatá,' *Revista Científica* 27 (Enero, 2017): 146-155.

centre of social activity and performance in Bogotá—what Lefebvre would have called the city's main *lived space*.⁴²

The decision to transform this iconic site into a garden reflected an entirely new approach to urban public space, and as in the case of other Latin American cities such as Mexico City, this physical shift in the organisation of the town's main square was not a minor event, but rather involved the imposition of significant changes on a historical place loaded with strong symbolic meanings. As, Fabio Zambrano, one of Latin America's preeminent urban historians explained:

In Latin America the major square was synonymous of municipality (of city). The major square was the place where the *rollo*⁴³ and la pillory were placed, that means the starting point of the foundation act and the place were rested the symbol of justice. It is such the importance of the major square that it represents the Hispano-American model of urbanization. Its use loaded with symbolic meanings, defines the image of the city and express the idea of centralism present since the very beginning in this way to understand the city. This idea was opposite to what happened in Europe where the religious and civil buildings were spread around the city. In America, all of them gathered around the major square.

⁴⁴

The symbolic importance of the Plaza de Bolívar made it a gathering point where essential parts of the city's daily life were represented. For instance, religious processions and Republican celebrations took place in this square, and it was also the venue for criminal executions, public speeches, and bullfighting, among other activities. Bogotá main's church, known as *La Cathedral*, was also located in the major square. Its atrium, called *El Altozano* by the Bogotanians, was the most important meeting site for most of the population. It was at *El Altozano* that the forever turbulent issues of political life were discussed, and where news about European events were spread along with opinions about intellectual ideas, literature, and fashion, as well as where young men gathered to see and flirt with ladies as they departed from church. As described by Miguel Cane, this was the

⁴² Henri Lefebvre, *The Production of Space*, 1st ed. (Wiley-Blackwell, 1992). Nowadays the square is bordered by the Palace of Justice to the north and the National Capitol to the south, and the Primary Cathedral of Bogotá and the Liévano Palace, seat of the city's mayor, are situated on the eastern and western sides, respectively.

⁴³ *El rollo* was a column stone which highlighted the administrative independence category of any town or city in Latin-America.

⁴⁴ Fabio Zambrano, 'La Ciudad Como Representación Política,' in *Publicistas, Prensa y Publicidad En La Independencia de Hispanoamerica*, ed. Moisés Guzmán (Morelia: Universidad Michoacana de San Nicolás de Hidalgo, 2011), 177.

social heart of the city: ‘You could ask, perhaps the Bogotianians do not use to promenade, they do not have a gathering point such as a club, a predilect street or something like our Florida street, the Corso of Rome, The New York’s Broadway or the London’s Park Corner? I would say, yes, but everything in one: they have El Altozano’ (Fig. 5.4).⁴⁵

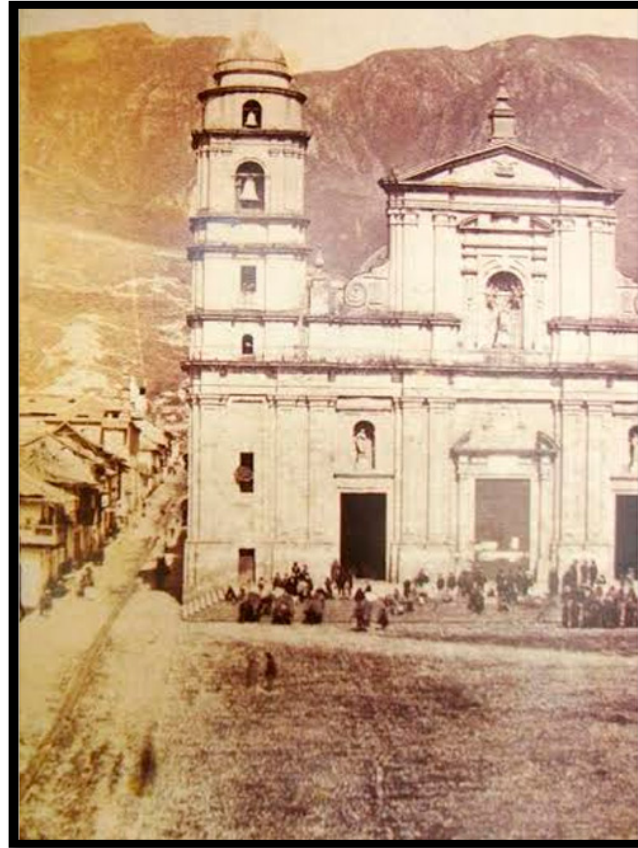


Figure 5.4. Demetrio Paredes, people gathered at the Altozano, ca. 1880, photograph. In: Fundación Amigos de Bogotá, *Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010).

Meetings in the Plaza Bolívar acquired a special dimension on Fridays when the weekly market took place. From early in the morning, those who commonly frequented El Altozano mixed with the hundreds of people coming from neighbour towns, who filled the square selling an incredible number of products. The vivacity and the multi-coloured nature of Bogotá’s market overwhelmed foreigners. For example, Edouard André, the French Botanist visiting Bogotá in 1876, described seeing red, yellow, and white *ocas* (*Oxalis tuberosa*, an Andean tuber), ovoid cabbages, small white thistles, maize, red necked green onions of red neck (*Polymnia edulis*), *arracachas* (*Arracacia xanthorrhiza*, an Andean root vegetable), garlics, green peas, brussels sprouts, broad beans, snow peas, chicory, and beans. He also saw crabs and fish, different kinds of poultry, cheese, milk,

⁴⁵ Miguel Cané, *En Viaje* (Caracas: Fundación Biblioteca Ayacucho, 2005), 191.

and an incredible number of fruits, including banana passionfruit (*Passiflora tarminiana*), Peruvian groundcherry (*Physalis peruviana*), *chulupa* (*Passiflora maliformis?*), papaya, and berries of different types. In addition to enumerating the products for sale at the market, André also portrayed the social dynamics that occurred each Friday in the main square. For instance, he mentioned how at the end each Friday, *chicha*, *guarapo*, and *aguardiente* (all alcoholic beverages) sellers began to supply their ‘toxic’ product, the result of which was drunk peasants provoking several fights and arguments on public space (Fig 5.5).⁴⁶

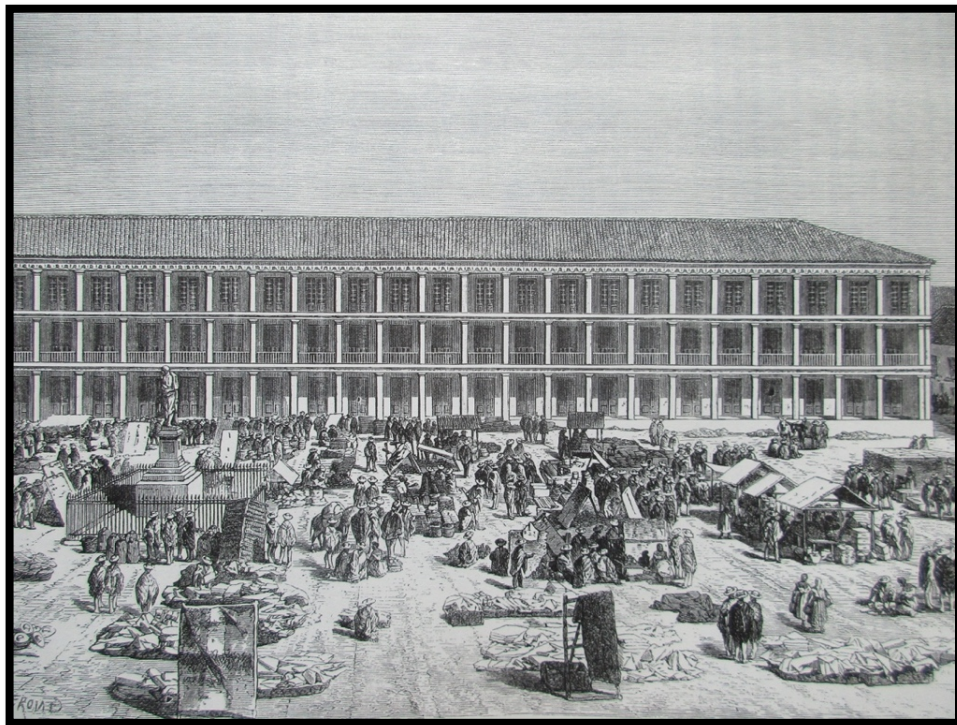


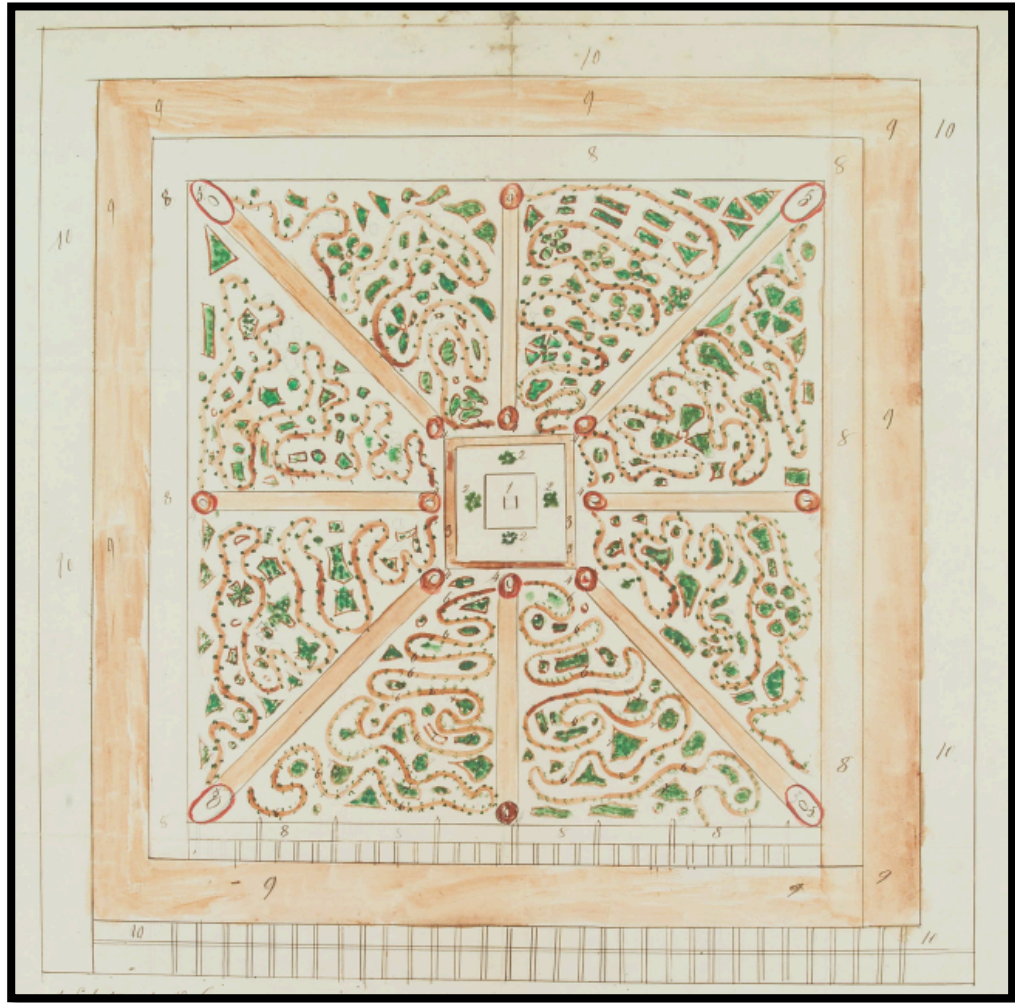
Figure 5.5. Édouard André, market at Plaza de Bolivar of Bogotá, 1869, woodcut. In *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. I (1858-1876) (Bogotá: Villegas Editores, 2013), 232.

The most straightforward consequence of these kinds of social activities was filth. According the environmentalist-based ideas of doctors, markets were seen as unhealthy places that needed to be regulated. Attempts had been made to deal with this issue since the early-nineteenth century; eventually, proposals were developed to create a new roofed market that would engender healthier conditions.⁴⁷ In 1861, the Federal District Governor created a bill to move the Plaza Bolívar’s market to the Santander, San Victorino and San

⁴⁶ André, ‘La Vuelta Al Mundo, Nuevo Diario de Viajes. La América Equinoccial’ (Colombia-Ecuador-Perú),’ 242.

⁴⁷ Mejía, *Los Años Del Cambio*, 185.

Agustín squares.⁴⁸ This idea was soon followed by the first proposal to build a public garden in the square. The National General Archive has preserved an outline of an English-style garden to be built in the Plaza Bolívar that was apparently created by a British trader named Jorge Bunch in 1861 (Map. 5.1);⁴⁹ however, the design was never implemented. The eventual garden's construction commenced around twenty years later, when under the direction of Casiano Salcedo, a French-inspired design based on oval flowerbeds was finally adopted in 1881 (Fig. 5.6 & 5.7).



Map 5.1. Jorge Bunch, first design for an English-style garden for Plaza de Bolívar, 1861, watercolour in paper. Archivo General de la Nación, Bogotá (Mapoteca 4, ref. 38A)

⁴⁸ Mejía, 185.

⁴⁹ Hugo Delgadillo, 'El Parque del Centenario en Bogotá: Transformación urbana, itinerario y significado' (Universidad Nacional de Colombia, 2017), 42.



Figure 5.6. Anonymous, gardens in Plaza de Bolívar *ca.* 1885, photograph. (Unknown source).



Figure 5.7. Julio Racines, garden in Plaza de Bolívar in Bogotá, *ca.* 1890, photograph, 13 x 18 cm. Biblioteca Pública Piloto, Medellín (BPP-F-003-0826)

The transformation of the ancient colonial squares into gardens implied a radical change in trading practices, with concomitant impacts on the ways that Bogotianians socialised. Although the complaints and consternation of farmers and market customers regarding the square's transformation have left no historical traces, newspapers do document the discomfort of some elite members. For example, a note published in a pro-Conservative Party newspaper bemoaned the inconvenience of having a garden surrounding such an important national hero: 'It is quite ridiculous to surround a hero statue with flowers, (This is) perhaps a sign of the excessive adulation that intoxicates and spoils them. But, doing that with Bolívar in the central square, would obscure such a delightful piece of art!'⁵⁰ Such comments reveal the political connotations of transforming the Plaza de Bolívar into a garden. Other criticisms published in the same newspaper indicate that the garden enterprise was perceived by some elite sectors as a clear improvisation that evidenced a lack of formal horticultural knowledge (see next chapter). As one commentary acidly noted:

Is hard to believe that cultivated and intelligent people help (in the construction) of such a difficult to define as the thing they are making around the statue. This riddle cannot be a garden because in such wide beds it is impossible to grow and take care of flowers. Not a grove since trees require circular beds. It is not a promenade, because its narrow paths do not allow it. It is not a farmyard because these do not require imported fertilized and rather produce it. It is not a kitchen garden, unless of official *arracachas* that would be excessively expensive.⁵¹

However, despite the enormous transformation imposed on daily lives and the oppositions of many elites, the reshaping of the colonial squares continued and soon transformed other iconic spaces in Bogotá.

5.3.2 El Parque Santander

In 1877, the Cundinamarca Government decided to flatten El Humilladero, the city's oldest chapel (Fig. 5.8). The demolition of this small building located in the Plaza de Santander was accomplished as one of the first attempts to create a public garden in Bogotá. However, the square never became a formal park. Located at the northern edge of the city on the way to the city of Tunja, the site had been used in pre-Colombian times as a

⁵⁰ 'El jardín de Bolívar', *El Conservador* (Bogotá), Ago. 10, 1882.

⁵¹ 'El Jardín de Bolívar', *El Conservador*, Sep. 16, 1882.

gathering place for intra-regional trade between the Muisca and the Zaque societies.⁵² Given its strategic location and despite the official relocation of the city market to the Plaza Mayor, the square continued to informally and spontaneously serve as Bogotá's main market through the colonial period. In fact, it was due to this role that the square, which had been officially named Plazuela de San Francisco in honour of Francis of Assisi, was more commonly referred to as Plaza de las Hierbas (Herbs Square). As in the case of the Friday market at the Plaza Mayor, the natural dynamic of selling and buying live animals, vegetables, meats, and many kinds of NTFPs (non-timber forest products), resulted in notoriously filthy conditions. Added to this, because of its fountain, the Plaza de Santander was a gathering point for a considerable number of *aguateros* (water carriers) which, given the usually short supply of water, produced constant fighting and public disorder.

After the Humilladero chapel was demolished, the fountain was replaced in 1878 with a European-made statue of the national hero Francisco de Paula Santander. Taking the figure of Santander as a focal point, the square began to be decorated with plants. However, this plant-based ornamentation was rather a naïve enterprise. Due to the lack of a formal gardening culture in the city, the plants used to decorate the square were gathered from the population through a donation system. For example, a pine tree donated and planted by a man named Elías Garay remained in the square for many years.⁵³ Although this public derived ornamentation can be counted among the early attempts to create gardened public spaces in Bogotá, it was not until 1880 that a systematic gardening process began, when the Plaza de Bolívar gardening project in turn promoted the transformation of the Plaza de San Francisco into a garden and led to its renaming as the Plaza Santander.

⁵² Rubén Hernández Molina and Fernando Carrera Zaldúa. *Las Nieves, La ciudad al otro lado* (Bogotá: Instituto Distrital de Patrimonio Cultural, 2010), 13-14.

⁵³ Daniel Ortega, *Historia Del Parque Santander* (Bogotá: Sociedad de Mejoras y Ornato, 1926).



Figure 5.8. José M. Gutiérrez de Alba, El Humilladero (place where the Plaza Santander was built), 1871, watercolour on paper. Biblioteca Luis Ángel Arango, Bogotá, in: <https://goo.gl/eQQSjn>.

As part of the program to modernise urban spaces in Bogotá, Casiano Salcedo began to transform the Plaza Santander into a park in 1881. As described by Lisímaco Palau, ‘the complete area was grassed, the park was divided into two parts, one with flowerbeds and the other with a group of trees. Additionally, two bronze fountains, wooden benches and a surrounding iron fence with a western and an eastern entrance were installed’.⁵⁴ Considering all of these physical ‘improvements’, soon after its completion, the new park was frequently visited by people from different backgrounds and became one of the most important attractions of modern Bogotá.

The creation of the fenced park in Santander Square displaced the local market; however, even as late as 1894, people continued selling goods in one of its corners (Fig. 5.9).⁵⁵ The spatial transformations led to a rather empty appearance of the brand-new parks at most times, as illustrated in Figure 5.10. The evidence indicated by the photographic sources is reinforced through some contemporary comments about the park. For instance, the Spanish traveller, Miguel Cané, wrote in 1881: ‘Unfortunately, this spot [the Parque Santander] that

⁵⁴ Lisímaco Palau, *Guía Histórica y Descriptiva de La Ciudad de Bogotá* (Bogotá: Imprenta de Vapor de Zalamea, 1894).

⁵⁵ Palau, 37.

could be a nice place for meeting, is generally a desert as occurred with the Calle de las Nieves and the Plazuela de San Diego'.⁵⁶ Nevertheless, the space previously occupied by the market gave rise to the emergence of new social dynamics with the establishment of weekly night-time parties (*retretas*) held each Thursday and Sunday.⁵⁷ Changing ways of social gathering brought new patterns of social behaviour, and differentiation of the social classes was performed as upper-class Bogotánians represented ostentation and manners imported from Europe along with the ideas on parks and gardens. In short, the transformation of the square into a garden made it a site of modern behaviours, replaced the formerly spontaneous manifestation of human relationships.

The markets organised in the squares later transformed into parks were, in the eyes of Edouard André: 'The photography of a life, (where) the different social classes expose themselves naked, *without pose*, defending in public a way of existence that Darwin did not write about.'⁵⁸ In contrast, parks and gardens imposed regulation on citizens' bodies, thereby establishing a more disciplined way of being. Any common people who wanted to breathe the pure air emanating from the plants in the new parks and gardens would need to behave themselves, ensuring that they did not perturb the enforced calm of these places. Finally, it is very interesting how accurately certain types of plants in the market and then in the garden reflected the transformation that had occurred with the modernisation of Bogotá. If the markets were 'inhabited' by edible plants cultivated by farmers from the surrounding rurality, in the gardens and parks, the space was endowed with ornamental plants devoted to the cleaning of and contemplation by a new type of urban dweller. Thus, the modern city as a spectacle was established.⁵⁹

⁵⁶ In 1881, Cané also mentioned how the Plaza de Bolívar was 'a square of one block size, having no trees or bench, cold and deserted'. This description confirms that the first place to host trees and other plants in Bogotá was the Parque Santander, contrary to what has been assertions by researchers as Claudia Cendales that the first park in Bogotá was built in the Bolívar square. See: Miguel Cané, *En Viaje* (Caracas: Fundación Biblioteca Ayacucho, 2005 [1883]), 185; Cendales, "Un parque extenso y amplio para dotar con él a nuestra querida capital."

⁵⁷ Ortega, *Historia Del Parque Santander*, 38.

⁵⁸ André, 'La Vuelta al Mundo, Nuevo Diario de Viajes. La América Equinoccial (Colombia-Ecuador-Peru),' 240.

⁵⁹ About the city as a spectacle, see Green, *The Spectacle of Nature*; David Harvey, *Paris, Capital of Modernity* (New York; London: Routledge, 2003).



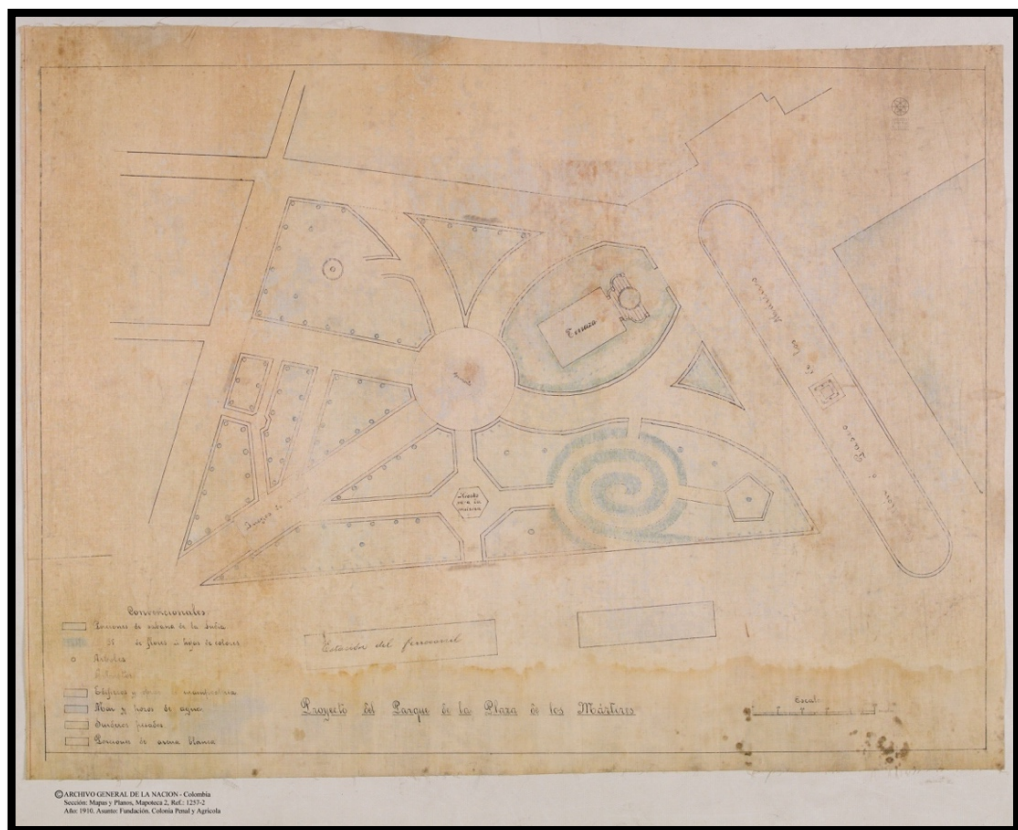
Figure 5.9. Anonymous, Parque Santander, *ca.* 1880, photograph. Source: Fundación Amigos de Bogotá, *Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010).



Figure 5.10. Anonymous, Parque Santander, *ca.* 1910, photograph. Museo de Bogotá, Bogotá (MdB 00124, Fondo Luis Alberto Peña)

5.3.3 La Plaza de Los Mártires (Martyrs' Square) and other spaces

Having transformed the two most iconic squares of Bogotá into parks, the gardening process was extended to other important colonial squares. The ancient *Huerta de Jaime*, one of the oldest places of Bogotá, was also transformed into a garden following the same symbolic elements present in the others. However, as in the case of the Plaza Santander, the symbolic transformation of this square began before any planting occurred. In 1850, the city government decided to change the site's name to the Plaza de Los Mártires on behalf of several heroes executed there during the war of independence. In order to commemorate those sacrificed lives, they built a 'modest stone column' with the name of those heroes carved on it.⁶⁰ Whilst the obelisk had been surrounded by grasses and weeds for 30 years, work to transform it into a garden began in 1881. To achieve this, a French-like garden with geometrical patterns, probably designed by the Italian opera singer Enrique Rossi, was established in the square (Map. 5.2).



Map 5.2. Anonymous, garden layout in the Plaza de los Mártires, ca. 1850, watercolour on paper. Archivo General de la Nación, Bogotá (Mapoteca 2, ref. 1257-2).

⁶⁰ Ignacio Borda, *Monumentos Patrióticos de Bogotá. Su Historia y Su Descripción* (Bogotá: Imprenta de la Luz, 1892), 32.

In addition to the city's most important squares, some efforts were made to transform into gardens other minor colonial squares in Bogotá. The Plaza Quesada (Quesada's Square), which later received the body remains of the city founder, Gonzalo Jimenez de Quesada, was transformed into a small well cared-garden from 1891 to the first years of the 1920s, when it was demolished as part of the 26th street widening project.⁶¹ Another example was the Jardín del Observatorio (Astronomical Observatory Garden), which after being used by the *Expedición Botánica* team at the beginning of the nineteenth century (see next chapter), was recovered and decorated with bedding plants in 1888, apparently under the direction of Casiano Salcedo.⁶² Due to its incorporation into the presidential and Congress house complex in the first decades of the twentieth century, this green space is the only remaining garden among those produced in that period.

In contrast to the systematic gardening undertaken in the central squares of the city, other peripheral squares embellished with flowering plants and trees, such as the La Capuchina and Egipto, although being endowed with some flowering plants and trees, underwent a rather intermittent and disorganised ornamentation process,⁶³ whereas some larger and more relevant squares did not experience any gardening change. The clearest example of the latter is the Plazuela de San Victorino (San Victorino's Square). Located on the west side of the city, this square was historically used as a collection point for merchandise such as raw materials for construction and honey coming from the low-lands.⁶⁴ Given its use as a dry-port, the establishment of flower beds and trees San Victorino (as has been commonly named) in this space was never included among urban planning goals.

Some smaller squares that lost their symbolic importance after the colonial period and disappeared with the nineteenth-century compaction of Bogotá include the Plazuela de la Carnicería (Butcher's Square), Plazuela de Guasca⁶⁵ or Plazuela de la Aguadita.⁶⁶ Their disappearance reveals how the creation of the modern environments in Bogotá was part of a broader process of urban resignification according to modern and Republican values,

⁶¹ Delgadillo, 'El Parque del Centenario en Bogotá: transformación urbana, itinerario y significado,' 36.

⁶² Delgadillo, 40.

⁶³ Delgadillo, 34–39.

⁶⁴ Mejía, *Los Años Del Cambio*, 187.

⁶⁵ While *guasca* in Colombia is a name for the plant *Galinsoga parviflora*. However, according to the Chibcha language spoken by Muisca it also means "skirt of the mountain range". See: http://muysca.cubun.org/Gram%C3%A1tica_de_Lugo/fol_7r

⁶⁶ Mejía, *Los años del cambio*, 189.

whereby some places were transformed into gardens and others were dissolved by the city's growth.

Nevertheless, it is important to remark that the symbolic and physical changes brought about by the modernisation of Bogotá did not only occur on top of colonial built environments. Spaces belonging to rural realms at the edge of the city, as well as some residual and transit spaces previously inhabited by spontaneous grasses and weeds were also transformed into public spaces. Therefore, their spontaneous flora was replaced by an organised, managed and controlled vegetation that better reflected modern perceptions of what the city must look like. A prime example of this transformation is the creation of the Parque Centenario (The Centenary Park), Bogotá's first real public park.

5.3.4 El Parque Centenario

The Parque Centenario was built in a *solar* covered by weeds and grasses that belonged to the San Diego Franciscan monastery (Fig. 5.11). Historically recognised as Plaza de Marte (Mars Square) and later as Plaza de San Diego (San Diego Square), this site was perceived as a suitable place for the construction of a modern park nearly two decades before the commencement of the city's full-scale garden transformations. Initial works undertaken under the supervision of then-Mayor Cenon Padilla included the creation of a one-hectare lake fed by the waters of the San Diego Brook in 1862. Intended as a modern entertainment, the lake was accessorised with a boat capable of carrying twelve people, and *allées* bordered by roses and willows were created along its shores.⁶⁷ This early experiment to create a recreational space for the people in Bogotá reveals how the modern necessity for this kind of spaces emerged well before the systematic transformation of the city's squares. However, due to economic constraints, the park in the Plazuela de San Diego was abandoned and some sections were turned into an abandoned and dirty place. Eventually, as so commonly occurs in tropical environments when they are abandoned by humans, spontaneous flora reclaimed the space and weeds and wild aquatic plants replaced the willows and roses.

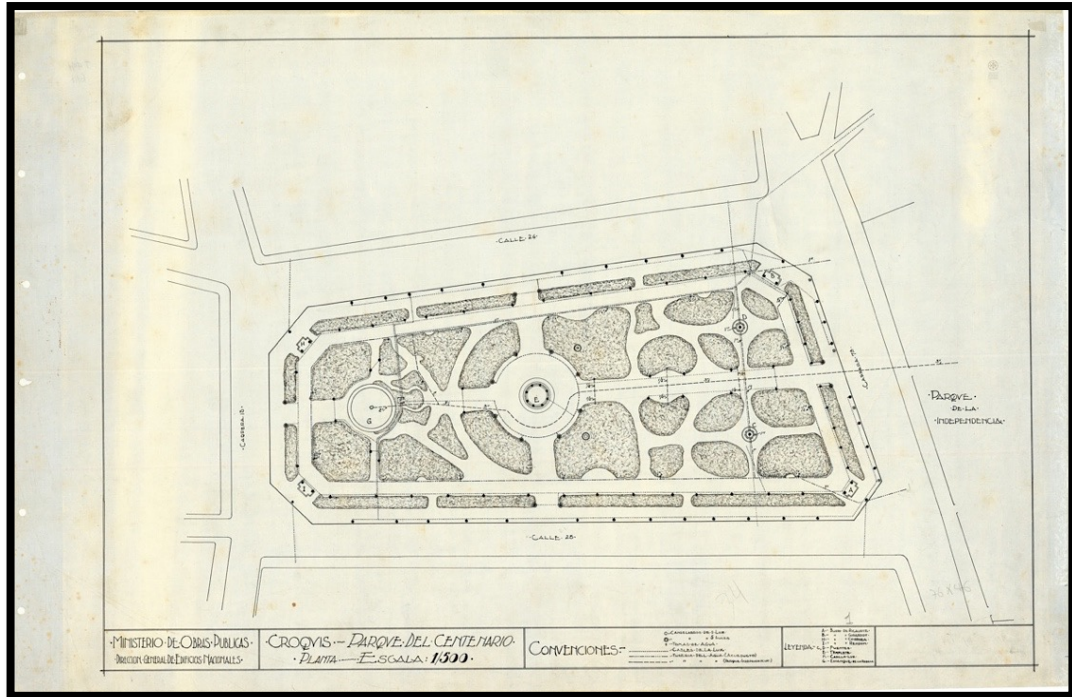
⁶⁷ Cenón Padilla, 'Diarios de trabajos de la alcaldía del cuartel de las nieves', *El Colombiano* (Bogotá), Ago. 7, 1863.



Figure 5.11. Edward Walhouse Mark, San Diego quarter in Bogotá, 1843, watercolour on paper, 17.3 x 25 cm. Biblioteca Luis Ángel Arango, Bogotá (Colección de Arte), in: <http://bit.ly/2zpZBzd>

In 1874, twelve years after the initial effort to transform the space, an ordinance was promulgated seeking to create a park endowed with a fountain and walking paths. However, this project was abandoned, having failed to secure the support of those ‘citizens concerned for the city’s embellishment’, although the Italian architect Mario Lombardi had already received his payment. The idea revived again in 1881, when the Conservative Party took power and prioritised the park’s construction as a propagandistic opportunity to strengthen the population’s sense of nationalism using the commemoration of the first centenary Simón Bolívar’s birth as a central motif. In contrast to previous attempts to modernise this space, the project’s political importance was denoted by the national government creating a committee comprising several recognised elite citizens to coordinate the celebration and the construction of the park. The committee hired the services of another Italian, the architect Pietro Cantini Loi, to produce the blueprints (Map. 5.3). Thus, whereas the gardens that transformed the ancient colonial squares were produced by the local self-taught gardener Casiano Salcedo, the construction of the Parque Centenario was headed by a Florentine architect. The preference for a European’s work over local gardening knowledge reveals the local administration’s commitment to

endowing the space with strong symbolic prestige. In short, despite the country's endemic economic constraints, the park was completed on time and opened to the public on the 24th of July 1883 as part of a large celebration.⁶⁸ Three years later, the park was described as 'the biggest, the most beautiful, the best oxygenized because of its pure airs, and the favourite of the elegant society for their walks' (Fig. 5.12).⁶⁹



Map 5.3. Ministerio de Obras Públicas, Parque Centenario layout, ca. 1890, in on paper. Archivo General de la Nación, Bogotá (Mapoteca 1, ref. 149).

Whilst previous investigations have explored the historical details of the construction of the Parque Centenario,⁷⁰ the intention of this section has been to highlight the space's symbolic relevance. On the one hand, the construction of the Parque Centenario marked the end of the initial stage of the creation of green spaces in Bogotá based on the transformation of colonial squares into gardens. Equally, this was the last park flanked by

⁶⁸ Delgadillo, 'El Parque Del Centenario En Bogotá: Transformación Urbana, Itinerario y Significado.'

⁶⁹ Correspondence between Eugenio Moreno and the Minister of Economic Affairs, 22 May 1886, folio 67, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁷⁰ Claudia Cendales, 'Los Parques de Bogotá: 1886-1938,' *Revista de Santander*, 2009; Claudia Cendales, '“Un parque extenso y amplio para dotar con él a nuestra querida capital”: La exigencia de la creación de un parque y el panorama del arte paisajístico a finales del siglo XIX en Bogotá,' *Paisagem e Ambiente*, no. 29 (Octubre 8, 2011): 25–38, <https://doi.org/10.11606/issn.2359-5361.v0i29p25-38>; Germán Mejía, *Los Años Del Cambio. Historia Urbana de Bogotá, 1820-1910*, Segunda edición, Colección Biblioteca Personal (Bogotá: CEJA Pontificia Universidad Javeriana Instituto Colombiano de Antropología e Historia, 2000); María Guerrero, 'Pintando de verde a Bogotá: visiones de la naturaleza a través de los parques del Centenario y de la Independencia, 1880-1920,' *Revista de Historia Ambiental Latinoamericana y Caribeña* 1, no. 2 (2012).

iron fences: the notion of an enclosed nature that had been recurrent in the city's modernisation found its last expression in this space. However, the Parque Centenario also marked the beginning of a new era in which the city growth was not only manifested by the urbanisation process and the expansion of its built environments. The construction of this park in the city outskirts (Map. 5.4) talks about the systematic replacement of a particular type of rural-like flora by an organised and planned set of urban vegetation. In other words, the creation of the Parque Centenario shows how the modern idea of the urban park was already deeply rooted as an essential part of the city. Therefore, the city in expansion also represents an amplification of a particular way to perceive, understand, and perform with plants as a reflection of modern urban life and its ways to understand the human body, leisure time, and social control.



Figure 5.12. Henry Duperly, Parque del Centenario, 1883, albumen print, 18.5 x 23.8 cm. In: Dubail, C. and M. Dubai-Acero (eds). *Bourgarel, le Colombien: Voyages d'un diplomate français dans la Colombie du XIXe siècle* (Paris: EdiSens, 2017), 112.



Map 5.4. S. Pearson & Son Limited, main green spaces in Bogotá, 1907. Museo de Bogotá, Bogotá (No. de registro S. 919.302).

5.4 The restrictions on the use of urban green spaces in Bogotá

The creation of gardens and parks as a symbol of the city's modernisation had meaningful consequences. Along with the evident changes of the city's face, the process marked a critical shift in the use and appropriation of urban spaces by the citizens of Bogotá. Thus, unlike the interactions with plants in the pre-modern city, which stemmed into particular types of places such as *patios* and *solares*, in modern Bogotá, the city's vegetal structure (e.g. gardens) was established first, and then a regulated ensemble of suitable human-plant interactions were superimposed on it. The last section of this chapter will explore how in modern Bogotá, plants became political actors with an important role in the discipline and control of human bodies that were forced to engage in a new set of botanical interactions.

5.4.1 Fences: symbol of modernity and devices of control in parks

The physical characteristics of modern spaces defined their potential uses by citizens. In contrast to the formerly plain squares, modern gardens required constant maintenance and care, which is one reason they were usually enclosed by iron fences. These structures,

common in most nineteenth century gardens and parks, can be analysed from two related perspectives: i) as manifestations of modern innovation; and ii) as elements to prevent the circulation and gathering of people within certain spaces. Firstly, beyond the clear expression of an emergent relationship with plants, parks and gardens in modern Bogotá provided an opportunity to display the innovations produced as a result of industrial developments. For instance, electricity and its power to light the night was first revealed to the public in parks. Equally, since modernity has a lot to do with materials and the power to cast them, parks were places to exhibit goods, structures and machines made of iron and steel. Poles, kiosks, exquisite carved fountains and also elaborated fences made part of the urban facilities presented in the nineteenth-century parks.

The presence of iron fences and other modern innovations in parks and gardens was a symbol of physical improvement; thus, a fancy iron fence replaced the barbed wire previously used for the protection of gardens in the Plaza de Bolívar, as evidenced by comparing Figures 5.6 and 5.7. However, even as iron fences protected plants, they also served as a symbol of exclusion and spatial control. Just as the *boulevards* of Paris were created as a means to deter the barricades,⁸¹ Bogotá's public squares were turned into gardens to limit people's access and avoid the congregation of citizens' bodies as a manifestation of their social and political expression. In this regard, Fabio Zambrano explains:

The modernisation process whereby the old squares were transformed into parks was not accompanied by a political modernity. As a consequence, in the public spaces, the enclosed prevailed upon the characteristic aperture of the early republican city (...) In the (late) republic squares, aesthetic pleasure contemplation is introduced. Turning them into gardens with fences and controlled access would prevent those spaces from being used as a gathering scenario for the political population.⁸²

The replacement of open public spaces (namely the old colonial squares) with enclosed public spaces (namely modern gardens), meant not only the political control of bodies but also a disruption of a myriad of social relationships and daily rituals and activities. As described in the preceding section, this alteration of urban rhythms was first evidenced in

⁸¹ Walter Benjamin, "Paris: Capital of the Nineteenth Century," *Perspecta* 12 (1969): 165–172.

⁸² Fabio Zambrano, *Construcción del Espacio Público Tres Parques de Bogotá: Nacional, El Tunal, Simón Bolívar* (Bogotá: Alcaldía Mayor, 2003), 49.

the displacement of Bogotá's markets. Like the case of *Les Halles* in Paris,⁸³ markets were targeted by a medical guild immersed in the environmental notion of health and disease, who denounced such settings as sources of moral and physical decay and thus ensured their relocation to roofed and regulated spaces. However, the outdoor markets served a purpose that extended far beyond its mercantile functions; they were sites of spontaneous gatherings attuned to the citizens' emotional and political feelings (i.e., Lefebvre's 'living spaces'). With the appearance of fenced gardens, these dynamics drastically changed, concomitantly transforming the citizens' 'sense of place' by forever reshaping their particular and personal ways of living and understanding certain urban spaces.⁸⁴

5.4.2 Parks and gardens as alternative and restricted modern amenity

Whereas many European and even some Latin American capitals had developed robust cultures of leisure and entertainment by the second-half nineteenth-century, Bogotá was an isolated, convent-like, and—at least in the eyes of travellers—boring city. The latter is highlighted again and again in the writings of foreigners who complained about the lack of 'things to do' in the capital. As Jorge Brisson, the French engineer hired by the Colombian government, affirmed in the 1890s: 'The distractions are null, at least for the foreigner without social relationships that prevent him from joining the social gathers within some houses. At the moment of my arrival, a bad Spanish Zarzuela company left the city...'⁸⁵

Besides Catholic celebrations, few social activities gathered large groups of people together. Among the most significant social encounters were the so-called *tertulias*, social-gatherings occurring in private homes and explicitly devoted to discussing social life, politics, and art. The *tertulia* was a well-developed practice among the upper class and had also been adopted by the newly emerged artisans' guild. From time to time, some of Bogotá's wealthiest families also organised parties known as *bailes* (dances) to celebrate weddings, baptisms, or other family events, often in a manner that disrupted daily life in the small city. *Bailes* were used as a space of exhibition for elites,⁸⁶ as was the city's most reputed social spectacle: the opera.

⁸³ Green, *The Spectacle of Nature*, 47.

⁸⁴ About the construction of *the place* see: Yi-Fu Tuan, *Space and Place. The Perspective of Experience* (Minneapolis & London: University of Minnesota Press, 1977); Tim Cresswell, *Place: An Introduction*, 2nd ed. (John Wiley & Sons, 2015).

⁸⁵ Brisson, *Viajes Por Colombia En Los Años 1891 a 1897*, 157.

⁸⁶ Cordovez, *Reminiscencias Escogidas de Santafé y Bogotá [Recurso Electrónico]*, 15–40.

The main theatre of the city, *Coliseo de Bogotá*, was built by a private investor at the end of the eighteenth century and began hosting several itinerant opera companies in 1858.⁸⁷ It was in the candle-illuminated *Coliseo* where the city's elites displayed their dresses and manners advertising their social status. Although the opera in Bogotá did not reach the levels of public spectacle exhibited in other Latin American capitals such as La Habana or Mexico, it was nonetheless considered synonymous with *civilisation*: 'Any cultivated person is required to know about opera'. Such forms of social amusement had been consumed by and devoted to the city's wealthy since colonial times, and members of the lower classes were excluded from such events. The cultural marginalisation of non-elites was eloquently depicted by José María Cordovez, among the most colourful of the city's nineteenth-century chroniclers:

Nowadays only two kinds of people attend the theatre, the wealthy and privileged and those that pretend to be rich (who knows how). The middle-class families and the artisans cannot spend what they earn in several days of work to get the enjoyable and instructive pleasure to attend, at least once per month, to this sort of amusement because of the high price of the tickets.⁸⁸

Cordovez also mentioned the social benefit that would have allowed to open the opera performances to the poor people:

... We should say that the entrepreneurs had ignored the advantage for them and for good manners if they would set up a theatre section for the labouring people. This access would foster among them the pleasure for this kind of entertainment, driven them away from the taverns, places frequented by them because of the lack of honest and affordable distractions.⁸⁹

Whereas fine arts such as the opera were almost exclusively consumed by the elites, the only option for the new-borne working-class was the pub. Known in Bogotá as *chicherias*, in addition to being the artisanal factories where *chicha* (indigenous-origin fermented alcohol from maize) was produced, these pubs served as gathering points for the popular classes where the rigid patterns of social life imposed by Catholicism were relaxed. As a consequence, popular music, sex, fights, and political discussions flourished in the

⁸⁷ Rondy Torres, 'Tras las huellas armoniosas de una compañía lírica: La Rossi-D'Achiardi en Bogotá,' *Revista del Instituto de Investigación Musicológica 'Carlos Vega'* 26, no. 26 (2012): 162–200.

⁸⁸ Cordovez, 15–40.

⁸⁹ Cordovez, 15–40.

chicherias, turning them into ‘pagan sub-worlds’.⁹⁰ Furthermore, commonly produced under dubious hygiene conditions, the *chichas*’ alcohol levels were uncontrolled, and excessive drinking often led to constant quarrels and street fighting. Moreover, the surroundings of the *chicherias* were used as latrines due to the lack of sanitary facilities. Thus, in the eyes of doctors and politicians, the *chicha* (and by extension, the *chicherias*) were among the most notorious causes of social and ‘racial degeneration’. Consequently, many campaigns were established in order to eradicate this vice from the city, although they were almost always very inefficient. Among historically documented campaigns were efforts to persuade the popular classes to abandon the consumption of *chicha* for ‘healthier’ beer, which was even recommended for pregnant women.⁹¹

Parks and public gardens were identified as spaces with the potential to promote ‘popular education’ for the labour-class and keep them away from the *chicherias*. For example, in 1918, after repeated failures in the public administration of the gardens and parks (see next chapter), the local government decided to transfer the administration of these spaces to the Sociedad de Embellecimiento (SEB; Bogotá’s Embellishment Society). Due to continued economic constraints, the earliest meetings held by the SEB featured debates regarding the establishment of an entrance fee for the city’s parks to help in their maintenance. This proposal received sharp criticism, particularly from a Mr. Araujo, who stated that ‘It is very risky the idea of authorising the Mistress to collect money for the park’s entrance (...) *To charge for entrance would mean to close them to the poorest; which then would end up at the taverns* and the Sociedad de Embellecimiento must, it is its inevitable obligation, to avoid this at any cost [emphasis added].’⁹²

Initially, parks and public gardens were thought as healthy places open to all of the population; the oxygenated air produced by the plants would work to produce healthy people. However, the opening of the parks to all people was only partly true. Parks and gardens posed a decisive social challenge in a manner different from other modern innovations. For instance, whereas the upper class was the first to enjoy the water supply and the iron pipe sewer system, they had to share ‘the privilege’ of using parks with the rest of the population (Fig. 5.13). Consequently, parks and gardens were the first modern

⁹⁰ Beatriz Castro, ‘Vida pública en las ciudades republicanas’ (Bogotá: Grupo Editorial Norma, 1996), 259.

⁹¹ Castro, 259.

⁹² Actas SMO, 20 Marzo 1918, Sin folio, libro 2 (1918-19), Actas MOB, MdC.

place where different social classes could meet and mix with each other. However, in a rigidly hierarchical society such that of Bogotá, such inter-class exposure entailed significant conflicts. A set of restrictions on the use of parks was established in order to mediate in the social contestation that emerged within the modern public space, which manifested in efforts to maintain both their social convivence and physical condition.



Figure 5.13. Anonymous, Parque de Bolívar, ca.1890, photograph. Museo de Bogotá, Bogotá (Album Familiar, MdB 3445).

The establishment of urban parks meant the creation of a new bureaucratic body responsible for their administration. This new administrative office was formed by the Ministerio de Obras Públicas office (Minister of Infrastructure), an administrator, and an *intervenor* (park inspector), and it also relied on the work of several gardeners, some *celadores* (guards), and police officers. The diversity of people involved in the care and administration of parks reflected their status as places where the care and maintenance of plants intermingled with the care and vigilance of the human bodies that frequented them. Therefore, whereas gardeners took care of plants, *celadores* and police officers were in charge of bodies; it was their responsibility to watch over the social behaviour at and general social usage of parks. Given the large range of responsibilities entrusted to the *celadores*, they played a key role in the functioning of parks and gardens. For example, they had to open the parks' gates at 6 am and close them at 7 pm, as well as 'correct with moderation and good and civil manners, the offences that guide by ignorance some of the parks attendants commit. In case these offences were serious he must inform the park inspector and the authorities to its efficient correction'.⁹³ In addition to these duties, the *celadores* had to undertake daily inspections of the park's facilities, such as fences, poles, and paths, and they were required to supervise the planting, pruning and cleaning process made by gardeners.⁹⁴ As a consequence of this workload, plus their reduced numbers, the available *celadores* in Bogotá were insufficient to control an *uneducated population* that destroyed the gardens and constantly misbehaved.⁹⁵

The lack of social control in the parks and public gardens led to a constant need for police officers to oversee the immoral behaviours of certain visitors. Thus, the police presence was very important for the parks' administrators. For instance, when the SEB was in charge of the parks, they decided to close most of them in 1899 due to the lack of police officers. In one letter sent to the Ministerio de Fomento (Development Ministry), the director of the Society, José Pérez, mentioned how 'Answering your passed 28th of June notification, I have to manifest you that the board have decided not to order the aperture of parks because of the lack of police to custody them. This decision has been taken since

⁹³ Regulations for Parks, Public Gardens and Promenades of the City, Abril 1882, folio 123, tomo 857, fondo del Ministerio de Obras Públicas, AGN.

⁹⁴ Regulations for Parks, Public Gardens and Promenades of the City, Abril 1882, folio 123, tomo 857, fondo del Ministerio de Obras Públicas, AGN.

⁹⁵ The conflict between control and disobedience in the parks reflects how under certain circumstances, the discipline of the bodies presented by Michel Foucault is surpassed by the disobedience of the everyday life attested by Michel de Certeau. See: *The Birth of Biopolitics*; Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (London: University of California Press, 2011).

without this requirement they will be destroyed for the public'.⁹⁶ The police department was suffering of the same economic challenges as most of the government departments, and the police presence in the parks was rather sporadic. The polices' frustration with this situation is revealed in another letter sent by the Police director to the Minister of Development in 1894:

It is too hard to take care of the Parque Centenario, this is because of its large extension, and, also, because being full of trees, destroyers can hide themselves easily. The *celadores* of those places, once leave their job position must leave the keys in the closest police station to be able to vigilant them from time to time. It is a real problem to undertake a proper vigilance of those places since the number of police officers devoted to this service are few.⁹⁷

What kinds of misbehaviours were carried out within parks to make the police officers' presence so important? One of the main problems faced by the park's administrator was the destruction of lawns due to the constant transit of people outside the established paths. In addition, the *celadores* complained about rubbish left by some visitors and the constant thefts that occurred in the parks. With respect to the latter, some people tended to uproot flowering plants to take the home during the day, and at night, people often climbed the iron fences and stole some of the very few gardening tools and other elements from the park facilities. However, the physical destruction of parks was not only perpetrated by adults and thieves. In the early twentieth century, the vigilant of the Parque de la Independencia argued:

'I have the honour to inform you that the number of police officers that are daily assigned to this park is completely insufficient given the large assistance in the recent days. Even more, if you consider that the eighty percent of kids come to produce damages in the park, mistreating trees, throwing stones at the ponds and destroying the lawns.'⁹⁸

Beyond the material damage produced by thieves or unruly children, one of the most common sources of concern for the park administrators and the police was offences against morality: people urinating against the trees, having sexual assignations at night when parks were closed, drunks fighting, and recurrent catcalling were behaviours that did not fit into

⁹⁶ Correspondence between José Joaquín Pérez and Minister of Development, 12 July 1900, folio 377, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁹⁷ Correspondence between the chief police officer and Minister of Development, 22 March 1894, folio 356, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁹⁸ Correspondence between Guillermo Murillo (gardeners chair) and Director of Public Infrastructure, 22 April 1919, folio 147, tomo 857, fondo del Ministerio de Obras Públicas, AGN.

places thought of as symbols of civilisation. In this regard, some of the *Señoras of Bogotá* (ladies of Bogotá) publicly complained in 1890 that ‘We will have to cancel our hygienic walk in the Parque Santander since the students visiting the park do not behave in an expected way’.⁹⁹ Although the ladies did not specify what kind of behaviour took them to cancel their ‘hygienic walks’, three years later, some *padres de familia* (family men) wrote a letter protesting ‘The medical students that attend the Parque de Los Mártires during the morning, read aloud and with clear intentionality, the anatomic chapters addressing the most hidden parts of the human body, harming with this the shyness of the miss that visit the park’.¹⁰⁰ However, the medical students did not precisely belong to the lower class, and their actions were not viewed as being equally problematic as those undertaken by the popular and socially excluded classes during their visits to the parks. For instance, in 1895, scandalised by the moral affronts tolerated by the elegant people of the city during their visits to the parks, Genaro Valderrama, the General Inspector of Parks and Public gardens commented:

I have to manifest to Your Honour that in some parks and squares concur beggars and lepers to use the benches located there without any possibility to forbid them the entrance given the freedom they have to do so. This must be solved through the expedition of tickets used to control the entrance. The ticket, supplied by a high hierarchy employee, would also avoid the depravations committed there by uncultured people.¹⁰¹

Four years later, Valderrama’s views had become even more radical. In 1899, he went beyond regulation through the use of tickets to propose entrance restrictions as a means to deter undesirable people from the Parque Santander:

The number of beggars and lepers that visit the park offer a repugnant view. This prevents decent people to sit on the benches. For this reason, it must forbid the entrance to these places to these kinds of people, and, furthermore, this restriction must apply to *los de ruana*, whose only assist to the parks to steal what they can and to destroy the benches to take the planks.¹⁰²

⁹⁹ Correspondence between Casiano Salcedo and Minister of Development, 25 September 1890, folio 311, tomo 857, fondo del Ministerio de Obras Públicas, AGN.

¹⁰⁰ Correspondence between Casiano Salcedo and Minister of Development, 12 September 1890, folio 311, tomo 857, fondo del Ministerio de Obras Públicas, AGN.

¹⁰¹ Correspondence between Genaro Valderrama and Minister of Economic Affairs (Ministerio de Hacienda), 22 July 1895, folio 67, tomo 823, fondo Ministerio de Obras Públicas, AGN.

¹⁰² Report made by Genaro Valderrama as Inspector of Parks and Public Gardens, 8 October 1899, folio, 93, tomo 823, fondo Ministerio de Obras Públicas, AGN.

Los de ruana was the name given to the poor and excluded people that maintained their traditional way of dressing with *ruana*, a traditional Andean poncho-style outer garment.¹⁰³ The general description of *los de ruana* encompassed a set of characteristics that applied to the vast majority of the city's population. From the elite's point of view, they were *chicha* addicts, illiterates, and thieves lacking any kind of civic education; in summary, they represented everything but modernity. Moreover, *los de ruana* represented the opposite of the civilised people known in Bogotá as *cachacos*. The denomination as a *cachaco* was commonly used to designate a high and middle-class male with some kind of formal education, who, as a general rule, had adopted the way of dressing and the manners of the leading European societies (Fig. 5.14).¹⁰⁴



Figure 5.14. Anonymous, *Los de ruana* (left) and *cachacos* (right), 1918, photograph. Source: *Cromos* magazine, (number no identified).

¹⁰³ The campaign against the *ruana* is comparable to the elites' struggle to eradicate the consumption of *chicha* among the popular classes. All of this social coercion can be considered as steps toward the elimination of the indigenous characteristics still deeply rooted in the society of Bogotá by the end of the nineteenth century. Regarding the *ruana*, for instance, the government passed a bill in 1918 forcing the compulsory use of uniforms rather than that garment for all of the city's carriage drivers. See: Rainmundo Rivas, 'Labor de la Sociedad', *Boletín de la Sociedad de Embellecimiento de Bogotá*, 18 Mayo 1918.

¹⁰⁴ It is important to remember here that the way of dressing was until the beginning of the twentieth century the easiest way to discriminate between the social classes.

Despite repeated attempts to exclude *los de ruana*, there is no real evidence suggesting the existence of any systematic mechanism of exclusion in the parks. This is portrayed in Figure 5.13; although they comprise the majority, the *cachachos* are mixed with some people wearing the traditional *ruana*. Nevertheless, the opinions expressed by Valderrama reveal the profound contradictions embedded in Bogotanian modernity. For example, throughout his public life, Valderrama defended the use of plants and trees as elements of moral and physical fortification based on the medical thinking of the time (see section 5.2); however, it seems that people had to first be turned into modern citizens to be able to enjoy the beneficial airs produced by the parks' ornamental plants and trees. For Valderrama, *los de ruana* could be morally and physically strengthened by the influence of urban nature; in other words, they could be cleaned and civilised through their exposure to the good airs produced by plants. Nevertheless, the contradiction represented by Valderrama seems most stark when considering the ill people who visited parks. Although parks were regarded as a suitable place for the ladies' 'hygienic walks', when lepers used those spaces to rest, the directionality of the influence was inverted. Now, the influence of the vegetation that purified and embellished those spaces was undermined by the lepers, who made the parks ugly and undesirable places. However, as evinced in the next section, once the lepers and other kinds of marginalised people had been enclosed in suitable institutions, the beneficial actions of nature were restored.

5.4.3 The role of plants in institutional spaces of reclusion

In modern Bogotá, the plants previously cultivated in *patios* and *solares* played roles that extended beyond their placement in the construction of public green spaces. Plants were viewed as means of physical and moral fortification; however, they also served as devices of discipline and social control. Drawing on Foucaultian biopolitics,¹⁰⁵ this section briefly illustrates how garden production in Bogotá was not limited to public spaces such as parks. Rather, modern ways to perceive, use and perform with plants were also adopted as part of the consolidation of social institutions such as hospitals, prisons, and asylums, where plants acquired a clear political dimension when used for the regeneration and social reintegration of certain types of excluded people. This political understanding of human-plant relationships would also contribute to the poor development of the horticultural and gardening practices in the city.

¹⁰⁵ Michel Foucault, *Discipline and Punish: The Birth of the Prison* (London: Allen Lane, 1977).

5.4.3.1 The social and spatial exclusion of others

The exclusion of certain groups of people from social life was not a new practice in Bogotá. Based on royal laws from the sixteenth century, the post-independence Republican government criminalised people who lacked any recognised skills, incomes, or social positions, who were labelled as vagabonds. Several bills were approved in order to tackle this ‘problem’, which had become widespread following the war for independence, and the resulting punitive measures against ‘idle’ people included banishment, forced military service, and incarceration. Additionally, in many cases, vagabonds and wandering people were also used as a labour force in the construction of the new urban infrastructure.¹⁰⁶

Individuals afflicted with leprosy, goitres, elephantiasis, or sexually transmitted diseases were similarly excluded from society. In the early years after independence, the new Creole ruling class sought to solve the problem posed by incurables by building hospitals located away from the main cities; however, this measure proved untenable due to post-war economic constraints. As a result, it was common to see lepers wandering around cities, where their entrance was often forbidden by physicians.¹⁰⁷ After the second half of the nineteenth century, lepers were finally confined in a hospital located 78 miles away from Bogotá, thus partly resolving one of the most disruptive problems for the urban population.

Like those with physical disorders, *lunatics* were also identified as a source of social disruption, and *melancholic, insensate, or insane* people were generally incarcerated in asylums established specifically for their confinement. However, the conditions inside these institutions were widely criticised and some of their practices against the inmates were considered to be forms of torture. For example, an 1835 account reported that the mentally ill were ‘enclosed in cold and gloomy jails tied with chains, bathed by force with chilly water, in one word, tortured’.¹⁰⁸

Those confined in jails or prisons experienced similar conditions. During the first republican decades, many Colonial buildings were used as city jails, the most famous of

¹⁰⁶ Restrepo Zea, *El Hospital San Juan de Dios 1635-1895*, 104–22.

¹⁰⁷ Restrepo Zea, 132.

¹⁰⁸ Lino de Pombo, ‘Discurso pronunciado por el señor Lino de Pombo, presidente de la Junta de Beneficencia, en el acto de colocar la primera piedra del manicomio de Cundinamarca’, *Revista Médica de Bogotá*, Ago. 1913.

which was the San Buenaventura building. To replace this rammed-earth-wall structure, the government of Cundinamarca (the state encompassing Bogotá and six other governmental departments) undertook the construction of a modern prison in 1878. Commonly known as the *Panóptico*, this building made of bare rock housed a large number of political prisoners from defeated factions of the civil war even before its completion. Following their release, some former inmates, mostly from the Liberal Party, produced harrowing accounts deploring the health and conditions experienced by those incarcerated there. One remarkable example is the text *Los secretos del Panóptico* (The Panoptic Secrets) produced by Leon Gómez in 1900, in which he described ‘The multitude of people, the small size of the place, the lack of air and water. Also, the general slovenliness, the absolute lack of sun and exercise had to develop diseases. Dysentery, smallpox and typhus had there their place’.¹⁰⁹ Many inmates died in prison due to the *Panóptico*’s minimal provisions to cover basic human needs.

In sum, during a large part of the nineteenth century, those *others* who did not align with normalised social behaviours or social and physical conditions and biological characteristics were viewed as threats by the medical and political spheres. Consequently, they were excluded from society and forced to live in precarious conditions in institutions specifically designed to confine them. However, after the consolidation of the country’s medical schools and the importation of determinist ideas concerning the environment, the government sought the transformation of bodies through their confinement in oxygenated and beautiful spaces. Ill people, orphans, and criminals, for instance, could be morally and physically cured through their contact with a calm and country-like environment. Therefore, nature in general, and plants, in particular, were used as therapeutic elements that by rehabilitating people also contributed to the social progress of the city.

5.4.3.2 Green spaces of exclusion and discipline: the therapeutic power of plants

In accordance with the environmental ideas presented in the first part of this chapter, the medical guild was responsible for identifying the most convenient spaces to establish asylums, hospitals, orphanages, and jails. Although doctors considered many environmental characteristics when determining suitable locations, the most important of these were related to the purity of air and wind currents. For instance, when a group of doctors was consulted about the most suitable place to open a new mental asylum in

¹⁰⁹ Adolfo Gómez, *Los Secretos del Panóptico*, Folletines de ‘Sur América,’ Tomo 1 (Bogotá: M. Rivas y C^a, 1905), 13.

Bogotá in 1884, their report suggested moving the old mental asylum towards the north side of the city close the Parque Centenario. As they argued, ‘the San Diego place is the most visited *paseo* (promenade) in the city. There, people from all the backgrounds attend for exercising, families send their kids to breathe clean air, and the council is planting a beautiful park, the Centenario, which would be one of the best ornaments of the city.’¹¹⁰ In addition to the location of the confinement institutions, building design and general structure were also of great importance. Hospitals, orphanages, and asylums had to be ventilated, illuminated by sunshine, and endowed with an efficient drinking water system and a sewer. The presence of plants was also a critical element. In the aforementioned report concerning the new mental asylum in Bogotá, doctors highlighted that ‘The buildings must be separated by planting trees on the streets.’¹¹¹ Therefore, in order to achieve the best results in terms of healing, hospital infrastructures must be endowed with trees.

The role of plants as an integral part of the therapeutic treatment applied to those confined people continued into the twentieth century. In 1918, the Asamblea Departamental (District Government) named a commission to judge the performance of the government-supported charity institutions in Bogotá, which oversaw the care of orphans and the physically and mentally ill. In a section of the report describing the physical conditions of the Hospital San Juan de Dios, they highlighted:

We visited the labyrinth-like hospital during three hours. Under any circumstance the hospital has the minimum conditions required by a place of its class that must be built conform the modern innovations and in an adequate place. Everything there is asking to be translocated to another place. The hospital lacks gardens and grooves. It lacks a large enough field where the ill can get better with the free and pure air and the view of vegetation (...) A hospital without gardens and close lawns *where nature works in the strengthening of those hospitalised*, will never be a model for this kind of institutions, although many say the opposite [emphasis added]!¹¹²

¹¹⁰ Gabriel Castañeda, Proto Gómez, Nicolás Osorio, and Daniel Coronado, ‘Informe presentado por la sociedad de medicina y ciencias naturales a la junta general de beneficencia del estado’, *Revista Médica*, 20 Julio, 1884.

¹¹¹ Gabriel Castañeda, Proto Gómez, Nicolás Osorio, and Daniel Coronado, ‘Informe presentado por la sociedad de medicina y ciencias naturales a la junta general de beneficencia del estado’, *Revista Médica*, 20 Julio, 1884.

¹¹² Maximiliano Grillo, Félix Cortés, and Nicasio Anzola, *Informe de La Comisión Que Visito Los Establecimientos de Caridad Dependientes de La Junta General de Beneficencia* (Bogotá: Imprenta del Departamento, 1918), 4.

The commission also paid special attention to the improvements underwent in the Las Mercedes mental hospital, emphasising the verifiable improvement presented by the people confined there, which they mainly attributed to the adjacent plot cultivated with flowers. Furthermore, when presented with reiterative petitions from the hospital's neighbours asking to turn the plot into a public park, the commission suggested denying these requests because:

The plot we were talking about is a terrain cultivated today by those miserable that lost the spiritual calm with the loss of their mental faculties. This calm only returns to them momentarily with the after-eating walks. The freshness of the plants cultivated there and the flowers with their essences make softer the violent vigour and the desperation of the lunatics. We say it again, without fields and flowers and enjoyable to the sight of the ill, it is a cruelty to establish hospitals and, moreover, lunatic asylums.¹¹³

The therapeutic role of plants was not only defined by their ability to clean spaces and therefore bodies. Through agriculture and horticulture practices, plants played a significant role as corrective instruments. Growing vegetables and tending flowering plants were viewed as a means to cultivate discipline and a work ethic. For this reason, plants were an integral part of penitentiary and reformatory institutions. This relation between moral correction and plants is well exemplified by the multiple attempts to get rid of the city's beggars and vagabonds. In 1840, for example, masses of the unemployed and 'non-useful' were forcibly devoted to the cultivation of sugar cane and coffee in isolated spots.¹¹⁴ In furtherance of this policy, agricultural penitentiary colonies were opened in vast isolated regions such as the Acacias Colony in the Orinoco Basin, where many criminals captured in Bogotá were used as a labour force in the cultivation of crops. However, not only criminals were suitable to undertake agricultural tasks. In accordance with ideas that related physical decay with moral weakness, agricultural practices were also perceived by doctors as a means to relieve the suffering and pains of the sick and incurable. In 1828, for instance, the well-recognised physician José Merizalde suggested the construction of lazarettos in different regions of the country where the sick could devote their days to agricultural work.¹¹⁵

¹¹³ Grillo, Cortés, and Anzola, 11.

¹¹⁴ Restrepo Zea, *El Hospital San Juan de Dios 1635-1895*, 113.

¹¹⁵ Restrepo Zea, 126.

Agricultural and horticultural practices were also applied as a means to shape orphans' moral and physical qualities. In the aforementioned report considering the charity hospitals' infrastructure of Bogotá in 1884, the physicians' board asserted the following regarding the Hospicio de Niños Desamparados (Orphanage of Abandoned Children):

The institution lacks means to make of all those escaped-of-dead children useful men. Any orphanage to be complete, in order to be a real charity institution, must have arts and crafts studios. But, overall, they need to have spacious growing fields to transform the kids into healthy farmers, that once go out of the cloister that hosted them, devote themselves to agricultural works.¹¹⁶

The Hospicio de Niños Desamparados was also known as San José Orphanage. Created by the Cundinamarca Charity Commission in 1882, the orphanage first used a location adapted for it in the village of Chapinero, which had provoked the above complaint about its precarious facilities. However, the bill 39 of April 29th in 1913 ordered the construction of a new orphanage. Construction began in 1917 on the Bogotá outskirts in Chapinero; however, progress was delayed due to recurrent economic constraints and problems around the water supply, and the new institution was not opened until 1919. Given the possibilities offered by the new location, there was an increase in the activities seeking to make useful citizens of the orphans. As in the case of criminals and ill people, agricultural work was considered central to their social re-shaping process. The pasturelands surrounding the main building were transformed into a vegetable field where children grew vegetables. Additionally, in order to instil a sense of responsibility amongst the orphans, each was in charge of a particular furrow in which they had to grow and harvest their own vegetables. As a *Cromos* magazine journalist described, 'Beyond the court, were kids had their crops, the pasturelands stretched. Each of those children was in charge of a fallow that must be cultivated under the Director's surveillance. This sought to stimulate in those future-less kids the love for the countryside, the earth and the agriculture.'¹¹⁸

Whereas agricultural activities were common in other institutions of this type, the San José Orphanage is remarkable due to the outstanding levels of horticulture and gardening reached within this charity institution. Although most of the evidence remains only in the form of photographic traces, it seems that in addition to being responsible for the

¹¹⁶ Grillo, Cortés, and Anzola, *Informe de La Comisión Que Visito Los Establecimientos de Caridad Dependientes de La Junta General de Beneficencia* (1884), 8.

¹¹⁸ Editorial, *Revista Cromos* (Bogotá), 1 Marzo 1919.

gardening of the ancient colonial squares, the self-taught gardener Casiano Salcedo also oversaw the San José Orphanage's horticultural works. This could explain, to some extent, the uncommon level of sophistication presented in the orphanage's gardens, manifested, for example, in the presence of topiary and the utilisation of climbing vines to cover the building walls, a practice commonly used in the construction of British gardens (Figs. 5.15).

The remaining visual traces of the San Jose Orphanage gardens reveal how the creation of green spaces through the manipulation of plants was not only present in Bogotá's parks and public gardens, but also in cloister-like institutions devoted to the improvement of some social actors. In sum, the establishment of trees in mental asylums and gardens in orphanages elucidates the intimate relationship between bodies and space through the use of plants as key linkages.



Figure 5.15. Anonymous, San José Orphanage gardens, 1920, coloured photograph. Biblioteca Luis Ángel Arango, Bogotá (Sala de Manuscritos y Libros Raros, FT 1920).

5.5 Conclusion

Divided into three parts, this chapter has addressed i) the ideas based on which plants were positioned within the modern city; ii) the physical transformation of some pre-modern urban spaces into modern parks and gardens; and iii) some social consequences of this urban transformation.

To examine the ideas about plants that ensured them a place within the modern city, section 5.2 described the poor hygienic conditions existing in nineteenth-century Bogotá and how doctors were the social actors responsible for resolving this problem. Examining the role of doctors in the production of the modern city entailed a reflection on nineteenth-century perceptions of cure and disease, including the central role of plants as organic filters able to clean bad air of noxious miasmas and germs. Their scientifically proven qualities positioned plants as key non-human actors in the treatment and cure of both physical and moral decay. Therefore, the symbolic status of plants as a prophylactic device deriving from the scientific discovery of photosynthesis made them important elements in fighting ill environments and ill people in the unhealthy and immoral nineteenth-century Bogotá.

Section 5.3 presented how ideas of plants as organic filters and prophylactic devices had their physical expression through the construction of garden and parks upon the ancient colonial squares in Bogotá. This section described how spatial transformations through the use and manipulation of plants led to changes in the urban flora as well as approaches toward plants, as reflected in the modification of quotidian ways of interacting with places endowed with plants. Historically used as raw materials in the physical production and functioning of Bogotá (i.e., firewood and lumber), plants took on new roles as modernisation imposed a certain level of horticultural care and expectations of specific social manners to be displayed in parks and gardens. Under this new urban regime, modern green spaces became the product of constant social negotiations between controlling entities and the people's agency. Thus, the development of modern environments represented the result of a contestation between different ways of understanding and living in the city.

The final part of this chapter stressed the political role acquired by plants in the modernisation of Bogotá. By highlighting the use of plants in hospitals and orphanages, Section 5.4 revealed the unexplored role of plants as biopolitical devices contributing to the production of normalised citizens. This section illuminated how in the institutions devoted to housing Bogotá's undesirables, plants were not only valued due to their beneficial effects upon the atmosphere, but also through the work and discipline demanded by horticultural practices, which was perceived to confer moral fortitude on orphans, criminalised individuals, and the physically and mentally ill.

This chapter has revealed how the production of a given urban environments not only responds to a planting process able to ‘green’ some urban spaces. Using the implementation of gardens and parks in Bogotá and their derivative conflicts as an example, it also elucidated how green spaces cannot be considered only from their floristic dimension, but rather must be understood through a large-scale analysis that includes the social relationships emerging as part of their production. Finally, it is important to remark how the presence of plants anticipated their use and appropriation by the Bogotánians; that is to say, the modern green space was not the product of a historical human-plant relationship but rather was shaped by the superimposition of certain ways of understanding plants upon a guided and planned organisation of floristic elements.

Having established the role of plants in shaping both spaces and bodies, it is important to highlight the social characters who made possible the transition from a colonial-like urban environment of private *solares* and *patios* into a modern city of public green spaces of parks and gardens. As a consequence, the next chapter will reveal the people and plants that were actively involved in this process.

VI

THE BODY OF KNOWLEDGE IN THE CONSTRUCTION OF THE MODERN AND HYBRID GREEN SPACE

6.1 Introduction

The lack of civility in the use and appropriation of parks and gardens was not the only problem experienced in the creation of Bogotá's modern green spaces. The absence of a gardening culture in the pre-modern city prevented an adequate adoption of European ideas in relation to horticultural practices. As Genaro Valderrama, the General Inspector of Parks and Public Gardens of Bogotá in 1895 described the situation:

‘What we have been calling here with the flamboyant name of parks. They are not. They cannot be parks because of the tiny space of these squares where only exist a bunch of trees placed without neither any taste nor art and without and gardening rules.’¹

This chapter seeks to shed light on the conditions that promoted the lag in gardening knowledge required to turn Bogotá into a ‘green’ and modern city. Linked to that, this chapter also highlights the most prominent human figures who, in acting alongside plants, translated the general ideas around green spaces imported from abroad into the local condition. Emphasising the interwoven relationships between people and plants, this chapter reveals the creation of hybrid floras as one of the most important consequences of the urban transformation of Bogotá.

This chapter is divided into three sections. Section 6.2 identifies some of the reasons for the underdeveloped gardening culture in Bogotá. Section 6.3 provides a detailed presentation of the people initially involved in the creation of gardens and parks in Bogotá. In doing so, this section reveals that whereas the initial translators of the modern green spaces in Bogotá were foreigners, the most prominent actors of this process were local self-taught gardeners. Finally, Section 6.4 examines how with the incorporation of Colombia into the world trade system, ornamental plants turned into commodities, thus causing an active introduction of previously unseen plants, which co-existed alongside

¹ Correspondence between Genaro Valderrama, and Minister of Economic Affairs, 22 July 1895, folio 66-7, tomo 823, fondo Ministerio de Obras Públicas, AGN.

Bogotá's native and previously introduced species, thereby resulting in the creation of a hybrid urban flora.

6.2 Historical conditions underlying the local horticultural knowledge gap

6.2.1 The historical lack of ostentation spaces in Bogotá

The vast expanse of territories under the control of the Spanish crown in Latin America limited the exercise of power in their new colonies. In order to administer their possessions, Spaniards settled either in historically highly populated places where they could supplant the previous rulers or places where it was easy to engage in trade. The superimposition of Mexico upon Tenochtitlan represents the first case; Lima's positioning close to the Pacific Ocean was the consequence of the latter.² From these two cities (Mexico and Lima) the Spaniards had to administer a territory of roughly 10 million km², leaving thus many grey areas in terms of political control. Named as *Capitanias Generales* (Captaincy Generals) these power interstices were significantly poorer and less developed than the radian viceroyalties. This was the case with La Nueva Granada, a Captaincy General subordinated to the Lima viceroyalty and significantly poorer than that city.

The Nueva Granada acquired an independent administrative identity in 1717 when was proclaimed as a new viceroyalty by the Spanish crown. Santa Fé de Bogotá was declared its capital after prevailing over Cartagena de Indias in their contestation for that status. Nevertheless, conditions in the territory did not change much. Nueva Granada's subordinated position to the government in Madrid, along with its geographical isolation, engendered a general endemic poverty that extended throughout the Colonial, Republican, and modern periods. Any Crown officials such as viceroys or judges assigned to Santa Fé de Bogotá knew they would be in a remote and poor province completely lacking the lively environment enjoyed in places such as Potosi, Cuzco, Lima, or Mexico City. The recreation of royal manners and the aristocratic style of life simply was not possible in Santa Fé.

Its inferior political and economic conditions implied that control of the city was practically surrendered to Church powers. Thus, Bogotá's more significant buildings were precisely those belonging to the numerous religious orders entrenched in the colonial

² Romero, *Latinoamérica Las Ciudades y Las Ideas*, 46-68.

administration. The colonial city was not adorned with palaces or palace-like constructions that reflected the social status of the bureaucratic body that decided matters on the king's behalf. As a result, viceroys were consigned to a rammed earth and tiled house located in the south-east corner of the Plaza Mayor (Fig. 6.1).³ Known as the *Palacio de los Virreyes* (Viceregal Palace), its localisation in the Plaza Mayor and relatively large dimensions were the only physical manifestations of the social importance of its dwellers. It is worth mentioning that the palace became uninhabitable after suffering important damages in an earthquake in October 1743; although repairs were made, it was ultimately demolished in a fire in May of 1786, which also destroyed important manuscripts documenting the city's history.⁴ As a consequence, the last colonial viceroys had to use a rented property belonging to the prominent Saenz de Santamaria family as their residence.⁵ Neither the Palacio del Virrey nor the Santamaria house was endowed with gardens or green spaces as a representation of the social position of their dwellers, and the only possible manifestation of status created through the manipulation of plants occurred in the *patios* (Fig. 6.2). As previously highlighted in Chapter 4, this situation reflects the intimist nature of Bogotá and underpins most of the nineteenth century travellers' writings portraying it as a conventual and enclosed city.

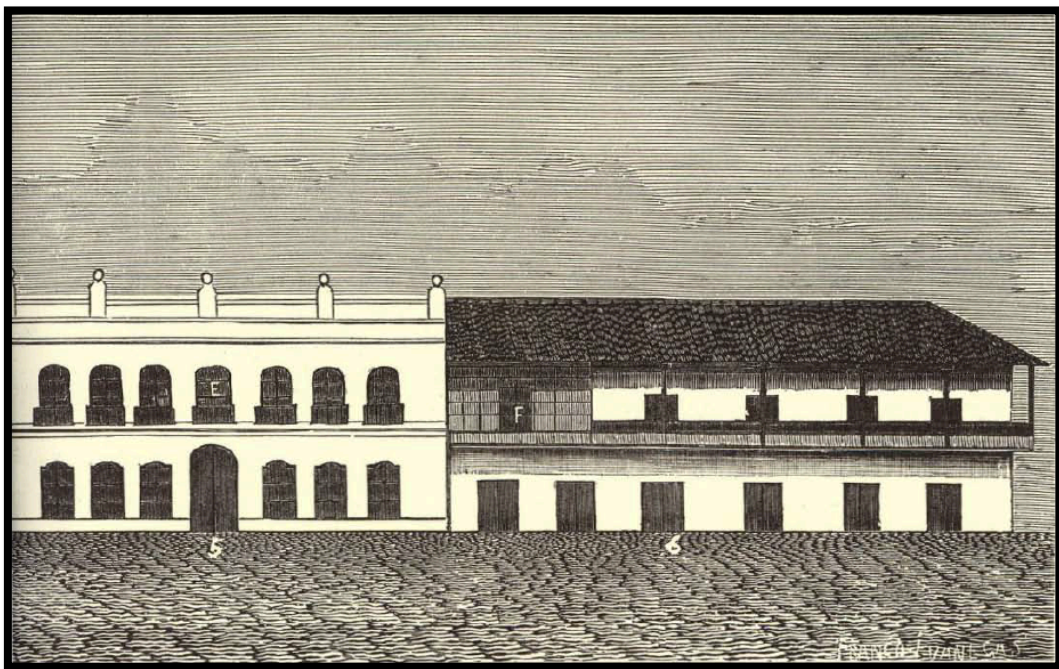


Figure 6.1. Ramón Torres, palacio Virreinal (right), 1884, woodcut. In *Papel Periódico Ilustrado* (Bogotá), Jul. 20, 1884, 377.

³ Posada, *Narraciones*, 141.

⁴ *Ibid.*, 149, 152-154, 160.

⁵ *Ibid.*, 156-157.

The declaration of independence from Spain in 1810 and the final achievement of absolute independence in 1819 entailed deep social transformations occurring amidst constant turmoil. Along with its geographical isolation and the lack of a true economy of production, the war of independence and a succession of post-independence civil wars prevented the new country's complete insertion in the flourishing worldwide trade networks. In other words, the independence process and the upheavals of the early Republican period aggravated the already precarious economic conditions presented during colonial times and led to a general pauperisation of the society. As recounted by several scholars, the state of the newly free nation's poverty was manifested in many aspects of daily life as well as the general state of the infrastructure.⁶



Figure 6.2. Patios of the house rented by Nueva Granada's last viceroys. Author's photographs.

⁶ For instance, see Martínez, 'La Vida Material en los Espacios Domésticos'; Restrepo Zea, *El Hospital San Juan de Dios 1635-1895*; Eduardo Posada Carbó, ed., *Colombia. La Apertura al Mundo*, vol. III, V vols., América Latina en La Historia Contemporánea (Barcelona: Fundación MAPFRE & Taurus, 2015).

One of the most evident restrictions imposed by the lack of money was the incapacity to undertake the urban growth projects urgently needed to accommodate the city's increasing population (see Chapter 4). This infrastructural challenge not only affected residential areas, but also had massive consequences on the civil buildings that were to represent the new order imposed under democratic ideas. This situation is exemplified by the numerous problems that had to be addressed in the construction of public buildings in Bogotá. For instance, the construction of the Country's Congress House, known as the *Capitolio Nacional*, was ordered in 1846. This building was initially intended to host the Congress, Supreme Court, notary, national register, and four executive branch secretaries as well as the president and his family. Its construction began the following year; however, due to the lack of qualified architects, recurring civil wars, budget shortfalls and many other mishaps, the project suffered repeated delays and was only finished 80 years later, in 1926, by which time when Bogotánians had begun calling the building *el enfermo de piedra*, or 'the sick stone'.⁷ It should also be underlined that the building's design did not include any gardens.

The difficulties hindering the development of a civil architecture were similarly evidenced in the case of the so-called *Palacio Presidencial* (Presidential Palace). As was the case for many other official Republican institutions placed in colonial buildings constructed for other purposes, the Presidential Palace was built as a Jesuit seminary in 1604. Following the expulsion of the Society of Jesus order in 1776, the building was used as a library and the quarters of the Auxiliary Battalion.⁸ In the 1820s, this colonial building was re-named as the Palacio Presidencial and used as the executive residence. Nonetheless, its architecture did not embody the symbolic role of its illustrious inhabitants. As Sir James Steuart described the building in 1836, 'The *Palace*, so called, is a shabby affair, and has nothing too particular to distinguish it from many other buildings around. The lower apartments facing the street were once let out as shops; now, however, they are with more propriety shut up'.⁹ As in the case of many other official offices, the only presence of plants was in the patio, where, given its reduced space, only a few plants thrived, among them one majestic *nogal* (Colombian walnut) planted in 1824, the continued survival of

⁷ Patricia Londoño, 'La Cultura,' in *Colombia. La Apertura al Mundo*, ed. Eduardo Posada Carbó, vol. III, V vols., América Latina En La Historia Contemporánea (Barcelona: Fundación MAPFRE & Taurus, 2015), 265–340; J. Alexander Pinzón, 'El Capitolio Nacional,' *Historia, Credencial*, Mayo 2018, <http://www.banrepcultural.org/biblioteca-virtual/credencial-historia/numero-341/el-capitolio-nacional>.

⁸ Posada, *Narraciones*, 192-193.

⁹ Steuart, *Bogota in 1836-7*, 117.

which upon the palace's eventual abandonment was noted by Posada in his 1906 *Narraciones*.¹⁰

The lack of power representation through the use of plants that was common in other presidential houses (e.g., the White House gardens) was also absent in the new building that replaced the Palacio Presidencial. Opened in 1908 and named *La Casa de Nariño*, this building's neoclassic architecture did not incorporate any gardens in its original layout. It was not until a significant refurbishing process in 1972 that the small garden known as the Jardín del Observatorio (see Chapter 5) was incorporated into the executive headquarters. Thus, the organisation and manipulation of nature represented in plants was not among the priorities exercised in the power displays of the Republican Colombian government, with the result being that there was no socio-political milieu to facilitate the creation of a gardening body of knowledge.

In sum, some historical facts can be argued to explain the lack of a developed gardening culture in Bogotá. The rather antagonistic and peripheral position of the New Granada viceroyalty in the eyes of the Spanish crown was reflected in the lack of a real aristocracy, thus resulting in severe limitations on spaces of ostentation. Circumscribed to interior spaces, elites never considered the creation of gardens. Finally, the same poverty that manifested the disdain shown toward Bogotá by the Spanish monarchs cast the shape of the early Republican city's development. The lack of money impacted both the timing and forms of construction of the places of Republican power display and therefore forestalled the creation of green spaces and the appearance of gardeners in the city.

6.2.2 The lack of gardening knowledge

The above-mentioned socioeconomic causes that forestalled the development of a solid gardening tradition in Bogotá were strongly influential in the underdevelopment of horticultural knowledge. A poor society that could not afford to create spectacular places of power manifestation using gardens also could not produce the required body of knowledge to undertake the urban planting campaigns typically brought with the modernisation process. However, the unavailability of horticultural expertise needs to be further analysed in light of the constant advances in the botany field that had occurred in

¹⁰ Posada, *Narraciones*, 196, 199.

Colombia since the last decades of the eighteenth century as well as the overwhelming floristic richness present in the Andes, which was systematically overlooked by the local botanists. Accordingly, this subsection presents the most prominent enterprises and people involved in the development of botanical knowledge in the region and how despite its remarkable importance, all of these social actors barely contributed to the consolidation of a local gardening expression.

6.2.2.1 La *Expedición Botánica* and other botanical contributions

In 1783, Carlos III king of Spain proclaimed.

Being convenient for myself and for my vassals, the exam and the methodical knowledge about the natural products in my American realms, not only to promote the progress in the physical science but also to eradicate the doubts and alterations within the medicine, the dyes and other important arts. And to boost the trade and to create herbariums and collections of natural products, describing and drawing the plants growing there in my fertile provinces in order to enrich my natural history cabinet and the royal botanical garden, and sending seeds and alive roots belonging to the plants and tree more useful highlighting those that can be useful in the medicine and in the naval construction.¹¹

This order was a royal authorization to create a scientific expedition in the Nueva Granada Viceroyalty. Undertaken by the House of Bourbon in their colonies, the expedition encompassed scientific endeavours in Nueva España (currently Central America), Perú, and the Philippines. The *Real Expedición Botánica del Nuevo Reino de Granada*, known simply as the *Expedición Botánica*, was headed by José Celestino Mutis, a scholar from Cádiz with studies in Latin grammar, mathematics, philosophy, and medicine.¹² Arriving in 1761, Mutis was in an excellent position. He was assigned to his task directly by a King's order, and he had a \$ 2,000 of monthly salary and unlimited resources from the Crown.

¹¹ The original text is as follows: Por cuanto conviene mis servicio y bien de mis vasallos, el examen y el conocimiento metódico de las producciones naturales de mis dominios en América, no solo para promover los progresos de las ciencias físicas, sino también desterrar as dudas y alteraciones que hay en la medicina, tinturas y otras artes importantes, y para aumentar el comercio, y que se formen herbarios y colecciones de productos naturales, describiendo y delineando las plantas que se encuentren en aquellas mis fértiles provincias para enriquecer mi gabinete de historia natural y jardín botánico de la corte, y remitiendo a España semillas y raíces vivas de las plantas y árboles mas útiles, señaladamente de las que merezcan emplearse en la medicina y en la construcción naval. See: Florentino Vezga, *La Expedición Botánica*, Biblioteca Aldeana de Colombia (Bogotá: Editorial Minerva, 1936), 27–28.

¹² Vezga, 20.

This expedition can be understood as the late-period Spanish Crown's adhesion to enlightened science based on the classification and economic utilisation of natural resources. Under this scenario, the main outcomes produced by the Expedición Botánica would be i) the cataloguing and inventory of plants through botanical collection and drawings and ii) the discovery of plants with potential economic uses. More than 30 expert illustrators were hired by the Expedición to complete over 2,000 plant illustrations from the mountains and lowlands around Bogotá (Fig. 6.3).¹³ In addition, the knowledge accumulated by Mutis in his fieldwork enabled him to recognise some potential vegetal products to be introduced to Spain. For example, he investigated the properties of *canelo de paramo* (*Drymis granatensis*) and laurel (*Laurus cinamomoides*) as an American version of Asian cinnamon. In the same way, he tried to place Bogotá's tea (*Altonia theaformis*) as an alternative tea source in the Spanish market as a counter to British dominance, and he attempted to establish the cultivation of indigenous nutmeg (*Myristica toba*) in the hot-weather town of Mariquita close to Bogotá.¹⁴

It was in the field of medicinal plants where the Mutis' works acquired the most relevance for Spain. He studied the emetic properties of *ipecacuanha* (*Carapichea ipecacuanha*) and the balsamic characteristics of the *Myroxylon balsamum* plants that reached the ports of Spain as economically valuable products. Mutis ultimately gained recognition and wealth through his works with different types of *quinas* (*Chinchona* spp.). Belonging to the same botanical family of coffee, the bark of these trees was the natural source of quinine, a medicine primarily used in the treatment of malaria and other intermittent fevers. With the studies on *quinas* undertaken by Mutis, it seems that all of the expedition's efforts finally yielded fruit with the discovery of a product that could be monopolised by the Spanish Crown.¹⁵

¹³ Some other plants from what is now Ecuador brought by Francisco Jose de Caldas are also among the collection.

¹⁴ Vezga, *La Expedición Botánica*, 100; Mauricio Nieto, *remedios para el imperio. Historia natural y la apropiación del Nuevo Mundo*, 2 ed. (Bogotá: Universidad de los Andes, 2006).

¹⁵ Nieto, *Remedios para el imperio. Historia natural y la apropiación del Nuevo Mundo*.



Figure 6.3. Salvador Rizo, *Mutisia clematis* (a plant whose botanical genus was created by Linnaeus on behalf of Mutis), ca. 1800, watercolour on paper, 54 x 38 cm. Real Jardín Botánico-CSIC., Madrid In: www.rjb.csic.es/icones/mutis

Although the commerce of ornamental plants was already well-developed by the end of the eighteenth century in places such as the United Kingdom, and gardening practices had long ago reached the Spanish royal court (the gardens in the *Buen Retiro* park were established in the seventeenth century), it seems that the exploration of flowering or ornamental plants was not among the Crown priorities. As such, this scientific enterprise established a research agenda based mostly on commercial botanical products; thus, botanical classification was largely an instrument to distinguish useful plants from the merely ornamental. Thus, despite accumulating a collection of over 20,000 plants from Bogotá's surroundings,¹⁶ as well as the establishment of a tiny botanical garden later used in 1803, to set up an astronomical observatory,¹⁷ neither Mutis nor the other members of the

¹⁶ Pedro Ibáñez, 'Memorias para la historia de la medicina en Santafé de Bogotá', *Revista Médica*, Jul. 20, 1882.

¹⁷ About the astronomic observatory Caldas published a detailed description of it in the *Semanario de la Nueva Granada*. However, Caldas did not devoted a word to the garden where this building (first of its class in the entire American continent,) was placed. See: Sociedad de Patriotas Granadinos and Francisco José Caldas, *Semanario de La Nueva Granada. Miscelánea de Ciencias, Literatura, Artes é Industrias*, ed. Laserre (Paris: Librería Castellana, 1849), 44–48.

expedition showed any interest in the potential ornamental uses of many of the collected plants. Equally, they did not show any particular curiosity concerning the development or adaptation of breeding techniques for either edible or ornamental plants.

Nonetheless, stretching for twenty-five years, the Expedición Botánica was the breeding ground where young generations of *Criollos* (Creoles) of the elite class gathered around scientific and intellectual ideas inspired by the French Revolution.¹⁸ Mutis' arrival in today's Colombia can be recognised as the entrance of Enlightened ideas to a colony mainly ruled by the church powers. The Expedición Botánica, enormously influenced the developments of both political ideas and the progress in the plants and animal studies in Colombia.

6.2.2.2 The underestimation of the ornamental plants by the nineteenth-century botany in Colombia

The Expedición Botánica was without any doubt the seed from which natural science research sprouted in the territory currently known as Colombia, and its legacy extended throughout the nineteenth century. The initial transmission of the knowledge gathered in the Expedición to the new generations of Republican Colombians was made by Francisco Javier Matís. A native of the small town of Guaduas, Matís was recruited by Mutis as one of the expedition's illustrators. After nearly two decades of work, he developed outstanding artistic skills; Humboldt declared him as the 'best flower illustrator on the earth'.¹⁹ His drawing practice also enabled Matís to acquire an incredible botanical knowledge based on the Linnaean classification of plants through their sexual characteristics. Having survived the bloody re-conquest operation undertaken by the Spanish crown during the struggle for independence, Matís became the link between the older and emerging generations of botanical knowledge. The new government named him as a botany professor in the San Bartolomé school, a position in which he was later succeeded by another eminent botanist, Juan María Cespedes. As the last living member of the Expedición Botánica, Matís was an invaluable source of botanical knowledge, and

¹⁸ Most of the members of the Expedición Botánica were fierce supporters of the independence cause. For that reason, they were executed in *la Plaza de Los Mártires* as part of the bloody re-conquest campaign led by the Spanish military Pablo Morillo between 1810 and 1819.

¹⁹ Humboldt would say about Francisco Matís "le premier peintre de fleurs du monde et un excellent botaniste à Santa Fé élève de Mutis. See: Eugenio Cabrera, "Reseña del arte en Colombia durante el siglo XIX," *Anuario Colombiano de Historia Social y de la Cultura* 0, no. 3 (January 1, 1965): 71-118.

even when became too old to conduct fieldwork, he was known to have his students carry him on their backs to Bogotá's Eastern Hills. Among Matis' (and Cespedes') students, two were instrumental in advancing further botany developments in Colombia: José Jerónimo Triana and Francisco Bayón.²⁰

Triana participated in Colombia's most significant scientific expedition in the Republican period. The *Comisión Corográfica* (Chorographic Commission) was established in 1850 during the government of Tomas Cipriano de Mosquera and extended the legacy left by the Expedición Botánica. Headed by the Italian engineer Agustín Codazzi, its aim was to make a complete description of Colombia (then called New Granada) and its provinces, including natural resources and peoples, as well as to draw the borders of the new-born country. Triana was in charge of the commission's botanical investigations, and the experience he obtained through his participation greatly enriched his knowledge, consequently positioning him as one of Colombia's most eminent nineteenth-century botanists. His works included the re-discovery and publication of some of the Expedición Botánica outcomes, which he accomplished along with some of the most outstanding botanists of his time, such as Julie Emile Planchon. Triana also attempted to complete the classification flora Bogotá's flora begun by Mutis a half century earlier, an endeavour for which he engaged in an even more detailed collection of plants both around Bogotá and within the city's built environment. Triana's contribution to botanical knowledge was considerable; however, although he had spent much of his life in London and Paris, where the horticulture developments had reached outstanding levels closing the century,²¹ as in the case of Mutis, his works were focused on the catalogue and inventory of the Colombian plants rather than the use of plants as raw materials in the creation of urban spaces.

Francisco Bayón, the other disciple of Matis and Cespedes, was another important character in the history of Colombia's botanical development. Along with his teacher José

²⁰ Santiago Díaz Piedrahita, *Matis y los dos Mutis: Orígenes de la anatomía vegetal y de la sinanterología en América*, Colección Enrique Pérez Arbeláez (14) (Colombia Academia Colombiana de Ciencias Exactas, Físicas y Naturales, c2000, 2000); Felipe Martínez-Pinzón, 'Francisco Javier Matis, el Negro Pío, un águila y la hoja del guaco: una contranarrativa de la visión espacial de las élites sobre el trópico,' *Maguaré* 26, no. 1 (Enero 1, 2012): 41–74.

²¹ Santiago Díaz Piedrahita, *José Triana: Su Vida, Su Obra y Su Época* (Colombia: Academia Colombiana de Ciencias Exactas, Físicas y Naturales, 1991); Ruth Nohemi Acuña Prieto, *José Jerónimo Triana: Heredero de Una Tradición Botánica*, Cuadernos de Pioneros de Museología (Bogotá: Universidad Nacional de Colombia, 2011).

María Cespedes, Bayón devoted considerable efforts toward the modernisation of botanical knowledge, importing books to explore sub-fields such as physiology and vegetal pathology as well as learn new approaches to understanding plant anatomy and taxonomical classification.²² His commitment in the spread of the botanical knowledge led him to create the Caldas Society in 1856 as a means to facilitate the study of plants. The Caldas Society was composed of six students, amongst whom it is important to highlight the participation of Florentino Vezga, Agustín Codazzi, and particularly *Genaro Valderrama*, who would become one of the most important characters in the creation of Bogotá's modern parks and gardens. After completing fieldwork in the area of Mount Monserrate,²³ the society founded the first Republican scientific society, the Sociedad de Naturalistas Neogranadinos (Nueva Granada Society of Naturalists).²⁴ Beyond his role as an educator, Bayón conducted interesting research on the Colombian timber trees, which was published in 1871 as *Ensayo de Jilolojia Colombiana o Clasificación y descripción de las maderas Colombianas*. Hired as a professor of botany at the Universidad Nacional in 1867, Bayón took advantage of the wood collection preserved there and organised the specimens according to Stephano Endlicher's taxonomical classification, ultimately producing a comprehensive catalogue of the most important timber trees in several regions of Colombia. However, given the nature of his research, investigations of ornamental trees were excluded.²⁵

Following a similar botanical approach, Santiago Cortés published a multi-volume work called *Flora de Colombia* in 1898, which included a book concerning 'the therapeutic flora, the industry, the catalogue of vernacular plants names and an introduction to the geology'. Published due to the initiative of the physician Pedro Ibañez, this book gathered the findings of local botanists such as Triana, Bayón, Andres Posada, and Wenceslao Sandino Groot, as well as descriptions of Colombian flora made by scientific explorers

²² Santiago Díaz Piedrahita, 'La Escuela de Ciencias Naturales de La Universidad Nacional,' in *La Universidad Nacional En El Siglo XIX. Documentos Para Su Historia*, ed. Estela Restrepo Zea, Colección CES (Bogotá: Facultad de Ciencias Humanas, Universidad Nacional de Colombia, 2004), 15.

²³ This group of young people was formed by: Juan Manuel Aguilar, Francisco Bayón, Romualdo Cuervo, Daniel Carroll, Agustín María Hinestrosa, Alejandro Lindig, Pataleón Gutiérrez, Esteban Miguel Pupo, Mamerto Montoya, Margario Quintero, Timoteo Ricaurte, Daniel Rodríguez, Ezequiel Uricocha, Genaro Valderrama, Liborio Vergara, Florentino Vezga, Liborio Zerda, Idalecio Liévano y Braulio León. See: Vezga, *La Expedición Botánica*, 9.

²⁴ Diana Obregón, 'La sociedad de naturalistas neogranadinos y la tradición científica,' *Anuario Colombiano de Historia Social y de la Cultura*, no. 18–19 (Enero 1, 1991): 101–23.

²⁵ Francisco Bayón, *Ensayo de Jilolojia Colombiana, o Clasificación I Descripción de Las Maderas Colombianas* (Bogotá: Imprenta de Medardo Rivas, 1871).

such as Alexander von Humboldt, Aimé Bonpland, Carl Sigismund Kunth, George Karsten, Hugh Algernon Weddell, and Berthold Carl Seeman.²⁶ Despite the expansiveness of the Cortés' work, like that of his predecessors, there are few mentions of the ornamental potential of Colombian flora. Cortés did comment on some native and introduced plants used in the gardens of Bogotá, such as the Californian poppy (*Eschscholzia californica*) and the zulia (*Lobelia tenera*),²⁷ thereby indicating that, as will be present later in this chapter, there was already an established trade of plants between Colombia and other countries in the world by the end of the nineteenth century.

Finally, another example of this systematic underestimation of the ornamental plants by a botanist is the publication of another *Flora de Colombia* by Jorge E. Bravo in 1900. A mining engineer educated in the United States, Bravo was part of the staff in service during the construction of the Panamá Canal and was also a teacher at the International School of Scranton. While at this North American institution, he published a selection of the most important timber trees in Colombia, classifying them according to the quality of their woods, as well as a similar wide-ranging classification of Colombian fruit trees. Bravo's work also included brief descriptions of plants used for dyeing, resins, gums, oils, perfumes, and edible, medicinal, and poisonous flora. His book closed by addressing a superficial revision of the useful characteristics of the Colombian palms.²⁸ Bravo's publication is interesting for several reasons. On the one hand, it reveals how by the time of the century's transition, as will be presented in Chapter 7 addressing the eucalyptus case, engineers had replaced botanists and physicians as the professionals in charge of unveiling Colombian botanical richness. On the other hand, Bravo's utilitarian focus on the profitable characteristics of the flora overrode their taxonomical classification that had been among the cornerstones of modern botany. The assignment of scientific names to the plants described in Bravo's book was a subsequent task made by the naturalist Juan F. Pestico. Finally, despite recognising that 'Probably, none another country on the world has the richest flora than Colombia, and only a few countries have something similar',²⁹ Bravo's *Flora de Colombia* followed the tradition of the previous Colombian botanical publications

²⁶ Santiago Cortés, *Flora de Colombia*, vol. I, II vols. (Bogotá: Tipografía de Samper Matiz, 1898).

²⁷ Cortés, I:82, 115.

²⁸ Jorge Bravo, *La Flora Colombiana: Estudio Sobre Las Maderas de Colombia* (Bogotá: Imprenta del Comercio, 1900).

²⁹ Bravo, *Flora de Colombia*, 2.

produced during the nineteenth century in omitting any examination of the ornamental potential of the local flora.

6.2.2.3 The plant hunters

The underestimation of the incredible ornamental potential of native flora as a profitable economic activity in Colombia contrasted with the important role of such plants in European countries. This part of the chapter examines how plant hunters exploited the extremely rich native flora as a source of the wealth through a systematic extraction of flowering plants in different Colombian regions. This section also shows how, although some of these plant hunters embodied important gardening and horticultural knowledge, none of this was conferred upon Colombia.

The works of nineteenth century Colombian botanists were extremely important in revealing the country's biological richness and highlighting its potential use as a source of an economic wealth and 'progress'. This botanical perspective was in consonance with the economic perspectives of other countries which had not participated as active players in the Industrial Revolution and were thereby relegated as raw materials suppliers. As such, the economic perspectives of peripheral countries such as Colombia focused on the exploitation of their vast 'uncultured nature' or large-scale agriculture production.³⁰ However, this expansion of the capitalist system and its appropriations of raw materials had an urban dimension that went unperceived by Colombian botanists. The historical lack of ostentation places that derived into an absence of gardening knowledge averted them from recognising the potential of the native plants as a raw material in the construction of urban spaces.

In contrast, an enormous trade in ornamental plant had flourished in Europe since the mid-nineteenth century. The urban growth experienced in many European cities as a consequence of the new ways of production introduced during the Industrial Revolution resulted in significant environmental deterioration.³¹ The apparent loss of nature and degeneration of health conditions entailed a growth in gardening practices, particularly

³⁰ This economic perspective would reach large dimensions in the first decades of the Twentieth century with the exportation of raw material in Latin America. In Colombia, for instance, this took the form of coffee cultivation. See: María Ramirez, 'El Proceso Económico' in *Colombia. La Apertura al Mundo*, ed. Eduardo Posada Carbó, vol. III, V vols., América Latina En La Historia Contemporánea (Barcelona: Fundación MAPFRE & Taurus, 2015), 137–99.

³¹ About the environmental degradation in the European cities, see Lee Jackson, *Dirty Old London: The Victorian Fight against Filth* (New Haven: Yale University Press, 2015).

among the upper classes, who were looking to recreate the lost nature.³² Previously limited to royalty, gardens turned into symbols of power and wealth display and their popularisation engendered a constant demand for rare and unknown species. This trend reached its highest expression in England where, as Rebeca Preston described, ‘Horticulture, like natural history developed in an *ad hoc* fashion, seeking, collecting, cataloguing, and improving species for British consumption’.³³ The intensive consumption of plants was based on a succession of technical developments that allowed architects and engineers to produce structures such as conservatories and crystal palaces able to transport and acclimatise foreign species.³⁴ Equally, the expansion of the capitalist trade and the concomitant improvements in transport systems expanded the frontier of ornamental plants. Thus, remote places in China or Latin America saw the transit of plant hunters who, often putting their own life under risk to feed the expanding market of flowering plants established in Europe as a consequence of the spread of urban ways of life.³⁵

When travelling through the Colombian territories, plant hunters had to overcome incredibly rough conditions and dangers imposed by the same tropical nature that would provide them with the plants they sought. Some found their deaths in this region, such as Henry Chesterton, a well-known British orchid hunter hired by the prestigious firm James Veitch and Sons, who died in unknown circumstances in 1883 in Puerto Berrío, a commercial town by the Magdalena River in the Antioquia Province.³⁶ The difficulties faced by orchid and other plant hunters are well exemplified in the travelogue produced by Albert Millican, one of the most important orchid hunters who passed through Colombia, in 1891. As Millican described one expedition, ‘First we were scrambling over some fallen trunks, then cutting our way through a thicket of prickly acacias; sometimes wading up to

³² Nicholas Green, *The Spectacle of Nature: Landscape and Bourgeois Culture in Nineteenth-century France* (Manchester University Press, 1990).

³³ Rebecca Preston, ‘The Scenery of the Torrid Zone’: Imagined Travels and the Culture of Exotics in the Nineteenth-Century British Gardens,’ in *Imperial Cities*, ed. Felix Driver and David Gilbert (Manchester: Manchester University Press, 1999), 279.

³⁴ Andrew Hassam, ‘Portable Iron Structures and Uncertain Colonial Spaces at the Sydenham Crystal Palace,’ in *Imperial Cities*, ed. Felix Driver and David Gilbert (Manchester: Manchester University Press, 1999), 174–93.

³⁵ Plant hunting has been a topic broadly explored by scholars such as Ward as well as inspiring at least one literature publication: see Susan Orlean, *The Orchid Thief: A True Story of Beauty and Obsession*, 13th edition (New York, NY: Ballantine Books, 2000); Bobby J. Ward, *The Plant Hunter’s Garden: The New Explorers and Their Discoveries* (Timber Press, 2004); Albert Millican, *Travels and Adventures of an Orchid Hunter: An Account of Canoe and Camp Life in Colombia, While Collecting Orchids in the Northern Andes - Primary Source Edition* (Nabu Press, 2014).

³⁶ James Herbert Veitch, *Hortus Veitchii: A History of the Rise and Progress of the Nurseries of Messrs. James Veitch and Sons* (Cambridge: Cambridge University Press, 2011).

the knees in ditches caused by the heavy rains; at other times swinging ourselves, monkey-like, from one branch of one tree to another, in order to cross the turbulent, swift-running rivers wetting our ammunition and provision'.³⁷

If we consider the high risks involved in this plant hunting, it is easy to speculate about how lucrative this business must have been as well as understand the tremendous number of plants extracted from the Colombian forest. For example, Ricardo Callejas, a contemporary Colombian botanist, described how the plant hunter Benedict Roezl (1823-1885) sent a massive plant sack composed of 10,000 living specimens of *Anectochilus* and 3,000 *Odontoglossum* to Europe from Medellín.³⁸ Millican's book also reveals the levels of this extractive practice. As he explained, 'It is very well to see this fastidious little orchid (*Odontoglossum blandum*) in its natural beauty, but it is quite another thing to succeed in bringing it home to England alive. Many of the plants die before they leave the coast, many more before they pass the West Indies; a few reach the Azores, and a fewer still arrive in England safely'.³⁹ Given the high levels of mortality amongst the collected plants, the extractive process undertaken by the plant hunters reached overwhelming dimensions. As Millican wrote:

After about two months' work we had secured ten thousand plants, cutting down to obtain these some four thousand trees, moving our camp as the plants became exhausted in the vicinity. Our next consideration was how to transport these plants to where sawn wood could be obtained. First, they had to be taken to the edge of the forest on men's backs; and even then we were five days' journey from the town of *Pacho*, where it is usual to make the boxes too pack the orchids in for shipment to England.⁴⁰

Since the second half of the nineteenth century, Colombia had received a vast number of foreigners with highly qualified technical knowledge. Mostly Europeans, they arrived at Colombia for different reasons. Some were lured by the country's mining potential, whereas others were part of itinerant artistic companies or were hired by the government to support its ambition to implement improvements in agriculture, architecture, or teaching.

³⁷ Millican, *Travels and Adventures of an Orchid Hunter*, 66.

³⁸ Ricardo Callejas, 'La Exploración Botánica En El Departamento de Antioquia (1808-2000),' in *Flora de Antioquia. Catálogo de Plantas Vasculares*, vol. 1. Introducción (Medellín: Universidad de Antioquia, Missouri Botanical Garden & Oficina de planeación departamental de la Gobernación de Antioquia., 2011), 300.

³⁹ Millican, *Travels and Adventures of an Orchid Hunter*, 158.

⁴⁰ Millican, 151.

In many cases, these people formed links between the European world and Colombia, where they made important contributions to the consolidation of local knowledge.⁴¹ Conversely, the plant hunters' work was an utterly extractive process that did not involve any local transference of their horticulture and gardening skills. Most were solitary males who hired a group of natives as guides and traversed the forest filling boxes with plants that were then sent back to Europe. When their work was completed, they returned home.

The plant hunters' work in Colombia is nicely exemplified by with the figure of Édouard-François André, the son of the Bourges Municipality's gardener, who decided to follow in his father's footsteps. After studying in the prestigious gardening institution of M. Leroy, André moved to Paris in 1859, where he studied for about a year at the *Muséum National d'histoire Naturelle*, following which he was put in charge of Paris' gardens. While in this position, which he held for eight years, he actively participated in the creation of the gardens in the *Bois de Boulogne*, *Bois de Vincennes* and *Parc des Buttes-Chaumont* parks. In 1866, the Liverpool Municipality announced an open contest to produce the layout of one of its parks, which was entered by twenty-nine artist and gardeners. André won unanimously, and his work for eight years to complete a project that cost £85,000. Now recognised as one of the most important European landscape designers, he also worked on the production of gardens in Leeds and the islands of Jersey and Guernsey in Britain, as well as in Netherlands, Russia, Austria, Bulgaria, Luxemburg, and Rome.⁴² In 1875, André was commissioned by the French government to undertake a journey that would encompass Colombia and Ecuador. During his travels through Colombia in 1876, he collected around 1,250 botanical collections, including 85 types of seeds, and sent home twelve cages of live plants to feed the ubiquitous European demand for tropical flora.⁴³

Despite André's enormous horticultural knowledge and his colourful descriptions of his adventures as plant collector, which were accompanied by a set of well-done illustrations (Fig. 6.4) and published in *Le Tour de Monde* (1883) under the name of *L'Amérique*

⁴¹ One of the most important intellectual migration toward Colombia is represented by the dozens of Belgians that took into the country important knowledge in many fields such as education, botany, agriculture, architecture, chemistry and arts. See: Anne-Marie van Broeck and Fernando Molina, 'Presencia Belga En Colombia: Ciencia, Cultura, Tecnología y Educación,' *Boletín Cultural y Bibliográfico* 34, no. 44 (1997): 46–71.

⁴² Carlos Chardón, 'Édouard André (1840-1911), Jardinero-Naturalista y sus viajes por Colombia y el Ecuador,' *Caldasia* IV, no. 19 (30 Mayo 1947): 283–92.

⁴³ Chardón, 'Adouard Andre'.

Équinoxiale,⁴⁴ his travels throughout Colombia had no repercussions on the development of the country's gardening practices. Neither André nor any of his predecessors contributed to the advancement of local gardening knowledge. Rather, other types of characters, some of whom were not even familiar with horticultural practices, would be responsible for Bogotá's botanical modernisation.



Figure 6.4. Édouard André, plant hunting difficulties, 1869, woodcut. In *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. II (1876-1878) (Bogotá: Villegas Editores, 2013), 78.

6.3. The bodies of gardening knowledge in Bogotá

The consolidation of gardening practices in Bogotá was the result of the successive and sometimes connected work of foreign and local people. This subsection introduces the people who, in embodying particular ways of understanding and perform with plants,

⁴⁴ Édouard André, 'La vuelta al mundo, nuevo diario de viajes. La América Equinoccial (Colombia-Ecuador-Perú),' in *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. I-II (1858-1876), III vols. (Bogotá: Villegas Editores, 2013).

helped in filling the gap in horticultural practices that was highly demanded as part of the city's modernisation.

6.3.1 External sources of gardening knowledge

In contrast to the purely extractive processes of the plant hunters, other foreigners arriving Colombia contributed in various ways to the foundation and development of Bogotá's modern green spaces. Due to a lack of local gardening traditions and the resulting minimal knowledge of garden production, the government sought solutions from outsiders. Generally speaking, much like the plant hunters, these foreigners represented the increase in mobility as one of the main changing forces of the modern city. However, these foreigners embodied particular conceptions about urban nature that were translocated into entirely new contexts. Therefore, comparable to the European city planners who changed the face of Latin American cities, these figures represent the gardening side of 'transnational and mobile urbanism'.⁴⁵ Carrying specific ideas about the city, these trained and improvised gardeners embodied a very specific way to conceptualise the role of plants as part of the modern city. In the following subsections, I will describe some of the foreigners who left ideas as they passed through the city and in some cases even managed to transform Bogotá's cityscape.

6.3.1.1 The Italians

As indicated above, not all of the foreigners that contribute in the modern construction of green spaces in Bogotá had received formal education on horticulture or gardening. The most outstanding example is the improvised role of an Italian opera singer as a garden designer in the city's public spaces.

As part of the aperture into the world and the spectacles produced by modern capitalist society,⁴⁶ the *Bazzanni* Lyric Company came to Bogotá from Italy in 1858. This was the first opera group to arrive the country, among its performers was the tenor Enrique Rossi-Guerra, who had been well-recognised since 1830 for his performances in Mexico, Chile, Argentina, and Peru. Rossi's prestige in Colombia grew considerably when he conducted one of the most acclaimed opera companies, the Rossi-d'Achiardi. Following his success

⁴⁵ Ash Amin and Nigel Thrift, *Cities: Reimagining the Urban* (Wiley, 2002); McCann and Ward, *Mobile Urbanism [Electronic Resource]*.

⁴⁶ Guy Debord, *The Society of the Spectacle* (New York: Zone Books, 1994).

in the country, he made of Bogotá his permanent residence in 1872 and opened an Italian restaurant. However, when the Conservative Party headed by Rafael Nuñez took over in 1880, one of its polemic decisions was the flattening of the *Maldonado* theatre, which had historically been devoted to scenic performances. As a consequence, Rossi's presence as an opera tenor on Bogotá's public scene was severely diminished. However, Rossi ultimately made a career for himself as a gardener and landscape designer.⁴⁷

Following the success of international agricultural exhibitions in Cologne (1865) and London (1879), national exhibitions become a traditional (and repetitive) event. In accordance with this trend, Bogotá hosted its Second National Agricultural Exposition in 1881. Products from distant regions of Colombia were displayed, and varying types of natural resources ranging from tobacco to rocks, as well as curiosities such as archaeological treasures, were transported for days on beasts of burden for presentation at the capital. These exhibitions served as a means to obtain an inventory of products in regions that remained only weakly connected, and like their European counterparts, their aim was primarily business-related. Consequently, they attracted the attention of a considerable part of the Bogotanian sector that was interested in Colombia's integration into world commerce *via raw materials*.⁴⁸

The venue of the 1881 exhibition was a house previously acquired by the government for use as the headquarters for the College of Agriculture. Although the press declared that particular exhibition a failure due to the low quality of the exhibited products, its organisers nonetheless gained great experience. Notably, in association with this event, the name Rossi-Guerra once again appeared in the city's newspapers; this time not as a famous tenor, but rather as a member of the exhibition's organising crew who had been entrusted with the task 'embellish the place with the gardens and take care of all objects'.⁴⁹

Later, Rossi's name appeared again as part of the campaign to transform the old colonial squares into modern park spaces (see chapter 5). The Italian had hired by the government to refurbish the so-called *Huerta de Jaime* and transform it into a garden. Although there is limited historical evidence concerning the role played by Rossi in this urban

⁴⁷ See, Torres, 'Tras las huellas armoniosas de una compañía lírica: La Rossi-D'Achiardi en Bogotá.'

⁴⁸ The architect Luis Fernando Gonzales accomplished a comprehensive review on the national exhibitions made in Colombia. See: González, *Del Alarife al Arquitecto*, 43–148.

⁴⁹ *Papel periódico Ilustrado*, 'Exposición Nacional'. Bogotá, no. 2, Octubre 1, 1881, pp. 32-33.

transformation, the available information shows that as a poor and forgotten old man whose glorious days as one of the most important characters in the city had long passed, Enrique Rossi Guerra found a place a gardener in the Quinta Segovia. In this country house, he was charged with the care of an old dromedary brought from Algeria by a man named Navas Asuero. Thus, as portrayed by José Perdomo, these two foreigners ‘linked by fatality’ found a place to die in one of the earliest established gardens in Bogotá.⁵⁰

There is some irony to be found in Rossi’s final days in Bogotá; a person who had spent the most productive days onstage ended up as caring for the gardens that had emerged as one of the stage-like manifestations adopted by the modern city. However, beyond any specific life-story, what must be highlighted is the lack of trained people who could create and take care of the Bogotá’s earliest gardens, and how the absence of qualified personnel made of any person related to the arts a suitable person to undertake gardening works.

Whereas Rossini was part of the initial stages in the greening process of Bogotá, his compatriot, the professional gardener Jose Fabi, can be considered the last of the foreigners involved in the creation of the city’s gardens. Although the figure of Fabi first appeared in Bogotá as late as 1934, a period that exceeds the temporal limits of this research, his role in the city’s garden production requires at least a brief review. Fabi’s role in the progress in gardening works is presented to highlight how the external presence in the construction of Bogotá’s green spaces stretched into the latter decades of the first half of the twentieth century, thus demonstrating the city’s continued underdevelopment in this area.

José Fabi was hired at the beginning of the 1930s by the Garden and Parks office belonging to the Ministerio de Obras Públicas. Known either as the Technical City Gardener or the National Park Agronomist, he was responsible for the most sophisticated and high-level gardening practices the city had implemented thus far. Many unattended and residual urban spaces were used in the construction of gardens during Fabi’s tenure. For instance, whereas flower beds and small bushes had become part of Bogotá’s road system (Fig. 6.5), the flourishing of small gardens scattered around the city reveals high levels of care (Fig. 6.6). The strengthening of the city’s gardening practices was possible thanks to a group of knowledgeable gardeners under the Italian’s supervision.

⁵⁰ José Perdomo, *La Opera en Colombia 1817-1980* (Bogotá: Arco, 1979), 131.

The city's gardeners gained a new pride in their work due to the knowledge they gained under Fabi's supervision, and the staff's emerging self-identification as trained gardeners led to the creation of the Bogotá's Gardeners Union, the first organisation of this nature in Bogotá since the transformation of the colonial squares into green spaces in 1880. This local body was not only a deliberative power in charge of advocating for their labour conditions but also a defender of a particular gardening aesthetic.⁵¹ Although the political will responsible for the strength of gardening practices manifested in Fabi's works is not presented here, its consequences created a sort of fashion of the production of gardens, and both public and private institutions showed an unusual interest in gardens in the 1930s. The Ministerio de Obras Públicas and particularly the public park office became the centre of gardening knowledge in the country, and public institutions such as the Universidad Nacional and the pedagogic Institute schools sent letters to the ministry asking for gardeners to accomplish works there.⁵² Such works added pressure to gardening and park administration, which meant a greater burden for gardeners that now had to do more with the same resources. Gardeners, thus, manifested their discomfort with their work overload through the gardeners union on several occasions. However, the success of Bogotá's gardening practices under Fabi had not attracted the attention of only public institutions: in 1934, the Ministry received a petition from the prestigious hotel Apulo in the hot weather city of Girardot requesting his presence to create a garden there.⁵³

Fabi's critical role as the head of the gardening guild is perhaps best unveiled by the response of the city's gardening staff when he had to undertake a trip to Rome to visit his mother in 1936. On this occasion, the entire staff of city gardeners, which comprised around thirty-five males and six women, sent a letter to the minister asking to keep the Fabi's position during his absence and try to persuade the Italian to return:

The government will be deprived of the knowledges of the outstanding professional and tireless administrator whose work has brought many benefits to our country and, particularly to the labours that having had the fortune to work

⁵¹ Correspondence between the Bogota's Gardeners Union and Chair of the National Public Works complaining about the public works undertaken by Abel Riaño, a non-member of the union, 3 November 1934, folio 74, tomo 287, fondo Ministerio de Obras Públicas, AGN.

⁵² Correspondence between José Gómez, Din of Mathematics and Engineer department of the Universidad Nacional, and Chair of National Building, September 17, 1936, folio 295, tomo 287, fondo Ministerio de Obras Públicas, AGN; Correspondence between (Signature illegible) Santamaria, Deputy director of National Buildings management, and the Parks and gardens administrator, 23 Agosto, 1935, folio 166, tomo 287, fondo Ministerio de Obras Públicas, AGN.

⁵³ Correspondence from Luis Bautista Manager of the Apulo hotel to Minister of Public Works, October 8, 1934, folios 64,65,69 tomo 287, fondo Ministerio de Obras Públicas, AGN.

The body of knowledge

under his direction we will not forget the constant interest presented by Mr Fabi looking for improving us in our profession (...) It is quite true that our guild has acquired valuable knowledge and perfection in the gardening and agriculture practices in general due to the presence of Mr Fabi. It is also true that many of us have upgraded from simple gardening peons to the most skilled agricultures mainly because of the education received from our benefactor.⁵⁴



Figure 6.5. Julio A Sánchez, Avenida Colon, ca. 1933, photograph. In: *Fundación Amigos de Bogotá, Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010).

⁵⁴ Petition made by all of the city's gardeners to Minister of Public Works, April 24, 1936, folio 253, tomo 287, fondo Ministerio de Obras Públicas, AGN.



Figure 6.6. Julio A Sánchez, Plazoleta Caldas (Caldas Square), ca. 1933, photograph. In: *Fundación Amigos de Bogotá, Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010).

6.3.1.2 The British: Robert Thomson

In 1893, a British named Robert Thomson arrived in Bogotá. Thomson had completed horticultural training at the Kew Royal Botanical Garden in 1862, which qualified him to serve as an assistant gardener at the new-established Castleton Botanical Garden in Jamaica until 1867. Although it seems that Thomson visited Colombia several times after his stay in Jamaica, his presence in Bogotá in 1893 was the most significant in the context of this discussion. Although Claudia Cendales (one of the few researchers addressing the gardening history in Colombia) has suggested Thomson was invited to the city by the Development Minister, the letters on which this claim is based do not provide sufficient proof to affirm that his presence in the country was due to institutional will.⁵⁵ It seems that Thomson was used more as a gardening consultant than as a direct employee of Bogotá's municipality.

Unlike the French plant hunter André, who had formal gardening training but did not engage in direct contact with the city institution in charge of parks and gardens, Thomson's ephemeral presence in Bogotá left a rich testimony upon the city's green spaces. In a series of letters with the Ministerio de Fomento (Ministry of Development), Thomson presented

⁵⁵ About the work of Thomson in Bogotá see: Claudia Cendales, 'Robert Thomson (1840-1908): A Kew Gardener in Bogotá, Colombia,' *Garden History* 40, no. 2 (2012): 239–52.

himself as a voice of authority, and his opinions are significant as the first evaluations of the city's parks and gardens through the eyes of a European 'expert'. His opinions were highly critical in a manner reminiscent of the reiterative views expressed by the parks and gardens inspector Genaro Valderrama (see the chapter introduction). Thomson's diagnosis of the city's parks and gardens were presented in a thirteen-page report-like letter (first written in English and then translated to Spanish) sent to the Ministry on the 30th of January, 1893. Thomson focused his diagnosis on two related topics: i.) the parks' design and ii.) the plants used in the city ornamentation.

Regarding the former, Thomson expressed complete disagreement with the general design of most of the city's parks, including the inclusion of pathways:

In all the public parks, named that on the Plaza Bolivar, San Francisco, Centenario and Los Mártires a great mistake has been committed in their formation, I refer to the walks which immediately bound on this iron-railings. Thus, instead of these walks immediately within the fences, shrubberies. etc., ought to have been established- Not a walk [*illegible*] a street. From a point of view, these spaces occupied as a walk are not only objectionable, but also results in a large amount of wasted spaces is the result. Sometimes as much as from 16 to 20 feet in width all around the fence.⁵⁶

In his comprehensive diagnosis of each of the green spaces in Bogotá, he first highlighting their main failures and then proposed a series of corrective measures. Addressing the Parque de Los Mártires, for instance, Thomson mentioned how: 'Like the other parks the chief defect in the formation of this is the great broad walk bounding the railing', and he suggested 'The broad walk contiguous to the railing should be converted into ground for planting purpose. And several of the other walks should be made narrowed'.⁵⁷

In a further letter sent by Thomson to Mr A. Torres in September, he specified 'the works I've planned to be necessary for the re-formation of these parks'. Notably, Thomson proposed the use of plant borders that was then very popular in British gardens as a solution to address the issue of the paths in the Parque Centenario. In embodying the English way to create gardens, Thomson proposed that:

⁵⁶ Correspondence between Robert Thomson and Minister of Development, January 30, 1893, folio 25, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁵⁷ Correspondence between Robert Thomson and Minister of Development, January 30, 1893, folio 26, tomo 823, fondo Ministerio de Obras Públicas, AGN.

All the walks in this park, with the exception of the one skirting the fence, have been recently put in good order. The work, which I am prepared to undertake would not in any way interfere with the renewed walks. One of the most important improvements to be made in this park is to convert the walk skirting the fence into a border for plant cultivation. In my letter ... I fully explained the inutility of a walk bounding a fence - a defect that applies to all the parks here. Nearly all round this park the walk is about 20 feet wide, hence a very large proportion of the area of the park will be reclaimed from a useless waste into a plant border.⁵⁸

Thomson's recommendations were not only aimed at parks and gardens. He also suggested ways in which the city's promenades and tree-planted roads could efficiently correspond to the design of such places in Europe. Regarding the Camellón de las Nieves (Las Nieves Road) he explained that 'Symmetrical planting must be the leading feature of avenues. This has not been pursued in Bogotá as the most diverse and disproportionate forms of plants have been set'. This comment reveals how the organisation and control of nature synonymous with gardening practices in Europe was at that time hardly implemented in a city of residual spaces generally endowed with a spontaneous flora.

Of course, the lack of alignment between what should be and what was established as gardens in Bogotá as seen through the Thomson's eyes included the city's plants. Although Section 6.4 will provide a more detailed examination of Thomson's opinions concerning the most suitable plant species, it is important to mention that Thomson perceived plants as an integral component of the layout of parks and avenues. For instance, he was a severe critic of the eucalyptus trees broadly used in the decoration of parks. When discussing the Parque Santander, he suggested that 'certainly all the *Eucalyptus globulus* should be cut down, but before doing it a large stock of choice plants should be prepared (*illegible*) as to plant systematically and renovate the park'. Equally, concerning the Parque Centenario, he expressed:

The row of Eucalyptus both outside and inside the railing at present form the most striking feature of the park. A few more years would render them unsightly. The Eucalyptus groves to a gigantic size and its over-spreading branches, together with their wider extended roots are prejudicial to nearly all kind of plants adjacent to it (...) with the exception of the eucalyptus and about 100 pines the majority of the latter comprising only two or three, all the other plants have but little effect and value.

⁵⁸ Correspondence between Robert Thomson and Mr A. Torres explaining Thomson's suggested changes for the city's parks, September 13, 1893, folio 44, tomo 823, fondo Ministerio de Obras Públicas, AGN.

In order to set up adequate green spaces in the city, Thomson proposed ambitious plans with an overall cost of \$13,000.⁵⁹ For example, to transform the San Diego walk by the fence into a plant border, he asserted that between ‘two and three thousands of good soil at a cost of, probably, three *reales* each’ would be necessary.⁶⁰ Thomson also suggested the construction of a greenhouse artificially heated in the same park, which would be used for propagation purposes as well as a source of recreation and instruction. Discussing the greenhouse, which would cost \$3,000, Thomson also noted that ‘When the parks are planted and completed (according to his proposals) the expense of keeping them in good order would be for annum \$2,400’.⁶¹

Thomson’s proposed greenhouse and annual park maintenance costs reflected the lack of correspondence between his gardening knowledge acquired in one of the most powerful institutions of the British Empire and the economic context of a country like Colombia. A \$3,000 greenhouse and a \$2,400 annual maintenance expenses was untenable for a city that did not expend more than \$5,000 for the yearly maintenance of all of its parks combined. It is perhaps as a consequence of this lag that apart from his detailed diagnostic and suggestions, although it is possible that Thomson’s knowledge may have enriched the local gardening knowledge embodied in people such as Casiano Salcedo, with whom he had direct contact, his role in the transformation of Bogotá’s landscape was ultimately rather marginal, and his ideas to convert them into proper English gardens were never implemented. The only verifiable register about the work made by Thomson was a couple of Jalapa trees (?) planted by him in the Parque Centenario in 1891 and two Zea trees (?) in the Parque Bolivar.⁶²

Finally, despite the Thomson’s enthusiasm for developing Bogotá’s ‘green spaces’, his attention was also devoted to other, more profitable concerns. In the same letters sent to the Ministerio de Fomento addressing the situation of the Bogota’s parks, he proposed a business involving the importation and acclimatisation of economically useful plants.

⁵⁹ From this point onwards, the money values represented with \$ refers to Colombian pesos.

⁶⁰ Correspondence between Robert Thomson and Mr. A. Torres explaining his suggested changes for the city’s parks, September 13, 1893, folio 44, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁶¹ Correspondence between Robert Thomson and Minister of Development, January 30, 1893, folio 28, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁶² Correspondence between Robert Thompson and Minister of Development, May 13, 1891, folio 17, tomo 823, Fondo Ministerio de Obras Públicas, AGN.

Thomson proposed to use some hectares of land near the hot weather city of Girardot to establish a plantation where he would engage in the propagation of profitable plants to be used as part of a importation substitution scheme. According to Thomson, these plantations would generate major savings for the Colombian government, which was then expending ‘exorbitant’ sums of money in the importation of foreign plant products. The list of more than fifteen plants included in his project encompassed cardamom, nutmeg, cumin, tea, black pepper, kola nut and cloves, as well as, incredibly, the native rubber trees of Ceará and Pará in Brazil. Thomson’s business proposals highlight the direct relationship between tropical plant diversity and the creation of wealth, which was at the core of the British imperial consolidation throughout the nineteenth century. As in the case of the garden proposals, Thomson’s ideas were a vivid representation of a very specific way to understand nature. Finally, despite his suggestions seeking to create real European gardens atop the Andes Mountains, Thomson’s place in the history of Bogotá can be considered that of a well-educated fortune hunter. When the figure of Thompson re-appeared in 1899, he was not trying to recreate European gardens in Bogotá, but rather had established one of the Colombian Amazon region’s foremost rubber plantations with more than 60,000 trees. As revealed by the British human rights activist Roger Casement in 1911, these plantations were part of one of the most shocking cases of modern slavery and genocide documented as part of the massive exploitation of rubber in the Colombian and Peruvian Amazon jungles, which was accomplished throughout the forced labour of enslaved indigenous people.⁶³

6.3.1.3 The Japanese: Tomohiro Kawaguchi

In 1908, wealthy businessman Antonio Izquierdo de la Torre undertook a long journey that took him to Japan and other countries in Asia. As he presented it to the Colombian Parliament, ‘I am working on an issue about Japanese migration towards Colombia, especially to bring labours to work in the Pacific coast (...) the workers will be used to accomplish agricultural jobs and in the railway construction’.⁶⁴ Izquierdo’s journey and labour importation efforts have been interpreted by Toraji Irie as an attempt to counter the influence of the United States in the country following Panamá’s independence. According to Irie, one of the aims of Izquierdo’s visit to Japan was to request 10,000 workers to be placed in the newly created Panamá border in the north; however, as Ines Sanmiguel has

⁶³ Norman Thomson, *The Putumayo Red Book*, 2nd ed. (London: 1914), 18–19.

⁶⁴ Antonio Izquierdo, *Memorial Sobre Agricultura* (Bogotá: Escuela Tipográfica Salesiana, 1909).

pointed out, there is insufficient primary information to confirm this claim.⁶⁵ Regardless of Izquierdo's intentions, the result of his commitment was rather discrete: rather than a herd of Japanese people coming to occupy the shores of the Pacific Ocean or living in the wild Panamá border, the overall Japanese migration was comprised only a single person. Accompanying Izquierdo upon his return to Colombia was the gardener Tomohiro Kawaguchi, who, according to Izquierdo, "was given by the Count of Okuma with whom [Kawaguchi] had worked four years after working eight years in the imperial gardens".⁶⁶

It seems that Kawaguchi's presence in Colombia was the result of an assignment given by President Rafael Reyes who needed a gardener to care for the plants in his farm in Chapinero;⁶⁷ however his works were not limited to the president's private property. Kawaguchi's knowledge was useful in the ornamentation of the San Diego Forest; and he appears to have played an important role in the area's landscaping during its transformation into the Parque Centenario.⁶⁸ However, his precise role remains unclear, nor is it known whether or not he was ever in contact with the local gardener Casiano Salcedo. In addition to the above-mentioned works, the only documentation regarding this Japanese garden concerns his death in a small town in the mountains near Bogotá.

Although regularly cited by scholars interested in the history of Bogotá, the gardening works developed by Kawaguchi have not been addressed in any serious, in-depth investigation. Thus, a series of questions regarding the non-European influence in the construction of the urban gardens remain unanswered. For example, did Kawaguchi use native or introduced plants? How did he obtain the plants to create the gardens? Did he establish an Asian style in the public gardens he made in the city?

Kawaguchi was not the only Japanese involved in gardening development in Latin America. According to Sergio Hernandez, Tatsugoro Matsumoto was a significant figure in the constitution of urban nature in Mexico City. Having arrived in Mexico in 1896 after

⁶⁵ Inés Sanmiguel, 'Japoneses en Colombia. Historia de inmigración, sus descendientes en Japón,' *Revista de Estudios Sociales*, no. 23 (Abril 2006): 83.

⁶⁶ Izquierdo, *Memorial Sobre Agricultura*, 38; Antonio Izquierdo, *Riqueza Nacional: El Caucho* (Bogotá: Tipografía de la Gaceta, 1910), 75.

⁶⁷ Daniel Ortega, *Apuntes Para La Historia de Chapinero* (Bogotá: Editorial Kelly, n.d.), 49.

⁶⁸ Carlos Arturo Niño Murcia, *Arquitectura y Estado: Contexto y Significado de Las Construcciones Del Ministerio de Obras Públicas, Colombia 1905-1960*, 2a. ed. (Bogotá: Universidad Nacional de Colombia. Unibiblos, 2003), 55.

creating several Japanese-style gardens for upper-class people in Perú, Matsumoto obtained considerable recognition as a gardener and ‘landscape designer’. The dictator Porfirio Diaz commissioned his services for the planting and ornamentation of the Chapultepec forest in 1910, and after the overthrow of the Diaz regime by the revolutionary government in 1911, Álvaro Obregon hired Matsumoto to oversee the ornamentation of the city’s road system. Matsumoto lined the city’s roads with thousands of the flamboyant *Jacaranda mimosiflora*, an Argentinian-native tree which brought about a colourful spectacle. This artistic innovation would soon become into one of the most important natural symbols of Mexico’s capital.⁶⁹

6.3.2 The local and self-taught gardeners in Bogotá

As demonstrated above, with the exception of the José Fabi’s works undertaken during the 1930s, the role of foreigners in the construction of the Bogotá’s green spaces was not significant. Although they certainly influenced the ways in which gardens and parks were designed, local and self-taught gardeners assumed the main responsibility for the creation of these spaces. Toward the end of the nineteenth century, two figures emerged as personifications of local gardening skills in Bogotá, they were Casiano Salcedo and Genaro Valderrama.

6.3.2.1 Casiano Salcedo

Casiano Salcedo was undoubtedly the central figure in the creation and consolidation of Bogotá’s gardening development throughout the last decades of the nineteenth century. Having no access to a formal gardening education, he learnt the necessary skills through books and trial and error. Although the details of Salcedo’s background are undocumented, his social network included ministers and even President Manuel Murillo Toro. Thus, although Salcedo cannot be considered to have been part of Colombia’s elite, his close contact with them provided him with the means to procure not only seeds such as the eucalyptus, but also books on gardening and botany. It is highly likely that Casiano Salcedo had access to some contemporary volumes that are still available in the Biblioteca Nacional; their presence in the country’s main library reflects that some gardening books reached Bogotá despite the city’s intellectual isolation,⁷⁰ thereby enabling Salcedo’s

⁶⁹ About the Tatsugoro Matsumoto’s works in México. See: Sergio Galindo, *Los que vinieron de Nagano: una migración japonesa a México* (Mexico: Artes Gráficas Panorama, 2015).

⁷⁰ Some of the nineteenth-century gardening books found the libraries of Bogotá are: El Real Jardín Botánico de Madrid, *Semanario de Agricultura y Artes Dirigido á Los Párrocos*, XXIII vols. (1808: Imprenta del

awareness of modern gardening trends (Figs. 6.7 and 6.8). The empirical skill acquired by Salcedo him the central character in late nineteenth century urban gardening in Bogotá, as reflected in his role as the foremost figure in the transformation of the ancient colonial squares into parks (Chapter 5).

Salcedo's name appears in the history of Bogotá in association of all works or any other activities involving plants during his tenure. For instance, he is identified as part of the group that organised the horticulture and floriculture section of the 1899 National Agriculture Exposition. For this event, besides his role as part of the organising staff, Salcedo presented some native ornamental plants such as begonias (*Begonia* spp.) and *Gesnerias* along some other imported species without any botanical description (e.g., dwarf palms). His efforts won him the Silver Medal in the floriculture section judged by Fidel Pombo, Eugenio Pardo, Julio Arboleda and Delfin Restrepo.⁷¹ Casiano Salcedo can be also considered a pioneer of plant commerce in Bogotá. In 1864, he and a man named Manuel Párra rented a colonial house with seven large patios, where they established the city's first commercial nursery.⁷² In sum, although Salcedo was the maker behind the transformation of the cityscape of Bogotá by the end of the nineteenth century, no detailed scholarly investigation of his life has thus far been undertaken.

Villalpando, 1808); M. Roitard, *Nouveau Manuel Complet de L'Architecte Des Jardins Óu L'art de Les Composer et de Les Décorer*, 9th ed. (Paris: La Librarie Encyclopedique de Roret, 1830); Juan de Sandóval, *Nuevo Manual de Jardinería y Horticultura Ó Sea Tratado Completo Del Cultivo de Arboles de Ornato y Frutales, Flores y Hortalizas* (Paris & México: Librería de la Vda de Ch. Bouret, 1897).

⁷¹ Jurados de Calificación & Junta Organizadora, *Exposición Nacional de 1899. Catálogo de Las Diferentes Secciones* (Bogotá: Imprenta de Luis M. Holguín, 1899), 6,90, 107.

⁷² It seems that the nursery business was successful not necessarily because of the sale of living plants but rather, as Salcedo confessed, due to the sale of flower bouquets used in the ornamentation of churches attended by *gente rezandera* (lit. 'praying people'). Ortiz Williamson G., 'Casiano Salcedo', *Cromos*, N^o 106. Mar. 16, 1918, 138-9.

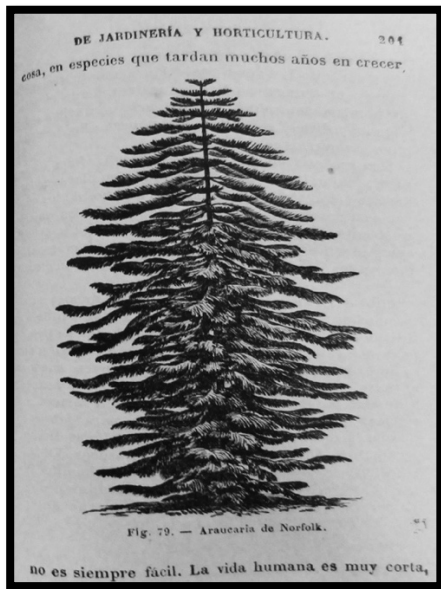


Figure 6.7. Illustration of the Araucaria in a gardening book 1879. In Sandoval J. *Nuevo Manual de Jardinería y Horticultura* (Paris: Librería de la Vda de Ch. Bouret, 1897), 201.



Figure 6.8. Anonymous, Araucarias in the Parque de Bolívar planted by Casiano Salcedo in 1892, ca. 1915, photograph. Biblioteca Pública Pílogo, Medellín (BPP-F-003-0860).

6.3.2.2 Genaro Valderrama

The name Genaro Valderrama appears with frequency in documents of the early years of Bogotá's gardening history. Among the young explorers of Bogotá's Eastern Hills in 1859 (see above), he received formal training from the botanist Francisco Bayón and can be considered the first person directly linked to the Expedición Botánica to be aware of the importance of plants in the construction of urban spaces, as well as one of the first to recognise the ornamental potential of the Colombian flora. Valderrama was of the elite class, as is revealed by his formal scientific education and his travels to Europe as well as a letter he sent to the Ministerio de Fomento, in which he manifested his distress caused by the Ministry's silence concerning his proposal for the administration of gardens and parks:

'I have rendered important services to my country, among which outstands the fact of have been made known some of our spontaneous products in the overseas (...) Because of this, I receive honours and awards in Europe as is proven in the documents—which I attach to be returned— (...) But in my homeland, no one has been grateful to me, and to the contrary, I have only received disdain and deceptions which cannot be expected in a civilised country.'⁷³

⁷³ Correspondence between Genaro Valderrama and Minister of Development, January, 1890, folio 8, tomo 823, fondo Ministerio de Obras Públicas, AGN.

In addition to affirming his position as a member of the elite, Valderrama's words also provide an indication of how he perceived that his European travels had endowed him with the experience and aesthetic sensibility that made him the most qualified person to create and administer Bogotá's newly established parks and gardens. For this reason, during the first years of the production of green spaces, Valderrama assertively sought a leading role in the construction of the city's gardens and parks. For example, among the profuse correspondence he sent to the Ministerio de Fomento, he presented himself in 1889 as the best candidate for the that-time vacant position of Parks and Gardens Administrator.⁷⁴ This proposal seems not to have been accepted by the government, as some months later Valderrama presented another project aiming to revive the Expedición Botánica's small botanical garden beside the astronomical observatory. This suggestion was also rejected by the Ministry arguing that site was offered to the Engineering College for the construction of a new building.⁷⁵ The Ministry did assign Valderrama a plot of land next to the train station headquarters to develop his plans; however, there is no information showing whether or not he undertook any gardening works in this space.

As a consequence of the government's nonrecognition of his qualifications, Valderrama was overshadowed by Casiano Salcedo and played a subordinated role in the construction of Bogotá's green spaces. Valderrama was a bitter critic of the Salcedo's works, deriding their 'lack of merit' while continuing to present himself as the best person to create green spaces 'under the prescriptions of art'.⁷⁶ Although it is not completely clear whether or not Valderrama managed to obtain the position of Administrator of Parks and Green Spaces, despite not achieving his goal of being directly in charge of the creation and modification of the city's gardens, he held the position of General Inspector of Parks and Public Gardens several times, during which he orchestrated an expansive campaign of moral hygienisation of those spaces (see chapter 5).

Despite his formal scientific education, like Salcedo and many others that followed them, Valderrama was essentially a dilettante. Valderrama and Salcedo were the most prominent

⁷⁴ Correspondence between Genaro Valderrama and Minister of Development, October 22, 1889, folio 5, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁷⁵ Correspondence between Genaro Valderrama and Minister of Development, March 2, 1890, folios 9-13, tomo 823, fondo Ministerio de Obras Públicas, AGN.

⁷⁶ Correspondence between Casiano Salcedo and Braulio Velez, (Minister of Development), October 16, 1889, folio 5, tomo 823, fondo Ministerio de Obras Públicas, AGN; Correspondence between Genaro Valderrama and Braulio Velez, Minister of Development, 25 Octubre, 1889, folio 6, tomo 823, fondo Ministerio de Obras Públicas, AGN.

figures among a crop of the self-taught gardeners who emerged in Bogotá as a consequence of the absence of a gardening tradition and formal education in this area. Despite the differences between Salcedo and Valderrama, it is important to highlight that they both embodied a particular type of knowledge regarding the construction of an adequate urban environment. In other words, they were men of their time: although their creations aimed at an ideal of ‘progress’ that embodied nothing more than a desire to resemble Europe, they also represented particular ways to understand plants. As a consequence, the creation of Bogotá’s modern urban green spaces resulted in a sort of hybrid that combined a wide range of influences as represented not only in the gardeners themselves, but also in the plants they used in the creation of gardens and parks.

6.4. The hybrid flora of the modern urban green space in Bogotá

The lack of a horticultural tradition along with botanists’ overlooking of the ornamental potential of native flora and the historical European influence were the leading influences that moulded the particular way in which the modern urban green space was adopted in Bogotá. This final section of the chapter focuses on the plants that were used (or not) as part of this entire process and elucidates how historical socioenvironmental constraints and negotiations involved in the construction of the modern urban green space in Bogotá led to the development of a *sui generis* urban flora. Analysing Pyšek and Pyšek’s urban ecological approach to cities as islands of floristic richness from a historical perspective,⁷⁷ this section will reveal how the creation of modern Bogotá entailed the thriving coexistence of native and naturalised plants alongside the foreign plants introduced to the city. Equally, it will present the modernisation process as a form of mimicry,⁷⁸ which entailed not only the introduction of particular spaces such as gardens and parks but also the role of plants as the most important raw material involved in their construction.

⁷⁷ P. Pyšek and A. Pyšek, ‘Comparison of Vegetation and Flora of West Bohemian Towns,’ in *Urban Ecology: Plants and Plant Communities in Urban Environments.*, ed. H. Sukopp, S’Hejny, and I. Kowarik (Hague: SPB Academic Publishing, 1990), 153–72; Myla F. J. Aronson et al., ‘Urbanization Promotes ‘Non-native Woody Species and Diverse Plant Assemblages in the New York Metropolitan Region,’ *Urban Ecosystems* 18, no. 1 (1 March 2015): 31–45, <https://doi.org/10.1007/s11252-014-0382-z>.

⁷⁸ Homi K. Bhabha, *The Location of Culture*, Routledge Classics (Place of publication not identified: Routledge, 2012).

6.4.1 Bogotá's pre-modern hybrid flora

In contrast to the global expansion of Anglo-Celtic culture beginning in the eighteenth century, the previous Iberic expansion entailed the creation of new ways of being human. Although initially considered by the Spanish Crown as non-human beings without souls,⁷⁹ aboriginal and later African women gave birth to an incredible range of mestizos in America.⁸⁰ Mestizos were children of two (or more) worlds; however, the power relationships between the conqueror and the defeated fixed European biological and cultural characteristics in those new bodies. Albeit incomplete, the undeniable Europeanisation of America's bodies—and lands, as has been highlighted by Alfred Crosby—⁸¹ was reflected in many aspects of its societies both before and after the independence campaigns. The European legacy was present in all levels of social and private life, including forms of political organisation, cuisine and diets, religion, the patriarchal constitution of family, and also, the understandings of nature.

The conception and uses of nature as part of the cultural miscegenation process led to an understanding of American nature within a European mental frame. The interpretation of American animals, landscapes, and plants according to European perceptions of nature led to a linguistic clash between signified and signifier,⁸² such that although there are substantial exceptions to this pattern, it can be stated that tropical American nature was subjected to a process of massive symbolic appropriation.⁸³ In short, the conscious overlooking or destruction of the native words used to describe nature meant the use of external signifiers (words or sounds) to denote tropical signified (concepts or things). The

⁷⁹ After the initial decades of the conquest campaign, it was not until 1537 that Paul III issued the papal bull *Sublimis deus*, which recognised the existence of an aboriginal soul, thereby enabling them to be evangelised.

⁸⁰ The role played by the American woman as a receptor of European culture and bodies during the initial years of the conquest has been well revealed through genetic approaches. Investigations have shown how the X-chromosome, which is passed through generations in a mother-line heritage, is eminently American. This biological evidence opens large questions about the cultural role of women in the transmission of cultural traits in the formation of the mestizo nations in Latin-America. See: The Sijia Wang et al., 'Geographic Patterns of Genome Admixture in Latin American Mestizos,' *PLoS Genetics* 4, no. 3 (March 1, 2008); Andrés Ruiz-Linares et al., 'Admixture in Latin America: Geographic Structure, Phenotypic Diversity and Self-Perception of Ancestry Based on 7,342 Individuals,' *PLoS Genetics* 10, no. 9 (September 1, 2014): e1004572, <https://doi.org/10.1371/journal.pgen.1004572>.

⁸¹ Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (Cambridge: Cambridge University Press, 1993).

⁸² Ferdinand de Saussure, *Course in General Linguistics* (New York: Columbia University Press, 2011); Beata Stawarska, *Saussure's Philosophy of Language as Phenomenology: Undoing the Doctrine of the Course in General Linguistics* (New York: Oxford University Press, 2015).

⁸³ About the translocation of European ideas into the tropical nature see: David S. Dalton, 'Una objetividad subjetiva: paradigmas coloniales en las observaciones botánicas de Gonzalo Fernández de Oviedo y Valdés y José de Acosta,' *Ometeca* 18 (2013): 122.

resignification of natural elements is clearly exemplified by the descriptions made by the first Spanish chronicles in America. For example, describing the vegetables presented in America in 1589, the Castilian José de Acosta wrote:

In our discourse of plants we will beginne with those which are proper and peculiar to the Indies; and after with the rest that are common to the *Indies* and *Europe*; and forasmuch as plants were chiefly created for the nourishment of man, and that the chiefe (whereof he takes his nourishment) is bread, it shall be good to shew what bread the Indians vse, and whereon thy live for what therof. They have, as ve have heere, a proper name, whereby they note and signifie bread, which at *Peru* they call *Tanta*, and in other places by another name. But the qualitie and substance of the bread the Indians vse differes much from ours: for we finde not they had any kind of wheat or barley, nor any other kinde of graine which they vse in *Europe* to make bread withal: insteede whereof they vsed other kindes of grains and roots, amongst the which Mays holds the first place, and with reason. In *Castile* they call it Indian wheat and in *Italie* they called Turkey graine.⁸⁴

In Acosta's initial description about the maize, one can detect an ambivalence in the linguistic treatment of this crop ranging from its own identity (*tanta*) to its European interpretation (Indian wheat). A further description addressing what Acosta referred to the 'diverse of green Herbs and Pulses' clearly illuminates the Spanish appropriation of plant names, thereby tacitly revealing the process of symbolic transformation that followed after the encounter between Europeans and Americans:

The first Spaniards named many things at the *Indies* with such Spanish names as they did most resemble, as *Pines*, *Concombres* [cucumbers], and *Prunes*, although they be very different fruites to those which are so called in *Spaine*. The Pines, or Pine-aples, are of the same fashion and forme outwardly to those of *Castille*, but within they wholly differ, for that they have neither apples, nor scales, but are all one flesh, which may be eaten when the skinne is off.⁸⁵

Translocated to an entirely new tropical nature, the European experience of temperate nature would merge with the surviving practices and lore knowledge embodied in the native heritage, thereby engendering a hybrid American nature. However, as was the case with many cultural manifestations in creole and mestizo America, the indigenous part of

⁸⁴ Jose De Acosta, *The Naturall and Morall Historie of the East and West Indies: Intreating of the Remarkable Things of Heaven, of the Elements, Mettalls, Plants and Beasts Which Are Proper to That Country: Together with the Manners, Ceremonies, Lawes, Governments, and Warres of the Indians. Written in Spanish by the R.F. Ioseph Acosta, and Translated into English by E.G.* Early English Books Online (London: Printed by Val: Sims for Edward Blount and William Aspley, 1604), 253–54.

⁸⁵ de Acosta, *The Naturall and Morall History of the Indies*, 262.

this embodied nature was hidden behind an incorporated mask and relegated to the ‘practice of everyday life’.⁸⁶ As a result of this, native and underground knowledge and appreciation of nature were (and has been) eclipsed by the values of the European world. Examples of such obscuration include the beliefs around forests presented in the Colonial period, which understood them as forbidden places inhabited by demons and later as green deserts.⁸⁷ Other examples are the designation of the rainy season with the name of *invierno* (winter), and the biblically derived repulsion to snakes that prevailed within the society.⁸⁸ This enormous historical background was clearly embodied in a specific and hybrid way to perceive nature among the nineteenth-century people of Bogotá, ranging from elite politicians to washerwomen by the river. Thus, although the initial processes leading to the creation of a hybrid tropical nature are not the main topic of this dissertation, it is important to keep them in mind, as it was such lore that provided the underpinnings of the modern appropriation of urban nature, thereby creating a new level of hybridism.

6.4.2 Modern hybridisation

The enlightened understanding of nature that emerged during the end of the eighteenth century and proliferated throughout the nineteenth century added another layer of complexity to already mixed perceptions of tropical nature. The scientific understanding and economic appropriation of natural resources characteristic of the enlightened movement was adopted in Colombia through the previously described Expedición Botánica. Symbolic of the breaking point between religious understandings of reality and the rational understanding of physical laws, the Expedición Botánica exemplified how from the end of the eighteenth century onwards, nature was ordered and classified –once again– within an evolving European mental frame. The taxonomical classification of biological organisms proposed by the Swede Carl von Linnaeus was a cornerstone of early capitalist science.⁸⁹ The identification of the names and major traits of plants enable their economic appropriation, and large investments were devoted toward undertaking botanical

⁸⁶ Certeau, *The Practice of Everyday Life*. The concept of the mask to explain the complex characteristics of the mestizo population has been proposed by Octavio Paz in his large essay about the nature of the Mexican people see: Octavio Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*, 3ra ed. (México, D.F.: Fondo de Cultura Económica, 1999).

⁸⁷ Pérez, *La Obra de Dios*, 49.

⁸⁸ Pérez, *La Obra de Dios*, 61.

⁸⁹ Fredrik Albritton Jonsson, ‘Rival Ecologies of Global Commerce: Adam Smith and the Natural Historians,’ *The American Historical Review* 115, no. 5 (December 2010): 1342–63, <https://doi.org/10.1086/ahr.115.5.1342>.

expeditions and the establishment of botanical gardens.⁹⁰ The appropriation of nature (mostly plants) and their use as raw materials became a source of wealth, which contributed to the modern expansion of urban life that was emblematic of the capitalist system.

Compared to pre-modern and rural bodies, those that emerged along the urban spaces expressed a vastly different approach to the environment. Modern urban bodies had become exiled from the pre-industrial picturesque and rural environments, and their nostalgia for their 'lost-paradise' was manifested in the emergence of romantic and illustrated depictions of nature that embodied the deep contradictions posed by modernity.⁹¹ Starting with Alexander von Humboldt, the exaltation of nature in scientific terms led to the appearance of dozens of Europeans engaged in collecting, describing, painting, and later, photographing the natural richness of tropical America. However, these visual appropriations of tropical nature also posed an enormous contradiction: however spectacular they might appear to the eye, the exuberant tropical lands covered by a myriad of insects, plants and mammals were not suitable spaces for civilised life. This environmental determinism (previously examined in chapter 5), would strongly impact the ways in which urban nature was built in the tropical cities in Latin America. Whereas the Europeans shown themselves overwhelmed by the tropical nature that led to a large representation of it in controlled artificial ecosystems (i.e. greenhouses), in Bogotá the model of nature followed by the creole people was the native of Europe. The exaltation of temperate nature that in theory would allow the Bogotánians to achieve a certain level of civilisation was widespread and manifested in romantic and artistic expressions, in ways of teaching about natural phenomena, and in scientific ways of understanding the environment and biological organisms.

Colombian approaches to teaching about biological phenomena exemplified the dominance of the illusion of temperate nature. Guide textbooks that had been first published in French and later translated to Spanish presented explanations of the mechanics of nature; however, all of the examples derived from temperate contexts. An article written by a Frenchwoman named Claudia Juranville in 1872 was published in the journal *La escuela normal*,

⁹⁰ John Reader Jackson, *Commercial Botany of the Nineteenth Century: A Record of Progress in the Utilisation of Vegetable Products in the United Kingdom and the Introduction of Economic Plants into the British Colonies during the Present Century* (Cassell & Co., 1890); Brian Johnson and Scot Medbury, *Botanic Gardens: A Living History*. (Black Dog, 2007).

⁹¹ Berman, *All That Is Solid Melts into Air*.

periódico oficial de instrucción pública. Devoted to demonstrating the benefits obtained with the study of botany, this article presented a hypothetical teacher trying to persuade a pupil named Amelia to undertake studies on plants. As the teacher is describing the behaviour of plants in different seasons, Juranville quotes someone named Keraboy to explain the reaction of plants during the spring:

As soon as the sun of May has warmed the earth, when the leaves are seen to leave, to break or to reject the tunics that have served them as a cradle. Comb the trees with green hair under which their foreheads rejuvenate. (...) Innumerable leaves suddenly spread through the air, similar to the sword that comes out of the scabbard, the fan that opens, or the piece of cloth that unrolls. A few days pass and the groves have become covered too, and the shadow has darkened in such a way that one is tempted to ask where those rich and fresh draperies that the mansion of the human race has been decked out in had been kept.⁹²

The phenomenological experience of the spring manifested on trees would have been almost impossible to understand for people living in the ubiquitously green Andean ecosystems.⁹³ Thus, teaching the biological process through the lens of European temperate nature was the reflection of a social construction of nature that in many cases did not at all match with the environment in which the people of Bogotá was immersed.⁹⁴

The vast romantic literature produced by the republican generation of *men of letters* reinforced the exaltation of temperate natural phenomena. Notably, the Romantic movement emerged in Bogotá along with other modernist features, and, as highlighted by Charles Safray, its thriving development was reflected in the Bogotianians' proliferate productions of poetry:

Bogotá is the most civilized city in the Nueva Granada. In addition to the classic studies the medical and law studies have been imparted. However, the vocation for science is less generalized than the love for the letters. The liberal arts do not thrive here although the people from Bogotá love everything that is related to them. It could be affirmed that all of them born being artist or poets. As there is no need to learn poetry, they do it quite better in this art than in others, and

⁹² Claudia Juranville, 'Botánica, cartas de una directora de colegio a una antigua discípula', *La Escuela Normal, periódico oficial de instrucción pública* (Bogotá), Feb. 3, 1872.

⁹³ About cultural differences in approaches to nature, see: Yi-Fu Tuan, 'Discrepancies between Environmental Attitudes and Behavior: Examples from Europe and China,' in *Man, Space, and Environment. Concepts in Contemporary Human Geography* (London: Oxford University Press, 1972), 68–81.

⁹⁴ About the concept and the implication of the Social Construction of Nature' concept, see: David Demeritt, 'What Is the 'Social Construction of Nature'? A Typology and Sympathetic Critique,' *Progress in Human Geography* 26, no. 6 (December 1, 2002): 767–90, <https://doi.org/10.1191/0309132502ph402oa>.

although Nueva Granada's most outstanding poets do not reach a level of brilliance it cannot be denied their inspiration.⁹⁵

The most common used metaphors and similes around nature referred to forests, seasons, flowers, and other elements of temperate landscapes, and despite the lack of any winter or spring seasons, the nineteenth-century Colombian poetry is full of descriptions about these climatic phenomena. For instance, José Asunción Silva, the most important nineteenth century Colombian poet, wrote: 'He was a great lyric poet that speak to the earth in a winter afternoon...'⁹⁶ Another Colombian Poet, José Eusebio Caro wrote a paeon to the Cypress tree as follows: 'Yes, funeral cypress/when the night, when its quiet shade surrounds you/ when hidden, the alone owl in your branches flap/ my dead father shadow appears wandering among your lefts.'⁹⁷ As is revealed in Caro's poem, temperate trees and fruits such as apples were more common than for example, native fruits such as the banana passionfruit or the guanabana (soursop; *Annona muricata*). The exaltation of the own nature would not appear with any force until the first half of the twentieth century.⁹⁸

However, the dystopic lens from which the tropical nature of Colombia was explained, taught, and versed was spotted by some, who advocated the recognition of their own nature. In 1886, an author using the pseudonym of *Mindrelio* published in a local newspaper a satirical narration about an annoying literature critic of Bogotá. In the voice of the main character, the author says:

You must know my friend, that one of the capital fails committed by those that use to write here, is not to use analogies or similarities (which are the soul of comparisons) in nature and facts observed by themselves. *They take everything from the European books*. It makes you laugh, being in Bogotá or Medellín, to listen to talk about the nightingale or the larks' sings, something that they never have heard. Or hearing about the unjoyful morning of April, which might be as splendid as you want in Europe or in temperate zones. Because here they are the saddest, the cloudiest, the most inclement and humid ones. In a cold and insensible state is the heart when our man of letters compares any common thing

⁹⁵ Charles Saffray, 'Viaje Por La Nueva Granada,' in *Colombia En Le Tour Du Monde*, ed. Pablo Navas Sanz de Santamaría, vol. I (1858-1876) (Bogotá: Villegas Editores, 2013), 162–63.

⁹⁶ José Asunción Silva, *Poesía y Prosa: 'De Sobremesa'* (Bogotá: Atenea, 2015).

⁹⁷ Luisa Garavito, ed., *Poesía Romántica Colombiana: Antología, En Homenaje a Los Grandes Poetas Románticos Colombianos*, Primera edición, Colección Poesías Del Alma (Bogotá: Multicopias Editores, 2012).

⁹⁸ The recognition of tropical nature as a source of inspiration found its space in the poetry of Aurelio Arturo and Raúl Gómez Jattín. See: Raúl Gómez Jattín and Carlos Monsiváis, *Amanecer En El Valle Del Sinú: Antología Poética*, Tierra Firme (Bogotá: Fondo de Cultura Económica, 2004); Aurelio Arturo, *Morada Al Sur, Un Libro Por Centavos (7)* (Bogotá: Universidad Externado de Colombia, 2004).

with the Spring, Autumn or any other natural phenomenon from other climates, of which we barely have known through the books of geography [emphasis added].⁹⁹

The ubiquitous presence of temperate nature in Bogotá's cultural context fed a general perception that plants native to temperate regions were most suitable in the construction of the modern urban green space. The modern city not only followed the ways of building and living expressed in Paris or London, it also sought to use the same types of plant raw materials in the construction of its gardens, parks, and urban forests.

6.4.3 European plants in the creation of the Bogotá's green spaces

The exaltation of temperate plants as the most suitable elements in the construction of the green spaces in Bogotá was initially promoted by the European experts. Embodying their own native conceptions of plants, they highlighted the pertinence of using European species as raw materials in the construction of gardens and parks. For example, in the *Tratado Elemental de Agricultura y Ganadería*, the Spaniard José María Gutiérrez de Alba enumerated the trees that could be used to enrich and revegetate places destroyed 'by mans' hand' in Colombia:

About the resinous trees, (I recommend) pines of different species. Among them, it could be chosen those most suitable types for each weather and soil conditions, from the sandy grounds in the coast to the mountain's summits. Amongst the non-resinous trees, it could be acclimatised the cork tree, the holm oak, the European nettle tree, the beech, the white and black poplar, the birch, the ash, the plane, the horse chestnut, the elm, the linden, and many thousand others.¹⁰⁰

All of the trees suggested by Gutiérrez de Alba corresponded to species with large symbolic significance in Europe. It can be seen that he essentially extrapolated his own understanding of nature and tried to apply it in a completely different context. When describing suitable plants species to be planted in the Colombian cold weather regions (such as Bogotá), he again recommended a group of common European trees.

Which are the most suitable trees for cold weather places in Colombia? Understanding for cold weather places where the thermometer never goes under 7 or 8 °C above zero. Being those temperatures here the most common ones (...).

⁹⁹ Mindrelio, 'Un crítico impertinente', *La siesta* (Bogotá), 13 abril 1886.

¹⁰⁰ José María Gutiérrez de Alba, *Cartilla Agraria ó Tratado Elemental de Agricultura y Ganadería. Dedicado a La Juventud Colombiana* (Bogotá: J.B Gaitán, 1878), 48.

It is possible to cultivate with success many of the temperate-region trees, especially the common cherry, several species of plums, the raspberry, the gooseberry, the apple tree, all the species of the *Persicum* genus such as the peach tree, the freestone peach, the buckeye tree. Also, some other trees such as the walnut, the chestnut, the hazelnut and many other could be acclimatised.¹⁰¹

Additional suggestions around the suitable plants to be used as part of the city's ornamentation were made by the British gardener Robert Thomson (Section 6.3.1.2). Although the plant species recommended by Thomson were not necessarily native to Europe, they were commonly used as ornamental plants in London, the city where he had lived and learnt the gardening arts. In his proposal for plants to be incorporated into the Parque de Bolívar, he wrote:

If this garden was deprived of the few pine trees which adorn it there would be hardly anything left worthy of so important site, for nearly all the other plants therein are very common and ill-adapted, as well as asymmetrically planted. To establish this garden in accordance with its position selections of fine foliaged and striking plants should be a very crucial feature. *Some of the finest plants in Europe gardens would find a fitting home in this as well as well in other parks of Bogotá* [emphasis added].¹⁰²

In the same letter, Thomson suggested:

For the adequate planting and renovation of these parks in the manner indicated it is indispensable to import and to propagate numerous species and varieties of the choicest flowering and decorative temperate plants of European gardens. For instance many species of splendid foliaged Palms from Australia and other temperate regions; rhododendrons, azaleas, heaths, epacris, magnolia, etc., etc. to be planted in masses, and of the seasons and flowering. Also numerous varieties of other choicest flowering plants some of which are unknown here, these to be cultivated in large quantity.¹⁰³

The plants suggested by Thomson to be used in the gardens of Bogotá can be analysed from a botanical perspective. For instance, he mentions the convenience of using rhododendrons, heaths, and epacris, all members of the broadly distributed Ericaceae family, of which 287 species are native to Colombia and some have ornamental potential

¹⁰¹ Gutiérrez de Alba, 48.

¹⁰² Correspondence between Robert Thomson and Minister of Development, January 30, 1893, folio 25, tomo 823, fondo Ministerio de Obras Públicas, AGN.

¹⁰³ Correspondence between Robert Thomson and Minister of Development, January 30, 1893, folio 27, tomo 823, fondo Ministerio de Obras Públicas, AGN.

(Fig. 6.9).¹⁰⁴ However, perhaps due to a lack of knowledge concerning Colombia botanical richness, none of these native species were considered by Thomson as suitable elements in the ornamentation of chilly Bogotá. Rather, he suggested alien members of the Ericaceae family such as rhododendron (*Rhododendron catawbiense*), heath (*Erica carnea*) and epacris (*Epacris longiflora*) with which he was acquainted as part of his gardening work in London.



Figure 6.9. Ericaceae plants from the Andes Mountains, *Carbonero* (*Bejaria aestuans*), *Gaultheria erecta*, *Cavendishia* sp. Source: Author's photographs.

6.4.4 The role of native species in the green spaces' construction

Despite the overwhelming importance of temperate plants in the development of Bogotá's modern green space, it would be unfair as well as ecologically impossible to claim that production of gardens and parks were entirely supported in the use of exotic and introduced plant species. Although less important than the European trees, native species also had a historical role in the creation and transformation of the city's green spaces. As previously presented, native willows were used in the production of the hedges for the purpose of plot delimitation in Bogotá's outskirts (see chapter 4). In the same vein, early in the planting process, flashy blooming trees such as *amarrabollos* (*Meriania nobilis*), *siete cueros* (*Tibouchina lepidota*) or *alcaparros* (*Senna viarum*) were used (see Table 6.1). In this regard, the presence of the *amarrabollo* tree, a native species growing in the mountains of the Antioquia region, in Bogotá presents an interesting example that reveals how the city not only lured people from different regions but also attracted plants from other Andean ecosystems. Similarly, the role of Bogotá as a pole of attraction for other provinces' floras is exemplified with the efforts made by the Sociedad de Mejoras y

¹⁰⁴ See: <http://catalogoplantasdecolombia.unal.edu.co/en/resultados/familia/Ericaceae/>

Ornato (Society of Improvements and Ornamentation; SMO hereafter) in 1918 to obtain seeds of the trees known as *manzano* (?) and ‘*santacausa*’ (?), both of which were species from the Sierra Nevada Mountains close to the Caribbean city of Santa Marta.¹⁰⁵

In addition to Colombian walnuts, willows and *cerecillos*, a few other local trees were deemed adequate to be planted in the city. For instance, in 1899, the Sociedad de Embellecimiento (the institution that preceded the SMO) invited well-recognised Colombians living overseas to contribute to the city’s material improvements. One of the responses obtained by the society was the donation of \$100 and a letter from M. Camacho Roldan, in which he expressed his joy for the planting process undertaken by this society in the Camellón de San Victorino promenade and proposed to use *cajeto* trees (*Citharexylum subflavescens*) for its ornamentation. Camacho Roldan asserted that the tree was abundant in the neighbouring town of Ubaque across the Eastern Hills, and he highlighted that the large shadow produced by its treetop, its fast-growth rate, and its non-prejudicial roots would provide sufficient advantages for the *cajeto* to be seriously considered as a raw material for use in adorning the promenade.¹⁰⁶

The recognition of native flora had begun to increase by the end of the 1910s; however, suggestions such as that expressed by Camacho Roldan or the SMO were scarce, and efforts to endow the city with local trees did not have a significant outcome. Despite the abundance of potential ornamental plants suitable to be acclimated in the urban environment of Bogotá, the lack of resources, the European influence and the pragmatic approach to the species used in the city’s gardens, promenades, and parks did not promote the exploration of native local floristic richness. This contradiction between Bogotá’s extremely rich flora and the historical influence of western and temperate nature is revealed in the words of Genaro Valderrama. In 1886, seeking to replace Casiano Salcedo as the man in charge of the administration of the city’s parks and gardens, he wrote:

I must remark that the cold weather areas in the country have a large variety of trees, much more beautiful indeed than the European ones. These (European trees) present, in general, a lugubrious and unpleasant appearance. I could mix them each other, creating with this a very nice outcome which is not presented in the European parks.¹⁰⁷

¹⁰⁵ Actas SMO, 11 December 1918, folio 83, libro 3, Actas MOB, MdC.

¹⁰⁶ ‘Sociedad de Embellecimiento’, *El Heraldo* (Bogotá), Feb. 11, 1899.

¹⁰⁷ Correspondence between Genaro Valderrama and the Minister of Infrastructure, Braulio Velez. 16 April 16, 1886, folio 5, tomo 823, Fondo Ministerio de Obras Públicas, AGN.

As Valderrama's words indicate, the idea of a mixed nature was already present in the minds of some Bogotianians. However, two years later, when proposing a budget to undertake the improvements in the city's parks and gardens, besides stating that he would reduce monthly spending by nearly half, Valderrama stated:

From that perspective, if the government accepts this proposal and decides to improve these parks and gardens bringing from Europe seeds, plants and trees devoted to this aim, I will provide a list of these plants soon. In doing so, I will be able to improve and rearrange (the parks and gardens) conform the rules of art.¹⁰⁸

Despite attempts to follow western modernist trends based on the use of European flowering plants and trees in the production of gardens and parks in Bogotá, local social, ecological, and especially economic conditions required the inclusion of native species. In that context, although I firmly recognise the importance of the native and naturalised flora as an unavoidable botanical presence in the city, in the following section, I reflect on the people and institutions that made possible the continual diversification of the already rich Andean flora of Bogotá.

6.4.5 People and institutions involved in the plant importation

Whereas foreigners like Robert Thomson or Gutierrez de Alba played key roles in the strengthening of the historical predilection for the European species, they did not significantly participate in the active introduction of plants from Europe and the resulting physical representation of the European urban flora in Bogotá. Rather, it was locals who ruled the creation of this new urban nature. Embodying a legacy of cultural miscegenation and westernisation, they undertook a remarkable process of importation and acclimatisation of exotic plants in their efforts to recreate a temperate nature. As social actors historically placed in a time of trade expansion, they managed to build a relatively solid network of plant suppliers. Through these suppliers, a considerable number of new species of plants, not only from Europe but also from other tropical regions (e.g., Asia), arrived into the city. These new sets of *not seen thus far* plants further enriched the already mixed flora of the city.

¹⁰⁸ Budgeted for the material improvements of parks and gardens made by Genaro Valderrama, April 25 1889, folio 6, tomo 823, Fondo Ministerio de Obras Públicas, AGN.

6.4.5.1 Self-taught gardeners and commercial agencies

By the last decades of the nineteenth century, the social relevance of gardens and parks was undeniable. Turned into raw materials in the construction and constant maintenance of these places, plants became products linked to the market's logic. Consequently, securing the supply of plants was among the main concerns among their administrators. Given the endemic economic constraints of the city, local administrations faced continuous problems around the plant supply. As a consequence, the sometimes-precarious state of parks was a recurrent source of complaint in Bogotá. As a practical solution, the municipality passed the problem on to private citizens, who oversaw public tenders in park administration and maintenance.

However, transferring the management of parks and gardens to private hands did not solve the problems around the plant supply. There was a lack of a well-established local market to obtaining the required plants due to the absence of nurseries to grow the plants. Consequently, many of the plants used in the creation of the modern green space in Bogotá arrived via donations. These difficulties explain the relatively poor diversity of plants used in the construction of parks and gardens. For example, Casiano Salcedo, the director of the city's parks and gardens, reported the plantation of only nine different types of plants during his two year tenure from 1892 to 1894.¹⁰⁹ It is interesting to point out how under the precarious economic milieu, Salcedo primarily planted already popular ornamental plants, which, with the exception of the amarrabollos (*Meriania nobilis*) and fuschias (*Fuchsia* sp.), were temperate species historically used in the *patios* and *solares* of Bogotá (Table 6.1).

¹⁰⁹ Report of activities between 1892 to 1894 by Casiano Salcedo, June 1894, folio 23, tomo 823, Fondo Ministerio de Obras Públicas, AGN.

Table 6.1. Some of the plants planted in parks and city gardens between 1892 and 1894

Plants	Scientific name	Origin¹¹⁰
Araucarias	<i>Araucaria heterophylla</i>	Australia (Norfolk Island)
Amarrabollos	<i>Meriania nobilis</i>	Southern America (Andes)
Acacias	<i>Acacia</i> sp.	Australia
Roses	<i>Rosa</i> sp.	Asia temperate (but now a cosmopolitan)
Lilies	<i>Lilium</i> sp.	Europe and North America
Carnations	<i>Dianthus caryophyllus</i>	Europe Mediterranean (probably)
Fuchsias	<i>Fuchsia</i> sp.	Sothern America (Andes)
Hortensias	<i>Hydrangea macrophylla</i>	Asia temperate
Heliotropes	<i>Heliotropium arborescens</i>	Souther America (Perú)

The use of these few plant species would continue with his successors. Once Salcedo left his position as a contractor, he was replaced in 1894 by Agustín Torres, obtained the management of the city's parks and gardens after presenting a self-redacted contract to the Ministerio de Obras Públicas. In the deal, Torres promised to undertake all the necessary actions to maintain parks in optimal conditions. For instance, in clause two he agreed to 'keep in the parks a permanent and variated planting of flowering plants, bushes and trees planted with art and symmetry'. In addition, he guaranteed that he would 'plant elms and pines among other foliage trees instead of the enormous eucalyptus currently existing'.¹¹¹ Again, as we can see from Torres' declaration, the notion of parks is associated with the very limited number of commonly used, mainly European tree and plant species.

After Torres' apparently disastrous management, the administration of parks and gardens returned to Salcedo's hands. In the proposed contract between Casiano Salcedo and the Minister of Development, which the *Official Diary* published on 4th July 1896, the government promised to pay \$440 per month for the administration of the city's parks and

¹¹⁰ In order to classify the geographical origin of the plants used in the construction of green spaces in Bogotá, I use the geographical division of the introduced plants origins posed by Richard Brummitt. In order to establish the origin of plants he suggested eight global regions: 1) Europe, 2) Africa, 3) Asia Temperate, 4) Asia Tropical, 5) Australia, 6) Pacific, 7) Northern America and 8) Southern America. See: Richard Brummitt, *World Geographical Scheme for Recording Plant Distributions*, 2nd ed. (York: TDWG, 2001).

¹¹¹ Proposal to administrate the parks and city's gardens made by Agustín Torres. February 28, 1894, folio 58-9, tomo 823, fondo Ministerio de Obras Públicas, AGN.

public gardens.¹¹² However, this contract was never signed. It seems that the government was reluctant to commit to such a large budget, and they decided to open a public tender to find another contractor. On the 18th of July 1896 (twelve days after the first contract), Fernando Faverna, won the tender with the minimum offer of \$320 per month (later renegotiated to \$310) and assumed the position of administrator of Bogotá's parks and public gardens.¹¹³

There are some interesting clauses in the contract signed between Faverna and the Ministerio de Hacienda, which was the same as that proposed for Salcedo with the exception of the salary. First, the government allowed the contractor to introduce the plants that 'he considered convenient for their ornamentation'. In the same vein, the contractor could 'use, according to his will, the flowers produced in the parks and public gardens'. The first clause (which was also included in a large number of later contracts) allowed the parks and public gardens manager to impose his particular taste, thus revealing the government's lack of attention to the plants' significance in contributing to the city's image. Despite the rich discourse about the role of plants in the city, *plants* were a very general concept without any real form for the city administration. Thus, contrary to what would happen later, plants were not identity symbols at the end of the nineteenth century.¹¹⁴ Equally, the contractor's full control over the flower choices reveals both the continued lack of resources to care for those spaces as well as the Ministry's tremendous ignorance of the significance of gardens: to the local government, the flowers in the parks were merely goods to be used in the decoration of the city's public buildings.

In addition to his inventory of the plants present in the green spaces of Bogotá at the end of his tenure, Salcedo made a report in which he illustrated the physical conditions of those spaces, including the trees and plants used in their ornamentation (Table 6.2).

¹¹² Ruperto Ferreira, 'Contrato número.... De 1896 celebrado con el Sr. Casiano Salcedo sobre conservación y mejoras de parques y jardines públicos en la ciudad', *Diario Oficial* (Bogotá), Jul. 4, 1896.

¹¹³ Contract between Bernado Favera and Minister of Economic Affairs, July 25, 1896, folio 277-8, 302-3, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

¹¹⁴ During the first decades of the twentieth century, in keeping with the consolidation of the Latin American nation-state after the Independence Centenary, plants turned into political elements, which entailed a complex resignification of the natural qualities. The conception of the national identity spread to encompass the national nature, and as a consequence, many plants and flowers were adopted as motherland symbols. For example, see: Enrique Perez Arbelaez, *Paisajes, Tierras y Trabajos* (Bogotá: Editorial Minerva, 1948), 199–201.

Table 6.2. Most of the trees present in the Bogotá's green spaces in 1897

Green space	Tree	Number
Plaza de Bolívar	Pines	19
	Araucaria	2
	Quinos (<i>Cinchona</i> sp.)	4
	Ethiopian banana (<i>Ensete ventricosum</i>)	2
	Siete cueros (<i>Tibouchina lepidota</i>)	2
	Amarrabollo	2
	Patula pine (<i>Pinus patula</i>)	3
	Pine, planted by Mutis.	1
Jardín del Observatorio	Other big and small pines	
	Peruvian pepper (<i>Schinus molle</i>)	1
	Duraznillo (<i>Abatia parviflora?</i>)	n/s (not specified)
	Acacias (<i>Acacia</i> sp.)	n/s
	Amarrabollos	n/s
	Few and abandoned flowering plants	n/s
	Ancient Colombian walnut (<i>Juglans neotropica</i>)	1
Jardín de San Carlos	Ethiopian banana	n/s
	Roses	n/s
Garden in the Plaza de San Carlos:	Pines	4 alive, 1 dying
	Gorse (<i>Ulex europaeus</i>)	n/s
	Sietecueros	n/s
	Abutilon o amarrabollo	n/s
Parque Santander ¹¹⁵	Eucalyptus	8
	Amarrabollos	2
	Sietecueros	4
	Aralia (<i>Aralia</i> sp.)	1
	Cañabravo (<i>Arundo donax</i> ?)	1
	Pines	Some (one is dry)
Parque Centenario	Many trees dying and getting dry. The flowering plants and flowers in a state of complete abandon and disaster.	n/s
Parque Camilo Torres	Fenced with bare wire	n/s

¹¹⁵ Also in the inventory of the gardening element of this park he mention how they only had two watering cans in very poor condition.

Plaza de Los Mártires ‘The trees need to be trimmed. There are few and common flowers. Full of weeds, its general state is of abandon’ .	The best trees are the pines and the Alcaparros	n/s
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Salcedo’s report reinforces the limited flora used in the ornamentation of Bogotá’s public spaces. It is interesting to highlight the generalised use of pines, which were introduced into the city in colonial times. It is very important to highlight how along pines and eucalyptus, in the record appeared some native trees of the *Melastomataceae* botanical family, namely *sietecueros* and *amarrabollos* (Fig. 6.10). The latter, an easy-to-grow and flashy-floriation tree native to the mountainous Antioquia region, unveil an internal exchange of plants between different Colombian regions; however, equally, it could be considered an initial appropriation of the best-known native plants as a means to cover the lack of a local plant market. Nevertheless, the number and variety of plants and the physical condition of the parks presented by Salcedo’s report testify to a complete state of abandon in the city’s green spaces, which is explicitly reinforced through additional commentary. As Salcedo explained the issue: ‘In general terms, the state of those places of decoration and health is of careless and abandon. The labours in charge of the works have informed that the reasons for the current state of those places is the absence of payment for their works since the budget devoted for this has been totally expended’ .¹¹⁶



Figure 6.10. *Amarrabollo* (left) and *siete cueros* (right), native species of the metasomatizes botanical family used during the first stages in the green spaces’ formation in Bogotá. Author’s photographs.

¹¹⁶ Report made by Cassian Salcedo when he gives the administration of the parks and public gardens to Bernardo Faverna, S.F., folio 306-312, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

Faverna had to face several difficulties during his tenure in charge of park and garden administration. For example, he found that one of the employees was living in the gardening tools storage shed in the Parque Santander. Moreover, according to the inventory made by Salcedo, some necessary tools were missing.¹¹⁷ However, when Genaro Valderrama, who was then the General Inspector of Parks and Public Gardens, checked on Faverna's progress in October of the same year, he reported that despite the paucity of tools, some important works had been undertaken in the city parks.¹¹⁸ Concerned about the lack of resources to fulfil what has been signed in the original contract of July 1896, Faverna asked for an extension to his contract on the 2nd of April 1897. However, this new contract presented different terms. Faverna expressed the impossibility of undertaking all of the works he had initially promised to undertake in the initial contract of \$310 pesos and requested that the monthly payment be increased to \$400, the same value of the initial contract made with Casiano Salcedo, which was also similar to the monthly budgets offered in other public tenders. As a consequence, the Ministry decided to cancel the contract with Faverna and gave the position back to Casiano Salcedo.¹¹⁹

In April of 1897, Casiano Salcedo signed a six-month contract with the Ministerio de Hacienda. Varying similar drafts of this contract exist, the only difference between them being the price, thereby documenting a sort of bargaining process between the parties. Whereas the government offered \$500 per month, Salcedo asked for \$700. Ultimately, despite the apparently limited resources, a final monthly payment of \$730 was agreed between the parties.¹²⁰ With this considerable increase of \$410 in the monthly operation of Bogotá's parks and gardens,¹²¹ Salcedo undertook the most important planting process that had occurred in the city thus far when in less than six months, he planted 29,928 plants.¹²²

¹¹⁷ Correspondence between Bernardo Faverna and Minister of Economic affairs, August 12, 1896, folio 314-19, tomo 824, fondo Ministerio de Obras Públicas, AGN.

¹¹⁸ Report made by Genaro Valderrama to Minister of Economic affairs, September 30, 1896, folio 314, tomo 823, fondo Ministerio de Obras Públicas, AGN.

¹¹⁹ Correspondence between Bernardo Faverna and Minister of Economic Affairs, April 2, 1897, folio 335-7, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

¹²⁰ In the archives it is not clear where the extra money used to cover the park administration deficit came from. See: Final contract between Casiano Salcedo and Minister of Economic Affairs, April 8, 1897, folio 223, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

¹²¹ Something is unresolved at this point: Why they cancelled the contract with Faverna when he asked for an increase in the contract and afterwards the Ministerio de Hacienda signed a new one with Salcedo for more than the double prize?

¹²² Report made by Casiano Salcedo where he quite the contract to run the management of parks, November 8, 1897, folio 204-9, tomo 283, fondo del Ministerio de Obras Públicas, AGN.

An important question arises regarding Salcedo's campaign of plant enrichment: given the lack of a solid local business exploiting the native flora in its ornamental potential, what was the origin of all of these ornamental plants? To answer this question, it is essential to understand that despite the high freight prices accruing from Bogotá's extreme isolation, the city had managed to be integrated into the international trade networks. Such integration, which can be considered the cornerstone of the modernisation process, brought the goods and European tastes to the city's colonial streets, albeit most goods reached the city via beasts of burden until late in the nineteenth century. The materiality from which Bogotá's modernity was built was displayed in the city: Musical devices, perfumes, dresses, cars, and many other elements came to Bogotá through the activities of the so-called *casas comerciales* (commercial houses), institutions comprised of a commissions agent, sellers and intermediaries that were in charge of importing innovations produced overseas to the city.¹²³ Along with banks, the ever increasing number of commercial houses during the late nineteenth century reveals that, however remote and difficult to reach, Bogotá was the final destination for many goods.

Plants were among the commodities introduced to the city through the commercial agencies. At least one commercial house in charge of importing plants had a branch in Colombia. Rochester's Live Plants Company had offices in Bogotá and Medellín and was responsible for the introduction of a significant number of new species into the city. In this regard, an advertisement published by this company in a Medellín's newspaper offered its services as follows:

The people that desire to buy fruit and ornamental trees, as well as any class of bushes and rare flowers from diverse world regions, in large or small quantities, cultivated in the enormous nurseries in Rochester, New York (...) It is offered to each of the buyers an agriculture, horticulture and floriculture manual which is quite clear in explaining the cultivation the fertilisation and the trimming of plants.¹²⁴

Rochester's Live Plants Company was interested in becoming the official supplier of plants for the city. It seems that the company's agent in Colombia, a Mr. G.W Mc Lane,

¹²³ About the role of the Commercial Houses as link between Latin America and Europe see: Romero, *Latinoamérica Las Ciudades y Las Ideas*, 291.

¹²⁴ 'Arboles, Flores y Frutas' (Rochester's Alive Plants Company advertising), *El aviso* (Medellín), Jun. 9, 1897.

successfully lobbied the Minister of Development, as the minister ordered Salcedo to choose the plants to be used in his revitalisation plans from Rochester's catalogue. However, Salcedo argued that given the business model presented by Mr Mc Lane, would be overly expensive and complex, as it was based on the acclimatisation of plants before their introduction into the parks and garden. Although Salcedo did choose some plants offered by the Rochester company, he stressed that 'those plants are very expensive compared with the prices of the *ones brought from Paris*' [emphasis added].¹²⁵ This comment is extremely relevant, as it is the only proof we have about the direct importation of plants from France during the end of the nineteenth century. Thus, not only were the parks' layouts inspired by the European garden, in at least this case, the raw materials involved in their construction were also labelled as coming from Paris.

The French nationality of some of the city's plants reveals how after the bloody divorce with Spain, even nature was inserted in the reorganisation of models followed by the Latin American nations. Spanish heritage was negated and replaced with the exaltation of England and (even more so) France, which became the model of modernity and excellence.¹²⁶ Architecture, dresses, and social manners were imported from Paris. However, the importation of the French nature was not new and did not begin with Salcedo; the virtues of plants from Paris were extolled in Bogotá's history as early as 1830, as evidenced by a notice in the city newspaper attesting that: 'Sr. Pedro Feliz and bother have just arrived from France with a complete selection of fruit trees, legumes seeds and flowers of any class. They offered them for a moderate price in their living house in Carrera Street number 23'.¹²⁷

It seems that most of the plants used by Salcedo in this refurbishing plan were effectively introduced from France. In a letter sent by the Rochester Company's new agent, a Mr Byron Fish, to the Ministry in January of 1898, the North American mentioned that a large number of ornamental plants coming from New York were already known by the government, and that a previous attempt to close the negotiations had failed due to 'the inconvenient way in which the business was posed'. Fish proposed to skip the

¹²⁵ Correspondence between Casiano Salcedo and Minister of Economic Affairs, July 10, 1897, folio 189, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

¹²⁶ Paz, *El Laberinto de La Soledad, Postdata y Vuelta al Laberinto de La Soledad*; Romero, *Latinoamérica Las Ciudades y Las Ideas*; Walter Benjamin, "Paris: Capital of the Nineteenth Century," *Perspecta* 12 (1969): 165–172.

¹²⁷ 'Otro', *Gaceta de Colombia* (Bogotá), Feb. 21, 1830.

acclimatisation process and plant the plants directly into the parks, and he also offered a professional gardener supplied by the company to conduct the process.¹²⁸ Although the nature of this business makes it difficult to track its full dimensions in the urban landscapes of Colombian cities, this letter reveals that plants were a good attached to the trade networks in the same manner as many other material elements of modernity. The very existence of this kind of commercial house shows Colombia's predilection for foreign plant species while also clearly evincing the underdevelopment in the plant ornamental sector in a tropical country endowed with exceptional floristic richness.

Despite Salcedo's commitment to improve the state of Bogotá's parks and public gardens, he resigned after only five and a half months of his second administration. As he explained his decision in a letter to the minister, he lacked the appropriate tools to achieve his work and complained about the lack of support offered by the police department in the parks' surveillance as well as the lack of money to pay the workers under his direction.¹²⁹ Salcedo also described the constant problems related to the water supply: 'The Parque Centenario lacks water, I cannot use the water from the public fountains because the neighbours stopped me arguing that water was used by them in the domestic task. (Also) The waterpipe from the San Diego highs which initially supplied water to the park was destroyed by the beer company and the washerwoman'.¹³⁰ Salcedo's words highlight the severe economic constraints faced by the park and public gardens administration during the first decades of its existence.

Following the end of the contract between Salcedo and the Ministry, he fought a two-year legal battle to be reimbursed for the funds he had invested to purchase the plants planted in the park. Through his proxy, Augusto Torre, Casiano Salcedo claimed the payment of \$7,529.95 *pesos*; however, the minister countered with an offer of only \$3,000 *pesos*, which he attributed to the 'current economic constraints' and the 'elevated price paid by Salcedo in the bought of the plants'.¹³¹ Although the outcome of this litigation was not registered in the archives, the situation highlights that although the lack of local gardening

¹²⁸ Correspondence between Byron Fish and the Minister of Economic Affairs, January 22, 1898, folio 81, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

¹²⁹ Resignation letter made by Casiano Salcedo, October 16, 1897, folio 203, tomo 823, fondo de Ministerio de Obras Públicas, AGN.

¹³⁰ *Ibid.*

¹³¹ Legal complaint made by Augusto Torres in behalf of Casiano Salcedo, April 1899, folio 218-9, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

traditions might have prevented Salcedo from achieving proper European gardens (as was highlighted by Robert Thomson), the lack of political will expressed in the ubiquitous tiny budgets for that enterprise made the development of such knowledge largely untenable, with the resulting consequences reflected in the appropriation and use of plants.

The city's commitment to carry on with adding plants to its gardens and parks continued after Casiano Salcedo's tenure. In an 1897 contract made between José Leocadio Camacho, chief of the 5th section of the Ministerio de Hacienda, and Gabriel Peña Solano, the latter committed to plant fifty *manzanos de Duitama* (?) trees in the Parques Centenario and Santander and the Plazas Bolívar and Los Mártires.¹³² Although it is not clear whether or not those trees were planted, it is important to highlight the general homogeneity of the species mentioned in this contract, which contrasts sharply with the state of things during Casiano Salcedo's administration.

Finally, the problems that undermined the state of Bogotá's gardens and parks were not resolved during the 1890s. The economic difficulties that engendered the administrators' lack of well-developed gardening skills led to a repetitive complaints about the general state of the city's gardens and parkas. The situation was exacerbated by the country's largest civil war, known as the Guerra de Mil Días (One Thousand Days War) from 1899-1902, which had deleterious effects on the city's infrastructure including the parks. The severity of the situation is reflected in a letter the Colombian Astronomer Julio Garavito sent to the Ministerio de Hacienda in May of 1901, in which he stated, 'Respectfully, I am asking Your Honour to send a peon to weeding the Jardín del Observatorio which was abandoned because of the war'¹³³ Thus, the consequences of the warfare completely reversed much of the earlier efforts devoted toward creating the city's public green spaces.

6.4.5.2 Antonio Izquierdo and the social organisations

Following the *Guerra de los Mil Días*, the Colombian economy finally began to improve. The Panamá excision orchestrated by the United States led to an important compensation of USD\$25 million from this government, which was largely invested in infrastructure and boosted the exportation of coffee, leathers, bananas, oil, and other commodities.

¹³² Contract between José Leocadio Camacho and Gabriel Peña Solano, November 28, 1897, folio 89, tomo 823, fondo de Ministerio de Obras Públicas, AGN.

¹³³ Correspondence between Julio Garavito and Minister of Economic Affairs, March 6, 1901, folio 381, tomo 823, Fondo del Ministerio de Obras Públicas, AGN.

Colombia's long-delayed integration into the global economy as a supplier of raw materials led to considerable economic growth, as evidenced by an annual economy growth rate increase of 3.7 % between 1906 and 1926.¹³⁴ The country's economic activation enabled the creation of a strong bourgeois class composed by socially recognised men characterised by their civil and religious commitments.

One of these men was Antonio Izquierdo. Commonly recognised as an important figure in Bogotá's burgeoning real estate business, Izquierdo was one of the wealthiest Colombians of the early twentieth century. He had an active role in the development of the agriculture and (self)published several books addressing the potential presented by some tropical products to be inserted into international trade. Izquierdo presented himself as a defender of agri-business based on certain products such as rubber or cotton cultivation.¹³⁵ However, his publications were not the result of knowledge or academic research but rather a product of his status as a wealthy and influential man interested in agriculture topics and immersed in politics. Izquierdo was named by Rafael Reyes' government to undertake an official visit to United States, Europe, and the Far East to gather information and learn the agricultural practices developed in those regions.¹³⁶ This accumulated experience along with his interest in foreign plants made him one of the most important introducers of useful and ornamental plants to Colombia in general and particularly Bogotá. As he noted in an interview for a local newspaper published by his friend José María Vesga y Ávila, his official contacts with the United States Agriculture department had resulted in the remittance to the Ministerio de Obras Públicas of more than 2,000 plants of cold and hot weather suitable to be acclimatised in Colombia. Izquierdo also explained that 'equally, I sent several types of ornamental trees for the parks of Bogotá and a box with grass seed given to me by the North-American government, along with a *wardian case* with many rare plants. Regarding the grass seed, I must say they were recently introduced to the United States due to its proved quality.'¹³⁷

¹³⁴ Posada Carbó, *Colombia. La Apertura al Mundo*, III:20.

¹³⁵ Some of the publications made by Izquierdo are: Izquierdo, *Memorial Sobre Agricultura*; Izquierdo, *Riqueza Nacional: El Caucho*; Antonio Izquierdo, *Estudio Sobre Bosques* (Bogotá: Linotipos de 'El Diario Nacional,' 1918).

¹³⁶ Vegas y Ávila, "Reportaje con el Sr. D. Antonio Izquierdo I", *El Correo Nacional* (Bogotá), May. 14, 1908.

¹³⁷ Vegas y Ávila, "Reportaje con el Sr. D. Antonio Izquierdo II", *El Correo Nacional*, May. 15, 1908.

In addition to the seeds he imported from the United States, Izquierdo sent Colombia several seeds of grasses, fruit trees, grains, potatoes, eastern tobacco and flowers from England,¹³⁸ as well as live olives from Italy, which he thought would be suitable to cultivate in the dry regions of Villa de Leyva, and one ton of cotton seeds and dates from Egypt. From Ceylon, Izquierdo sent a magnificent collection of plants in wardian cases, of which he claimed, ‘you should not think I am exaggerating, because I sent the most beautiful and interesting representation of what is known today around useful, fruit and ornamental trees.’ Those plants made part of a larger cargo that included 10,000 small cuttings of *hevea* rubber trees,¹³⁹ fifty pounds of tea seeds, and several boxes of cacao seeds.¹⁴⁰

Izquierdo’s travels and plant procurement efforts highlight how the introduction of plants was undertaken as part of the interwoven global trade networks of the early twentieth century. Izquierdo published a booklet in 1918 that reveals an incredible network of contacts that included over twenty nurseries in eleven countries (Table 6.3).¹⁴¹ Izquierdo obtained many different kinds of trees, which in many cases ended up becoming part of Colombia’s urban and rural landscapes. It is not an exaggeration to present Antonio Izquierdo as one of Colombia’s most important plant introducers during the twentieth century.

¹³⁸ Vesga y Ávila, “Reportaje con el Sr. D. Antonio Izquierdo IV”, *El Correo Nacional*, May. 18, 1908.

¹³⁹ There is an interesting fact about the *hevea* rubber tree sent by Izquierdo to Colombia. He mentions how, along these the seedling, he sent dry vouchers of these plant in order to be used as an example followed by the Colombian people to search for this kind of plants in the mountains. However, the rubber plant is a tree naturally growing in the Amazonian region of Colombia. Results paradoxical that native tree seedling sent from Ceylon, were the British had established large plantations from seed coming from Amazon. The same can be said about the cacao beans sent equally from Ceylon or the potatoes imported by Izquierdo from England.

¹⁴⁰ Vesga y Ávila, “Reportaje con el Sr. D. Antonio Izquierdo VI”, *El Correo Nacional*, May. 26, 1908.

¹⁴¹ Izquierdo, *Estudio Sobre Bosques*.

Table 6.3. Worldwide nurseries where Izquierdo had contacts¹⁴²

Country	Nursery
United States	St. Louis Seed Co., St. Louis
	Edmun D. Sturtewart, Hollywor, California
	J.M. Thorburn & Co. Seedman, New York
	George C. Roeding, Fancher Creek Nurseries, Fresno, California
	The Barteldes See Co., Lawrence, Kansas, Denver, Colorado
	Theodore Payne, 345 South Main St., California
	The San Dimas Citrus, Nurseries, San Dimas, California
	Luther Burbank, Santa Rosa, Sonora Co., California
	Vaughman See, Chicago 84-86, Randolph St.
	German Seed Plant Co., 326-30, South Main St., Los Angeles, Cal.
	J.G. Hartison & Sons Nurseries, Berlín, Md.
England	Fidler & Sons, Royal Berkshire, Seed Stores Reading
	Perry Hardy Plant Farm, Enfield, Middlessex
	H. Cannel & Son, The Nurseries, Eynsford, Kent
	Carters, Tested Seed, Raynes Park London
	One & all seed, Warehouse, 92 Long Acre, London.
	Miss C. M. Dixon, Elmcroff Nurseries, Edinbrdg, Kent
	C. Engelmann, Essex, England
	J.T. Wesr, Towers Hill Brentwood, Essex
	Carter Page Co., 52-53, London Wall, London E/C
	Stuart Low Co., Royal Nurseries Bush Hill, Park Madd
	Keynes William & Co., The Nurseries Chinfford, Essex
	G.F Letts, Seedman, The Nurseries Hadleingh, Suffolk
	Thomas S. Ware Ltd, Telham, Middlessen
	Hobbies, 17 Road St. Place
Benjamin R. Cant & Sons, Colchester	
Australia	F.H., Brimming, 64 Elizabeth St., Melbourne
Italy	Fratelli Ingegnoli, Corso, Buenos Aires, número 54, Milan
Germany	Haage & Schmidt, Erfurt
Spain	E. Veyrat Hnos., Valencia
France	H. Valtier, 2 Rue St. Martín, Paris
Ceylon	J.P William & Brothers, Heneratgoda, Ceylan
	H.D. Constantine & Sons, Kalutara
India	W. Kudrappa & Sons, Lal Bagh Road Bangelose, India
Japan	Yokohama Nurseries
Asia- Malayan Federal States	J. de A. Pereiras, The Singapore & Straits Nurseries, Singapore

¹⁴² The table is made with the original information given by Izquierdo. However, **some places mentioned by the author present significant inconsistencies in the addresses as well as some misspellings.**

6.4.5.3 The Sociedad de Mejoras y Ornato (Society of Improvements and Ornamentation)

Antonio Izquierdo was part of the previously mentioned SMO (see Section 6.4.4). Founded in 1917, the society took over the responsibilities previously undertaken by the Sociedad de Embellecimiento de Bogotá (SEB hereinafter), which ended in 1913 after approximately fourteen years of operation. As in the case of its predecessor, the SMO was composed by elite men charged by the national government to oversee the city's material improvements, including its parks and gardens, and some of its members shared Antonio Izquierdo's interest for exotic species. Divided into several commissions addressing particular areas of improvement, the parks commission was headed by José María Saíz and José Joaquín Pérez. Those outstanding figures regulated and oversaw all activities related to the city's green spaces, including initial planting and ongoing maintenance. One task in which the commission was particularly active was obtaining seeds from the foreign species they deemed suitable to be used in the city's ornamentation.

Being recognised men from the elite class, Saíz and Pérez had access to the highest spheres of political power, and they engaged in regular communications requesting foreign seeds from many Colombian consuls and ambassadors. Some examples illustrate this relationship between the country's powers and the introduction of urban ornamental plants. For instance, in 1918 the Colombian consul in Bilbao sent the society acorns from a European oak tree (*Quercus robur*), which the diplomat claimed was a 'venerable tree in Spain because in its shadow the ancient members of parliament gathered to create the laws which ruled the Basque people'.¹⁴³ Commonly called English oak, this species is native to most of Europe west of the Caucasus and is perhaps one of the most important trees in European culture.¹⁴⁴

It is critical to stress how following the establishment of the SMO, the city's seed sources also extended to other Latin American countries. In April of 1917, the society charged one of its members, José María Samper, to 'ask the diplomatic body of Colombia in Quito, *through telegraph*, to ship seed or cuttings of the tree used there, in Buenos Aires, Santiago and Montevideo named *Platán del Pichincha(?)* and, if it is possible, some information

¹⁴³ Acta SMO, 13 Marzo 1918, folio without number, libro 2, Actas MOB, MdC.

¹⁴⁴ Charles Watkins, *Trees, Woods and Forests: A Social and Cultural History*, 1st edition (London: Reaktion Books, 2014).

about its cultivation'.¹⁴⁵ As in the case of Izquierdo's travels, the efficiency of international trips and the communication innovations that made it possible to cut across distances brought about a redistribution of plant species.¹⁴⁶ In the case of the *platán de Pichincha* tree, it is especially interesting how the Society specifically ordered to Samper the use of the telegraph to request the seeds, thereby avoiding this member's physical displacement to the neighbouring country of Ecuador. The enhanced conveniences offered by these new developments is reinforced by an observation made by Alexander Von Humboldt in the early years of the nineteenth century: 'There is nothing as difficult to solve as the issues posed by the migrations of the plants useful to men, especially since the communications have reached this level of efficiency in all the continents.'¹⁴⁷

As indicated above, Colombia's diplomatic relationships with other Latin American countries made it possible to obtain various kinds of seeds. In December of 1918, the SMO contacted with Eduardo Urdaneta, the General Consul of Colombia in Venezuela, who was also in charge of the Colombian consulate in México, to request a shipment of seeds or cuttings of the tree named 'thunder' (?).¹⁴⁸ Although it is not clear whether or not the Society received the thunder tree seeds or cuttings, they received numerous other samples. For example, by the end of 1918, the society had obtained forty-three different kind of seeds from the Granja de Agricultura de Toledo in the Canelones District of Uruguay, which were sent by that country's Ministry of Industry. Notably, as part of the thank you note to the Uruguayan government, the society promised to send a cargo of Colombian tree seeds, which suggests the existence of a thus far ignored early twentieth century plant exchange between Latin American governmental authorities and civic societies of different countries.

Finally, it is important to highlight that the society members did not seem to have any real concerns around the origins of the trees used in the city; rather, their decisions were motivated by a sense of pragmatism. For example, when the District Government requested

¹⁴⁵ Acta Sociedad de Mejoras y Ornato [SMO hereinafter], April 26, 1867, folio 6, tomo 1, Actas MOB, Archivo Museo del Chicó, Bogotá, Colombia [MdC hereinafter].

¹⁴⁶ David Harvey, 'Between Space and Time: Reflections on the Geographical Imagination1,' *Annals of the Association of American Geographers* 80, no. 3 (September 1, 1990): 418–34, <https://doi.org/10.1111/j.1467-8306.1990.tb00305.x>.

¹⁴⁷ Alejandro de Humboldt, *Viaje a Las Regiones Equinociales Del Nuevo Continente Hecho En 1799, 1800, 1801, 1802, 1803 y 1804*, vol. II, Biblioteca Venezolana de Cultura (Caracas: Ministerio Nacional de Cultura, 1941), 31.

¹⁴⁸ Acta SMO, December 11, 1918, folio 82, libro 3, Actas MOB, MdC.

the SMO's opinion about the most convenient trees to be planted in the Avenida Colón in 1918. The commission of parks composed by Saíz and Pérez replied that 'the commission thinks that the already planted trees in a good shape planted in the Avenue must remain. For the new trees to be planted must be chosen those that have been thriving in the city, mainly acacias (like the planted in the Boyacá avenue), nogales and pimientos'¹⁴⁹ The first of these species was a broadly used ornamental tree from Australia, the second was a native tree worshipped by the Muiscas, and the third is a tree native from the north of Argentina. This pragmatic position held by the Society led them to create the first nursery to endow the city with locally produced trees using either natives and species from all around the world.

6.5 Conclusions

Intended as a brief initial introduction to the gardening urban practices in Colombia, this chapter was divided into three main sections. Unveiling the socioecological conditions in which the modern gardening practices developed, Section 6.2 explained the limitations that hindered the creation of the first modern urban green spaces in Bogotá. The lack of a ostentation places, ongoing economic constraints, and the disconnection between botanical knowledge and gardening practices were proposed as the main reasons underlying the apparent lack of knowledge of the creation of parks and gardens as symbols of modernisation.

Section 6.3 presented the main human actors involved in the production of Bogotá's modern urban green spaces. This section explained how the local government saw foreigners as the most suitable solution to close the gap in gardening and horticulture knowledge. However, foreigners' participation in the creation of the city's gardens and parks was generally marginal; rather, local and self-taught gardeners such as Casiano Salcedo played a major role in this process. Responsible for both the adaptation of European-like gardens and the acclimatisation of exotic plants in Bogotá, Salcedo had a central role as the 'architect' behind the city's greening process.

Section 6.4 illuminated how the modernisation of Bogota brought about a significant increase in the city's floristic richness. The interaction of pre-existing botanical conditions

¹⁴⁹ Actas SMO, 20 Marzo 1918, folio sin numerar, libro 2, Actas MOB, MdC.

(e. g., early introductions of plants by Europeans), the constant exaltation and use of temperate floras as models, and Colombia's integration into global trade networks as led by horticulturally and agriculturally minded elites engendered a dynamic whereby the city's plants came from diverse regions of the world, thereby producing modern green spaces of hybrid floras.

This chapter has revealed the significant importance of gardening and horticulture knowledge as the main means of reproduction for the green spaces demanded by the modern city. Linked to that, this chapter has shed light on local translators as social actors who by embodying botanical knowledge and practices were able to materialise modern ideas of parks and gardens in a city struggling with endemic social and economic issues. Paying special attention to the mobilities involved throughout this process, this chapter has also highlighted how the transformation of Bogotá into a modern city was partly possible due to the movements of people and plants. Newly imported and acclimated foreign plants shared the city with native and previously introduced plants. This co-existence of species from diverse origins produced a hybrid flora, which is highlighted herein as one of the most important traits of modern green spaces. In short, through the above-presented examples of the movements and actions of humans and non-humans, this chapter has illuminated modernisation as a process of adoption and translation of political, social, cultural, and botanical ideas and practices into a local milieu, thereby producing hybrids of different classes.

VII

THE ALL SOLUTION TREE: THE EUCALYPTUS AND THEIR ROLE IN IN THE MODERN BOGOTÁ

7.1 Introduction

In 1918, Gabriel Ortiz Williamson, a well-recognised Bogotanian figure on agricultural topics, interviewed Casiano Salcedo. Ortiz recognised Salcedo as one of the most important gardeners of Bogotá and acknowledged his key role in the introduction and acclimatisation of eucalyptus into the city. While remarking on these outstanding contributions, Ortiz presented an interesting summary of the plant's uses in Bogotá:

“[Eucalyptus] which nowadays is part of our landscape, provides us with warmth through its wood; from the hovel to the factory. It bakes the people's daily bread, and transmits ideas in the form of telegraph and lighting pole [...] In the Funza highlands [the eucalyptus] increasingly represents wealth and is indispensable sign of civilisation. Especially the Bogotanians like [the eucalyptus] because it is nowadays a familiar tree, and decoration of farms, avenues and parks name after the father of the country.”¹

This chapter seeks to understand the reasons that led to the adoption of eucalyptus in Bogotá and its embedding in the city's consciousness as the modern tree for excellence. The chapter is divided into three sections. Section 7.2 will provide an overview of the international context in which eucalyptus trees acquired wide acceptance both globally and in Colombia. Presenting an accelerated growing rate, useful in sanitising swampy and humid environments, and used as an ingredient in a long list of chemical products, trees of the *Eucalyptus* genus spread all over the world. Section 7.2 will also highlight the events and social actors involved in the importation and acclimatisation of eucalyptus to the local socioecological conditions of Bogotá.

Building upon historical accounts left by travellers and photographic records, Section 7.3 will address the accelerated adoption of eucalyptus trees within Bogotá's built environment during the last decades of the nineteenth century. Regarded as the most suitable tree for the emerging requirements imposed by the modern city, eucalyptus trees were systematically planted as the main large-sized plants in the construction of the modern green spaces.

¹ Ortiz Williamson G., 'Casiano Salcedo', *Cromos*, 106. Mar. 16, 1918, 138-9.

However, as described later in this section, after some decades, the trees' size engendered several socioecological conflicts, which led to its eventual abandonment.

Section 7.4 will examine the key role of eucalyptus in some of the urban processes. This part shows how, in addition its value as ornamental trees in parks and avenues, eucalyptus played a major role in the transformation of the out of sight green spaces in Bogotá. This point is exemplified through the extensive planting of eucalyptus on Bogotá's Eastern Hills to regulate drought conditions and ameliorate the flooding of the main city's rivers, the extensive use of eucalyptus as a source of wood, and its potential to cure and civilise ill environments away from the city.

7.2 Eucalyptus as iconic modern tree and its introduction and acclimation in Bogotá

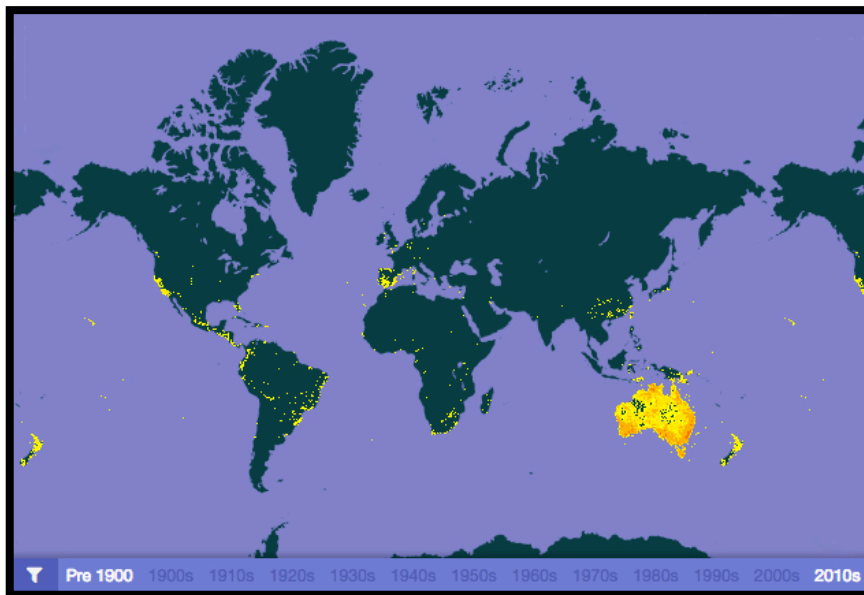
7.2.1 The eucalyptus era

The presence of the *Eucalyptus* genus in Bogotá was not an isolated event. Its adoption in Colombia was part of a worldwide trend that, starting in Australia and Tanzania, would turn eucalyptus trees in one of the most important species of the nineteenth-century changing world. This section will briefly describe this trend as a way to contextualise the reasons that led to the adoption of eucalyptus in Bogotá, where it turned into one of the most iconic trees of the urban green space.

In 1788, the French global voyage *La Pérouse* vanished in Oceania when its two ships, *La Boussole* and *L'Astrolabe*, sank with their entire crews close to the Solomon Islands. Three years later, a rescue mission led by Capitan Bruny Dentrecaesteaux was undertaken to recover the valuable shipwreck. The task was extremely difficult and the crew failed in its task. The Capitan then directed an expedition to Australia, Tanzania, New Zealand, and the Antilles. The French botanist Jacques Julien Houtton de LaBillardière formed part of his crew, and during the voyage, he collected a significant number of previously unknown plants, which he later published in a very successful work called *Relation du Voyage à la Recherche de la Pérouse* (1800). Among the information that appeared in his book was the first description of a plant that LaBillardère called *Eucalyptus globulus*.²

² Edwards Betham, "The Eucalyptus Globulus," *The Popular Science Review: A Quarterly Miscellany of Entertaining and Instructive Articles on Scientific Subjects* New Series. Vol II (1878): 383–95; John Leland,

Although La Billardière had discovered the eucalyptus trees for science, they were not entirely new to westerners. As early as 1502, the Portuguese has transferred some individual specimens of *E. alba* and *E. urophylla* from Timor to Brazil.³ The recognition of eucalyptus as a new biological entity made by the French botanist did not result in its generalized recognition as an outstanding commodity. During the eighteenth and early nineteenth centuries, various eucalyptus species were merely ornamental curiosities kept in some European botanical gardens. What occurred, then, to make these trees expand their biological range and reach places as remote as Los Angeles, Kunming in China, and Bogotá in a time span of only 100 hundred years (Map. 7.1)



Map 7.1. ©Facility Open Street Map contributors, *current distribution of the Eucalyptus genus*, 2020, Global Biodiversity Information, accessed January 09, 2018 <http://www.gbif.org/species/3176176>

In 1852, the German botanist Baron Sir Ferdinand Von Mueller,⁴ who was working for the British Government in Canberra, rescued these trees from their ornamental role. Mueller

Aliens in the Backyard: Plant and Animal Imports into America., Ebook Central (Columbia: University of South Carolina Press, 2012), 67-80.

³ Maxwell Jacobs, *The Genus Eucalyptus in World Forestry* (College of Forest Resources, University of Washington, 1970), 2.

⁴ Von Mueller was born in Germany in 1825 and arrived in Australia in 1847. In 1853 he was appointed foundation government botanist of Victoria and carried out extensive explorations of the Victorian hinterland, which greatly extended knowledge of Australian plant species. He also later accompanied or led expeditions in the Northern Territory, Queensland, WA and Tasmania. Appointed director of the Melbourne Botanic Gardens in 1857, he established what is now the National Herbarium but was deprived of his directorship in 1873 due to demand that more attention be paid to the gardens' aesthetic appeal. One of the founders of the Royal Society of Victoria and the University of Melbourne, von Mueller received numerous

positioned eucalyptus as the one of the key species in the newly emerging industry of forestry culture, which led to these trees (particularly *E. globulus*) becoming one of the most important raw materials in the physical reconstruction of the world that accompanied modernisation.⁵ Due to this German botanist's actions in exposing the world to the outstanding characteristics of the *Eucalyptus* genus, he was given the nickname of 'prophet' and 'apostle' by famed botanist Jules Emile Planchon and the merchant and plant researcher, M. Ramel (who worked with Mueller), respectively.⁶

However, the eucalyptus's success cannot only be attributed to the commitment of one (or a few) people. Two biological traits placed these trees among of the preferred species in nineteenth-century international trade: their accelerated growth rate and their outstanding adaptability to different regions. Regarding the former, in 1909, the Brazilian 'eucalyptus apostle', Navarro de Andrade says:

The eucalyptus trees are remarkable, mainly due their prodigious growing speed. Its woody production quadrupled the carvalho [oak] one: in twenty-five years one eucalyptus gives as much as wood as a one-hundred-year-old carvalho growing under the same conditions. The accelerated growth plus the extraordinary long last nature of its wood, make the eucalyptus one of the most precious forestry elements.⁷

Andrade's observations are notable, firstly because he emphasises the genus' rapid growth. This was perhaps the most important trait of this kind of tree, as accelerated growth enhanced the supply of this raw material during a period of great acceleration and intensive trade in forest products. Second, Andrade's comparison of an already known source of wood in Brazil (the *carvalho*) one of the most biodiverse countries on the globe with this new and useful tree coming from Australia was quite nearly 'prophetic', as it implied the systematic replacement of native forests for forestry plantations that eventually occurred in Brazil.

awards and honours, including election as FRS (1861) and as president of the Australasian Association for the Advancement of Science (1890). See: William H. Wilde, Joy Hooton, and Barry Andrews, *The Oxford Companion to Australian Literature* (Oxford University Press, 1994),

⁵ See: Ellwood Cooper, *Forest Culture and Eucalyptus Trees* (San Francisco: Cubery & Company, Steam Book and Ornamental Job Printers, 1876); Edmundo Navarro de Andrade, *A Cultura Do Eucalyptus* (Sao Paulo: Tipographia Brazil de Rotchilld & Cia, 1909), 2–3.

⁶ Abbot Kinney, *Eucalyptus* (Los Angeles: B.R. Baumgardt & co., 1895), 10.

⁷ Navarro de Andrade, *A Cultura Do Eucalyptus*, 2.

Along with its high growth rate, its enormous adaptability to diverse types of environments enabled eucalyptus trees to be planted in a wide spectrum of regions. As American developer and conservationist Abbot Kinney stated, ‘It seems indeed strange that the most adaptable of all forest trees to the semi-tropic world belt should be derived from such a confined genus’.⁸ The eucalyptus trees, but *E. globulus* in particular very early shows its high adaptability to new and contrasting climatic conditions. Linked to this, countries’ ignorance or underestimation of their own botanical richness combined with the ‘non-problematic plantation’ of the eucalyptus led to the homogenisation of landscapes in many places of Latin America and other parts of the world. As a consequence, eucalyptus trees were considered a solution to the timber and wood shortages during this period of generalised industrialisation, when most of the cities around the world flourished amidst deforested landscapes.

However, eucalyptus trees were not only thought of as raw materials in the construction of human settlements. Their ability to drain swamps gained them extra recognition as powerful weapons in the fight against the ‘bad airs and miasmatic elements’ that abounded in the water reservoirs and were identified by hygienist as the major cause of disease (see chapter 5). The widespread belief of eucalyptus’ benefits against diseases such as malaria was reinforced by scientifically-minded scholars such as C. T. Kingzett, who defended the use of these trees as air purifiers.

Apart from eucalyptus’ roles as a construction material and an anti-disease agent, other uses, such as honey production, paper, and wood fuel, also contributed to their popularity. However, it was the use of eucalyptus products in the chemical industry that first gained them international recognition). In this regard, Bill Laws mentions:

The resins in the bark produced kino-tannic acids used in mouthwashes and throat syrups, while the leaves produce oils employed in antiseptics, balms, diuretic and disinfectants. The volatile or essential oils are put into vitamin C — and into perfumes, providing a tangy lemon scent. The flowers provide scented pastures for bees, and its oils have been used to flavoured menthol cigarettes.⁹

⁸ Kinney, *Eucalyptus*, 14.

⁹ Bill Laws, *Fifty Plants That Changed the Course of History* (Newton Abbot, Devon: David & Charles, 2010).

Amidst the explosion of urban life and the world trade scheme that arose from the Industrial Revolution, eucalyptus trees found a solid niche in ‘western society culture’. Indeed, the case of the eucalyptus represents a good example of how the globalisation process encompasses the globalisation of nature along with culture, as well as how the same adaptive traits that today would identify these trees as potentially hazardous invasive species, were then considered a desirable characteristic that promoted their massive introduction around the world. As I will show in the next subsection, in the case of Colombia, this globalised nature was not just adopted but adapted in a place with some specific environmental and cultural features.

7.2.2 Eucalyptus reaches Bogotá

The importation of eucalyptus to Colombia can be attributed to several players: The German geographer Ernesto Guhl described the Uribe Vanegas family of Simijaca town (State of Cundinamarca) as eucalyptus importers in the 1860s.¹⁰ In his book *Plantas útiles de Colombia* (Useful Plants of Colombia), the priest and botanist Enrique Pérez Arbeláez, described another, later, introduction by his grandfather, explaining how his ancestor had imported and planted eucalyptus between 1872 and 1882 as part of Simón Bolívar’s birthday centenary celebrations.¹¹ However, another introduction accomplished during the 1860s deserves a special mention.

Casiano Salcedo’s work as the ‘first self-taught Colombia gardener’, as he liked to call himself, was not only significant due to his extremely important contributions to the construction and management of parks and gardens, as presented in the previous chapter. Salcedo was also the person responsible for the acclimation and the extensive plantation of *E. globulus* in Bogotá. In the aforementioned interview with G. Ortiz of *Cromos* magazine in 1918 when Salcedo was 90 years old, he explained that Manuel Murillo Toro (the president of Colombia in 1864-1866 and 1872-1874) when was a minister in Caracas, somebody gave to him a pound of *E. globulus* seeds, and his secretary, Miguel Salgar had also given him six ounces of seeds. Salgar was a friend of Casiano Salcedo, and upon the former’s return from Caracas, he gave him some of the seeds. Given the lack of local

¹⁰ Guhl, *Colombia*, I:62.

¹¹ Considering the existence of more than 100 species of eucalyptus, the recorded early importations could correspond to different species. In the case of those planted by Mr. Arbeláez in Lourdes Park of Bogotá, they are *E. sideropholia*. Those trees have survived, and are among the oldest in city. See: Enrique Pérez Arbeláez, *Plantas Útiles de Colombia*, 4a. ed. (Santafé de Bogotá: Litografía Arco, 1978), 504–6.

horticultural schools, Salcedo had to study to learn how to plant the new tree: ‘Once I had the seed, I studied in my books about the Eucalyptus, a tree belonging to the *mirtáceae* family. I understood its importance; especially because of its accelerated growth, I had information about the large size that some Eucalyptus reached in Australia’.¹² After that, Salcedo planted the seeds and grew 800 small trees. He gave twelve of the trees to his friend Zenón Padilla,¹³ and he planted six in the cemetery, four in his *quinta* (country house), and two in his garden. Salcedo’s efforts had already made an impact on Bogotá’s landscape; however, his role in the introduction and acclimation of eucalyptus in Bogotá did not finish with those first individual plantings. Later, he decided to import more *E. globulus* seeds as well as those of other species, such as *E. amigdalina*, *E. rostrata*, and *E. resimifera*.¹⁴ Although it is possible that those trees were not the first eucalyptus planted in the city, this documentation is highly valuable, as it comes from a person directly involved in the first large-scale acclimation of those trees in Colombia, specifically in Bogotá. In that light, borrowing the expression coined by Planchon to describe the Mueller’s work, Casiano Salcedo could be considered as one of the ‘apostles’ of the eucalyptus in Colombia.

It seems that some of the trees planted by Salcedo thrived very well in Bogotá’s chilly weather. Nonetheless, those ‘new urban botanical inhabitants’ were a source of contestation from the beginning. As Salcedo explained, he struggled to maintain the eucalyptus in a ‘sort of battle’ against those who disliked the trees. In the same interview mentioned above, when asked, ‘Do they have a war against the trees?’, he replied:

The first small trees that I planted in ‘La Pila Chiquita’ were pulled out during the night because a gossip said eucalyptus trees were unhealthy. In fact, it is the opposite; they purify the air and they are a healthy element against diseases such as malaria. Later, I planted [trees] in ‘La Estanzuela’, but they [the residents] continued with their fight because they believed [the eucalyptus] absorbed all the water from the ground and removed all the nutrients from. I gave young seedlings to some peasant friends, but shortly they pulled them out because somebody told them that, as it grows, the trees produce an insect that is very venomous and transmits nasty diseases. In the cemetery there was a eucalyptus with a wrinkled

¹² Ortiz Williamson G., ‘Casiano Salcedo’, *Cromos*, no. 106. Mar. 16, 1918, 138-9.

¹³ Zenon Padilla was another man related with agriculture. He introduced of the royal palm (*Ceroxylum quindiuensis*) from the southwest of Colombia to Bogota. See: Juan Crisostomo García, ‘Bogotá Ahora Medio Siglo’, in *El Alma de Bogotá*, ed. Nicolas Bayona, 2da ed., Biblioteca de Bogotá (Bogotá: Villegas Editores, 1988), 170–71.

¹⁴ Ortiz Williamson G., ‘Casiano Salcedo’, *Cromos*, no. 106. Mar. 16, 1918, 138-9.

trunk and someone spread the story that the tree had been infected by a contagious disease and that the tree sweated blood.¹⁵

As Salcedo says, he had to wage an endless fight against those who sought to destroy the trees. However, his efforts eventually bore fruit: by the end of the nineteenth century, the eucalyptus was one of the most common tree in Bogotá.

In addition to Salcedo the already introduced figure of Antonio Izquierdo also had an important role in the history of eucalyptus in Bogotá. In 1918, Izquierdo, as a member of the Sociedad de Embellecimiento de Bogotá, was assigned to represent them in the *First Conference of Public Improvements*. Held in Bogotá, this meeting gathered the most representative people of the Colombian Society with the aim of devising solutions to the country's main infrastructural problems. As part of the Izquierdo's report, he mentioned the forestry policies implemented by the United States government in order to maintain a constant supply of wood. Discussing the studies that supported these official policies, he explained:

It was very gratifying to find those studies because I had been dedicated to planting trees since 1905. I introduced more than fifty varieties of Eucalyptus and Pines that I have cultivated successfully around Bogotá. I sold grounds planted with eucalyptus and pines in Chapinero (Bogotá area) for more than 20,000 dollars per hectare. Recently, I sold lands to the Municipality with a total area of 1,550 fanegadas [992 ha] in the San Francisco, San Cristobal and Arzobispo river basins. I had planted trees in large parts of this lands in order to supply the city of Bogotá with pure water coming from the surrounding mountains.¹⁶

Some arguments in the Izquierdo's speech reflect his outstanding position as a man of the elite class. Firstly, the amount of land (992 ha) and the price obtained for them reveal his position as a very wealthy man in Bogota (and therefore Colombia). Second, he mentions how he had imported different kinds of eucalyptus species since the first years of the twentieth century. As presented in the previous chapter, Izquierdo's social position enabled him to establish contacts with many nurseries around the world, which in turn facilitated his ability not only to introduce a large number of ornamental and 'useful' plants like tea but also a wide variety of eucalyptus species. However, contrary to what occurred with

¹⁵ Ortiz Williamson G., 'Casiano Salcedo', *Cromos*, no. 106. Mar. 16, 1918, 138-9.

¹⁶ Izquierdo, *Estudio Sobre Bosques*, 10–11.

other species of plants (e.g., ornamental), Izquierdo showed more commitment in relation to the acclimation and local development of eucalyptus trees. As he explained:

In my large experience, I managed to grow some Eucalyptus varieties, which, after being buried for forty years, remain in good condition, and continue affirming about the role of eucalyptus as urban ornamental. Among the eucalyptus planted by me, and the ones I know are used in California as embellishment for streets, I recommend the Rudis, Callophilla, Fisifolia, Lehmani species. For broad streets, the eucalyptus robusta species are really beautiful, has been used successfully in some Californian towns.¹⁷

In this text written in 1916, Izquierdo argued that he had been planting eucalyptus in Bogotá for the past 22 years. That means that he was actively involved in the transformation of the Bogotá's landscape from 1894, making him not only a visionary business man but also an important political character in the modernisation of the human-plant relationship that occurred in Bogotá towards the end of the nineteenth century. Izquierdo used his own economic interests to influence the planting policies of the city as a whole. For instance, he wrote the rules about planting trees in cities (e.g., what species, how far apart). However, Izquierdo's concern about the urban physical reality was not unusual. By the end of the nineteenth century, many industrialists and businessmen were highly involved in public decisions around the 'city's progress', as evidenced by the formation of the elite-run SEB, which, among other responsibilities, acquired control over the management the parks and gardens and were highly involved in the identification and introduction of suitable flowering plants and trees to cities.¹⁸ Nonetheless, although the members of this society were among the most educated people in the country, they did not have any technical training, and like Salcedo, they could also be considered as amateurs; however, they amateurs with political and economic power, which makes an enormous difference.

¹⁷ Izquierdo, 20.

¹⁸ One of the most important people involved in the creation of *modern urban nature* was Ricardo Olano, one of the wealthiest men in Colombia, whose ideas helped to transform the urban landscape of Medellín in the twentieth century. See: Diego Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950* (Medellín: Editorial Universidad de Antioquia, 2015).

7.3 The rise and decline of the eucalyptus as the default city-tree in Bogotá

7.3.1 The adoption of eucalyptus

The North American botanist Isaac Farwell Holton was one of the first travellers to give an account of his passage through post-Independence Colombia. Arriving in the port city of Barranquilla in 1852, he made detailed descriptions of the places, people, and plants he encountered during his journey. Holton made several annotations about the most prominent characteristics of Bogotá's environment, including detailed information about its flora; however, notably, not a word was devoted to eucalyptus.¹⁹ Hence, based on Holton's documentation, we can confirm that the introduction of eucalyptus was effectively undertaken during the second half of the nineteenth century as presented above. In 1875, around twenty years after Holton's journey, Edouard André mentioned how at the *Canoas hacienda*, 'don Pepe' [the owner] 'showed me a great eucalyptus globulus that, even though it was no more than three years old, it had a fifteen meters height. It could be claimed that the culturing this famous *mitácea* will leave large fruits in the Bogotá's weather'.²⁰ André's words proved prophetic: through the efforts of characters like Casiano Salcedo and Antonio Izquierdo, by the end of the nineteenth century, Bogotá had followed the global trend and adopted the eucalyptus as one of its most important urban species.

The ubiquitous presence and use of eucalyptus in Bogotá and its hinterlands is well documented by the Englishwoman Rosa Carnegie-Williams. Since her arrival in Colombia in 1881, she had highlighted the eucalyptus as a tree profusely planted in public spaces as well as private farms and country houses. For instance, describing the sector known as La Capuchina she declared:

a boulevard made of Eucalyptus runs along the square, parallel the 5th street, in the west. The Eucalyptus trees, that are excellent, were the first to be planted in Bogotá, just fifteen years ago. They are better known as eucalyptus globulus. They adorn the entire city and nowadays have been planted thousands around, given a nice aspect to the plain scare of trees.²¹

¹⁹ Holton, *New Granada*.

²⁰ Pablo Navas Sanz de Santamaría and Benjamín Villegas Jiménez, eds., *Colombia en Le Tour du Monde*, vol. I (Bogotá: Villegas Editores, 2013), 675.

²¹ Rosa Carnegie-Williams, *Un Año En Los Andes, O, Aventuras de Una Lady En Bogotá*, Colección Viajantes Y Viajeros (Colombia: Academia de Historia de Bogotá, 1990), 73.

The same year, the Colombian government hired Swiss citizen named Ernst Röthlisberger to run the philosophy and history cathedra at the Universidad Nacional (National University). During his time in Bogotá, Röthlisberger left many accounts about the city's daily life, among which is a description of how: 'It is amazing to see how fast trees grow on the city parks. It is important to point out that in Bogotá and its surroundings eucalyptus are specially planted, because of its leafiness and because in few years they reach high height'.²²

Eucalyptus were adopted as one of the principal elements in the construction of modern and organised environments (presented in Chapter 5). Example of their prominence in Bogotá include the massive presence of eucalyptus in the Parque Centenario, where the trees appear to have to been planted to form a long promenade when it was first opened in 1883 (Fig. 7.1). The use of eucalyptus in the creation of this promenade is notable, as it represents how in a city of heterogenous and residual spaces inhabited by spontaneous and naturalised plants, modernisation engendered strict ideas of order and control that were expressed in the park's tree-lined organisation. Furthermore, it shows how the concept of the promenade, which originated during the Renaissance and was later enhanced during Haussmann's renovation of Paris,²³ persisted beyond the trees from which it was made. The case of a eucalyptus-made promenade exemplifies their use to express a trend that consists of forming a strong perspective by putting tall trees in a line. Thus, as presented in the case of the gardens and the flowering plants, it was not only trees that were imported into the city, but also western approaches to organising them in urban space. This process of mimicry is illustrated by the incredible similarity between the promenade layout in the Parque Centenario in Bogotá and that established along a Los Angeles street, which belies the significant differences between these two environments (Figures 7.1 & 7.2).

²² Röthlisberger, *El Dorado*, I:66.

²³ Although almost exclusively devoted to Europe, the study made by Henry Lawrence about urban trees gives key information about the urban planting process that would influenced the rest of the world. See: Lawrence, *City Trees*.



Figure 7.1. Henry Duperly *E. globulus*-made promenade in the Parque Centenario in Bogotá, 1883, albumen print, 22.6 x 18.5 cm. In Dubail, C. and M. Dubai-Acero (eds). *Bourgarel, le Colombien: Voyages d'un diplomate français dans la Colombie du XIXe siècle* (Paris: EdiSens, 2017), 110.



Figure 7.2. *E. globulus*-made promenade in Los Angeles, Ca. ca. 1900, photograph. In Norma Ingham, *Eucalyptus in California*, (Berkeley: University of California Publications, 1908), no page.

In 1910, a new park was inaugurated in front of the Parque Centenario (see map 5.4) on the foothills of the Eastern Hills to celebrate the centenary of Colombia's independence from Spain. Named the Parque de la Independencia (Independence Park), this four-hectare space was one of the most important venues of Bogotanian society during the first decades of the nineteenth century, and it hosted numerous important celebrations, including the national exhibition established during its opening.²⁴ During the event, many photographs of this space were taken, and the widespread presence of eucalyptus is clearly apparent (Fig 7.3).

Eucalyptus were intimately connected with the urban expansion of the last decades of the nineteenth century. As Bogotá grew upon the nearby countryside, those trees moved with the city. For example, Chapinero, which is located on the north side of the city towards the state of Boyacá grew rapidly to form Bogotá's first urban suburb. In alignment with the region's Spanish heritage, a central square was constructed and crowned with a neo-Gothic

²⁴ About the creation of parks in Bogotá during the nineteenth century, see: Claudia Cendales, 'Los Parques de Bogotá: 1886-1938,' *Revista de Santander*, 2009; Cendales, "Un parque extenso y amplio para dotar con él a nuestra querida capital."

church devoted to Lourdes Mary. By 1870, well before the construction work had been completed, several approximately six metre high eucalyptus trees were already ornamenting the square's surroundings (Fig. 7.4).

Eucalyptus trees were not only planted as part of large-scale organised plans. In the photographic city records, one encounters completely isolated and badly planted eucalyptus growing in the middle of the pavement (Fig. 7.5) or they may be positioned in middle of orchards, as part of the *solares* in many houses. The presence of the eucalyptus in *solares* suggests the local cultural appropriation of this exotic tree, perhaps as a complementary source of firewood among the poorest citizens (Fig. 7.6). Also, a small group of eucalypti amidst an otherwise treeless landscape served as the only symbol of modernisation among the atrium decorations of Las Aguas chapel (Fig. 7.7). It is also possible that some of the more isolated examples were planted by individuals, thus resulting in a more dispersed pattern throughout the city. It is possible that the naturalisation of *E. globulus* started from the very first moment of its introduction. In that sense, the presence and persistence of this plant in Bogotá and its hinterlands was not merely the result of the planting enterprises of human actors, but also reflected the species' inherent ecological characteristics.



Figure 7.3. Anonymous, Parque de la Independencia, 1910, photograph. Biblioteca Pública Piloto, Medellín (BPP-F-012-0561).

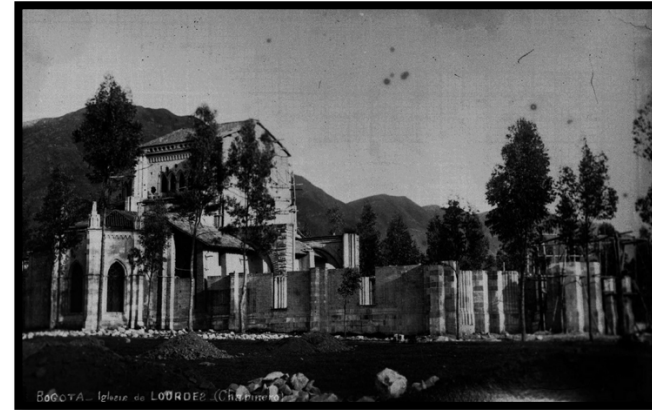


Figure 7.4. Julio Racines, *Eucalyptus globulus* around Lourdes Church, ca. 1870, photograph, 13 x 18 cm. Biblioteca Pública Piloto, Medellín (BPP-F-003-0832).



Figure 7.5. Anonymous, *Eucalyptus citrifolia*. Avenida de la República (Calle 7) con calle 25, undated, but early 20th century, photograph. Biblioteca Pública Piloto, Medellín (BPP-F-012-0565).



Figure 7.6. Anonymous, isolated *E. globulus* tree growing in an orchard or solar in a poor suburb of Bogotá, ca. 1890, photograph. In Fundación Amigos de Bogotá, *Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010), no page.

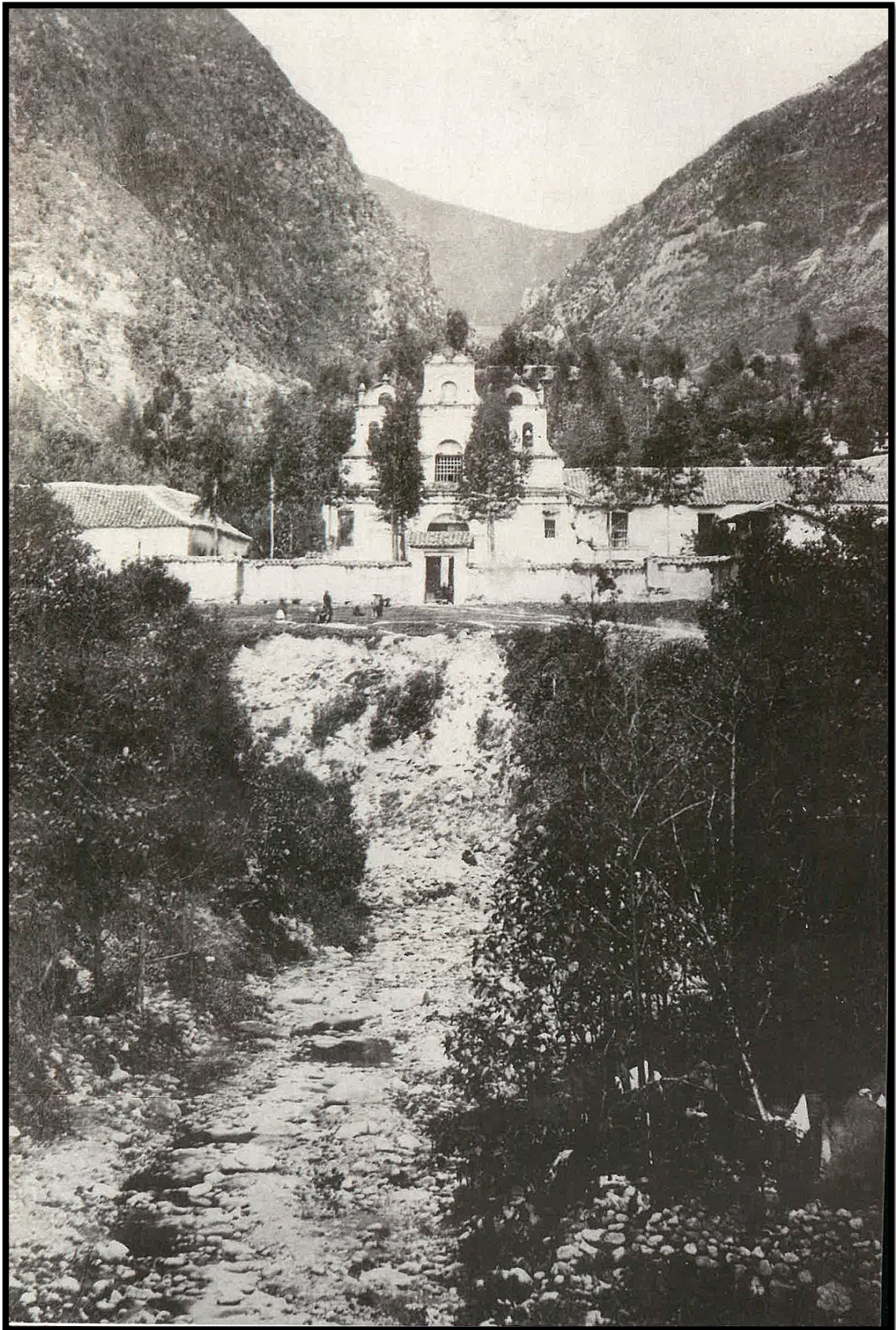


Figure 7.7. L. Clavijo Fonseca Foto, *Eucalyptus globulus* in the Las Aguas Chapel, see the otherwise treeless landscape, ca. 1884, photograph. In Fundación Amigos de Bogotá, *Antigua Bogotá, 1880-1948* (Bogotá: Editorial Planeta, 2010), no page.

In summary, it could be stated that eucalyptus were the most important trees used in the arborization of Bogotá during its transition from the nineteenth to twentieth centuries. Their establishment in the city was not only part of an organised planting process undertaken by city gardeners, but also reflected processes of cultural appropriation and biological naturalisation, which in turn would result in an astonishing presence of this species in Bogotá.

7.3.2 The decline of a trend

After being cultivated by around forty years, *E. globulus*' annual growth rate of close to three metres turned into a problem.²⁵ The trees' height was overwhelming for a city that at the start of the twentieth century remained in a colonial state in both its symbolic and material aspects. Applications seeking to obtain authorisation to cut down the trees began to arrive at the Consejo Municipal (City Council). As the highest-level office of the city administration, in addition to dealing with the most important city issues, the council also had to authorise the cutting of trees in the city (Fig. 7.8).

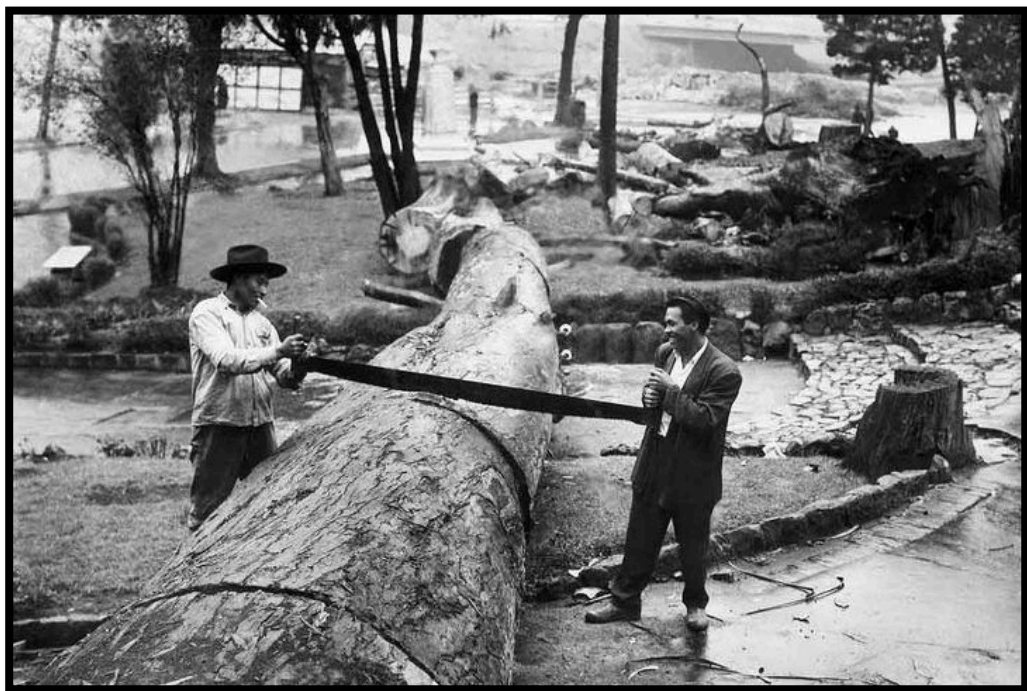


Figure 7.8. Chopping a eucalyptus tree in the Parque de la Independencia, *ca.* 1920, photograph. Unknown Source.

²⁵ Santelices Rómulo, 'Desarrollo de Una Plantación de Eucalyptus Globulus Establecida En Primavera Con Diferentes Tratamientos de Riego / Development of a Eucalyptus Globulus Plantation Established in Spring Using Different Irrigation Treatments,' *Bosque (Valdivia)*, no. 3 (2005): 105, <https://doi.org/10.4067/S0717-92002005000300012>.

One of the most common reasons provided when requesting to cut down the trees was related to their inconvenient size. The adverse effects produced by eucalyptus were already evident by 1920, as evidenced in a conflict between the Superintendent of the *Bogotá Electric Company* and Delio Cifuentes, the director of Public Works. The Superintendent asked Cifuentes to ‘give the necessary orders to trim the trees in the Paseo Bolívar (...) since they are rubbing the electricity conduction cables causing troubles in the area’; however, Cifuentes refused on the grounds that ‘This department has explicit orders made by the Sr. Minister forbidding the trimming of trees placed in the national avenues. And, to avoid the rubbing with the electricity wires, it would be convenient that the electricity company would lay taller poles’.²⁶

This negative reply was not welcomed by the *Electricity Company*, which in retaliation decided not to cut the treetops, but to cutting the electricity service in the area for several days. This action seems to have been effective. Following complaints made by that sector’s dwellers, the secretary relayed the minister’s order to ‘trim the trees in the Paseo Bolívar and so avoid their interference with the electricity service’.²⁷ This example reflects a recurrent conflict between trees, usually eucalyptus, and the city’s electricity poles, which were in fact commonly made of eucalyptus wood (see Fig. 7.18), or, moreover, used as poles while they were alive as proved the presence of fuses on the tree depicted in the Figure 7.11. This fact exposing once again how, as Marshal Bergman has pointed out, the modernisation process was built upon a set of paradoxes and contradictions.²⁸

The conflict with electric lines was far from the only clash presented by the eucalyptus in Bogotá. It seems that the eucalyptus planted in the Paseo Bolívar, (probably in the last decades of the nineteenth century) was the subject of constant complaints by its neighbours. Another example of the eucalyptus vs city confrontation occurred in the same year as the electric company’s request. On the 5th of March, José Telésforo Puentes wrote to the director of National Public Works Department in the following terms: ‘I am the owner of the house number 4 in the 25 street of this city. Since in front of my house was

²⁶ Correspondence between the Superintendent of the Bogotá Electric Company to Delio Cifuentes, September 20, 1920, folio 109, tomo 816 (Paseo Bolívar), Sección República, Fondo Ministerio de Obras Públicas, AGN.

²⁷ Correspondence between Minister of Infrastructure and Delio Cifuentes, October 5, 1920, folio 111, tomo 816 (Paseo Bolívar), fondo Ministerio de Obras Públicas, AGN.

²⁸ Berman, *All That Is Solid Melts into Air*.

planted a eucalyptus tree that has been alarmingly developed with an evident risk to my house, I request you that according to that reasons (...) mandate to cut down this tree that could destroy my house'. In this case, Delio Cifuentes did not require additional persuasion, he gave the order to 'cut the tree and in its place to plant a smaller one, or leave the space empty since in front of the house there is an electric pole'.²⁹

The problems posed by the significant height of the Bogotá's trees began to be resolved, at least in part, with the creation of the Sociedad de Embellecimiento de Bogotá in 1917. This private organisation exclusively comprising 'well-educated' and wealthy males was a clear expression of the official incapacity to deal with some of the most important urban issues in Bogotá. During its initial session on the 17th of April 1917, the objectives of this private institution were defined and its commissions were organised according to the city's needs (Table 7.1).

Table 7.1. Commission of the Sociedad de Embellecimiento de Bogotá and their members

Commission	Members
Fiscal Judgment	Marcelino Vargas, Félix Salazar, Agustín Nieto, Pablo Roca, <i>Zenón Padilla</i>
<i>Parks and Gardens</i>	<i>José María Saíz, Eudoro Pedraza, Andrés Marroquín, José Joaquín Pérez, Antonio Izquierdo</i>
Press	Emilio Cuervo, Gustavo Santos, Alfredo Ramos, Abraham Cortés
Hygiene	Alejandro Herrera, Simón Araujo, José M. Montoya, Alberto Dupuy, Álvaro Uribe, Nicolás Buendía
Teaching	Pomponio Guzmán, Alfonso Robledo, José Joaquín Pérez, Emilio Cuervo
Child Protection	Alfonso Robledo, Andrés Marroquín, Agustín Nieto Caballero, Alejandro Herrera, Ricardo Jaramillo
Art and Ancient Objects Conservation	José Alejandro Bermudez (priest), Gustavo Santos, Reinmundo Rivas, Carlos Uribe Brigard

As shown in Table 7.1, the Society took charge of Bogotá's gardens and parks through a commission headed by José María Saíz, a businessman who owned the profitable Faenza pottery factory. Another businessman, the aforementioned Antonio Izquierdo, was involved in issues involving urban tree management. One of the commission's first actions was to sign a contract with Jorge Velez, the Minister of Public Works, whereby the

²⁹ Correspondence between Telésforo Puentes and Delio Cifuentes', March 4-8, 1920, folio 81, tomo 816 (Paseo Bolívar), Fondo Ministerio de Obras Públicas, AGN.

national government transferred the administration of the parks, avenues and gardens in the city to the SEB.³⁰ Thus engaged with the conservation and improvement of the Bogotá's five parks, four avenues, and eleven gardens, each society member became an inspector of at least one of these urban green spaces. The SEB hired guard-gardeners to take care of the plants while also watching park visitors' behaviour. In addition, a set of minimal infrastructures was undertaken to improve the maintenance of public spaces.

The establishment of the SEB marked a change in previous attitudes towards the planting process in Bogotá, which thus far had been rather haphazard (see chapter 5), and it also meant the end of the systematic default use of eucalyptus trees as the 'urban tree' adorning the city's built environment. The diversification of trees used in the planting process was made possible when SEB opened a plant nursery in 1918 on a piece of land donated by the Tram Company (Fig. 7.9). According to the SEB's bi-annual report published in December of 1919, the nursery already had 1,252 trees of eleven species ready to be planted in the required places. As seen in Table 7.3, none of the trees grown in the municipal nursery belonged to the *Eucalyptus* genus.

Table 7.2. Trees in the municipal plant nursery established by the SEB.

Tree common names	Scientific name	Number
Fig	<i>Ficus soatensis</i>	908
Colombian walnut	<i>Junglans neotropical</i>	142
Andean cedar	<i>Cedrela montana</i>	42
Cherry	<i>Prunus serotina</i>	57
Alcaparros	<i>Senna viarum</i>	12
Peruvian pepper	<i>Schinus molle</i>	5
Pines	<i>Pine sp.</i>	30
Acacias	<i>Acacia melanoxyllum</i> or <i>Acacia decurrens</i>	5
Small peach	<i>Abatia parviflora</i> (?)	40
Garagallos	(?)	4
Avocados	<i>Persea americana</i>	4
Jagüitos	<i>Pachira mutisiana</i> (?)	2
Total		1,252

During the same period, the SEB reported 340 trees planted in several locations around the city, including 249 fig trees, sixty-five acacias, twelve unspecified palms,³¹ eight

³⁰ 'Decreto 61 de 1917', Boletín de la Sociedad de Embellecimiento de Bogotá, 6 mayo 1918, 2.

³¹ This palm could correspond to the wax palm, *Ceroxylum quindiuense*, Colombia's national tree.

alcaparros, six pines, nine Colombian walnut trees, nine small peach trees, and only two eucalyptus in the Parque Santander. The figures suggest a *volte-face* in the role of eucalyptus under the Society's supervision. Rather, these new administrators of public spaces appear to have chosen the fig as their favourite species to be planted in the city's avenues and streets, although it is not clear how or why this tree became the urban tree for excellence.



Figure 7.9. Municipal Nursery established by the Bogota's Embellishment Society, 1918, negative. In *El Grafic*, Marzo 8 de 1924. 1239-1240.

Having become Bogotá's urban tree specialists, the society's members, particularly those involved in the Parks and Gardens Commission, had to administrate the planting of trees in the city. As a consequence, they received voluminous correspondence from officials and private developers constantly seeking advice about suitable tree species to be planted in the new-created neighbourhoods. For example, the Cundinamarca State requested the Commission's recommendation for trees to be planted in the Avenida Colon, to which Mr Saíz and Mr Pérez replied that 'The commission think that the trees in good shape must be left as they are. With respect to the new one, it must be planted those that have been proved to thrive in this city, such as the acacias in the Avenida Boyacá, Colombian walnuts or Peruvian peppers'.³²

³² Acta del 13 de marzo de 1918. Actas de la Sociedad de Embellecimiento, 1918-19, libro 2, 090-65, Book without sheet numeration, Museo del Chicó, Bogotá, Colombia [MdC Hereinafter].

The Parks and Garden Commission's opinion on eucalyptus is explicitly revealed in correspondence during August 1918, when the urban developers of the neighbourhood known as El Ricaurte requested their advice about the most suitable trees to be planted in this new, labour-class sector in the south side of the city. The Society's reply presented the eucalyptus as strongly unrecommended due to the risk to streets and constructions posed by the tree's roots and height. Rather, they advised that the developers plant acacias and figs and provided additional suggestions concerning the distance between the trees as well as strongly advocating that they plant lines of same species in order to produce an aesthetic outcome.³³

The above opinions expressed by the SEB reveal how with the creation of this institution, the planting process became regularised and organised according to rational decisions, which seeking order, beauty, and economy, deposed eucalyptus as the urban tree of excellence after a reign of nearly sixty years. However, that was not the end of the relationship between Bogotá and the eucalyptus. Although eucalyptus trees were discredited as the best option for the urban ornamentation by the 1920s, during the same period, they became essential organisms in the transformation of Bogotá's Eastern Hills, where they were used as a natural tool to increase the water currents of the of the main city's rives.

7.4 The eucalyptus as a multiuse tree

7.4.1 Eucalyptus tree and its relationships with the water supply

7.4.1.1 The city and its rivers

Bogotá was founded between the San Francisco and San Agustín rivers, and urban life was dictated by their behaviour (Map. 7.2). During the rainy seasons from March to June and September to November, the same water flows that dragged the filth away placed the city constantly at the mercy of unexpected floods. Meanwhile, during the summer months from June to August and December to February, the city's well-known unsanitary conditions were accompanied by cyclic epidemic outbreaks. Thus, as many researchers have already

³³Acta del 28 de Agosto de 1918. Actas de la Sociedad de Embellecimiento, 1918-19, libro 3, 090-74, Sheets 3-4, MdC.

revealed,³⁴ the control of rivers and water supply was a critical element of urban legislation and infrastructure efforts.



Map 7.2. Francisco Javier Caro, Plano Geométrico de Santafé de Bogotá, 1818. Museo de la Independencia, Bogotá (Registro no. 4009).

The usefulness of trees as natural elements in the regulation of the river's waters began to be evident from the first decade of the nineteenth century. In 1827 the naturalist Jean-Baptiste Bousingault's work *Sobre la influencia de los desmontes en la disminución de las aguas corrientes* (On the influence of clearings in the diminishing of the water currents) was published in Spanish. This article explains how the lack of trees in a river basin can affect the waters in two different ways: i) preserving a constant flow of water (even in

³⁴ The role of water in the construction of Bogotá's modern urban environment has been addressed by many scholars. As a consequence, although this section includes some primary research, most of the information is retrieved from already published works. See: Benjamín Villegas and Juan Camilo Rodríguez Gómez, eds., *El Agua En La Historia de Bogotá*, ed. Benjamín Villegas, Villegas (Bogotá: Villegas editores, 2003); Alejandro Osorio, 'Los Cerros y La Ciudad: Crisis Ambiental y Colapso de Los Ríos En Bogotá al Final Del Siglo XX,' in *Historia Ambiental de Bogotá y La Sabana, 1850-2005* (Leticia: Universidad Nacional de Colombia, sede Amazonia, 2008), 170–93; Laura Felacio, 'Los Problemas Ambientales En Torno a La Provisión de Agua Para Bogotá, 1886-1927,' in *Semillas de Historia Ambiental*, ed. Stefania Gallini, Perspectivas Ambientales (Bogotá: Universidad Nacional de Colombia, 2015); Clara Torres, 'El Alcantarillado Subterráneo Como Respuesta al Problema Sanitario de Bogotá, 1886-1938,' in *Semillas de Historia Ambiental*, ed. Stefania Gallini, Perspectivas Ambientales (Bogotá: Universidad Nacional de Colombia, 2015); Guillermo Lozano, 'Historia Socio-Ambiental de La Sub-Cuenca Del Río Salitre. La Transformación Del Hábitat Humano y No Humano' (Universidad Nacional de Colombia, 2016).

summer periods); and ii) preventing sudden floods after massive rain events.³⁵ These kinds of texts were produced intensively during the nineteenth century, and they came to influence regulations on trees and city waters in many places.

In 1845, the relationship between trees and water was regularised in Bogotá under Ordinance 77 of the 13th of October, which established the prohibition of cutting down trees growing near the sources of *aguas vivas* (running waters), ‘useful or possible useful for towns supply, in a ratio of 50 yards’. The same bylaw forbade the clearance of steep areas with inclinations beyond the 35° (to avoid mass movements). Moreover, Article 5 decreed that ‘It is exempted from the contribution of personal work for the term of one year to any individual who plants, cultivates and conserves fifty or more trees, or forms forests of a quarter of a *fanegada* in the fringes of the living waters that have decreased in quantity for lack of close high vegetation’.³⁶

However, such ordinances seem to have little effect on regulating the city’s waters. Nearly 30 years later, the ‘biggest and most destructive river floods occurred in the history of Bogotá’ when the San Francisco and San Agustín rivers caused great damage to the city in 1872 after an episode of extreme rain.³⁷ The force of the raging waters destroyed all but two city bridges, the mills could not operate for several days, and the already precarious water system suffered considerable impacts. Due to the city’s lack of economic resources and general inability to establish any active controls or regulation on its waters, trees became recognised as the most natural and cheapest solution to the problem. However, if at that time, the arborisation of river basins was a rather generalised, less formal measure, toward the end of the nineteenth century, the desirable biological traits of some trees emerged as part of the political discourse.

In 1889, a reported 1,338 people in Bogotá died due to infectious diseases, among which 140 cases were caused by an outbreak of typhus, 146 by dysentery, and 124 by gastroenteritis. The mayor attributed the main cause of these outbreaks to the low level of

³⁵ Jean Baptiste Joseph Dieudonne Boussingault, *Viajes Científicos a Los Andes Ecuatoriales, ó Colección de Memorias Sobre Física, Química é Historia Natural de La Nueva Granada, Ecuador y Venezuela Presentadas a La Academia de Ciencias de Francia* (Paris: Librería Castellana, 1849), 1–21.

³⁶ A. M. Pradilla, *Ordenanzas Expedidas Por La Cámara Provisional de Bogotá En Sus Sesiones de 1849* (Bogotá: Imprenta del Neogranadino, 1849), 22.

³⁷ Benjamín Villegas and Juan Rodríguez, eds., *El Agua En La Historia de Bogotá, 1538-1937*, Benjamín Villegas, vol. I, Villegas (Bogotá: Villegas editores, 2003), 181.

the city's rivers; recognising the impossibility of undertaking infrastructure improvements due to economic limitations, he ordered a compulsory tree planting in the river basins. This new political commitment to regulate the rivers' waters was different to that promulgated 34 years before in that the mayor clarified some of the biological characteristics desirable in the trees to be used for this purpose. The most important criterion he listed was a rapid growth rate, which was mainly needed to avoid their vandalization and destruction, which had been a chronic problem plaguing every arborisation process previously undertaken in Bogotá.³⁸

7.4.1.2 Eucalyptus as a water control device

Rather than botanists, it was engineers who emerged as the experts in charge of controlling the rivers' water levels through the manipulation of trees. In a paper published in the *Anales de Ingeniería* (Engineering Annals) in 1912, the engineer Diodoro Sánchez recommended thirty species of trees suitable to be planted in the Cerros Orientales in order to create the 'big sponge' the city needed 'to retain waters coming from intense rains and then release them purified and regularly' (Table 7.4).³⁹ All of the species that Sánchez suggested are non-native good quality wood trees. His list encompasses eight gymnosperm trees, one acacia tree, two kinds of catalpa trees (*Catalpa* spp.), and—overlooking the autochthonous well-known Colombian walnut *Junglands neotropical*—he recommended one introduced walnut tree. Sánchez also recommended eighteen eucalyptus species, which did not include the by-that-time already broadly used *E. globulus* due to its bad wood quality, which suited its use only as firewood. Hence, the ideal trees to be planted in the cleared Bogotanian mountains were exotic species that could be exploited through forestry procedures. It seems that Sánchez's idea was to regulate the rivers' waters through the establishment of a forestry plantation based on temperate species that would replace the rich tropical Andean plant community.

³⁸ 'Salubridad pública', *Registro Municipal*, (Bogotá), Jul. 5, 1889, 1859-1860.

³⁹ Diodoro Sánchez, 'Árboles que debemos aclimatar', *Anales de Ingeniería* 20, no. 234 (1912): 224-230.

Table 7.3. Species of trees recommended by the engineer Diodoro Sánchez to be planted in Bogotá's river basins.

Type	Species ⁴⁰	Origin
Eucalyptus	<i>E. leucoxylon</i> – White iron bark	Australia and Tasmania
	<i>E. sideroxylon</i> – Iron wood	
	<i>E. corynocalyx</i> – Sugar gum	
	<i>E. robusta</i> – Swamp mahogany gum	
	<i>E. marginata</i> – Jarrah	
	<i>E. punctata</i> – Black But	
	<i>E. pilularis</i> – Black-but	
	<i>E. gomphocephala</i> – Tooart tree	
	<i>E. cornuta</i> – Yeit tree	
	<i>E. angustifolia</i>	
	<i>E. viminalis</i> – Manna gum	
	<i>E. rostrate</i> – Red gum	
	<i>E. rudis</i>	
	<i>E. macrorrhyncha</i> – Stringy bark	
	<i>E. oblicua</i> – Stringy bark	
	<i>E. eriothionema</i>	
	<i>E. foecunda</i>	
	<i>E. fisifolia</i>	
Gymnosperms	<i>Pinus ponderosa</i>	United States (California)
	<i>P. lambertiana</i>	United States (California)
	<i>P. monticule</i>	United States (California)
	<i>Picea excelsa</i>	Northern, Central and Eastern Europe
	<i>Sequoia sempervirens</i>	United States (California)
	<i>Pseudotsuga taxifolia</i>	Western North America
	<i>Thuja plicata</i> – Western red cedar	Western North America
	<i>Cupressus macrocarpa</i>	United States (California)
Others	<i>Yunglans nigra</i>	United States
	<i>Catalpa bignoniodes</i>	South-eastern United States
	<i>Catalpa speciosa</i>	Central-eastern United States
	<i>Acacia decurrens</i>	Australia

Antonio Izquierdo agreed with Sánchez's eucalyptus-based proposition. Having earned considerable incomes from his forestry business in Bogotá's surroundings, in one of his self-published short booklets entitle as *Studio sobre los bosques* (Studies on Forests), Izquierdo presented extensive arguments in favour of those Australian trees. As part of his dissertation, Izquierdo used his world travel experiences to present how the eucalyptus represented a real solution to drought conditions in many of the places he had visited (e.g., Hawaii). He also supported his proposals on the convenience of adopting eucalyptus planting with citations of other books published by 'experts'. At a time when only few people in Bogotá could have access to books published overseas, Izquierdo, quoted, for

⁴⁰ The species' scientific names are presented along with the original names proposed by Sánchez in 1912; however, with the passage of time, most of the names have been updated and changed substantially.

example, William L. Hall, J.W Toumey, and Ellwood Cooper. Cooper was an enthusiastic and well-recognised eucalyptus planter in California whose publication concerning this topic was in fact a translation of the original work produced by the Baron Sir Ferdinand Von Mueller.

In the same booklet, Izquierdo exhibited a solid knowledge in his detailed explanation of the role of forests in water regulation and the benefits of having woodlands around cities. Describing benefits of the urban forest, he compares it with a 'public' whose social profit was 'the constant provision of water for domestic uses, the diminution of flooding, the urban forest parks, and as places to laid tuberculosis asylums'. However, it was the economic profit of having trees near cities that Izquierdo stressed most, and he presented his success as a forestry businessman as a persuasive evidence to embrace the use of forests to control the waters of the city's rivers. According to Izquierdo:

The creation of forest is though, a secure business, with outcomes comparable with any other industry. As I already mentioned, for the last twenty-two years I have been planting trees in many locations. I am confident in the good perspective of my business since I have realized how the good quality woods for construction are running out, especially those used as sleeper in the tramways.⁴¹

As a wealthy man, Izquierdo's position empowered him to influence Colombian agrarian and forestry policies. However, it is important to highlight how his forestry ideas were highly influenced by United States and European conceptions of the woodlands. It seems that for Izquierdo, a forest was essentially a tree plantation inextricably linked with the potential for monetary profit. This perception, shared with many other businessmen of his time and later, would have a tremendous impact on the establishment of the forestation scheme in the Eastern Hills beginning in 1918.

It seems likely that the people encouraging the extensive use of eucalyptus as a solution to Bogotá's water problem were aware of its historical usage as a wetlands drainer. The recognition of eucalyptus as a pump-like plant was well established by the end of the nineteenth century. For example, the physician Marco Antonio Botero from Medellín advocated, 'Today, we have a natural element able to dry a land and modified by itself the climatic characteristic of any place. I want to talk about the culture of *Eucalyptus globulus*,

⁴¹Izquierdo, *Estudio Sobre Bosques*, 20.

the blue gum, in the miasmatic places...'.⁴² Analogously, soon after being imported to Colombia, eucalyptus trees were used as a 'biological pump' to ameliorate the extensively wet conditions of the highland plateaus of Bogotá's surroundings.⁴³

Aware of the eucalyptus tree's limitations for increasing the availability of water during the dry months, others proposed the use of alternative species. The engineer Miguel Triana, for instance, suggested the use of the autochthonous *arboloco* (*Smallanthus pyramidalis*) and some exotic pines as suitable solutions for water regulation. However, like Izquierdo, Triana's interest in tree cultivation was also economically motivated: he proposed the *arboloco* as an adequate replacement for *chite* (*Hypericum juniperinum*), a shrub that was intensively used as an energy source for tile and brick baking in the so-called *chircales*. *Chite*, which Triana considered a weed, should be replaced as a firewood source by a tree with a high caloric capacity such as *arboloco*, which would reduce the production cost of bricks and tiles in a city undergoing a high rate of growth.⁴⁴ Similarly, Triana's advocacy of pine trees was not necessarily focused on regulating water flows, but rather as a source of lumber. In conjunction with *arbolocos*, he presented pines as a replacement for the long depleted Andean cedar and an effective alternative against the eucalyptus invasion, which in his opinion did not help to manage the rivers' water levels. In summary, Triana proposed to use the river basins as a kind of 'biological quarry'. A plantation scheme in the city's river basins would not only supply the city with more fuel to produce tiles and bricks, but also increase its access to the lumber it required to support its ubiquitous construction projects. Thus, Triana's suggestions could be considered to comprise a win-win proposition.

The results of this tacit confrontation between the adequate species to be used to regulate water were rather mixed. Between 1916 and 1917, the municipality began the arborisation process in earnest. An area of roughly 7,000 *fanegadas* (11.139 acres) was divided into three management sectors, namely the San Cristobal River Basin, the San Francisco River Basin, and the Arzobispo, La Vieja and Las Delicias Basins. On April 8th of 1918, the arborisation process began in places where 'the overexploitation or the soil aridity, make

⁴² Marco Antonio Botero, 'La variedad de fenómenos engendrados por los miasmas palúdicos', *Anales de la Academia de Medicina de Medellín*, febrero de 1889, 36-40.

⁴³ Katherine Mora, 'Adaptación de Sociedades Agrarias a La Variabilidad Climática. Sabana de Bogotá, Andes Orientales Colombianos, 1690-1870' (Doctoral thesis, Universidad Nacional de Colombia, 2017).

them unproductive'.⁴⁵ According to Alberto Portocarreño, the city initially only planted eucalyptus trees due to the lack of access to other types of seeds, although, as indicated above, at that time, the Society of Embellishment already had an active plant nursery with more than 1,000 plants. Two years later, Portocarreño reported how during that period (1918 to 1920), the city had been planted 41,247 eucalyptus, 69,189 pines (recommended by an Englishman called Mr Dave), 9,669 *arbolocos*, 1,908 cedars, and twelve Colombian walnuts, and 73,000 plants of the Andean bamboo known as *chusque* (*Chusquea* sp.) had been planted along with the trees.⁴⁶ Portocarreño's assertion is notable, given the difficulties obtaining seeds from these plants as well as the amount of work involved in cultivating *chusque* plants, which are slow-growing. Lastly, despite Triana's proposals and Diodoro Sánchez's arguments concerning the disadvantages of *E. globulus* as a suitable tree in the city's planting schemes, this species was extensively used in the reforestation of Bogotá's river basins. Why? For one, the already widespread use of this kind of tree in Bogotá and its hinterlands had brought about a generous availability of seed. Moreover, their rapid growth rate put them in an advantageous position due to the supposed urgency to accomplish this task.

Despite their aid in progressing arborisation during the first decades of the twentieth century, critics continued to argue against the use of eucalyptus. In 1924, six years after the beginning of the planting process, Arnold Schultze published an article in the *Revista de Industrias* (Industrial Journal) in which he decried the deleterious consequences brought to Bogotá with the massive plantation of eucalyptus. As an example, the author presented an image of the Chapinero sector of the Eastern Hills, where, according to him: 'an eucalyptus forest planted seven years ago had dried the soil into a distance of two and a half metres creating deep cracks of a metre and a half deep' (Fig. 7.10). The author concluded that eucalyptus trees were eminently unsuitable for places where it is important to maintain soil humidity. 'As occurred in the river known as *Chicó*, where the quantity of water decreased at the same time the eucalyptus plantation have thrived in that sector of the Cerros Orientales'.⁴⁷

⁴⁴ Miguel Triana, *La Arborización y Las Aguas* (Bogotá: Casa Editorial de El Liberal, 1945), 5.

⁴⁵ Alberto Portocarreño, 'El gran problema de Bogotá, el acueducto y las hoyas hidrográficas', *El Tiempo*, Feb 10, 1920, 6a.

⁴⁶ Alberto Portocarreño, 'El gran problema de Bogotá, el acueducto y las hoyas hidrográficas', *El Tiempo*, Feb 10, 1920, 6a.

⁴⁷ Arnold Schultze, 'Los perjuicios que causa el eucaliptus', *Revista de Industrias* (Bogotá), Agosto 1924, 59-60.



Figure 7.10. Arnold Schultze, cracks on the soil apparently produced by the eucalyptus plantation in the Chicó suburb, 1924, photograph. In *Revista de Industrias*, Julio de 1924, 59-60.

In addition to the evidence presented by Schultze, one of the most important statements regarding the negative consequences of the use of eucalyptus comes from a letter sent by the well-recognised naturalist and Lasallian brother Maria Apollinar to don Fernando Carrizosa, manager of the Bogotá Aqueduct Company:

The *Eucalyptus globulus* is a contraindicated species when the purpose is to increase the water in a river basin. With this type of tree, the evaporation could reach extraordinary levels (...) I recommend the use of the species from our cold weathers such as the Andean cedar, *encenillos*, *raque*, cherry, Colombian walnut and some exotic species to be acclimated in our highlands as the araucarias, pines etc. In the areas with a considerable lack of deep soils, trees are not recommendable, instead of it, is better to leave the spontaneous vegetation to cover the place or planting shrubs and bushes.⁴⁸

Although Apollinar's recommendation 'to let the spontaneous vegetation to grow' was not part of mainstream thought, such suggestions were recurrent among some formally educated people. For example, Ricardo Lleras Codazzi argued against using eucalyptus

⁴⁸ 'La arborización como medio de aumentar las aguas. El sistema parece ineficaz. Declaraciones de altas autoridades científicas' *El Tiempo*, Abril 3, 1923, 6a.

trees to retain water; rather he suggested that indigenous vegetation was more suitable and particularly highlighted the use of *chusque* for this purpose.⁴⁹

To resolve the ongoing debate on the adequate species to plant in the areas surrounding the city, Aqueduct Manager Fernando Carrizosa decided to seek high-level advice. In a letter sent to the United States Forest Service, he asked:⁵⁰

1. Is it necessary to pull off the eucalyptus trees already planted in the low and humid mountains areas, and replant them on the mountain tops, where, due to the high altitude they would help in the water condensation, and so stimulate the creation of rain?
2. Despite its evaporation and absorption power, is it this tree (eucalyptus) recommendable to increase the water flow in this region?
3. Is it recommendable to leave the *Juniperus* (*Juniperus* sp.) plants where they are? Are they suitable for our aim (of increasing the water flow)?
4. What kind of plants do we need to acclimatise? Is there any advantage in doing so?
5. Since the only goal is the increase in the water availability, wouldn't it better to stimulate the growth of salvage plants and leave them to thrive in its wild condition?
6. In the low sides of the city, we have the following kind of trees: *Alnus Ferrugineus*, *Cedrela Bogotensis*, *Cerasus Amigdalefoleum* (?), *Salix Humboldtianum*. Regarding the idea posed before: would be better to plant some of these species instead of the introduced alien species?

Although Carrizosa's questions accurately reflected the Bogotianians' main concerns regarding the role of trees in regulating water, the reply that he received on the 16th of December of 1922 did not fulfil his expectation of a resolution. Rather, the United States Chief of Forest Investigation, Joseph Kittiedge, stated:

⁴⁹ The discussion around *human intervention vs natural growth* of the vegetation was not exclusive to Bogotá. As Diego Molina reveals, during the planting process of water-supply river basins in Medellín, which also began in 1918, there was a sharp debate between the Municipal Company of Public Services, which preferred to 'leave the nature to work in its own restauration' against the Agriculture Ministry, which pursued economic gains. However, as in the case of Bogotá, the economically focused proposal was better received among the governmental spheres, and in both places, the actions undertaken one hundred years ago remain evident in the present landscapes around cities. See: Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

⁵⁰ 'La arborización como medio de aumentar las aguas. El sistema parece ineficaz. Declaraciones de altas autoridades científicas' *El Tiempo*, Abril 3, 1923, 6a.

It has been impossible to establish the relationship between the forest cover and water sources, in this or another country. Under the current science state, we are unable to give a clear answer to your questions. The studies undertaken so far are resulting contradictive in terms of results.⁵¹

Despite the ignorance expressed by the North American expert, he did provide some superficial answers to Carrizosa's questions. Although Kittiedge similarly confessed a lack of knowledge on the effects of the juniper plants and their relation with water production, claiming that 'In our opinion, any local species of tree could be as good as any introduced one to reach your aim', he advised that it was uneconomical to replant the eucalyptus trees from the bottom top the top of the mountains.⁵² Any responses to the above brief answers and excuses were not curated; however, the North American sent a book named as *Forest and Water on the Shed of Scientific Research*, which Carrizosa used as a textbook. Upon the completion of his study, he concluded that the eucalyptus trees were not suitable for the river basins around the city, rather determining that, 'The spontaneous vegetation in the city basins gathers the required characteristic to keep and regulate the water produced by rain. This vegetation produces a compact and absorbent vegetable layer composed by a dense matrix of roots and moss (...) conserving the humidity for long'.⁵³

Despite all of the city's efforts to create a second nature over the mountains' surface, the trees failed to provide the city with a sufficient source of firewood, lumber, or fuel, as proposed by Miguel Triana and Antonio Izquierdo. It also proved ineffective to increase the levels of available water, as there was no significant change in water currents even after the planting of more than 437,600 trees in the principal river basins.⁵⁴ However, this massive tree planting operation was useful for controlling the constant landslides that had overwhelmed the area, as well as serving as a form of social control in the emergent suburbs at the foothills of the Easter Hills.

As a conclusion, it could be argued that as important elements in the regulation of water, trees were a response to Bogotá's severe economic constraints. Trees were a natural substitute for the expensive, large-scale engineer infrastructural projects needed to address

⁵¹ 'La arborización', 6a.

⁵² 'La arborización', 6a.

⁵³ 'La arborización', 6a

⁵⁴ Felacio, 'Los problemas ambientales en torno a la provisión de agua Para Bogotá, 1886-1927.'

the water needs of the city's rapidly growing population. Such an argument is evidenced by the disappearance of references to trees as water regulators within the official and technical speech by the end of the 1920s. Rather, the local government's efforts to improve the city's water supply included constructing a dam and establishing the Vitelma treatment plant in order to use the waters from the distant Fucha River as an alternative source of water. Once the city expanded its influence to other water sources, the San Francisco and San Agustín rivers were relegated to sources of sewer water, and the idea of trees as water regulators was also set aside. Nevertheless, the consequences of these ideas remain a vivid presence in Bogotá's landscape, and a century later, the eucalyptus are still a significant component of the city's reality, thus reflecting how such spaces retain the imprints of ideas long after the passing of the people who produced them (Fig. 7.11).



Figure 7.11. Current appearance of the Cerros Orientales of Bogotá. Covered mainly by *E. globulus* and *Pinus* sp., this landscape shows how the reforestation actions of a century ago remain an important part of the cityscape. Source: Author's photography, 2017.

7.4.2 Other uses of eucalyptus in Bogotá

7.4.2.1 Eucalyptus as a raw material

*How to provide, therefore, in time, the wood necessary for our mines, railways, buildings, fences and as well as for the ordinary domestic and other purposes, becomes a question which from year to year presses with increased urgency in our attention.*⁵⁵

Ellwood Cooper

Whereas prior to its modernisation, most of the elements required for Bogotá's functioning came in the form of relatively small scale materials from the city hinterland (see chapter 4), the modern city needed much quantities and qualities of raw materials. Firewood and charcoal to fuel industrial engines and lumber for construction were in extraordinary demand. Due to the historical lack of forest resources, eucalyptus trees served as an

⁵⁵ Cooper, *Forest Culture and Eucalyptus Trees*, 30.

The all solution tree: the eucalyptus

effective alternative to the depleted autochthonous trees and ultimately replaced them in the surrounding landscape.

As Bogotá became too expansive to cross on foot, modern transportation and communication systems became central aspects of urban life. As part of the material revolution imposed by the city's modernisation, animals and plants began to be replaced by technological devices; thus, cars replaced horses and mules as conveyances and the water regulating functions of trees were supplanted by dams and treatment plants. However, some species, such as the eucalyptus, acquired new roles as critical raw materials in the establishment of modern transportation and communication systems. One significant example of such new uses was the extensive use of eucalyptus wood as a key material in the construction of the Bogotá's tramway system.



Figure 7.12. Julio Racines, Bogotá's 'Blood Tram', 1880s, photograph. Biblioteca Pública Piloto, Medellín (BPP-F-003-0820).

Much as the eucalyptus was sought as a cheaper means of water regulation, the Tram Company introduces its use to build and maintain Bogotá's tramway network as a way to reduce operational costs. In 1912, the company spent \$2,912.63 Colombian pesos in sleepers (railway supports) made out of eucalyptus trees. Given that the tramway was then still powered through the living energy of mules, oxen, and horses, thus earning its conveyances the name of 'blood tram' (Fig. 7.12), the company's annual investment in

eucalyptus sleepers was significantly less than its livestock provisions (\$14,440.57c). However, these figures must be taken with caution. Although the supporting documentation is scanty, it seems that by the year 1913, the tramway system administration had been allocated to other management. That year, the Tram Administration Board declared that due to the poor condition of the tram network they had inherited from the previous administration, they needed as many as 21,550 eucalyptus sleepers.⁵⁶ The massive amounts of lumber required to produce so many crossties gives testimony to the extensive plantation of *E. globulus* in Bogotá's hinterland, which in turn highlights the systematic replacement of the previously rich native tropical Andean flora.

Although the eucalyptus is constantly shown in the company reports as the most suitable raw material for sleepers, the Tram Administrative Board began to supplement that wood source with other kinds of trees in 1915. In its annual report of that year, they highlighted that 'although most of the wood used as sleepers came from eucalyptus –due its long life, resistance, availability and low price',⁵⁷ they also used sleepers made of *cúmula* (possibly *Aspidosperma polyneuron*) and *guayacán* (?),⁵⁸ and they intended to increase the use of other species in future years. The plan to gradually replace the use of eucalyptus by other native species is very interesting: the idea of using high-quality wood from native species rather than eucalyptus wood from nearby plantations suggests that the aim of this shift was to ensure the high quality of the sleepers.

Although Tram Administrative Board's 1915 report identified eucalyptus wood as a good raw material for tramway construction, other sources undermine this claim. For example, in 1871, when discussing the 40,000 Australia rail network sleepers that needed to be replaced annually, Baron Sir Ferdinand von Mueller, the 'apostle' of the eucalyptus trend, asserted that 'Red Gum timber is used exclusively [since] will be quiet reckon on their lasting for eighteen years. The ordinary Gums [including the Blue Gum], when used for sleepers, will not last more than half that time'.⁵⁹ With that in mind, if the longevity of the blue gum sleepers in the dry weather conditions of Australia are hardly comparable with

⁵⁶ 'Informe General' (Bogotá: Junta Administradora del Tranvía Municipal, Noviembre 1913).

⁵⁷ 'Informe General' (Bogotá: Junta Administradora del Tranvía Municipal, Noviembre 1915).

⁵⁸ The use of the name *guayacán* is a clear example of the difficulties of addressing the environmental history of many plants. In the Dictionary of Plants Common Names of Colombia, the name *guayacán* remits to more than thirty-four different species. See:

<http://www.biovirtual.unal.edu.co/nombrescomunes/en/resultados/ncomun/guayac%C3%A1n/>

⁵⁹ Cooper, *Forest Culture and Eucalyptus Trees*, 24–25.

their durability in Bogotá, where the high humidity and water table would be expected to contribute to an even shorter life span.

The use of eucalyptus trees in the production of the tramway sleepers reveals their urban nature. One could compare those apparently not-so-good eucalyptus sleepers used in Bogotá's tram system with the sleepers used by the Cuban engineer Francisco Javier Cisneros in the construction of the railway connecting Medellín to the Magdalena River across an expansive forest area. The woods used by Cisneros' team were of the best quality known in the forest.⁶⁰ The failure of Bogotá's tramway builders to use similar quality woods occurred because the historical growth of the city (see Chapter 4) had utterly consumed their native lumber sources. As a consequence, when the modernisation process demanded the use of large amounts of lumber, the only possible response was to replace what had been depleted with fast-growing and cheaper materials, i.e., eucalyptus.

The eucalyptus trees were not only used to produce sleepers for the tram system. By 1915, The Tram Company had both animal- and steam-powered carriages. The latter required electricity, which implied the establishment of a cabling network supported by poles. Consequently, a complete set of poles was established in all five lines of Bogotá's tramway system.⁶¹ Given that eucalyptus was the most common source for the city's available wood, it is easy to assume that the poles were made from these trees. An inventory of the tram company's expenses for December 1918 confirms this hypothesis: that month, they spent 178.18 *pesos* in buying and transporting five eucalyptus poles.⁶² Although this number may not seem substantial, if one considers that these were likely replacement poles, it appears that eucalyptus poles were intensively used as part of the tram infrastructure. In the same vein, the photographic record indicates that eucalyptus-made poles were used in the city until at least the 1930s (Fig. 7.13).

⁶⁰ For the construction of this rail way a big set of high quality were used: Guayacán, Zapán, Cañabravo, Tananeo, Algarrobillo, Maquimaqui, Almanegra, Diomate, Cauchillo, Granadillo, Aceituno and Bálsamo Copey trees in front of the almost exclusive *E. globulus* in the construction of the Bogotá tram. See: Rafael Torres, *Informe Del Gerente Del Ferrocarril de Antioquia* (Medellín: Imprenta del Departamento, 1894), 23.

⁶¹ The tramlines were: Chapinero line, Central line, Wester-North line, Western South line, Alameda line.

⁶² B. Plata, 'Gastos de conservación, explotación, y administración hechos durante el mes de diciembre de 1918', *Registro Municipal* (Bogotá), Enero 31, 1919, 3392.



Figure 7.13. Gumercindo Cuellar, Eucalyptus-made pole in Avenida Jiménez de Quesada, Bogotá's, 1930, negative, 9 x 15 cm. Biblioteca Luis Ángel Arango, Bogotá (Sala de Libros Raros y Manuscritos, brblaa 791945-5).

The tram company's uses of eucalyptus extended beyond its exploitation as a raw material in the creation and maintenance of the network. In order to ensure a continuous supply of coal for the steam-powered carriages, the tram company had a mine on a piece of municipal land to the south-east of Bogotá in the Cerro de Guadalupe (Guadalupe Mountain). By 1913, the company had planted 2,000 eucalyptus on this land parcel, and according to the company's report for that year, they were: 'working in fencing a space to plant around 30-40,000 eucalyptus trees and another species to help with the sanitation and the embellishment of the city. Besides, in the future, those trees will be very important as pit-props in the exploitation of the mine as well as for the tram system'.⁶³ In 1915, the land was already fenced and another 2,000 trees were planted.⁶⁴ However, it is not clear if the goal of 40,000 trees was reached in later years. Finally, the use of eucalyptus as pit-props by the tram company reveals the city's incredible level of dependence on this tree, once again reinforcing how the historical depletion of the native woodlands modified the ways in which people approached, understood, and used (certain types of) plants during the modernisation of Bogotá.

⁶³ 'Informe General', Noviembre 1913.

⁶⁴ 'Informe General', Noviembre 1915.

7.4.2.2 Cleaning bodies and spaces with eucalyptus

In this final section, I will elucidate how eucalyptus trees not only found a socioecological niche in Bogotá due to its rapid growth being appreciated by a city in the process of acceleration. Eucalyptus trees were also welcomed in Bogotá given their proven effectiveness to cure ill-environments through the production of good airs.⁶⁵ Considering the already mentioned bad-air ideas on which nineteenth-century medicine rested, the eucalyptus rapidly found some of its most important allies among doctors and scientist.

The use of eucalyptus as a way to clean environments and thereby bring physical and moral strength to people is exemplified through its use in Colombian schools. For instance, in 1881, the Ministro de Fomento y Educación (Minister of Education and Development) ordered each of the public primary schools across all the country's territories to undertake a large eucalyptus planting campaign. To support this mandate, the Ministry distributed a publication called *El Eucalipto*. Written by the Algerian citizen Juan Carlos Manó, this publication sheds light on general ideas of the cleaning power of eucalyptus as they prevailed at the end of the nineteenth century. In his report, Manó explained how the French colony in Algeria could thrive after planting eucalyptus trees as a way to fight malaria, and how following this example, Spain, Italy, and Austria achieved excellent results in creating healthy spaces. Manó closed with the assertion that 'The landlord of places infested with fevers who does not plant eucalyptus trees commits the same crime against humanity (and against the homeland) as the father who does not immunise his child during a smallpox outbreak'.⁶⁶

Manó's work as a governmental botany consultant was denounced in a bitter and justified critique by the Sociedad de Medicina y Ciencias Naturales (Medicine and Natural Science Society).⁶⁷ Nonetheless, it seems that his publication on eucalyptus persuaded many school principals of the benefits of planting these trees in their *patios*. One of the first to answer the Ministry's call was one Manuel Ezequiel Gonzales, principal of the Colegio Mayor de Nuestra Señora del Rosario, the oldest and most prestigious school in Bogotá. Gonzales

⁶⁵ Eucalyptus trees acquired worldwide recognition when after massive plantings in Rome's outskirts, they desiccated the wetlands where the *Anopheles* mosquito reproduced, thereby significantly reducing the city's ubiquitous malaria outbreaks. See: Leland, *Aliens in the Backyard*, 67-80.

⁶⁶ Juan Carlos Manó, 'El Eucalipto', *El Escolar* (Bogotá), Octubre 8, 1881, 7-8.

⁶⁷ The Sociedad de Medicina y Ciencias Naturales (Natural Science and Medicine Society) affirmed about Manó: 'The knowledge on Botany revealed by Mr Manó are inferiors to those presented by any girl in any of the city's school'. Informe sobre los trabajos del señor Manó, presentado por la comisión a la sociedad de Medicina y Ciencias Naturales', *Revista Médica* (Bogotá), Diciembre 10, 1882.

affirmed his promise with the successful establishment of eucalyptus trees at his school. But not only from the capital were received answers to the minister order. School principals from the southern region of Cauca and the Caribbean region of Magdalena also sent letters to Bogotá expressing their commitment with the project and asking for eucalyptus seeds with which to fulfil the plan.⁶⁸ It seems that the regulation concerning eucalyptus in the education centres was successfully implemented, not only in schools but also in other places where the social improvement of people was pursued through the use of trees. Pertinent examples include the previously mentioned San José orphanage, where photographic evidence depicts orphaned children working in agriculture-related activities in fields surrounded by a eucalyptus grove.

Finally, it is important to highlight how the idea of eucalyptus as an essential tree in the creation of healthy places surpassed Bogotá's borders. In a country mostly covered by dense tropical forest and where, according to the perception of enlightened environmental determinism, civilised progress was difficult to achieve, eucalyptus seeds were sent from Bogotá to outlying regions in an effort to create better environmental conditions and thereby enhance the potential for human development. In addition to the above example of the schools, extensive evidence of the exportation of eucalyptus as a tree emblematic of civilisation can be found in the archival documents of contacts with wastelands (*baldios*) curated by the AGN. Many tropical forests had to be cleared during the expansion of coffee production that began in 1920, and new settlements were established in places previously covered in dense jungle. To make those places habitable, a great trade of seed was established between the capital and the outlying regions. The *Ministerio de Agricultura y Comercio* (Ministry of Agriculture and Commerce) took on the role of seed dispenser and received numerous requests for grass and eucalyptus seeds. Whilst the grass was used to control the natural forest's recovery, which can occur incredibly quickly in tropical environments, eucalyptus seeds were needed to deperate those regions' unhealthy environments. One notable example of this activity is the solicitation made in December 1926 by the storekeeper of the Colonia Penal y Agrícola de Villavicencio (Penal and Agriculture Colony of Villavicencio). Among many daily life elements and various kinds

⁶⁸ Correspondence sent to the Ministerio de Fomento y Educación. Sección República, Fondo de Instrucción Pública, tomo 6, folios 551, 642, 697, AGN.

of seeds such as beans, orange, and lemon seeds, he requested ‘two kilograms of eucalyptus seeds’ and added within brackets ‘for sanitation’⁶⁹

Two issues have to be highlighted here. First, there is the central government’s active role in the distribution of eucalyptus trees and the transformation of rural landscapes using eucalyptus trees. Second is the ideas behind that exportation, which encompassed concerns with hygiene and civilisation, which were synonymous with a specific shape of urban life. It is quite surprising that for a prison surrounded by hundreds of species of trees in the middle of the jungle, only one kind was suitable to enhance sanitation. Thus, lowland trees of the ‘unhealthy’ tropics resulted in noxious conditions, whereas the civilised Australian tree supported cleanliness. In this sense, eucalyptus could be thought of as a ‘Trojan horse’ that carried the germs of nineteenth century conceptualisations of good air and civilisation.

7.5 Conclusions

This chapter has presented the role played by eucalyptus trees in the creation of Bogotá’s modern green space during the late nineteenth and early twentieth centuries. Specifically, this chapter has examined i) the international context in which the eucalyptus introduction and acclimation in Bogota took place; ii) the accelerated adaptation and acceptance of eucalyptus trees as the most suitable urban trees, followed by various complications caused by the trees and its subsequent abandonment; and iii) the role of eucalyptus trees in relation with the water supply and regulation as well as their uses as a raw material and air-cleaners.

Section 7.2 highlighted how eucalyptus’ intrinsic traits, such as its accelerated growth rate, its ability to dry out swamps, and the broad range of chemical products obtained from its oils promoted a wide expansion of the trees’ biological distribution. Reaching Colombia by the 1880s, this section illuminated the active involvement of people like Casiano Salcedo or Antonio Izquierdo in the introduction and acclimation of eucalyptus trees in Bogotá. Equally, this section presented how the acclimation of eucalyptus in Bogotá entailed interesting conflicts that emerged from different perspective in relation to urban trees.

⁶⁹ Penal and Agriculture Colony of Villavicencio. Sección República, Fondo Baldios, Tomo 9, Sheets 19-20, AGN

Extensively drawing upon travellers' accounts and photographic material, section 7.3 described the uses of eucalyptus trees during the last decades of the nineteenth-century. The historical evidence suggests how the adoption of eucalyptus in Bogotá was rather accelerated, and by the early twentieth century, it was common to find eucalyptus growing in parks, gardens, and *solares*. However, after over twenty years of accelerated growth, eucalyptus trees turned into a source of conflict when as its dimensions became too large for Bogotá's compact and underdeveloped infrastructure.

Section 7.4 addressed the role of eucalyptus in facilitating some city functions. This section elucidated that in addition to the trees' ornamental uses, eucalyptus played a key role in the transformation of Bogotá's out of sight environments. This role was exemplified through a reflection on the extensive planting of eucalyptus in the Cerros Orientales (Eastern Hills). Intended as an efficient mechanism to fight the successive flooding and droughts of the city's main rivers and thereby ensure a steady water supply, large areas were transformed into eucalyptus plantations. However, as revealed herein, this procedure proved to be inadequate and was replaced by more efficient measures to solve the city's water problems.

Through examining the environmental history of eucalyptus trees in Bogotá, this chapter has sought to be a case study. Its focus on the role of eucalyptus as one of the most prominent plants in the city's modernisation has enabled the illumination of particular phenomena involved in the creation of Bogotá's modern environments while incarnating concepts and issues elaborated in previous chapters. For example, the historical transformation of the forest around Bogotá presented in Chapter 4 offers the socioecological causes that made eucalyptus one of (possibly the most) important tree species involved in the city's modernisation. In addition, it is notable how the mobilities of people, seeds, and books that enabled people like Casiano Salcedo and Antonio Izquierdo to contribute to the creation of a more diverse urban flora also implied the introduction of *E. globulus*, a species whose cultivation through a monoculture scheme meant the erosion of the rich local plant communities in the mountains around the city. By engendering the transformation of local ecological communities, the eucalyptus culture in Bogotá's outskirts also led to the abandonment of certain traditional practices in relation to the use of plants and vegetal products. Hence, the eucalyptus led to the decline of the exploitation of certain non timber forest products (NTFPs), not only due to the physical transformation of the forest and local ecosystems, but also because the plantations were in many cases private

The all solution tree: the eucalyptus

spaces with controlled access. Finally, the use of eucalyptus as an important plant in the sanitation of ill-environments, on the one hand reinforced the power of plants as air depurators, as presented in Chapter 5; however, on the other hand, it unveils how the eucalyptus, albeit an eminently urban tree, was also perceived as an efficient tool to clean unhealthy places in lowland Colombia that were immersed within a forest matrix made of 'unhealthy' wild trees.

VIII

CONCLUSION

THE CREATION OF A MODERN FLORA IN BOGOTÁ

8.1 Introduction

This thesis has explored how the social, physical, and economic transformations undertaken during the last decades of the nineteenth century in Bogotá engendered a radical transformation in the ways of understanding and using plants. These changes in the relationships between people and plants began when modern urbanistic models were implanted in the city, leading to the transformation of the green spaces that had been common in Bogotá since the Spanish founded the city in 1538. Thus, while urban spaces such as patios or *solares* disappeared under the new ways of living and building the city, others such as gardens and parks emerged in response to new demands linked to health and leisure.

This thesis has demonstrated that the transformation of green spaces as part of the city's modernisation was not only a matter of design but also entailed a restructuring of historically-produced relationships between people and plants. The historical evidence presented herein suggests that the shift in the uses of plants was possible due to the circulation of gardening and forestry knowledge embodied in foreigners and the importation of objects such as books and seeds. Equally, this thesis has pointed out that the modernisation of the urban flora in nineteenth-century Bogotá was made possible by the appearance of a new set of social actors able to translate into the local social and ecological conditions the global trends in terms of gardening as well as the introduction of plants into the city. Additionally, this thesis has demonstrated that the transformation of Bogotá's green spaces was not a conflict-free process; rather, the construction of modern green spaces involved intense disputes between emergent and residual ways of interacting with plants in the late nineteenth-century city. Finally, drawing on the observations of urban ecologists concerning the uniqueness of the urban flora, this thesis has identified some of the concrete social mechanisms that contributed in the ecological and floristic transformation of modern Bogotá into a 'floristic island'.

This final chapter aims to discuss the empirical outcomes of this thesis. To do so, the chapter is divided into four sections. Section 8.2 explains the initial conditions that were

Conclusion

transformed by the modernisation process and reflects on the social role of plants existing in Bogotá just prior to its modernisation. Section 8.3 discusses the social mechanisms that made possible the creation of gardens and parks in nineteenth-century Bogotá, stressing the circulation of plants, knowledge, and ideas as well as the participation of local characters as two of the most important characteristics influencing the modernisation of the city's flora. Section 8.4 explores the socioecological consequences brought about by the change of the city's green spaces through an examination of the transformation in attitudes toward plants engendered by the modernisation of Bogotá. This section also presents an analysis of the conflict that emerged with the establishment of green spaces in the city and the production of a unique type of flora in Bogotá as visible ecological aftermaths of the whole process. Finally, section 8.5 points out the contributions to knowledge made by this thesis and highlights avenues for future research that can complement this investigation.

8.2. The roles of plants in Bogotá prior to modernisation

As a way to understand the transformation in the understanding and uses of plants produced by the city's modernisation, this thesis examined some uses of plants in Bogotá prior to the introduction of urbanistic practices that included a change in the city's green spaces. This thesis revealed that the uses of certain plant species in Bogotá were defined by underlying social structures and the access to some urban spaces as a consequence of historically-created social divisions and hierarchies. This thesis has also shown that the diversity of green spaces in nineteenth-century Bogotá was a product of social divisions that contributed to the creation of a particular mosaic-like urban flora. Finally, this thesis has also demonstrated that plants had a crucial role in the functioning of the city given the extensive use of Non-Timber Forest Products (NTFPs) as part of many daily life activities.

8.2.1 Plant uses as a reflection of pre-industrial social structures

Historical evidence suggests that people in nineteenth-century Bogotá engendered particular ways of using plants depending on their access to specific urban spaces as a consequence of their social position. Interestingly, this botanical knowledge was socially delimited, which reflects the lack of social mobility in a rigidly hierarchical society such as that which existed in Bogotá throughout its history, including the eighteenth and nineteenth

centuries.¹ Particular forms of botanical knowledge were possessed by certain groups and reproduced through generational transfer. Furthermore, as explained in Chapter 6, the lack of formal horticultural training reinforced this division of botanical knowledge since there was hardly another way to learn about plants than from one's own social network. This situation is exemplified in this thesis through the extended relationship between people and ornamental plants cultivated in patios. Continuously used as part of the patios' decoration, carnations and roses were introduced into America as early as 1520 when Spanish women or entire families began to migrate to the newly established colonies.² Like many other cultural elements, the European aesthetic approach to plants would largely displace the symbolically rich understanding of ornamental plants that existed in pre-Columbian societies.³ Fixed as part of the dominant culture, ornamental plants of European origin usually bearing strong symbolic meaning (e.g. roses) were rapidly adapted to urban spaces.⁴ Therefore, Europeans not only reproduced the typical architecture present in the patios of houses in Spain and Castilla,⁵ they also attempted to reproduce the plants used in the decoration of these spaces in an effort to recreate their domestic landscape.⁶ Thus, although further research must be done in this regard, the constant presence of ornamental plants highly valuable within European culture in nineteenth-century patios, which were mostly inhabited by Spanish descendants, reflects the continuation of a botanical tradition that emerged within a specific social group: the Spaniards colonisers.

While the use of ornamental plants in patios represented the continuation of European botanical practices, the relationships between people and plants that were maintained in nearby uncultivated ecosystems such as *páramos* evinces the prolonged interaction between native American descendants and wild plants. It can be argued that the high levels

¹ Samper, *La Miseria En Bogotá*; Fabio Zambrano, *Historia de Bogotá. Siglo XX*, 2nd ed., vol. III, III vols. (Bogotá: Villegas Editores, 2007), <http://www.villegaseditores.com/libro.html?isbn=9789588293318>.

² Gonzalo Fernández de Oviedo y Valdés, *Historia general y natural de las Indias* (Madrid, Impr. de la Real academia de la historia, 1851), <http://archive.org/details/generalynatural01fernrich>.

³ Víctor Patiño, *Plantas Cultivadas y Animales Domésticos En América Equinoccial*, vol. 4, 8 vols. (Cali: Imprenta Departamental, 1969).

⁴ Analysing the flowers described in the Novel *La Maria*, Lesley Wylie offers a very interesting analysis about the meanings of European plants in use by the elites in the nineteenth century Colombia. Lesley L. Wylie, 'Floriography, Sexuality and the Horticulture of Hair in Jorge Isaacs' *María*, *Bulletin of Spanish Studies* 95, no. 9–10 (November 26, 2018): 147–58, <https://doi.org/10.1080/14753820.2018.1547000>.

⁵ Marta Beatriz Silva, 'La vivienda a patios de origen hispánico y su difusión en Iberoamérica,' in *Actas III* (Congreso Internacional del barroco Americano: Territorio, Arte, Espacio y Sociedad, Sevilla: Universidad Pablo de Olavide, 2001), 70, <https://dialnet.unirioja.es/servlet/articulo?codigo=4088197>.

⁶ The translation of gardens in patios is a small-scale evidence of the transportation of landscapes explained by Edgar Anderson. Anderson, *Plants, Man and Life*.

Conclusion

of poverty and social marginalisation mainly experienced by *mestizos* and native American descendants forced them to use their vernacular knowledge about native plants as a way to survive. This is exemplified with the extractive practices of NTFPs such as *pajonal*, *chusque*, *totumos*, and *totorá* as well as forestry products such as coal and firewood generally undertaken by the poorest. Not only socially but spatially marginalised, these people were living in the so-called *tiendas*, and they did not have access to private spaces where they could enjoy gardens created through the manipulation of ornamental plants. Hence, their botanical interactions were circumscribed into the realm of the native plants spontaneously growing in the urban periphery.

The findings obtained in this thesis exemplify how ecological differences between social classes present in contemporary urban societies are not new, thus highlighting that the concept of ‘ecological gentrification’ used in urban studies refers to historically produced social dynamics.⁷ In the particular case of nineteenth-century Bogotá, the ecological differentiation resulting from the use of different types of green spaces within the city is illustrated by similar distinctions in the ways of understanding and using plants. Specifically, the historical results obtained in this thesis are in tune with contemporary evidence showing that whereas medicinal and edible plants are more widely cultivated by members of low-income families, ornamental plants are featured in the gardens of middle and high-class family’s houses.⁸

8.2.2 The pre-modern urban flora

As explained above, the social differentiation of nineteenth-century Bogotá clearly defined the nature of green spaces within the city. Each of the city’s pre-modern green spaces was comprised of particular types of plants, and this diversity of socio-botanical spaces made Bogotá a mosaic of floras.⁹ Rather than static spaces, one can think of the pre-modern

⁷ Under the concept of Taylor Harris Braswell, ‘Fresh Food, New Faces: Community Gardening as Ecological Gentrification in St. Louis, Missouri,’ *Agriculture and Human Values* 35, no. 4 (December 2018): 809–22, <https://doi.org/10.1007/s10460-018-9875-3>; Sarah Dooling, ‘Ecological Gentrification: A Research Agenda Exploring Justice in the City,’ *International Journal of Urban and Regional Research* 33, no. 3 (September 2009): 621–39, <https://doi.org/10.1111/j.1468-2427.2009.00860.x>.

⁸ María C. Sierra-Guerrero and Angela R. Amarillo-Suárez, ‘Socioecological Features of Plant Diversity in Domestic Gardens in the City of Bogotá, Colombia,’ *Urban Forestry & Urban Greening* 28 (December 1, 2017): 54–62, <https://doi.org/10.1016/j.ufug.2017.09.015>.

⁹ See Ingo Kowarik, ‘Novel Urban Ecosystems, Biodiversity, and Conservation,’ *Environmental Pollution*, Selected papers from the conference Urban Environmental Pollution: Overcoming Obstacles to Sustainability and Quality of Life (UEP2010), 20-23 June 2010, Boston, USA, 159, no. 8 (August 1, 2011): 1974–83, <https://doi.org/10.1016/j.envpol.2011.02.022>.

green areas as having been subtly connected by a flow of plants. Unlike the mobility restrictions imposed on people, the free dispersion of plants meant that one could find edible plants growing spontaneously alongside ornamental species or interwoven with weeds and other ruderal species. Thus, rather than static spaces with fixed flora, nineteenth-century Bogotá was characterised by socially differentiated green spaces of blurred borders that hid unperceived urban ecological dynamics. For example, as explained in Chapter 4, although eminently devoted to the maintenance of ornamental plants, patios were equally endowed with some edible plants, such as the strawberry presented by Soledad Acosta or the ‘ornamental’ asparagus that amazed Edouard André.

The floristic interactions in pre-modern Bogotá were particularly evident in public, non-managed urban spaces. Residual and marginal spaces such as abandoned *solares* offered suitable environments where native and introduced species could thrive without human intervention. Interestingly, in a society that was markedly fragmented by hierarchical structures, the streets and open spaces were not only places where people sporadically met but also spaces where plants usually found in socially distinct private spheres interwove with other plants that were spontaneously growing without any management. Therefore, whereas the presence of plants and botanical knowledge in nineteenth-century Bogotá can be thought of as a manifestation of specific social structures, it is also true that by scaling out the analysis at the city level, different patterns emerge; it is evident that socio-spatial differences in spaces such as patios, *solares*, and river banks helped to make the city a mosaic of delimited but interconnected flora. Thus, even as the historical evidence of Bogotá underpins social factors as a strong force driving urban plant diversity,¹⁰ it also has helped to understand the city as a ‘floristic island’, as has been pointed out by urban ecologists in both temperate and tropical environments.¹¹

¹⁰ Frank Sorte, Michael McKinney, and Petr Pyšek, ‘Compositional Similarity among Urban Floras within and across Continents: Biogeographical Consequences of Human-Mediated Biotic Interchange,’ *Global Change Biology* 13, no. 4 (April 1, 2007): 913–; S.M. Walters, ‘The next Twenty Years,’ in *The Flora of a Changing Britain*, ed. F Perring (Hampton: Claxsey for the Botanical Society of the British Isles, 1970), 136–41; Annett Wania, Ingolf Kühn, and Stefan Klotz, ‘Plant Richness Patterns in Agricultural and Urban Landscapes in Central Germany—Spatial Gradients of Species Richness,’ *Landscape and Urban Planning* 75, no. 1–2 (February 2006): 97–110, <https://doi.org/10.1016/j.landurbplan.2004.12.006>; P Pyšek and A Pyšek, ‘Comparison of Vegetation and Flora of West Bohemian Towns,’ in *Urban Ecology: Plants and Plant Communities in Urban Environments.*, ed. H Sukopp, S’Hejny, and I Kowarik (Hague: SPB Academic Publishing, 1990), 153–72.

¹¹ Diane Hope et al., ‘Socioeconomics Drive Urban Plant Diversity,’ *Proceedings of the National Academy of Sciences of the United States of America* 100, no. 15 (July 22, 2003): 8788–92, <https://doi.org/10.1073/pnas.1537557100>; Sébastien Bonthoux et al., ‘More than Weeds: Spontaneous Vegetation in Streets as a Neglected Element of Urban Biodiversity,’ *Landscape and Urban Planning* 185 (May 1, 2019): 163–72, <https://doi.org/10.1016/j.landurbplan.2019.02.009>.

Conclusion

Furthermore, the borders of this ‘floristic island’ were rather diffuse and diluted towards the rurality that surrounded the city, as the flora of the pre-modern Bogotá was mostly the result of interactions of plants from private (i.e. *solares* and patios) and abandoned or rural-like spaces such as meadows. In contrast, urban modernisation turned green areas into public spaces and transformed the types of plants and previous ecological interactions between them. Hence, the creation of public gardens and parks meant the elimination of pre-modern botanical flows. For example, the works of gardeners in modern Bogotá can be understood as a constant attempt to combat the presence of plants such as dandelions that were common in disturbed areas but seen as intrusive weeds in the gardens. In short, the clear delimitation of green public areas as part of the modernisation of Bogotá would contribute to defining the limits of the city and separating it from the rural landscape, thereby making the fuzzy ecological borders of pre-modern Bogotá transition areas much more clear-cut and defined.

8.2.3 Uses of plants in the daily life of the city

Although ethnobotanical studies have described the use of plants as building materials and for the elaboration of recipients such as baskets, musical instruments, and other objects, such research has been mostly focused on peasants and indigenous communities in contemporary rural areas.¹² As a consequence, ethnobotanical studies have left aside questions addressing the past uses of plants in cities. In contrast, environmental history research has usually considered plants from a mere economic perspective.¹³ In addition, due to a lack of effective communication with biology and ecology, studies from urban environmental history have traditionally underestimated the roles of plants and their associated knowledge and practices as part of their narratives.¹⁴ For instance, despite the evidence left by nineteenth-century European visitors and explorers in travelogues that

¹² Two recent examples of this trend of undertaking ethnobotanical studies in rural and indigenous communities are the investigation in Amazonas made by Laura Mesa and Gloria Galeano and the study of plant uses in rural areas around Bogota made by Darío Pérez and Laura Matiz Guerra. See. Laura Mesa and Gloria Galeano, ‘Usos de las palmas en la Amazonia colombiana,’ *Caldasia* 35, no. 2 (July 2013): 351+; Darío Pérez and Laura Catalina Matiz-Guerra, ‘Uso de las plantas por comunidades campesinas en la ruralidad de Bogotá D.C., Colombia,’ *Caldasia* 39, no. 1 (June 27, 2017): 68, <https://doi.org/10.15446/caldasia.v39n1.59932>.

¹³ John Soluri, *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2006); Funes, *From Rainforest to Cane Field in Cuba*; W. G. Clarence-Smith, *Cocoa and Chocolate, 1765-1914* (London: Routledge, 2000).

¹⁴ The investigations made by Regina Horta represent an exception to neglected role of plants within the urban environmental history in Latin America. See Regina Horta, ‘Urban Trees and Urban Environmental History in a Latin American City: Belo Horizonte 1897-1964,’ *Global Environment*, no. 3 (2009): 120–53; Regina Horta and Natasha Ostos, ‘Entre Ipês e Eucaliptos,’ *Nômadias* 12, no. 1 (2005): 74–85.

described the astonishing number of products sold in nineteenth-century urban markets, we have largely ignored how cities of different Latin American regions incorporated their botanical diversity into their daily life functioning.

This thesis represents an initial effort to contribute to the understanding of how plants and their associated botanical knowledge played vital roles in the daily life of pre-industrial Bogotá. As presented in Chapter 5 when describing the uses of different types of plants in the creation of items such as mats, wooden hoses, and baskets in nineteenth-century Bogotá, this thesis has shown how ethnobotanical practices from the pre-Columbian period survived conquest and cultural colonisation. An interesting example of cultural permanence is the Múscica people's architectural technique based on the use of plants from the nearby *páramos* involved in the building of Colonial and Early Republican Bogotá. This thesis has revealed that surviving indigenous ethnobotanical knowledge and building techniques embodied in a defined group of people (i.e. indigenous descendants) made possible the physical existence of the European-like city.

The study of the use of vegetal products in the city is not only important as a contribution to the understanding of the material cultural history of Bogotá but also for advancing knowledge about how the pre-industrial city expanded its influence through different regions and ecosystems. In this regard, by describing the types of vegetal elements that flowed from nearby settlements towards Bogotá, Chapter 4 has shown how the big trade exchanges and connections that existed in pre-Columbian Bogotá remained active during the colonial and early republican periods.¹⁵ This continuity is important because the historiography of Bogotá has tended to present the city as a place of difficult access and therefore extremely isolated, ignoring that this isolation was in fact relative,¹⁶ as the constant flow of NTFPs from the nearby forest to the city suggests. To put it simply, the city became a distant place after its displacement as a political, religious, and cultural centre linked with Madrid in the sixteenth century. However, Bogotá maintained its regional prominence as a centre for neighbouring regions that functioned as sources of supplies, as exemplified in the cultural and economic weight attributed to the city's market in pre-Columbian, Colonial, and Republican Bogotá.

¹⁵ Langebaek, *Mercados, Poblamiento e Integración Étnica Entre Los Múscas Siglo XVI*.

¹⁶ Mejía, *Los Años Del Cambio*.

Conclusion

While Bogotá remained a central point of regional dynamics after modernisation, the transformation in the flow of vegetal products towards the city evinces a shift in its ecological area of influence. Interestingly, whereas most investigations have described the modernisation of cities as an utterly expansive process,¹⁷ the historical evidence gathered in this thesis has shown that modernisation also led to the ecological contraction of the city's influence on its surroundings. This fact is exemplified through the case of Bogotá's firewood and lumber supplies. As presented in Chapter 5, the city relied on the abundance of woodlands beyond the Cerros Orientales to ensure the firewood supply. However, the introduction of eucalyptus, a tree characterised by accelerated growth, endowed the city with a constant stock of wood and lumber. Having a continual supply of wood from the eucalyptus plantations made it unnecessary to extract firewood and lumber from neighbouring forests.

8.2.4 The disappearance of the colonial urban green spaces

The types of green spaces existing in Bogotá during the second half of the nineteenth century were remnants of the colonial urbanism. However, the rapid urban transformations that took place beginning in the 1880s resulted in the systematic disappearance of the colonial green spaces and their historically-produced relationships with plants. Then, to host a population in constant growth, many houses with patios were subdivided, and their resulting rooms, known as *tiendas*, were rented to needy families (see Chapter 4). This change in the domestic sphere around patios led to the abandonment of the gardens previously planted on their surfaces. The loss of private green spaces entailed the elimination of a very particular type of garden and possibly involved the loss of the outstanding trees and uncommon plants often associated with them, as has been found also in contemporary patios in Central American cities.¹⁸ This situation is evident on the description of the patios left by Soledad Acosta, who observed that 'Almost all the flowers loved by my godmother back in the days have lost their importance, and only can be found in the old-fashioned gardens of those decadent Santaferenos'.¹⁹ Written in 1869, the memories of Soledad Acosta depict the decadence of private gardens as a product of the city's urban transformation.

¹⁷ Cronon, *Nature-s Metropolis*; Maria Kaika, *City of Flows. Modernity, Nature, and the City* (New York: Routledge, 2004); Gandy, *Concrete and Clay*.

¹⁸ Alberto González-García and Antonio Gómez Sal, 'Private Urban Greenspaces or 'Patios' as a Key Element in the Urban Ecology of Tropical Central America,' *Human Ecology* 36, no. 2 (2008): 291–300.

¹⁹ Acosta de Samper, "Mi Madrina."

Demographic growth along with the economic limitations that prevented the city's expansion led to the agglomeration of the population in the traditional quarters of Bogotá (see map 7.2 from 1818 vs. map 5.4 from 1910).²⁰ The concentration of people within the city's built environment during the late nineteenth century was possible due to the urbanisation of still un-built spaces. As a consequence of internal urbanisation, most of the *solares* inherited from the colonial period rapidly disappeared. In turn, the urbanisation of the *solares* expelled from the city the last traces of the rural life that had co-existed with urban practices throughout Bogotá's history. Therefore, as cogently observed by Germán Mejía, Bogotá and its surrounding rural areas become clearly distinguished places beginning in the last decades of the nineteenth century.²¹ However, although the urbanisation of *solares* eradicated the cultivation of edible plants such as the *cubios*, potatoes, and Andean papaya described by Isaac Holton (see Chapter 4), it did not undermine the use of other plants such as medicinal herbs. Studies conducted in present-day Bogotá have illuminated the 'astonishing' uses of herbs in the city.²² Recent studies have also shown that despite not having large *solares*, people from the lower-income sector of society continued cultivating medicinal and aromatic herbs in pots and small domestic gardens.²³

Finally, it is worthwhile to remark that the accelerated urbanisation of the green spaces in Bogotá that occurred at the end of the nineteenth century resulted in the elimination of 'residual' places where ruderal flora had long thrived. The loss of the ruderal flora involved the local disappearance of certain species of plants and possibly the loss of botanical knowledge linked to them. A clear example of this situation is that the elimination of green spaces led to the local disappearance of species such as the plantain (*Plantago major*). Previously one of the most used species within Colombia's vernacular pharmacopoeia, with the urbanisation of residual areas, these plants were no longer

²⁰ Mejía, *Los Años Del Cambio*.

²¹ Mejía.

²² Rainer W. Bussmann et al., 'Astonishing Diversity—the Medicinal Plant Markets of Bogotá, Colombia,' *Journal of Ethnobiology and Ethnomedicine* 14 (2018), <http://dx.doi.org/10.1186/s13002-018-0241-8>; Sara E. Giraldo et al., 'Ethnopharmacological Studies in Traditional Markets from Bogotá D.C. (Colombia): Advances and Perspectives for the Search of Medicinal Plants with Therapeutic Potential,' *FarmaJournal; Salamanca* 4, no. 1 (February 2019): 253–54.

²³ Sierra-Guerrero and Amarillo-Suárez, 'Socioecological Features of Plant Diversity in Domestic Gardens in the City of Bogotá, Colombia.'

accessible and had to be bought at the herbal markets, as is still the case in present-day Bogotá.²⁴

8.3 The creation of green spaces in nineteenth-century Bogotá

The creation of green spaces as a product of the modernisation of Latin American cities has been a relatively well-studied process; almost every urban history of the region has addressed the developments of park, gardens, or promenades.²⁵ However, most of the efforts to understand the logics and characters involved in the creation of modern green spaces have been made within fields such as urban history, architecture, or landscape design. Although rich in detail and analysis, the explanations offered by these disciplines have exhibited a marked emphasis on architects and their designs. The focus on designers and their aesthetic influences has overlooked mechanisms such as the introduction of plants and the circulation of gardening knowledge, which, as a matter of fact, made possible the materialisation of the designers' ideas. Thus, we know little about the trade of ornamental plants from Europe and the United States and their use in the creation of gardens and parks in Latin American cities. Equally, apart from some very isolated examples such as the case of Horacio Arreondo (1888–1967) in Uruguay,²⁶ we know almost nothing about the local people responsible for the adaptation of architects' designs into local socioecological environments. In general, the history of the introduction and acclimation of plants in the nineteenth-century Latin American city has had a marginal role within urban historiography in general, and particularly within urban gardening history.

²⁴ Hernando García Barriga and Richard Evans Schultes, *Flora Medicinal de Colombia: Botánica Médica*, 2 vols. (Santa Fé de Bogotá: Imprenta Nacional, 1975); Bussmann et al., 'Astonishing Diversity—the Medicinal Plant Markets of Bogotá, Colombia.'

²⁵ Although the list of the urban studies addressing the creation of green spaces in Latin American cities is already big enough to be summarised here, some interesting investigations are: Agustina Martire, 'Imported and Translated Landscapes: Buenos Aires Nineteenth-Century Waterfront Parks,' *Studies in the History of Gardens & Designed Landscapes* 32, no. 4 (October 1, 2012): 258–76, <https://doi.org/10.1080/14601176.2012.719668>; Claudia Agostoni, *Monuments of Progress: Modernisation and Public Health in Mexico City, 1876-1910* (Calgary: University of Calgary Press, 2003); Claudia Cendales, 'Un parque extenso y amplio para dotar con él a nuestra querida capital': La exigencia de la creación de un parque y el panorama del arte paisajístico a finales del siglo XIX en Bogotá,' *Paisagem e Ambiente* 0, no. 29 (October 8, 2011): 25–38, <https://doi.org/10.11606/issn.2359-5361.v0i29p25-38>; Arturo Almandoz, 'Longing for Paris: The Europeanized Dream of Caracas Urbanism, 1870-1940,' *Planning Perspectives* 14, no. 3 (January 1, 1999): 225–48, <https://doi.org/10.1080/026654399364210>; Romy Hecht, 'Visions of an Unrealized Park: Chile's Cerro San Cristóbal, 1915–1927,' *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 213–33, <https://doi.org/10.1080/14601176.2018.1429374>.

²⁶ Alicia Torres Corral, 'A Paradoxical Paradise: Parque Nacional Santa Teresa, Uruguay,' *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 199–212, <https://doi.org/10.1080/14601176.2018.1491738>.

As a response to the above-presented knowledge gaps and as a way to clarify the social mechanisms behind green spaces in the city, this section takes two strains of analysis: i) the circulation of plants, knowledge, and ideas and ii) the participation of local characters in the adaptation of European green space models to Bogotá.

8.3.1 Circulation of plants, knowledge and ideas

Like the colonial city, the modern Latin American city was founded upon European models. The transplantation and adaptation of the urban guidelines of European origin into different regions such as the Andes and Pampas have been well studied by urban historians.²⁷ However, despite the acknowledgement of the European influence on the Latin American city, only recently have studies analysed this external influence on the development of green spaces in the late nineteenth century.²⁸ Some recent efforts have been made to explain how the circulation of gardening knowledge helped in the construction of gardens and parks in Buenos Aires, Mexico City, Caracas, and Rio de Janeiro, among other cities.²⁹ Nevertheless, most of what we know about the construction of green spaces such as parks and gardens comes from analyses of landscape and gardening designs, which explain, for example, the influence of French or English gardens in the creation of specific parks in some capital cities.

This thesis has revealed that the while extremely important, on its own, the influence of foreign-born city planners, professional gardeners, and landscape designers cannot explain the complex process of green space production undertaken as part of Latin America's

²⁷ Jorge Hardoy, 'Teorías y Prácticas Urbanísticas En Europea Entre 1850 y 1930. Su Traslado a América Latina.', in *Repensando La Ciudadada Latinoamericana*, ed. Jorge Hardoy and Morse Richard (Buenos Aires: Grupo Editor Latinoamericano / IIED América Latina., 1998); Arturo Almandoz, 'Transfer of Urban Ideas: The Emergence of Venezuelan Urbanism in the Proposals for 1930s' Caracas,' *International Planning Studies* 4, no. 1 (February 1999): 79–94, <https://doi.org/10.1080/13563479908721727>; José Luis Romero, *Latinoamérica Las Ciudades y Las Ideas*, Historia y Cultura (Buenos Aires: Siglo veintiuno, 2014).

²⁸ Sonia Berjman and Anatole Tchikine, 'Landscape Architecture in Latin America: Nineteenth and Twentieth Centuries,' *Studies in the History of Gardens & Designed Landscapes* 39, no. 3 (July 3, 2019): 175–77, <https://doi.org/10.1080/14601176.2018.1561817>.

²⁹ J. P. Daughton, 'When Argentina Was 'French': Rethinking Cultural Politics and European Imperialism in Belle-Époque Buenos Aires,' *The Journal of Modern History* 80, no. 4 (2008): 831–64, <https://doi.org/10.1086/591112>; Agostoni, *Monuments of Progress: Modernisation and Public Health in Mexico City, 1876-1910*; Eugenio Garcés Feliú et al., 'Urban Modernisation and Heritage in the Historic Center of Santiago de Chile (1818–1939),' *Planning Perspectives* 35, no. 1 (January 2, 2020): 91–113, <https://doi.org/10.1080/02665433.2018.1512055>; Sonia Berjman, *Plazas y parques de Buenos Aires: la obra de los paisajistas franceses, André, Courtois, Thays, Bouvard, Forestier, 1860-1930*, 1a ed. (Buenos Aires: Fondo de Cultura Económica de Argentina, 1998); Martire, 'Imported and Translated Landscapes'; Cendales, 'Un parque extenso y amplio para dotar con él a nuestra querida capital'.

Conclusion

modernisation. The case of Bogotá shows that rather than being passive receptors of European gardening ideas and horticulture concepts, locals played an active role. They were interested not only in the introduction of urbanistic practices but also in the plants that formed a part of the city's public spaces. A clear example of this is embodied in the character of Antonio Izquierdo, which was analysed in Chapters 6 and 7.

As a member of an elite class that was aware of the economic potential offered by certain species of plants, Izquierdo was called by the Colombian government to travel around the world gathering agronomic information and samples of plants used in the economic development of other countries. Although Izquierdo's focus was mostly on economically productive species such as rubber trees or eucalyptus (see Chapter 7), he was also responsible for introducing a significant number of plants that would later be used in Bogotá's gardens and parks. Izquierdo was far from being the only plant importer. As I have presented in a previous investigation, the elite's preoccupation in relation to the public spaces was also embodied in Ricardo Olano, a recognised industrialist from Medellín. Like Izquierdo, Olano contributed enormously to the introduction of exotic species, some of which are still used in the ornamentation of Medellín's streets.³⁰ The examples of Izquierdo and Olano highlight the role of elite men as some of the main figures involved in the introduction of modern innovations such as cars, airplanes, and the radio, among others.³¹ In sum, the cases of people like Antonio Izquierdo in Bogotá and Ricardo Olano in Medellín reveal that, in contrast to what has presented thus far, the creation of modern green spaces in Colombian cities was not only the purview of landscape designers and urban planners.

Members of the elite class were not the only characters involved in the introduction of plants and botanical knowledge to Colombia. The region's insertion into the international trade made possible the appearance of commercial agents in the city as the visible face of the capitalist system in expansion across Latin America during the last decades of the nineteenth century. It has been generally recognised that commercial agents participated in the introduction of elements such as clothes, food, radios, or social events such as the opera.³² However, the active role of merchants in the introduction of plants as part of the

³⁰ Diego Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950* (Medellín: Editorial Universidad de Antioquia, 2015).

³¹ Almandoz Marte, *Planning Latin America's Capital Cities, 1850-1950*; Levine, *Images of History*.

³² Romero, *Latinoamérica Las Ciudades y Las Ideas*.

expansion of commerce from the north to the south is a theme that has been ignored in the urban historiography in Latin America.

To contribute to filling this gap, this thesis has shown that companies such as the Company of Alive Plants headquartered in New York endowed Bogotá with new types of plants for use as raw materials in the construction of public spaces. The historical evidence has suggested that unlike other products introduced into the country as part of the modernisation process, the complexities associated with the transport and maintenance of ornamental plants made of them a more expensive and riskier ‘product’ for commercialisation purposes. For this reason, the plant trade largely relied on printed materials and the circulation of booklets and nursery catalogues. As observed in the catalogue that the Company of Alive Plants used to sell plants in Bogotá, these booklets were not mere lists of plants and their prices, they also bore important information about the cultivation and acclimation of the species the company sought to sell. Rarely considered as evidence in gardening historiography,³³ the circulation these printed materials had a significant impact on the urban flora of Latin American cities and also contributed to the production of gardening knowledge, which, as explained in Chapter 6, barely existed in Latin America during the second half of the century.

However, the nursery catalogues and press materials linked to the commerce of plants were insufficient to compensate for the rather small developments in gardening and horticulture in Bogotá and other Latin American regions (see Chapter 6). Consequently, the knowledge needed to adapt European landscape designs was also obtained through the circulation of specialised gardening literature and horticulture manuals, a remarkable example of which has been presented in the case of the self-taught gardener Horacio Arreondo in Uruguay. As Alicia Corral has demonstrated, Arreondo’s work on the construction of the Santa Teresa National Park was in part a product of his readings of books such as *L’art des Jardins* (The Art of Gardens) by Édouard André (1879) or the *El Jardinero Ilustrado* (The Enlightened Gardener) by Fernando Marduit and Vicente Peluffo (1886).³⁴ In the same vein, this thesis has shown how the availability of botanical and

³³ A remarkable exception of the use of these kinds of elements as a source of historical evidence is presented by Eileen Woodhead in the Case of Canada. However, this type of investigation do not have an homologous for Latin America. See Eileen Woodhead, *Early Canadian Gardening: An 1827 Nursery Catalogue* (Montreal, & Kingston: McGill-Queen’s University Press, 1998), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=3331370>.

³⁴ Corral, ‘A Paradoxical Paradise.’

Conclusion

gardening books enabled Casiano Salcedo to acclimatise the first eucalyptus seeds cultivated in the city, as presented in Chapter 8. In sum, although the circulation of botanical knowledge as part of the history of science in Latin America has had a central role in the urban historiography of this continent,³⁵ much less attention has been paid to the circulation of more specialised gardening and horticultural literature as well as their use in the construction of green spaces.

Finally, it is worth highlighting that while considerable efforts have been made to explicate the Columbian plant exchange,³⁶ our understanding of the plant exchanges during the nineteenth century has largely been limited to species of economic importance such as coffee, sugarcane, or banana.³⁷ Consequently, the botanical exchange triggered by the growth of cities has been a theme only partially addressed. Although in some instances, the historiography has revealed the plants and mechanisms of introduction that led to certain countries such as England to significantly enrich their native flora,³⁸ this is not the case for the Latin American countries. In this regard, we still lack a clear idea of the types of plants and the social, economic, and ecological processes contributing to their importation and how these introduced plants and their associated knowledge was used in the creation of the modern green spaces in Latin American cities at the end of the nineteenth century. Through the particular case of Bogotá, this thesis represents an initial step towards better understanding the relationship between urbanisation and floristic change in Latin America. However, as presented in section 8.5, this step must be complemented with further research addressing the introduction and acclimation of species in cities all over the continent.

³⁵ Ana Sevilla and Elisa Sevilla, 'Knowledge Production in Non-European Spaces of Modernity: The Society of Jesus and the Circulation of Darwinian Ideas in Postcolonial Ecuador, 1860–1890,' *International Studies in the Philosophy of Science* 29, no. 3 (July 3, 2015): 233–50, <https://doi.org/10.1080/02698595.2015.1179036>; Elisa Sevilla and Ana Sevilla, 'Inserción y Participación En Las Redes Globales de Producción de Conocimiento: El Caso Del Ecuador Del Siglo XIX,' *Historia Crítica*, no. 50 (2013): 79–103.

³⁶ Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, Canto (Cambridge University Press) (Cambridge: Cambridge University Press, 1993); Nathan Nunn and Nancy Qian, 'The Columbian Exchange: A History of Disease, Food, and Ideas,' *The Journal of Economic Perspectives* 24, no. 2 (2010): 163–88; Pawson Eric, 'Plants, Mobilities and Landscapes: Environmental Histories of Botanical Exchange,' *Geography Compass* 2, no. 5 (September 24, 2008): 1464–77, <https://doi.org/10.1111/j.1749-8198.2008.00153.x>.

³⁷ Soluri, *Banana Cultures*; Funes, *From Rainforest to Cane Field in Cuba*.

³⁸ Andrew Hassam, 'Portable Iron Structures and Uncertain Colonial Spaces at the Sydenham Crystal Palace,' in *Imperial Cities*, ed. Felix Driver and David Gilbert (Manchester: Manchester University Press, 1999), 174–93; Rebecca Preston, 'The Scenery of the Torrid Zone': Imagined Travels and the Culture of Exotics in the Nineteenth-Century British Gardens,' in *Imperial Cities*, ed. Felix Driver and David Gilbert (Manchester: Manchester University Press, 1999), 279.

8.3.2 The participation of locals in the adaptation of green spaces in Bogotá

Rather than a process of simple mimicry, the creation of green spaces as part of the modernisation of Bogotá entailed different levels of complexity that are not always considered by scholars. Therefore, although they were important mechanisms in the process such as the circulation of urbanist ideas, plants and gardening knowledge alone cannot explain the production of green spaces in the city. To understand how the circulation of plants, ideas, and knowledge made possible the establishment of green spaces in the city, this thesis has paid close attention to the socioecological conditions and local characters involved in the materialisation of these urban spaces in Bogotá.³⁹

First, as was the case with most of the ideas encompassed within the notion of progress that reached the region, the conception of plants as organic filters able to clean ‘bad airs’ was easily assimilated by local elites in Colombia. In Bogotá, Genaro Valderrama, the self-taught landscape designer, represents one of the most visible figures in this regard. As presented in Chapter 6, Valderrama insisted on the power of plants as prophylactic elements in the public spaces, explaining that ‘It is well known that vegetation is the most potent agent that works upon the public health’.⁴⁰ The scientifically supported conviction of the important role of plants in the creation of healthy spaces was taken for granted in Bogotá, and with very few exceptions, the use of plants as part of the modern city had no detractors. However, whereas the incorporation of the beneficial role of plants occurred with almost no resistance, the praxis required to materialise this idea was not so easily adapted to the local circumstances.

The materialisation of a new urban relationship with plants proved to be more complicated than the public discourse that supported their existence as part of the city. As extensively presented in Chapter 6, the creation of modern green spaces in Bogotá was deeply limited by a lack of economic resources and a poor gardening tradition. Although it is true that some private gardens existed in domestic areas in Colonial Bogotá (e.g. patios), the creation of larger green areas as part of the emergent public space demanded a set of skills and a knowledge that was absent in the city. Therefore, when the modernisation of Bogotá

³⁹ Creswell and Merriman explain that the circulation of ideas and objects can only be understood through the analysing the destination port of these mobilities. The authors considered these point as ‘moorings’ were the circulation grounded. See: Tim Cresswell and Peter Merriman, *Geographies of Mobilities: Practices, Spaces, Subjects* (Farnham: Ashgate, 2011).

⁴⁰ Correspondence between Genaro Valderrama and Ministerio de Hacienda, 4 Abril 1897, folio 114, tomo 823, fondo del Ministerio de Obras Públicas, AGN.

Conclusion

demanded the creation of gardens and parks, there was a lack of expertise to fulfil this task. As a consequence, the first ‘translators’ able to embody gardening knowledge were foreigners who had been in contact with European gardens and other green spaces and were thought to be able to adapt them in Bogotá. A clear example of this mindset was the improvised work of the Italian opera singer Enrique Rossi-Guerra in Bogotá. However, the mere contact with the ways of organising nature within European cities proved to be either expensive, as in the case of the British Robert Johnson, or marginal, as in the case of the Japanese Tomohiro Kawaguchi

While the key role of French and English gardeners and landscape designers has constantly been present in the Latin American urban historiography, the participation of locals, especially during the last decades of the nineteenth century, has been under-researched. Beyond the case of Horacio Arreondo in Uruguay, almost nothing is known about the self-taught gardeners responsible for the modernisation of green spaces in remote cities such as La Paz, Quito, or Bogotá. By rescuing the participation of Casiano Salcedo in Bogotá’s history, this thesis has contributed to the gardening and landscaped history of Latin America showing how local people without any formal gardening education actively participated in the early urban changes and ecological transformations engendered by the modernisation of the city.

Understanding gardens, parks, and urban forests as part of multidimensional social dynamics that extend beyond the people responsible for their design and maintenance,⁴¹ this thesis has presented how in addition to self-taught gardeners, other actors and some organisations played important roles in the creation of modern green spaces in nineteenth-century Bogotá. As shown in Chapter 6, the gardens created in the city’s colonial squares engendered the appearance of a large set of social characters directly or indirectly related to the new green spaces. An example of these is the creation of a whole bureaucratic office linked to the Ministerio de Obras Públicas, which was in charge of contracts, expenses and many other issues related to the gardens and parks.⁴² Also, as mentioned below, the creation of gardens induced the creation of the garden guards locally known as *celadores*

⁴¹ The social and cultural role of gardens as symbolic and material human creations is widely explored by Mark Francis and Randolph Hester. See: Mark Francis and Randolph T Hester, *The Meaning of Gardens: Idea, Place, and Action* (Cambridge, Mass.; London: MIT Press, 1990).

⁴² It is essential to remember that in because of the bureaucratic body responsible for public gardens and parks established within the Ministerio de Obras that we can have historical evidence of the process. Therefore, analysed throughout history, even the people in charge for the Ministry’s archive had a role in gardening history of the city.

as well as generating new duties to the few city's police officers. Furthermore, the establishment of gardens involved the participation of characters with very blurred presences in the historical records, such as fertiliser and gardening tools retailers.

In sum, although more investigation is required, this thesis has shown that alongside gardeners and landscape designers, many other social actors participated in the local adaptation and creation of the modern green spaces in Bogotá. Whereas doctors and other members of the elite easily adopted European ideas about plants as carriers of good airs in the city, local gardeners and other social characters were responsible for materialising these ideas in accordance with the local conditions of Bogotá. Likewise, the creation of public gardens and parks promoted the development of emergent relationships between people and plants with the emergence of new jobs (e.g. *celadores*) and the opening of new economic sectors linked to the importation and maintenance of plants in urban environments. Thus, the adaptation of the modern green spaces involved not only the acclimation of new plant species but also the transformation of pre-existing social, economic, and ecological conditions in order to endow the city with a social infrastructure capable of maintaining urban gardens in Bogotá.

8.4. Socioecological changes after the modernisation of green spaces in Bogotá

This thesis has revealed that the importation and adaptation of green spaces in Bogotá was a complex process made possible by other actors in addition to landscape designers and gardeners. By understanding the creation of gardens and parks from a multidimensional perspective, this thesis has explored the social and ecological consequences engendered in Bogotá as part of the establishment of green spaces. However, to understand the impacts of the creation of green spaces in Bogotá, it is extremely important to bear in mind that the production of green spaces as part of the city's modernisation did not occur from scratch. Thus, embracing plants as permanent members of the city involved encounters between different attitudes towards to plants (e.g. plants as air filters vs plants as a source of wood) and the popular assimilation of the new role of plants as key elements of the urban realm. These encounters between emergent and residual botanical knowledge led to a series of social conflicts previously unseen in the city. In addition, the production of new green spaces engendered a completely new type of urban flora that gathered within it native and previously introduced plants alongside the new species introduced as the raw materials of

Conclusion

gardens, parks, and forestry plantations. This section reviews some of the consequences of the implementation of modern green spaces in Bogotá and analyses them through three approaches: i) exploring the transformation in the ways of understanding and using plants by the people in Bogotá; ii) reflecting about the social and ecological conflicts that emerged in the city as a consequence of the transformation in the relations between humans and plants; and iii) explaining how the production of new green spaces in Bogotá had the biological and ecological result of a deep transformation of the urban flora of the city.

8.4.1 The change in the relationship with plants as a symbol of modernity

This thesis has demonstrated that one of the most important consequences brought about by the creation of the green spaces in nineteenth-century Bogotá was its huge contribution to the physical and symbolic ending of the rural-like city. Although barely explored by urban Latin America historiography,⁴³ changes in the ways of interacting with plants such as those presented herein can be considered a historical marker of the division between the pre-modern and urban city. Modernisation and its transformative impulse would produce tangential changes that contributed to the differentiation between the country and the city, and in doing so, created a border between peasants and citizens. An example of this differentiation (and its related conflicts) emerged when the *cachacos* attempted to prohibit the use of *ruana* and consumption of *chicha*, both of which were symbols of rurality and its people. The novel analysis of this transformation offered by this thesis proposes that changes in the city's human-plant interactions were a true milestone of the entire modernisation of Bogotá.

This research has made evident that the creation of modern spaces such as gardens and parks not only added another dimension to the human-human interactions in the city, they also transformed the pre-modern ways of understanding, using, and performing with plants. Whereas the relationships with plants in places such as *solares*, *patios*, or nearby forests were products of the city's social and cultural heritage from the Muiscas and Spanish, the modern green spaces were an inverse construction. Rather than being created as a natural expression of historical relationships with plants, parks and gardens were built first, and it was not until later that the 'translators' such as doctors induced and promoted

⁴³ Mejía, *Los Años Del Cambio*.

new human-plant interactions. The result was an estrangement between people and plants in the city. Therefore, this thesis has demonstrated that in addition to the physical transformation of the city (e.g. the disappearance of *solares*), the creation of gardens and parks created a cultural gap between people and plants.

The estrangement between people and plants confirms how modernisation was a huge process of delegation of many aspects of daily life. For example, those who had previously worked as farmers became laborers who delegated the production of their food to others, as was the case of Mexican *tortillas* and Colombian *arepas*.⁴⁴ The same happened with the production and repair of their clothes, the construction of their houses, and the education of their children. Similarly, the previously intimate relationships between humans and plants became based in the already mentioned local characters who in turn became mediators between people and plants in Bogotá. For instance, the gardener emerged when the spontaneous bushes and weeds of the residual and pre-modern areas were replaced by organised tree-lined avenues. Utterly unnecessary in the rural world, the figure of the gardener was the epitome of urban life. Gardeners, then, emerged as mediators, first as self-taught figures such as Casiano Salcedo and later as an organised guild headed by professional gardeners such as José Fabi. The same occurred with the NTFPs obtained in the nearby mountains, some of which, such as the spoons made from *totumos*, were replaced by imported metal utensils as a manifestation of industrial innovations. In the same vein, people embodying the fictional character of *Bruna the Charcoal-Woman* were replaced by others carrying technical knowledge, who transformed the mountains of Monserrate into a monoculture of eucalyptus. As presented in Chapter 6 in the case of gardens and in Chapter 7 addressing the cultivation of eucalyptus, this thesis has proposed this whole phenomenon as a transition from ‘ethnobotanical’ to ‘technobotanical’ relations and has presented it as one of the most representative manifestations of the consolidation of modern Bogotá.

The description and analysis of the social transformations that led to a change in the human relationship with plants presented in this study are in tune with other environmental histories addressing changes in perception towards forests, climates, or landscapes.⁴⁵

⁴⁴ Claudia Leal, John Soluri, and José Augusto Pádua, *Un pasado vivo: dos siglos de historia ambiental latinoamericana*, 2019.

⁴⁵ Edgardo Pérez, *La Obra de Dios y El Trabajo Del Hombre: Percepción y Transformación de La Naturaleza En El Virreinato Del Nuevo Reino de Granada*, 1ra ed., Colección Bicentenario de Antioquia 32 (Medellín: Universidad Nacional de Colombia, 2011); Katherine Mora, ‘Adaptación de Sociedades Agrarias

Conclusion

Nevertheless, as presented in Section 8.5, too much work is still needed in Latin America and especially in highly biodiverse countries such as Colombia, to better understand the historical change of attitudes regarding the social role of plants animals and other organisms such as fungi or bacteria.

8.4.2 The conflict over green spaces

The modernisation of Bogotá engendered a change in the understanding and use of plants. However, the adoption and acclimation of ideas, plants, and spaces in Bogotá was not a strict process of replacement. Accordingly, the modernisation of the city's green spaces was rather a gradual superimposition whereby modern and colonial ideas around the role of plants co-existed for some time. These encounters between contrasting ways of living with plants brought about an inevitable conflict that once regulated and 'solved' generated a hybrid urban flora as a manifest consequence.⁴⁶

The social conflict engendered by the establishment of green spaces in Bogotá reflected social exclusions that had been part of the society since its European foundations.⁴⁷ Therefore, as has been revealed by several investigations, the newly created parks and gardens became places of contestation where the ruling elites sought to forbid access to these spaces to poor or ill people.⁴⁸ This thesis has shown how this exclusion process around green spaces was also a constant in the daily life of Bogotá. An example of this is the constant efforts of Genaro Valderrama, who in his capacity of Parks and Gardens Administrator sought to ban the entrance of poor and especially ill people into the gardens and parks. However, the conflict around the city's green spaces cannot merely be analysed through the dichotomic perspective of access *vs* not access to gardens and parks. Rather, as

a La Variabilidad Climática. Sabana de Bogotá, Andes Orientales Colombianos, 1690-1870' (Doctorado en Historia, Bogotá, Universidad Nacional de Colombia, 2017); Stefania Gallini and Carolina Castro, 'Modernity and the Silencing of Nature in Nineteenth-Century Maps of Bogotá,' *Journal of Latin American Geography* 14, no. 3 (October 2015): 91–125.

⁴⁶ The transition towards modernity in Latin America involved the co-existence of 'old' and 'new' approaches to most of the aspects of life. One of the most interesting examples of this co-existence and their conflicts was the superimposition of the bad-air ideas with the Pasteurian conception of disease. This example shows how the periods of transitions are richer in narratives precisely because they incorporate both ancient and the emergent narratives. See for example: Sandra Caponi, 'Miasmas, microbios y conventillos,' *Asclepio* 54, no. 1 (June 30, 2002): 155–82; Jorge Márquez, *Ciudad, miasmas y microbios. La irrupción de la ciencia pasteriana en Antioquia* (Medellín: Universidad de Antioquia, 2005).

⁴⁷ Romero, *Latinoamérica Las Ciudades y Las Ideas*.

⁴⁸ Ana Amigo, 'Identidad, Modernidad, Ocio: Jardines Urbanos de La Habana En El Siglo XIX,' *Cuban Studies* 46 (April 20, 2018): 87–112, <https://doi.org/10.1353/cub.2018.0006>; Molina, *Los Árboles Se Toman La Ciudad. El Proceso de Modernización y La Transformación Del Paisaje En Medellín, 1890-1950*.

this thesis has shown, the establishment of parks and gardens aimed to instigate a series of social behaviours in their visitors. Then, when people and plants moved to the recently-created public spaces, not only were the public interactions between people regulated (e.g. the prohibition of *chicha* consumption) but also the relations between people and plants. For example, seeking to prevent the appearance of pre-modern practices (e.g. people chopping ornamental trees for firewood), a new set of actors in the form of police officers and *celadores* entered the urban scene. The presence of people in charge of controlling their uses reveals how plants were both organic filter and entities attached to the law. In other words, with modernisation, plants were instrumentalised and used by Bogotá's elites as organic tools in the exercise their power over the others.

The intersection between biopolitics and plants has recently begun receiving scholarly attention; however, research efforts have been almost entirely directed toward biopolitical ideas as an explanation of the historical underestimation of plants against animals.⁴⁹ This thesis offers a different interpretation of biopolitics by using typical examples such as hospitals or prisons to reveal the critical role of plants as biopolitical devices in the modern and urban control of human beings.⁵⁰ The recognition of the biopolitical power of plants presented in this thesis through examples such as the use of gardens in the San José orphanage offers a new perspective on human-plant studies. Recently, a large number of studies from the so-called more-than-human geography have investigated the tight relationships between people and plants.⁵¹ However, these investigations have failed to give a historical perspective to the human-plant relationships, and furthermore, they have tended to see these relationships as free of conflict. An example of this is the emphasis on gardening practices involving middle-class participants from Global North regions.⁵² Analysing the role of plants as organic devices within biopolitical practices opens a rich

⁴⁹ Matthew Hall, *Plants as Persons: A Philosophical Botany*, SUNY Series on Religion and the Environment (Albany: State University of New York Press, 2011); Jeffrey T. Nealon, *Plant Theory: Biopower and Vegetable Life* (Palo Alto, United States: Stanford University Press, 2015), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=3568970>.

⁵⁰ Foucault, *Discipline and Punish*.

⁵¹ Lesley Head and Jennifer Atchison, 'Cultural Ecology: Emerging Human-Plant Geographies,' *Progress in Human Geography* 33, no. 2 (April 2009): 236–45, <https://doi.org/10.1177/0309132508094075>; Lesley Head, Jennifer Atchison, and Alison Gates, *Ingrained: A Human Bio-Geography of Wheat* (Farnham, United Kingdom: Routledge, 2016), <http://ebookcentral.proquest.com/lib/reading/detail.action?docID=944777>; Andrew Russell, 'Can the Plant Speak? Giving Tobacco the Voice It Deserves,' *Journal of Material Culture* 23, no. 4 (December 1, 2018): 472–87, <https://doi.org/10.1177/1359183518799516>.

⁵² An example of this bias is presented in the Hannah Pitt work inquiring on the human-plant relationships in gardens in the United Kingdom. Hannah Pitt, 'On Showing and Being Shown Plants - a Guide to Methods for More-than-human Geography,' *Area* 47, no. 1 (March 1, 2015): 48–55, <https://doi.org/10.1111/area.12145>.

Conclusion

and unexplored fields to be addressed in further both empirical and theoretical investigations.

Finally, the creation of parks, gardens, and plantations as part of urban modernisation promoted the introduction of certain species of plants that, given their biological or symbolic characteristics, would also embody particular types of conflict. Although scarce, such socioecological conflicts linked to particular species in some Latin American cities have been explained in previous works. For instance, Regina Horta has shown the large social turmoil that emerged in Belo Horizonte (Brazil) in 1963 when a local administrator linked to the dictatorial government cut down 350 leafy *ficus* trees that stood along the avenue's three-kilometre length.⁵³ Such conflicts have not only emerged due to the felling of trees. In a previous investigation in Medellín (Colombia), I have pointed out how in the attempt to create a European scene in this tropical city, local elites planted ceibas (*Ceiba pentandra*) as decorations along the roads and in the parks. However, the trees' deep roots soon posed a threat to the recently laid sewer system that ended up with the felling of these trees.⁵⁴

In the same spirit of the above-mentioned investigations, this thesis has described how particular species used in the creation of green spaces in Bogotá were at the centre of socioecological conflicts. For instance, the use of poorly pruned willows planted in Bogotá's promenades to make them look like poplar-based European promenades described in Chapter 4 highlights an interesting symbolic conflict between ideas of green spaces and the species used in their construction. This thesis has also described the conflict that emerged in Bogotá with the introduction of the eucalyptus tree. Similarly recognised as a source of conflict in other cities in Latin America,⁵⁵ it has been shown here how eucalyptus plantations around Bogotá engendered a significant socioecological conflict when, although initially planted to regulate the river currents fluctuation, their extensive plantation ended up desiccating large sectors of the Cerros Orientales (see Chapter 7). Finally, the conflict engendered by the presence of plants in the city must reinforce their

⁵³ Horta, 'Urban Trees and Urban Environmental History in a Latin American City: Belo Horizonte 1897-1964.'

⁵⁴ Molina, *Los árboles se toman la ciudad. El proceso de modernización y la transformación del paisaje en Medellín, 1890-1950.*

⁵⁵ Horta and Ostos, 'Entre Ipês e Eucaliptos.'

role as social actors since, as has been pointed out by J. Citrin, conflicts between entities can only arise as a consequence of the contact and interactions between social actors.⁵⁶

8.4.3 The creation of a modern urban flora

One of the main consequences of the modernisation of the city was a change in its floristic richness. As urban ecologists have demonstrated, modern cities exhibit more plants than their nearby environments, thus making urban flora a unique phenomenon.⁵⁷ Various explanations have been proposed as reasons for this pattern: i) the availability of different areas of uniform environmental conditions (biotopes) in the city;⁵⁸ ii) the strong presence of introduced plants in urban environments;⁵⁹ and iii) the biotic homogenisation of the landscapes around cities.⁶⁰ However, these explanations have systematically failed to integrate the influence of the social processes that have contributed enormously in the creation of cities as ‘floristic islands’.

The historical analysis presented in this thesis has revealed how the transformation of modern urban flora cannot be understood from ecological patterns alone. To understand how modern cities became ‘floristic islands’, it is necessary to explain the social mechanisms linked to these transformations. This thesis has explained how social dynamics such as mimicking, power relationships, mobilities, translations, and negotiation need to be considered if we want to understand the huge floristic transformation triggered by the modern cities. For example, by considering spaces such as patios and *solares* from an ecological point of view, this thesis has shown that the availability of different urban biotopes can be partially explained by the diversity of green spaces engendered by

⁵⁶ J. Citrin, ‘Conflict/Consensus,’ in *International Encyclopedia of the Social & Behavioral Sciences*, ed. Neil J. Smelser and Paul B. Baltes (Oxford: Pergamon, 2001), 2547–50, <https://doi.org/10.1016/B0-08-043076-7/01115-3>.

⁵⁷ Pyšek and Pyšek, ‘Comparison of Vegetation and Flora of West Bohemian Towns’; Walters, ‘The next Twenty Years’; Wania, Kühn, and Klotz, ‘Plant Richness Patterns in Agricultural and Urban Landscapes in Central Germany—Spatial Gradients of Species Richness’; Myla F. J. Aronson et al., ‘Urbanization Promotes Non-Native Woody Species and Diverse Plant Assemblages in the New York Metropolitan Region,’ *Urban Ecosystems* 18, no. 1 (March 1, 2015): 31–45, <https://doi.org/10.1007/s11252-014-0382-z>.

⁵⁸ Ian Douglas, *The Urban Environment* (London: Edward Arnold, 1983); W Sukopp and M Werner, ‘Urban Environment and Vegetation,’ in *Man’s Impact on Vegetation*, ed. W Holzner, M.J. Wegerer, and I Ikusima (The Hague: Dr. W. Junk Publishers, 1983), 247–60; J. Stadler et al., ‘Exotic Plant Species Invade Diversity Hot Spots: The Alien Flora of Northwestern Kenya,’ *Ecography* 23, no. 2 (2000): 169–76.

⁵⁹ Kirstin Deutschewitz et al., ‘Native and Alien Plant Species Richness in Relation to Spatial Heterogeneity on a Regional Scale in Germany,’ *Global Ecology and Biogeography* 12, no. 4 (July 1, 2003): 299–311.

⁶⁰ Wania, Kühn, and Klotz, ‘Plant Richness Patterns in Agricultural and Urban Landscapes in Central Germany—Spatial Gradients of Species Richness.’

Conclusion

ecological differentiation among social classes.⁶¹ As explored in Chapter 4, the social differentiation of spaces between social classes contributes to the understanding of the cities as ‘floristic islands’ by showing how urban flora also respond to a set of social conditions not always considered by ecologists.⁶²

In a similar vein, urban ecologists have pointed out the strong presence of introduced plants in urban environments as a reason to explain the uniqueness of urban flora.⁶³ However, this explanation has not taken into account the social dynamics that make possible the circulation and acclimation of new species in cities. Furthermore, although the global exchange of plants and animals has gained attention from scholars, most of the investigations made thus far have failed to recognise the role of urban life and its linked social dynamics in the transformation of the distribution of plants that occurred after the establishment of the Industrial Revolution. As presented in this thesis, the enrichment of plants in the modern city was possible due to the circulation of ideas, people, and capital, which created suitable conditions to move plants from one place to another. An example of this is how the consolidation of the urban ideas in Latin America and the expansion of the capitalist systems promoted the introduction of new plants in the city, as was described in Chapter 6 in relation to the commercialisation of ornamental plants. In short, this thesis has shown that the introduction of plants as a part of the modern city’s construction rested on a series of emergent social dynamics that needs to be taken into account in order to understand the floristic transformation triggered by the modernisation of the urban realm.

Urban ecologists have also explained the uniqueness of urban flora engendered by the elimination of biological diversity around the cities.⁶⁴ Using the example of the eucalyptus plantation in the Cerros Orientales, this thesis has underpinned the degradation of ecosystems around the city as one of the main factors that made cities richer in plants than their nearby ecosystems. However, it is also important to underscore how in the particular case of Bogotá, the systematic use of eucalyptus plantations in the Cerros Orientales as a

⁶¹ Hope et al., ‘Socioeconomics Drive Urban Plant Diversity.’

⁶² Fábio Angeoletto et al., ‘El Césped del vecino es más verde: Flora de patios a través de un gradiente social,’ *Revista em Agronegócio e Meio Ambiente* 8, no. Ed.esp. (May 20, 2015): 159, <https://doi.org/10.17765/2176-9168.2015v8nEd.esp.p159-180>; Lesley Head et al., ‘Vegetal Politics: Belonging, Practices and Places,’ *Social & Cultural Geography* 15, no. 8 (November 17, 2014): 861–70, <https://doi.org/10.1080/14649365.2014.973900>.

⁶³ See footnote 59.

⁶⁴ See footnote 60.

source of water, firewood, and other NTFPs entailed a reduction in the city's 'area of influence'. The shrinking of the city's ecological influence over its hinterlands represents a contradiction with what has been already explained by urban environmental histories in cities in the Global North.⁶⁵ The reduction of the city's influence as part of modernisation is well-exemplified by the case of eucalyptus as a source of wood. The establishment of eucalyptus plantations endowed the city with a closer and therefore cheaper source of wood, which was devoted to satisfying a whole range of the daily needs within the city. Consequently, it is possible to think easy access to wood from eucalyptus plantations entailed a reduction in the exploitation of distant woodlands, thereby enabling the ecological regeneration of these forests.⁶⁶ In short, the understanding of the city as a floristic island due to the biological erosion of its hinterlands also needs to be analysed from the viewpoint of the social circumstances that engendered ecological changes in the city's surroundings (e.g. seeking efficiency and cost reductions). The latter is important because rather than being simply a clearance, the ecological erosion of peri-urban environments has been usually characterised by the replacement of complex ecological interactions between different species by relationships of reduced complexity emerging from the establishment of different types of monocultures or plantations.⁶⁷

Finally, the above discussion highlights that the transformation of floras as part of urban modernisation in Latin America must be analysed from a situated and geographical perspective. Although it is true that the landscapes built in nineteenth-century Latin American cities found its inspiration in European examples, when they were imported and adapted into the local conditions, the outcomes were both unique and diverse. The combination of native flora, introduced species, and other environmental characteristics such as local weather led to unique green spaces in Latin American cities. A remarkable example of the diversity of expressions acquired by the urban modernisation of green spaces in Latin America is revealed by Ana Amigo's study of nineteenth-century Habana, in which she showed how rather than pursuing a 'temporalisation' of its urban nature, what

⁶⁵ Gandy, *Concrete and Clay*; Cronon, *Nature-s Metropolis*.

⁶⁶ Although highly probable the reduction of the exploitation of nearby forest as a consequence of establishment of the eucalyptus plantations close to the city must be examined in detail and analysed particular cases.

⁶⁷ Michael L. McKinney, 'Urbanization as a Major Cause of Biotic Homogenization,' *Biological Conservation*, Urbanization, 127, no. 3 (January 1, 2006): 247–60, <https://doi.org/10.1016/j.biocon.2005.09.005>; Michael L. McKinney, 'Effects of Urbanization on Species Richness: A Review of Plants and Animals,' *Urban Ecosystems* 11, no. 2 (June 1, 2008): 161–76, <https://doi.org/10.1007/s11252-007-0045-4>.

Conclusion

occurred in Cuba's capital was a reinforcement of its tropical flora.⁶⁸ As a tropical island in the Caribbean, the construction of the modern urban green spaces was a reflection of the exoticisation of the island deployed in the United States. The post-Spanish period in Cuba was followed by a period of strong influence from the United States, whose elites saw La Habana as a paradise playground, an image that would have been undermined by the elimination of its exuberant trees.

Whereas La Habana's modern urban green space was the product of particular social, historical, and ecological conditions that enabled it to embrace its local flora, the Bogotá's context promoted the adoption of European-like green spaces that disavowed the area's own botanical richness. Nonetheless, it is remarkable in both cases how the reinforcement or disavowal of local botanical conditions responded to exogenous influences exerted by Global North nations. However, although the production of the gardens and parks was not a democratic exercise in which vernacular attitudes towards plants were materialised in the boulevards and parks, it is extremely important to point out that the green spaces established in La Habana or Bogotá were just the visible parts of a wider realm of human-plant interactions. The creation of modern green spaces cannot be reduced to the organisation of plants in the space; it is also the product of the human-plant interactions that take place as parts of urban life.

The socioecological differences between Bogotá and la Habana make evident how the cultural and ecological diversity present within Latin American nations led to distinctive green spaces with their own characteristics and dynamics. Therefore, to understand the characteristics acquired in each of the cities in Latin America, we still need to undertake more extensive investigations encompassing different cities in contrasting social and ecological environments. By addressing the modernisation of nature in nineteenth-century Bogotá, this thesis has contributed in the understanding of the mechanisms that led to the creation of modern green spaces in a city that was not only considered historically isolated and therefore resistant to the change, but is also located in one of the most biodiverse spots on earth as the tropical Andes.

⁶⁸ Amigo, 'Identidad, Modernidad, Ocio.'

8.5 Scientific contribution and future research

The main contribution of this thesis has been to offer an initial analysis of the transformation in the relationships between humans and plants as part of the modernisation of Bogotá with a consideration of the context in which these transformations unfolded and the active role of plants and local people as key actors of the whole process as well as an elucidation of the social and ecological consequences of this phenomenon. By explaining the transformation in the role of plants in Bogotá as part of its modernisation, this thesis has used ideas, epistemologies and methodologies from different disciplines such as urban, gardening and environmental history as well as ethnobotany and urban ecology. Therefore, the most relevant contribution of this thesis is to elaborate a multidisciplinary approach to explain the modernisation of Bogotá through its plants.

Seeking to shed light on the nature of human-plant interactions in pre-modern Bogotá and the places where these interactions were materialised (question 1), this thesis makes two important contributions. First, by describing the people and plants linked to pre-modern green spaces such as *solares* and patios, this thesis represents an initial effort in the study of pre-modern green spaces and the social, economic and cultural circumstances that contributed to their existence. In this regard, this thesis represents an original contribution to knowledge by explaining how extremely hierarchical social structures in Bogotá led to a significant differentiation of botanical knowledge among people living in the pre-industrial city. Second, to advance in the understanding of the importance of plants and NTFPs as a source of raw material in the daily life of pre-industrial Bogotá, this thesis represents an initial effort to create a fluent dialogue between environmental history and ethnobotanical studies as a way to understand the social roles of plants in urban environments and how they can explain the relationships established between the city and its hinterlands. Thus, by analysing the use of plants in the construction of pre-modern green spaces or as necessary elements in the daily life functioning of the city (e.g. *cuan* fibres used in construction), this thesis offers initial insights to address the knowledge gap concerning the uses of plants in Latin American cities prior to their modernisation. Finally, this research shows that in addition to commodities commonly used to explain the historical growth of the Latin American city, such as meat, wheat or water,⁶⁹ other elements such as the NTFPs can offer unexplored insights into the economic and ecological transformation of the city.

⁶⁹ As an example of this see María Ramírez, 'El Proceso Económico,' in *Colombia. La Apertura al Mundo*, ed. Eduardo Posada Carbó, vol. III, V vols., América Latina En La Historia Contemporánea (Barcelona: Fundación MAPFRE & Taurus, 2015), 137–99; Shawn Van Ausdal, 'Productivity Gains and the Limits of

Conclusion

One of the most important contributions of this thesis has been to bring together historical methodologies in combination with a careful botanical analysis to shed light on the botanical reality experienced by people from Bogotá prior to its modernisation. This is important because understanding the type of plants and the local uses of plants existing in pre-industrial Bogotá endows us with a historical perspective to analyse the current uses of plants broadly observed in the city (e.g. local evolution in the use of medicinal and ornamental plants). Specifically, the findings regarding the pre-industrial uses of plants in Bogotá are important for at least three reasons. First, this study's findings enable us to understand how the modernisation process and the establishment of the capitalist system affected the botanical knowledge that remains embodied in herbal markets and the oldest members of society. Second, although some uses of plants in handcrafts (e.g. the *tatora*-made mats) remain in practice, studies in this field can help recover forgotten botanical knowledge such as the use of Muisca-origin *Cuan* architecture practices. Third, linked to the previous point, historical ethnobotanical approaches can contribute to the restoration of nearby ecosystems that have deteriorated as a consequence of human action. For example, these studies can be considered as source information to inform future schemes of the ecological restoration of Bogotá's urban wetlands. Recognised as an important urban ecosystem under the Convention on Wetlands,⁷⁰ these wetlands are currently threatened by urbanisation and have been profoundly affected by invasive species. As local scholars have noted, thus far, it has been impossible to accurately calculate the number of species lost due to introduced species.⁷¹

Latin American gardening history has been a theme broadly relegated to the margins of the region's urban historiography. As a way to close this knowledge gap, this thesis has taken the city of Bogotá as a case study and has described how certain urban spaces such as squares were turned into gardens and parks in response to modern ideas about open space and plants (question 2). In doing so, this thesis represents an original contribution by broadening our current understanding of gardening history as an important part of the urban historiography of Bogotá. Consequently, this thesis makes a small but significant

Tropical Ranching in Colombia, 1850-1950,' *Agricultural History* 86, no. 3 (2012): 1–32; Claudia Salomón Tarquini, 'Procesos de subalternización de la población indígena en Argentina: los ranqueles en La Pampa, 1870-1970,' *Revista de Indias* 71, no. 252 (August 30, 2011): 545–70, <https://doi.org/10.3989/revindias.2011.018>.

⁷⁰ <https://rsis Ramsar.org/ris/2404>

⁷¹ Universidad Nacional de Colombia, *Catálogo de plantas invasoras de los humedales de Bogotá*, ed. Adriana Díaz Espinosa, Julián E Díaz Triana, and Orlando Vargas Ríos (Bogotá: Universidad Nacional de Colombia, 2012).

contribution to the overall history of Colombia. Additionally, this thesis paid special attention to the botanical dimension of the urban modernisation of Bogotá. Particularly, this thesis has revealed the species of plants used as raw materials in the construction of parks and gardens and has spotlighted how mechanisms such as the circulation and adaptation of plants and botanical knowledge were indispensable for the modernisation of green spaces in Bogotá. Equally, this thesis has paid special attention to reconstructing the important roles of local actors in the introduction of urban ideas, plants and botanical knowledge and as definitive translators of global urban trends into local social and ecological realities. Thus, by describing the plants and people involved in the construction of modern urban green spaces in Bogotá (question 3), this thesis represents an original contribution to knowledge by pointing out that the transformation of green spaces as part of the modernisation process was not only a matter of design (as has been usually explained by scholars) but also engendered a restructuration of the historically-produced relationships between people and plants.

This thesis sought to understand the consequences that emerged following the introduction of new forms of using the public places that modernisation turned into green spaces (question 4). By addressing this question, this thesis has revealed how the establishment of modern green spaces entailed both social and ecological effects. Although the social conflicts involved in the creation of gardens and parks in Latin American have been widely examined, such analyses have been almost exclusively focused on disputes over access to green spaces such as parks. This thesis represents an original contribution to knowledge by expanding the ways in which the conflicts involved in the creation of modern urban green spaces are perceived. Particularly, this thesis is one of the first academic efforts to recognise the use of plants as organic biopolitical devices in the creation of disciplined behaviours either in parks and gardens or in other cultivated spaces of biopolitical control such as hospitals or orphanages. This thesis also contributes to highlighting the need to include the roles of particular species and their biological traits as triggers of the socioecological conflicts (e.g. rapid growth in eucalyptus trees) in historical analysis, thereby helping to compensate for the lack of attention in environmental humanities studies on biodiversity as a source of conflict.

An important contribution of this thesis is its analysis of the ecological consequences brought about by the modernisation of green spaces in Bogotá. This thesis represents an initial attempt to explain the social mechanisms behind the ecological patterns that urban

Conclusion

ecologists have discerned in the floristic particularities of modern cities. Specifically, this thesis has offered an initial strand of analysis to understand the process that led to modern cities becoming ‘floristic islands’ whose botanical richness is higher than their nearby ecosystems. To do so, this thesis has explained how certain mechanisms, such as the insertion of ornamental plants in the global trade system, were a powerful force that increased the nineteenth-century exchange of floras between continents and therefore had a large impact in the ecological realities of the cities that were in the process of modernising their green spaces.

Finally, this thesis makes a methodological contribution by highlighting the unexplored possibilities of alternative historical sources as a means to deal with the ephemeral presence of plants in the historical record. By attempting to overcome the apparent silence left by plants as historical actors, this thesis is among the first scholarly attempts to tackle an area of historical botanical blindness.⁷² Using dialogues between sources, this thesis ‘gives a voice to plants’ that have long disappeared through the use of both traditional sources of historical information such as official documents and letters as well as heterodox sources such as fiction literature, paintings, botanical collections, and photography. In the context of the latter, Taline Silva et al highlighted the complete absence of photography in the research on historical ethnobotany. This thesis offers the very first use of photographic images as an important source of information concerning the presence and the uses of plants in a historical perspective.⁷³

This thesis has opened at least three research veins that could be explored in more depth in further investigations. First, future research should inquire about the role of plants as part of modern biopolitics. The use of plants as non-human actors involved in the creation of social discipline in the case of the San Jose orphanage’s gardens or the eucalyptus sent to the Penal and Agriculture Colony of Villavicencio are just two instances of the roles of plants in the modern biopolitical structure. Given current academic ideas in the more-than-human geographies on the social roles of non-human actors, research on the role of plants as organic devices of discipline can offer a different perspective of the interconnected

⁷² James H. Wandersee and Elisabeth E. Schussler, ‘Preventing Plant Blindness,’ *The American Biology Teacher* 61, no. 2 (1999): 82–86, <https://doi.org/10.2307/4450624>; William Allen, ‘Plant Blindness,’ *BioScience* 53, no. 10 (2003): 926–926, [https://doi.org/10.1641/0006-3568\(2003\)053\[0926:pb\]2.0.co;2](https://doi.org/10.1641/0006-3568(2003)053[0926:pb]2.0.co;2).

⁷³ Taline Cristina Silva et al., ‘Historical Ethnobotany: An Overview of Selected Studies,’ *Ethnobiology and Conservation* 3, no. 4 (2014): 1–12, <https://doi.org/10.15451/ec2014-6-3.4-1-12>.

nature of humans and non-humans, which is usually addressed from a conflict-blind perspective.

Second, this thesis has briefly addressed the international trade that engendered a completely new flora in the nineteenth-century Bogotá. However, this is just a very initial attempt to understand how the modernisation made possible an exchange of floras in different regions of Latin America. In contrast to the extensive investigations describing and explaining the transatlantic Columbian exchange, almost nothing has been done thus far to reveal the exchange of flora triggered by the consolidation of urban life in Latin America and the expansion of the capitalist system in the region. For example, the commercial networks between Europe and Latin America researched herein require a more in-depth analysis. In contrast to the rather well-studied exploitation and looting of orchids in Latin America by individuals devoted to supplying the growing European demand for rare flowers, the introduction of plants into nineteenth-century Latin American cities is still a theme that needs further development. Research addressing the introduction of plants as a consequence of urban growth in Latin America can inform us not only about the trade of exotic plants in Latin America but also how significant changes in the natural distribution of creating species were triggered by ideas about plants that, for example, preferred temperate species over native plants growing in highly biodiverse countries.

Finally, despite the methodological limitations posed by the lack of adequate archives, studies that examine the historical transformation in the use of plants in urban environments must also consider cities that encompass the social and ecological diversity present in Latin America. Academia has yet to fully understand the environmental processes that have occurred in mountain cities, desert cities, savanna cities or forest cities. For instance, regarding the latter, although these areas were usually in a peripheral position in relation with the centres of power such as Bogotá, investigating cities such as Leticia in the Colombian Amazon and Quibdó in the Chocó biogeographical region poses significant methodological difficulties; however, such studies could help to enrich the sources that inform the modernisation of the human-plant interactions by using alternative approaches based on oral traditions and other traditional knowledge. Such studies in peripheral cities with completely different socioecological realities could expand our poor understanding of other ways of building the city that are not necessarily influenced by modern, western(ised) guidelines.

Epilogue

Due to the lack of differentiation between introduced and invasive species, all non-native plants are currently seen as a potential threat.⁷⁴ As part of this trend, massive plant eradication campaigns have been undertaken in order to avoid the noxious ecological consequences triggered by foreign species such as mimosa (*Mimosa pigra*), gamba grass (*Andropogon gayanus*), and neem (*Azadirachta indica*) in Australia.⁷⁵ Jacarandas (*Jacaranda mimosifolia*) and hyacinths (*Hyacinthus orientalis*) in the former British African colonies have been stigmatised as alien, and therefore noxious trees to be eliminated.⁷⁶ This trend has been also adopted in Latin America. The former mayor of Bogotá had promised to invest 60 billion Colombian pesos (£14 billion) in the felling of eucalyptus and pines planted in the Cerros Orientales 101 years ago. Perceived as one of the most important causes of wildfires, these trees have been identified as a threat, and the plan is to replace them with native species from the Andes.

The kinds of initiatives proposed by the former Bogotá's mayor demonstrate a lack of reflection about the historical construction of the city's nature. As presented in this thesis, the history of Bogotá is inevitably linked to the history of its eucalyptus. The exotic and noxious eucalyptus trees that cover the Cerros today were once the best available option to reforest the historically depleted native trees. Cutting down these trees and updating the urban flora to conform with novel ideas will be inefficient and prejudicial in the best scenario, and at worst very expensive. Although those trees are considered a historical mistake by those promoting the new de(re)forestation of the Cerros, they have ignored that when planted a century ago, the same eucalyptus they now despise, fostered the recognition of the Cerros Orientales as a place of 'nature'. In this regard, eucalyptus endowed the city with a previously non-existent forest-like scenario and at the same time halted the development of the *chircales* (quarries) that threatened the city with landslides. As can be seen, ecological measures such as those proposed by Bogotá's current mayor cannot be reduced to cutting down trees and planting new ones. In this sense, the mayor

⁷⁴ C. R. Warren, 'Perspectives on the 'alien' versus 'native' Species Debate: A Critique of Concepts, Language and Practice,' *Progress in Human Geography* 31, no. 4 (August 1, 2007): 427–46, <https://doi.org/10.1177/0309132507079499>; Melodie A. McGeoch et al., 'Global Indicators of Biological Invasion: Species Numbers, Biodiversity Impact and Policy Responses,' *Diversity and Distributions* 16, no. 1 (2010): 95–108.

⁷⁵ Jennifer Atchison and Lesley Head, 'Eradicating Bodies in Invasive Plant Management,' *Environment and Planning D: Society and Space* 31, no. 6 (2013): 951 – 968, <https://doi.org/10.1068/d17712>.

⁷⁶ Christine Mungai, 'Not Just Trees, the Politics of the Jacaranda, Eucalyptus and Hyacinth in Africa,' *Mail & Guardian Africa*, Mach 2015.

had not considered the unexpected consequences of his proposal. For instance, in a society obsessed by immediate rewards, will Bogotánians prove able to wait two generations for the succession process to recover the forest? An analysis of the city's botanical history reveals how such proposals aim to capture a particular constituency of voters rather than offer a sustainable ecological solution for the city.

Investigations like this one can help create a conscience about the common history and plight of humans and non-humans, thereby highlighting that our changing attitudes toward organic life also reflect our transformations as a human collective. Such a mindset stimulates a large number of questions. For example, what does the attempt to eradicate the eucalyptus in Bogotá and restore an Andean forest, wrongly thought of as pristine, say about contemporary Bogotánians? Similarly, what is the meaning of the campaign against jacarandas, which are perceived in Nairobi as a symbol of Kenya's former British rulers? Are such shifts in our attitudes toward trees a manifestation of an unconscious desire to return to a better past and manifest the eternal return spiral posed by Nietzsche? On the other hand, what do the rather absurd attempts to tackle the effects of climate change by planting trees or other palliative measures say about our capitalist society? For instance, to what extent are international schemes such as REDD (Reducing Emissions from Deforestation and Forest Degradation) and REDD+ using trees as a smokescreen in the resolution of a problem produced by the unruly consumerism? Studies like this one must be more than academic approaches to unsolved questions, they can also contribute to our understanding of the beautiful phenomenon of life and our powerful yet limited role within it.

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