Environmental history dossier

A historical, urban and environmental approach of Paseo Bravo in the city of Puebla in the early nineteenth and late tweentieth centuries

Una aproximación histórica, urbana y ambiental del Paseo Bravo en la ciudad de Puebla a principios del siglo XIX y finales del XX

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Abstract

Urban and environmental study of Paseo Bravo in the city of Puebla, from 1818 to 1974. The work consists of two parts, the first on the urban conformation of the city of Puebla and its 13 urban green areas including Paseo Bravo. The second on the urban and environmental history of Paseo Bravo consists of a comparative analysis of the composition and biological and ecological plant characterization, origin, uses, number, and percentages of the walk between 1836 and 1839 from three plant strata: arboreal, shrub and herbaceous being the arboreal the dominant one**.**

Keywords: Brave walk, city of Puebla, plant composition, tree stratum, shrub stratum and herbaceous stratum.

Resumen

El artículo es un estudio urbano y ambiental del paseo Bravo en la ciudad de Puebla, de 1818 a 1974. Consta de dos partes, la primera sobre la conformación urbana de la ciudad de Puebla y sus 13 áreas verdes urbanas, incluyendo al Paseo Bravo. La segunda, sobre la historia urbana y ambiental del Paseo Bravo, consta de un análisis comparativo de la composición y caracterización vegetal biológica y ecológica; la procedencia, usos, número y porcentajes de las plantas del paseo entre 1836 y 1839, organizados a partir de tres estratos vegetales: arbóreo, arbustivo y herbáceo, siendo el arbóreo el dominante.

Palabras clave: Paseo Bravo, ciudad de Puebla, composición vegetal, estrato arbóreo, estrato arbustivo y estrato herbáceo.

Introduction

The dictionary of the Spanish language defines a park as a "space dedicated to meadows, gardens and trees, with various ornaments, for the recreation of the inhabitants."[1] These sites are of different sizes, and have been specially designed and built as gardens, walks and meadows intended for rest or recreation of the population. They are diverse in nature, some are designed for the conservation of species of fauna and flora, examples of these are zoos or natural parks. On the other hand, on the outskirts of cities, city authorities have defined spaces for the conservation of ecological diversity, such as national and state parks. Both types can be analyzed on the spatial and temporal scales, so it is important to determine their age, as well as their growth or decrease. They form an inseparable part of positive or negative social transformation, through the processes of interaction between nature and human beings. In order to study them, a vision of their conformation and modification of their environmental and cultural systems is required, so it is important for urban and environmental history "a reconciliation between society and nature in scientific analysis as well as in daily life."[2]

The tradition of parks, gardens and walkways is old, going back to ancient times. The exclusive ones have been for the enjoyment of the privileged sectors, such as the nobility,

1 Real Academia Española, *Diccionario de La Lengua*, *Madrid* (Madrid, 2014).

2 Rosalva Loreto, coord., *Agua, poder urbano y metabolismo social* (Puebla: Benemérita Universidad Autónoma de Puebla, Instituto de Ciencias Sociales y Humanidades «Alfonso Vélez Pliego», 2009), 19.

which were later opened up and made public. Among these efforts stand out those of the Spanish monarchy of the house of the Bourbons influenced by the Arab heritage promoting them between the eighteenth and early nineteenth century as part of the fabric of cities designed for recreational purposes. Until the 18th century the parks represented "private paradises, built by royalty, aristocracy and later the bourgeoisie, for their own use". They were also "places for rest and recreational retreat, for private enjoyment and friendly play, for ostentation and rest."[3] A clear example of this is England, where their cities already had public walks and parks such as Derby's Arboretum in 1840 and Binkerhead in 1843. Something similar happened in Paris in the peripheral spaces when it became public spaces, such as the forests of Boulogne and Vincennes destined for the upper classes, while for the popular classes Chaumont and Montsouris were created, where "more than one hundred thousand trees were planted and 1934 hectares of green spaces were created or adapted". In Spain it was also an important process, so in 1850 there were 259 Spanish cities that had walks or parks. These cities had 565 tree-lined promenades and 487 of these were promenades and boulevards[4], a process that spread to other European countries.

Simultaneously in Latin America in the main cities, such as Mexico City, Buenos Aires, Rio de Janeiro and Lima, among others, walks and parks became important beginning in the 18th century.[5] By the end of 1880 in Latin American cities, transformations were visible "not only in their social structure, but also in their physiognomy", among them, population growth and the urban landscape. Following the model of Baron de Haussmann[6] (who was an innovator for his time and who transformed the city of Paris, as it went from a medieval city to a modern and popular city in the world) the cities changed their appearance: "a sumptuous avenue, a park, a carriage ride, a luxurious theater, a modern architecture" became visible.[7] Throughout the nineteenth century this perspective was gradually modified, with the authorities and society in general increasing their interest in the number of urban green areas in different places. Thus the concept of parks and public promenades acquired a municipal character and became accessible for the entire population.[8] At first, the users of the parks and public walks were the privileged classes; however, later the popular classes also began to visit them. At this same time a novelty was also introduced, that of "urban furniture". As is the case of "benches of different types, chairs, gazebos, kiosks, aviaries, fountains, hygiene services, sculptures and gas lamps for lighting."[9] Not only did "urban furniture" become present in

3 Horacio Capel, «Ciencia y estética. Jardines y parques en la ciudad», *Ciencias*, n.° 68 (2002): 5.
4 Capel, «Ciencia y estética. Jardines y parques en la ciudad», 7.
5 Capel, «Ciencia y estética. Jardines y parques en la ciudad», 6.
6 «At the request of Napoleon III, he carried out an urban reform plan in Paris, such as improving hygiene, circulation and beautification of the city. Therefore, he built train stations, roads, parks, churches and theaters. He also modernized the water supply system and built a renovated sewage system. This Parisian transformation influenced other cities such as Florence, Brussels, Vienna and Moscow», in José Juan Barba, «El París de Haussmann. Modelo de ciudad. Una de las reformas urbanas más importantes de la historia moderna», 2017, acceso el 6 de mayo de 2022, https://www.metalocus.es/es/noticias/el-paris-de-haussmann-modelo-de-ciudad-una-de-las-reformas-urbanas-mas-importantes-de-la-historia-moderna.
7 José Luis Romero, *Latinoamérica: Las Ciudades y Las Ideas* (México: Siglo Veintiuno, 1976), 247 y 249.
8 Capel, «Ciencia y estética. Jardines y parques en la ciudad», 5.
9 Capel, «Ciencia y estética. Jardines y parques en la ciudad», 12.

parks and public walks, but they also acquired an educational value, since within them could be made a botanical taxonomic classification of their plants, related to their scientific and popular names, as well as their place of origin, as well as to their cultural and cultural origin. which contributed to the publication of botanical guides.[10]

An important change in the early twentieth century was how parks and promenades acquired a different consideration that added to their playful character, they were to become the lungs of cities to mitigate pollution due to excessive physical and demographic growth, along with industrial concentration and the use of means of transport with fossil energy, among others. So there was a temporal and spatial evolution of the historic gardens and the beginning of a new period with the establishment of playgrounds, sports fields and modern parks.[11]

Approach

I was interested in doing an analysis of the Paseo Bravo from two points of view: historical urban as well as the historical environmental perspective. I chose the study of a green urban area in order to analyze its integration to urban spatial planning as part of the city center of Puebla. And also the historical permanence of the vegetation present over time.

The work is structured in two parts. The first is about some antecedents and the urban development of the city of Puebla and 13 urban green areas existing between the nineteenth and twentieth centuries: its foundation or its presence, its location and its vicinity. The second part is dedicated to the history and urban development of Paseo Bravo, including a comparative analysis of the plant composition of this promenade between 1836 and 1839, for which I organized the information into three plant strata: tree, shrub and herbaceous. From this stratification for each one was made its biological and ecological characterization, origin, uses, number and percentages of representativeness respective.

First Part

Some antecedents of the city of Puebla and its urban conformation[12]

10 Capel, «Ciencia y estética. Jardines y parques en la ciudad»,13 y 14.

11 Ramona Isabel Pérez, «Arquitectura de un catálogo de paisaje», en *El giro visual en bibliotecología: prácticas cognoscitivas*, coord. por Héctor Guillermo Alfaro López y Graciela Leticia Raya Alonso (México: Universidad Nacional Autónoma de México, Instituto de Investigaciones Bibliotecológicas y de la Información, 2015), 81.

12 «To approach the study of the dynamic functioning of urban sites, it is necessary to consider the environmental components that had an impact at different times on their internal and external organization», in Rosalva Loreto, «Aproximaciones históricas a un modelo de microanálisis urbano. Población, familias y habitaciones en la Puebla de los Ángeles del siglo XVIII», *Temas Americanistas*, n.° 20 (2008): 57, https://doi.org/https://doi.org/10.12795/Temas-Americanistas.2008.i20.03.57.

It was founded on April 30, 1530 by Fray Toribio Benavente, named by the Motolinia Indians. It was established in the ancient city of Cuetlaxcoapan,[13] in a wide valley ideally located for its location between Veracruz and Mexico, with topographic characters suitable for the establishment of a city and endowed with sufficient water coming from the rivers San Francisco, Alseseca and Atoyac. The original city had a rectangular design with arrangements from south to north and east to west.

In this city, as in other cities, there was "the taste for wooded recreational sites inside the layout, such as the old and extinct tree lined avenue of San José and Carmen" during the seventeenth century. The wooded spaces had functions of enjoyment, public recreation as well as to improve the appearance and the city´s environment, interest that grew with Charles III as king of Spain. Access was also offered to a wider population, which grew over the years, as shown in Table 1.[14]

Table 1. Population in the city of Puebla

Years	Number of inhabitants
1793	57 160
1825	44 756
1869	60 000
1900	93 521
1940	148 701
1950	211 331

Source: Erika Diana Carral, «Sitios urbanos en Puebla» (tesis de licenciatura en Arquitectura, Universidad de las Américas Puebla, 2004), 3-4.

The 13 urban green areas: foundation or presence, location and boundaries

The urban development of cities occurred. Such is the case of the physical plan of the city of Puebla that expanded, and the authorities in charge managed numerous works and provision of services in transport, urban centers, opening of new areas of habitation, drainage, water distribution, hospitals, prisons, construction, among others, without missing sites of beautification and recreation of public spaces, such as gardens, walks and parks.

In the mid-nineteenth century the city of Puebla profoundly transformed its appear-

13 Cuetlaxcoapan: «lugar donde se lavan los cueros», en Antonio García, *Diccionario Geográfico, Histórico y Biográfico de los Estados Unidos Mexicanos* (México: Geografía, Instituto de Estadística, UNAM Instituto de Investigaciones Históricas, El Colegio Nacional, 2015), 373.

14 Erika Diana Carral Garcia, «Sitios urbanos en Puebla» (tesis de licenciatura en Arquitectura, Universidad de las Américas Puebla, 2004), 3-4; Rutilia Amigón, «Establecimiento de un paseo público en Puebla 1814-1842» (tesis de maestría, Universidad Nacional Autónoma de México, 2012), 2.

ance as a city, which although preserved its old checkerboard layout,[15] the predominance of the old colonial constructions was overshadowed by the increase of new public and private buildings, the increase of new neighborhoods and neighborhoods endowed with numerous houses, rooms that had numerous services, among them the increase and improvement of parks, gardens and walks.[16] Such was the case of the urban capital of Puebla that in 1919 had thirteen green areas that were part of the intra- urban network.[17] In addition to the promenade addressed in this article: El Bravo (or Paseo Nuevo founded in 1832) were the promenade San Francisco (promenade Hidalgo or Viejo founded in 1803), the gardens La Corregidora, Constitution (1899),[18] Francisco I. Madero, Ignacio Zaragoza (1899), Aquiles Serdan, Maximo Serdan, Libertad, Luis Haro, Cuauhtémoc (thought to be the first tree lined avenue and was also known as the Jardín de Carmen , 17th century), Acclimatization and Propagation (founded in the early 20th century) and Benito Juarez Park (founded in 1919), constituting an important part of the physiognomy and configuration of the greater city.[19] The thirteen public green spaces were distributed in different cardinal points of the layout of the city of Puebla. To the east was Jardín de la Libertad and the Jardín de Aquiles Serdán. To the northeast were located four urban green areas and were the Paseo San Francisco, and the gardens of Fran-

15 «Es una herencia hispana y un planteamiento urbano donde se organiza al asentamiento humano mediante el diseño de calles en ángulo recto, creando manzanas o cuadras rectangulares o cuadriculadas», A.E.J Morris, *Historia de la forma urbana: desde sus orígenes hasta la Revolución Industrial* (Barcelona: Gustavo Gili, 1984), 44–60. Arturo Velázquez-Ruiz y Pedro Olivarez, «Recorrido morfológico de la dinámica expansiva de Puebla y Xalapa: del damero al plato roto. Siglo XX», *Anuario de espacios urbanos, historia, cultura y diseño*, n.° 24 (2017): 255.

16 María Luisa Contreras, *La primera colonia en la ciudad de Puebla, la Avenida de la Paz y la Fiscalidad y Modernidad* (Puebla: Benemérita Universidad Autónoma de Puebla, 2002), 47.

17 Natalia de Gortari, «El jardín de aclimatación y propagación y el paisaje urbano en la ciudad de Puebla, siglo XX» en *Metabolismo social, migraciones y territorialización. Acercamientos históricos y procesos metodológicos*, coord. por Rosalva Loreto López (Puebla: Benemérita Universidad Autónoma de Puebla, Instituto de Ciencias Sociales y Humanidades «Alfonso Vélez Pliego», 2020), 151.

18 «La generalidad de los árboles de que está poblado este jardín son fresnos y truenos, y alguno que otro eucaliptus, las flores abundan en todos los camellones, y están bien cuidadas y cultivadas», en Antonio Carrión, *Historia de la ciudad de la Puebla de los Ángeles, (Puebla de Zaragoza)* (Puebla: Tip. de las Escuelas salesianas de artes y oficios, 1897), 491–92. El trueno (*Ligustrum lucidum*) tiene una altura de hasta 8 metros, perennifolio, originario de Asia, resistente a la contaminación atmosférica. Es usado para hacer armas de artes marciales y zancos. Sus frutos son medicinales y es una especie exótica para México, en «Vecinos Verdes, árboles comunes de las ciudades, Biodiversidad Mexicana», Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), acceso el 26 de octubre de 2021, https://www.biodiversidad.gob.mx/Difusion/cienciaCiudadana/aurbanos/ficha.php?item=Ligustrum%20lucidum. El eucalipto (*Eucalyptus globulus*) es exótico para México, de desarrollo veloz y gran consumo de agua, por lo que afecta la calidad del hábitat y del suelo. Es de uso medicinal y su pulpa se usa para hacer papel, en «Vecinos Verdes, árboles comunes de las ciudades, Biodiversidad Mexicana», Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), acceso el 7 de mayo 2022, https://www.biodiversidad.gob.mx/Difusion/cienciaCiudadana/aurbanos/ficha.php?item=Eucalyptus%20globulus.

19 Carlos Contrerasy Juan Carlos Grosso, «La estructura ocupacional y productiva de la Ciudad de Puebla en la primera mitad del siglo XIX», en *Puebla en el siglo XIX. Contribución al estudio de su historia* ed. por Carmen Aguirre (Puebla: UNAM, Instituto de investigaciones Históricas, Centro de Investigaciones Sociales, Instituto de Ciencias, Universidad Autónoma de Puebla, 1984), 91–92. Carlos Contreras Cruz, *La gran ilusión urbana. modernidad y saneamiento en la ciudad de Puebla durante el Profiriato 1880-1910* (Puebla: Benemérita Universidad Autónoma de Puebla, 2000), 381 y 388.

cisco I. Madero, Ignacio Zaragoza and Acclimatization and Propagation and, therefore, was the dominant boundary definition of this type of sites. While to the northwest the gardens of La Corregidora and the Constitución, to the southwest the Paseo Bravo and the Jardín Luis Haro and, finally, to the southeast the Parque Benito Juárez and the Cuauhtémoc and Maximo Serdan gardens.

The Ignacio Zaragoza, Francisco I. Madero and Aclimatación Propagación[20] gardens were adjacent to the San Francisco and Xonaca rivers, so these served to irrigate the native and exotic vegetation of these green sites, and in the nursery and garden of Acclimatization and Propagation "the plants for the public gardens and walks of the city of Puebla"[21] were cultivated.

In 1919 the location of Paseo Bravo contributed to recreation and was close to places of great urban mobility set aside for transport, health, commerce and to profess the religions as they are listed respectively. Some of the sites were also the stations for the Interoceanic Railway and the Mexican Southern Railway, the Hospital C. de Jesus, the Miguel Bravo Market and the Catholic temple El Parral, as shown in Figure 1.

Second Part

Urban history of Paseo Nuevo or Paseo Bravo[22]

The idea of the creation of the promenade was accompanied by the first urban expansions when the Paseo Nuevo was created that would leave the original quadrant of the urban layout, later it was called Paseo Bravo. The construction of the garden and the avenue (walking area) began in 1818 by orders of the intendant and military governor, Ciriaco del Llano y Garay, but the lack of public resources in the following years stopped its construction and beautification.[23] This previous character issued the following instruction:

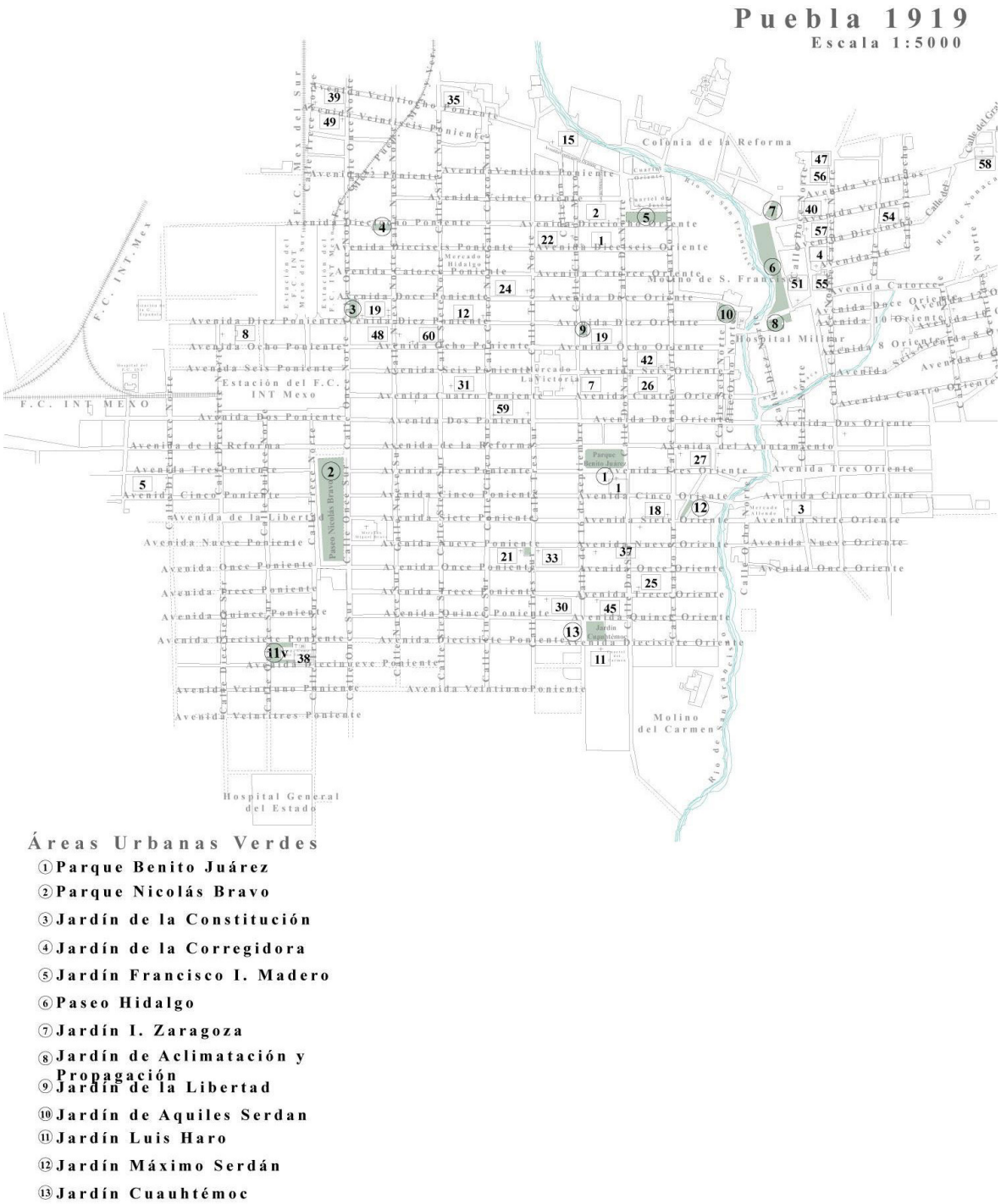
Figure 1. Location of the walks, gardens and parks in the city of Puebla, 1919

20 In this green area there were two tree inventories in 1918 and 1922. In the first year, there were a total of 961 trees and the main species were cedars (500 in quantity), acacias (300) and ashes (100). While, in the second year, there were a total of 2987 trees and the dominant vegetation were also ash trees (1336), cedars (720) and acacias (711). These three dominant tree species in both years show that there was a historical permanence at that time, since there was no change of these species in the city of Puebla during the early twentieth century. Also in 1918 there were 8404 flowers and between 1918 and 1922 there were 388 diverse plants, such as ferns and palms, in De Gortari, «El jardín de aclimatación y propagación y el paisaje urbano en la ciudad de Puebla, siglo XX», 161 y 164.

21 Hugo Leicht, *Las calles de Puebla* (Puebla: Secretaría de Cultura, Gobierno del Estado de Puebla, H. Ayuntamiento del Municipio de Puebla, 1967), 317.

22 Through time it has been called Paseo Nuevo in allusion to the old San Francisco promenade; Paseo de San Javier, after the annexed Jesuit temple; during the Maximilian period, Paseo de la Emperatriz and finally, Paseo Bravo.

23 Pedro A. Palou, *Paseo Nuevo, Paseo Bravo. 150 años de historia, Puebla, México* (Puebla: Ayuntamiento de Puebla, 1991), 4.



Source: Francisco Vélez y Ambrosio Guzmán, *Cartografía histórica de la ciudad de Puebla* (Puebla: Benemérita Universidad Autónoma de Puebla, 2016). Plano de la ciudad de Puebla en 1919, elaborado por el Ing. Francisco P. Arriaga Ingeniero y J. Miguel Muñoz de Cote (diseño Ana Paula Aguilar Ávila Montes).

> Un paseo público es demasiado útil y necesario en toda la población porque evitando los males que trae consigo la falta de una honesta distracción, proporciona a sus habitantes diversión y desahogo; y por eso esto ha sido uno de los objetos de mi primera atención establecerlo en esta ciudad desde que debo a nuestro augusto soberano la confianza a su mando. Para que tenga efecto he comisionado al capitán y regidor Don Joaquín de Azcárraga….
>
> A public walk is too useful and necessary in the whole population because avoiding the evils that the lack of an honest distraction brings, provides its inhabitants with fun and relief; And that is why this has been one of the objects of my first attention to establish it in this city since I owe to Our August Sovereign the trust in his command. To take effect I have commissioned the captain and alderman Don Joaquín de Azcárraga....[24]

In the Plaza del Parral or Plazuela de los Locos (which was later incorporated into the Paseo Bravo) the insurgent Miguel Bravo was shot on April 15, 1814 and in his memory in 1823 a monument was placed. Years later it was renamed Paseo Nicolás Bravo, who was the nephew of the insurgent.[25]

The promenade focused on here is one of the oldest in the city of Puebla, and has just celebrated 190 years since its foundation, as it was built in 1832 when the city still did not exceed the colonial layout and was located in the limits of the city to the east, in the current streets of 11 and 13 south, and Avenidas 11 and Reforma, with an area of five blocks[26] (equivalent to 34936.95 square meters in the metric system).[27] The walk became a "space planned for the recreation of the Angelopolitans especially for the middle and upper classes, who went to the walk to chat, live together and let themselves be seen."[28]

By the mid-19th century, the Paseo Bravo was appreciated for being a place for walking and recreation by the Poblanos. As described in the Guide to Outsiders of 1852, this walk included ash trees and various flowers that gave it a beautiful appearance. And the surface allowed carriages and horses to pass by. In addition, it was decorated with a monument to Bravo, already mentioned, and five circular fountains.[29]

Political instability and public indebtedness prevented new changes, so it is well known that in 1862 some trees were pruned and the old monument to the insurgent hero was removed, which is explained as part of the fear of French troops. In 1879, after the restoration

24 Archivo Histórico del Congreso de Puebla (en adelante AHCP), LC, V87, Año 1818, fs. 202-203, en Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 12.

25 Palou Pérez, *Paseo Nuevo, Paseo Bravo…*, 5–6.

26 Agricultural measurement, 1block= 6987.39 square meters, in Juan Carlos Menocal, «La importancia para el notario de conocer el sistema de conversión de medidas agrarias al sistema métrico decimal e interpretación básica de planos» (tesis de licenciatura, Universidad de San Carlos Guatemala, 2011), 66.

27 Arturo Aguilar y Gustavo Rafael Alfaro, «El Paseo Bravo en la ciudad de Puebla», en *Jardines históricos brasileños y mexicanos* ed. por Ana Rita Sá Carneiro y Ramona Pérez Bertruy (México: Universitá, 2009), 110.

28 Aguilar Ochoa y Alfaro Ramírez, «El Paseo Bravo en la ciudad de Puebla», 110.

29 Palou Pérez, *Paseo Nuevo, Paseo Bravo…*, 12.

of republican life and the beginning of the Porfirian peace, it was named Paseo Bravo.[30]

Twenty-three years later, that is, in 1885, when water was scarce,despite the watering need of this promenade being substantial for the irrigation of its flowers and trees, as well as the water supply of the neighborhood, the governor at the time sought to establish an improvement in favor of the public, and acquired from the government a drilling machine to build an artesian well.[31]

The population growth and renewal of the city of Puebla in the following years regained the importance of Paseo Bravo, about which Carrion wrote in 1896, in the following:

> ... This walk is located to the south and in front of the church of Guadalupe, is an extensive and populated public promenade surrounded by masonry brick work, has two roundabouts with fountains and to the south another very large where a monument to Nicolás Bravo was erected in November 1896. In the roundabouts there is masonry and the pavements are tiled.
>
> In the northeast corner it has an arcade of good taste and others that correspond to the streets that end to the east. This walk is very leafy and beautiful and with good reason very busy.[32]

In 1896, in the heat of a renewed nationalism, the president of the city council Leopoldo Gavito decided to build two monuments on the Paseo: one, in honor of Independence and the other, to N. Bravo, and in 1899 the first kiosk was built with the name of Mucio P. Martínez governor of the state, becoming a meeting place for the Poblana elite. Likewise, the Paseo had modifications with the installation of a small lake, similar to the one in Chapultepec, for which the governor gave a pair of swans and some aquatic birds.[33]

In this way, the success and importance that the place would acquire encouraged Governor Mucio P. Martinez (1893-1911) to provide additional funds to complete the Paseo Bravo wall and raise a statue of the founder of the National High School, the Poblano Gabino Barreda, which was inaugurated six years later.[34]

The 1902 record of the payroll of employees of the Paseo accounts for the administrative system formed by an alderman who directed and coordinated the work of 27 workers: 1 inspector, 2 gardeners, 2 cart drivers, 2 watchmen and 20 laborers; It shows the degree of specialization of the work on the walkway. Their work is noteworthy given that annually the pastures were renewed and hundreds of ash trees, water lily, poppy, chrysanthemums and dahlias were planted.[35]

30 Palou Pérez, *Paseo Nuevo, Paseo Bravo*…,14.

31 Hemeroteca Digital Nacional de México, (en adelante HDNM), *Periódico Oficial del Estado de Puebla,* 1885, 616.

32 Carrión, *Historia de La Ciudad de La Puebla de Los Ángeles, (Puebla de Zaragoza)*, 491–92.

33 HDNM, *Periódico Amigo de la Verdad*, 1899, 2.

34 Aguilar Ochoa y Alfaro Ramírez, «El Paseo Bravo en la Ciudad de Puebla», 110.

35 Archivo General Municipal (en adelante AGM), exp. 932; exp. 27, 1902, f. 336-340, Aguilar Ochoa y Alfaro Ramírez, «El Paseo Bravo en la Ciudad de Puebla», 131-132. Ninfa (*Nymphaea mexicana*) *perennial*

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At the beginning of the twentieth century began the interest by the authorities for roads, parks, gardens and walkways, so that suitable shrubs and trees were planted, putting aside the artistic vision, and replacing it with a hygienist view,[36] interested in urban green areas in cities, that is to say a closer link with the countryside. Francisco de Velasco, president of the City Council of Puebla from 1906–1911, mentioned as a requirement for the residents of the city, it was essential to: "Breathe pure air, not less than enjoy the delights of nature, after the destructive burden of mental and material work".[37]

In the post-revolutionary period, the conception of parks changed. The new patriotic values and political reform, encouraged the transformation of its use and its ornaments. For example, in 1921 to erase the remnants of the conflict with the French troops, the Reloj del Gallito was installed on the Paseo and was donated by the French residents in Puebla. It is important to mention that the subsequent municipalities continued to respect its use as a recreation center, as well as a place for the celebration of sports and political events.[38]

During the period of the municipal president Rafael Avila Camacho (1939-1941) a skating rink in the Paseo Bravo was ordered to be built, this was in order to expand and diversify the presence of large sectors of the population. Later a zoo and herpetarium were built on the orders of Mayor Juan Manuel Treviño (1941-1943). In 1959 the municipal president Arturo Perdomo Moran agreed to build a history museum to display pieces that were owned by the Autonomous University of Puebla.[39]

You can observe in Figure 2 the configuration, distribution, and specialization of Paseo in 1974 counting all 18 distinct areas for various uses as broken down in Table 2.

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herbaceous, watery and rhizomatous, from Mexico and for ornamental garden ponds, in «Nenúfar mejicano, Nenúfar de México, Nenúfar amarillo, Ninfa», Infojardín, acceso el 20 de julio de 2021, https://fichas.infojardin.com/acuaticas/nymphaea-mexicana-nenufar-mejicano-nenufar-mexico.htm. Crisantemo (*Chrysanthemum morifolium*) of northeastern Europe, for their development they require high humidity and porous soil, in «El cultivo del Crisantemo», InfoAgro.com Toda la Agricultura en Internet, acceso el 20 de julio de 2021, https://www.infoagro.com/documentos/el_cultivo_del_crisantemo.asp.y. Dalia (*Dahlia pinnata* y *Dahlia coccinea*) herbaceous, shrubby or epiphytic, perennial or deciduous. The genus comes from the high valleys of Mexico. Optimum humidity is between 75 and 78%, with a loamy soil type, with adequate drainage capacity and plenty of organic matter. Irrigation at the beginning is measured and is more recurrent with the initial flower buds, in «El cultivo de la Dalia», infoAgro.com Toda la Agricultura en Internet, acceso el 20 de julio de 2021, https://www.infoagro.com/documentos/el_cultivo_dalia.asp.y the crisantemo is introduced, nymph and dahlia are distributed in Mexico.

36 «With part of the hygienization came mosaiculture, which was the formation of gardens with flowers and plants complemented with fountains and sculptures that have their effects on the senses for aesthetic and leisure enjoyment. The taste for greenery was associated with the concept of hygiene and was later considered an ornament, which was implemented in the city's squares: Plaza de la Constitución, Paseo Bravo and Paseo San Francisco», in Kevin González, «El paisaje urbano arquitectónico de la Puebla porfiriana de 1877-1910» (tesis de licenciatura en historia, Benemérita Universidad Autónoma de Puebla, 2016), 113.

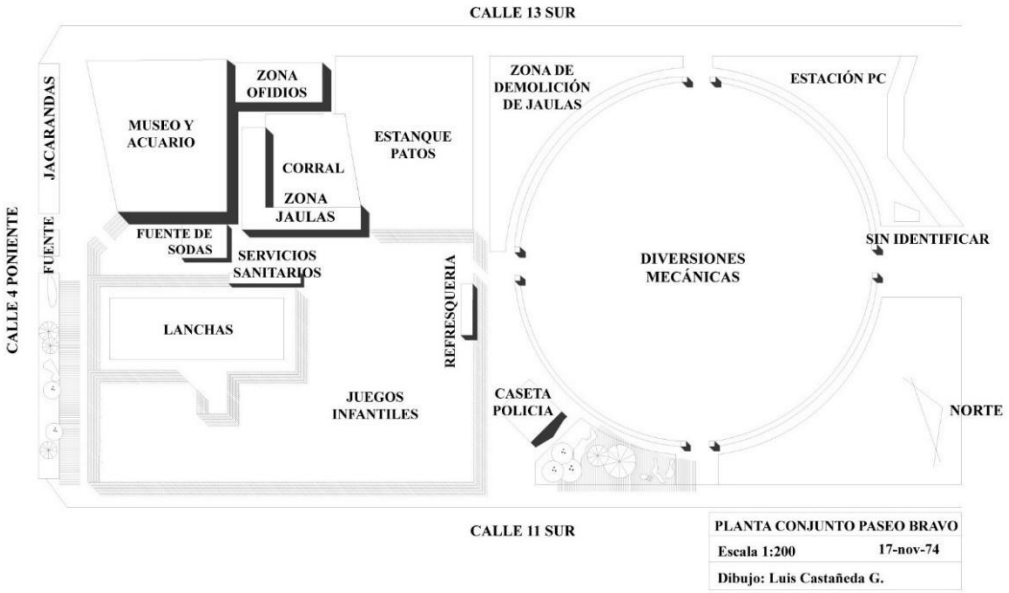
37 Francisco de Velasco, *Puebla y su transformación, mis proyectos y mi gestión en el Ayuntamiento de Puebla de 1907 a 1910* (Puebla: Imprenta El Escritorio, 1912), 22, en De Gortari, «El jardín de aclimatación y propagación…», 153.

38 Palou Pérez, *Paseo Nuevo, Paseo Bravo...*, 16.

39 Palou Pérez, *Paseo Nuevo, Paseo Bravo...*,17.

However, in recent years the promenade has lost most of its original objectives, such as recreation, since today it is a fragment of a road axis that connects the north with the south of the urban area and is used as a stop for public transport vehicles.[40]

Figure 2. Location and configuration of Paseo Bravo in 1974



Source: AGM, Inventory of Cartographic Material, Parks, gardens, squares. Paseo Bravo Assembly Plant, 1974, cabinet 9, inventory number 1PJP55, designer Luis Castañeda G., measures 61 x 91 cm (Design Brenda Natalia Hernández Arzaluz).

Composition and plant characterization in Paseo Bravo (1836-1839)

During the first years after the construction of Paseo Bravo, in the period from 1836 to the first half of 1837, numerous trees were planted, mostly ash, willow, alder and fruit trees, such as mulberry, orange and zapotes.[41] In the second half of 1837 258 plants were planted; namely 9 orange trees, 28 mulberries, 43 willows, 125 ash trees and 53 unidentified trees.[42] Subsequently, in 1838[43] and 1839, a large number of plants were cultivated due to the support of

40 Aguilar Ochoa y Alfaro Ramírez, «El Paseo Bravo en la Ciudad de Puebla», 110.

41 This period was in charge of Francisco Caballero de Carranza. Archivo Histórico del Ayuntamiento de Puebla (en adelante AHAP), Cuentas, V94, Año 1836, fs. 259-263 y 293-294v en Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 47.

42 AHAP, Cuentas V97, Año 1837, ff. 350-351 y 364, en Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 47

43 In the second half of 1838, 163 trees were obtained, which were 63 ash trees, 16 orange trees, 1 lime tree

the French gardener Pedro L'allemagne who oversaw the process following decisions from the commissioner of the branch.[44]

To compare the vegetation of 1838 and 1839, the following information is organized into three types of plant stratification: Arboreal (trees), shrub (bushes), and herbaceous (flowers). It should be noted that in 1838 two strata were registered; only the arboreal and the herbaceous (rose bushes), while in 1839 the 3 strata indicated here, are documented.

Table 2. Configuration of the Paseo Bravo in 1974

Areas	**Uses**
Flora	Jacarandas gardens[45]
Fauna	A museum, an aquarium and an area of reptile[46]
Farm	Cages and pens
Water	Fountain and duck pond
Food	Sodas and refreshment fountain
Leisure	Fun boats, playgrounds and mechanical amusements
Surveillance	Police booth
Services	Bathrooms
Maintenance	Demolition of cages
Unidentified	P.C station: unknown use
Unidentified by this type of plans	_____
11	**16 determined and 2 unknown**

Source: AGM, Inventario de Material Cartográfico, Parques, jardines, plazuelas. Planta de Conjunto Paseo Bravo,1974, gabinete 9, número de inventario 1PJP55, diseñador Luis Castañeda G., medidas 61 x 91 cm.

Source: AGM, Inventory of Cartographic Material, Parks, gardens, squares. Paseo Bravo Set Plant, 1974, cabinet 9, inventory number 1PJP55, designer Luis Castañeda G., measures 61 x 91 cm.

and 84 unspecified trees, all of them were brought from Atlixco, in Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 48. *Citrus limetta*: comestible y aromatizante, presumiblemente el primer cítrico conocido en Europa, en «Lima (*Citrus limetta*)», naturalista, acceso el 4 de mayo de 2022, https://www.naturalista.mx/taxa/279149-Citrus-limetta.

44 With a salary of 20 pesos, AHAP, Cuentas V100, Años 1837-1838, fs. 363 y 368, en Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 46.

45 New species in 1974, the jacaranda (Jacaranda mimosifolia), a South American deciduous, its uses are ornamental, medicinal and for the production of musical instruments. It is resistant to contamination since it absorbs lead and generates oxygen, which is why it is included in the planning of urban green areas. It is a species that adapts easily, but this condition makes that the native flora is relegated in urban areas, in Kiwana, «Jacarandas: la belleza que destruye», *Kiwana* 3, n.º 16 (2007):1-6, https://ibero.mx/sites/all/themes/ibero/descargables/Kiwanja/16kiwanja.pdf.

46 Reptiles «limbless with dilatable mouths and long, narrow bodies covered with a scaly epidermis that molts every year, and which is poisonous in some species», in «Ofidio», Real Academia Española, *Diccionario de la* Lengua, 2020.

Table 3. Composition and arboreal characterization of Paseo Bravo in 1838 and 1839

Common Name	Scientific Name	Number 1838	Percentages 1838	Numbers in 1839	percentages 1839	Life Form	Type of Foliage[47]	Origin	Environmental Benefits	Biological Requirements	Uses
Ash	*Fraxinus udhei*	538	48 %	735	61,6 %	Tree	Evergreen or deciduous	México	Restores degraded land (e.g. mining) Ornamental for avenues, parks and gardens. Shade in rural areas Its fruits are eaten by birds	Adaptive and rapid development.	Ornate, artisanal, work tools, wood, medicinal and melliferous.
Andean Alders	*Alnus acuminata*	300	26,78 %	51	4,27 %	Tree or shrub	Evergreen	Mexico, Central America and South America.	It serves for green manure, reforestation, and agroforestry systems.	Rapid development. It requires a lot of moisture. High subsistence.	Artisanal, fuel, construction, tanning, work implements, industrializable, timber, medicinal, and domestic.
Orange	*Citrus sinensis*	134	11,96 %	21	1,76 %	Tree	Evergreen	India, Pakistán, Vietnam and Southeast China	Riparian decontamination with its shell. Orange skin for making plastic and biofuels.	Warm temperature. Frost intolerant.	Edible.
Willow	*Salix bonplandiana*	118	10,53 %	319	26,76 %	Tree	Evergreen or deciduous	From the southwestern United States to Guatemala	Pioneer species (resistant to sterile environments such as lava layers or new islands).	Rapid growth and high regeneration.	Living fences on the banks of canals and dams, medicinal and ritual.
Pines	*Pinus cembroides*	30	2,67 %	23	1,92 %	Tree	Evergreen	México	Oxygen produced by the pine forests, in the northern mountains of Mexico.	Very adaptable. Low temperatures serve for its development. High regeneration.	Adhesive, fuel, construction, edible and timber.

47 Caducifolio, that loses its foliage every year, Perennifolio, that keeps its foliage annually

Zapote	*Manilkara zapota*	____	____	14	1,17 %	Tree	Evergreen	From México to Colombia.	Restoration of degraded places. Provides shade.	Late development.	Wood, artisanal, edible, fodder and medicinal.
Black Cherry	*Prunus serotina*	____	_____	13	1,09 %	Tree	Evergreen or deciduous	Canada	It serves for the restoration of a degraded site.	Moderate to fast development. Its seeds in the soil are germplasm.	Fuel, edible, construction, stimulant, insecticide, dye, furniture, and medicinal.
Hawthorn	*Crataegus pubescens*	____	____	11	0,92 %	Tree	Deciduous	México	Soil conservation / erosion control.	Slow growth.	Fuel, edible, cosmetic, fodder, medicinal, melliferous and industrializable work implements.
Avocado	*Persea americana*	___	____	3	0,25 %	Tree	Evergreen	South American	_____	Intermediate temperatures.	Food and medicinal.
Apricot	*Prunus armeniaca*			1	0,08 %	Tree	Deciduous	Central Asia	_____	Temperate temperatures. Resistant to winter cold and drought.	Food.
Peach	*Prunus persica*			1	0,08 %	Tree	Deciduous	Irán, Chin and Afganistán	_____	Growth in temperate areas. Not resistant to cold.	Food.
	Total	**1120**	**100**	**1192**	**100**						

Source: Own elaboration based on Rutilia Amigón, «Establecimiento de un paseo público en Puebla 1814-1842» (tesis de maestría, Universidad Nacional Autónoma de México, 2012), 47.

Vázquez-Yanes, C. et al., Árboles y arbustos potencialmente valiosos para la restauración ecológica y la reforestación. (México: CONABIO - Instituto de Ecología, UNAM), http://www.conabio.gob.mx/institucion/proyectos/resultados/J084_Fichas%20de%20Especies.pdf. «*Rosa canina, L. Rosa silvestre*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/malezasdemexico/rosaceae/rosa-canina/fichas/ficha.htm. «*Malvaceae Herissantia crispa (L.) Brizicky*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/malezasdemexico/malvaceae/herissantia-crispa/fichas/ficha.htm. «*Malvaceae Malva parviflora L.*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/malezasdemexico/malvaceae/malva-parviflora/fichas/ficha.htm. «*Fraxinus uhdei*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/53-oleac1m.pdf. «*Alnus acuminata*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/9-betul1m.pdf. «*Salix bonplandiana*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/62-salic2m.pdf. «La naranja y sus virtudes para el medio ambiente», Cofrutco, acceso el 14 de mayo de 2022, https://cofrutco.com/la-naranja-virtudes-medio-ambiente/. «*Pinus cembroides*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/54-pinac11m.pdf. «Por qué son importantes las flores en la naturaleza», Ecología verde, acceso el 14 de mayo de 2022, https://www.ecologiaverde.com/por-que-son-importantes-las-flores-en-la-naturaleza-1370.html. «*Naranja Citrus sinensis*», acceso el 14 de mayo de 2022, https://www.gob.mx/cms/uploads/attachment/file/96291/Naranja_monografias.pdf. «*Manilkara zapota*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/64-sapot4m.pdf. «*Chabacano, Prunus armeniaca*», Enciclovida, acceso el 14 de mayo de 2022, https://enciclovida.mx/especies/170850. «*Durazno, Prunus persica*», Enciclovida, acceso el 14 de mayo de 2022, https://enciclovida.mx/especies/170842-prunus-persica; https://www.gob.mx/cms/uploads/attachment/file/96219/Durazno_monografias.pdf

Tree comparison of Paseo Bravo 1838 and 1839

Between April and June 1838, there were 1120 trees of five species: ash, alders (alnus acuminata), willows, orange trees and pines. In 1839 there were 1192 trees consisting of 11 species. Five of these species in 1839 were the same as in 1838: ash, alders, orange, willow and pine trees and the remaining six were fruit trees: zapotes, hawthorn, black cherry, avocados, apricots and peaches in small quantities.

One of the main reasons for growing these five main tree species in both 1838 and 1839 was their biological requirements.[48] These are the following: Ash trees for their large frond, fast development and resistance to pests, this has meant this tree species has been widely used to tree lined avenues, from past times until today.[49] While the andean alders have rapid development and high resistance, the willows have rapid growth and high regeneration, the pines are very adaptable and of high regeneration, unlike the orange trees which are very susceptible as they require warm temperatures and are intolerant to frost.

Table 3 compares the tree composition present between 1838 and 1839, its nomenclature, biological and ecological characterization, origin, uses, quantity and percentages of representativeness of the trees.

Table 3 shows that the main foliage type was evergreen with five species in 1838 and nine in 1839. The previous type of leaf litter requires less maintenance than deciduous, because it retains its leaves all year round, so surely the activities of those in charge of the walk were less for this plant stratum. Also in this same table is the origin and in order of distribution the native trees of Mexico predominate; then, the natives of Central, South and North America follow and, finally, those from Asia.

In the vegetation belonging to the two years addressed, there are trends of increase or decrease of the five main tree species: Ash trees, willows, andean alders, pines and orange trees. In 1838 these five tree species present high numbers; however, in 1839 two of these five species present in considerable quantity decrease, as referred to in Table 4.

As for the increase in tree plant species that are shared between 1838 and 1839, ash trees went from 538 to 735; that is, they increased by 197 more units. Like the willows that went from 118 to 319, so in this period 201 more tree specimens were added. The tree decrease was in the alders that went from 300 to 51, so a considerable sum of 249 trees was lost, while the orange trees also tended downwards, from 134 to 21 so 113 trees were subtracted, and in the pines from 30 to 23, that is, only seven units decreased. Table 5 then describes the maximum and minimum heights that made up the landscapes of 1838 and 1839.

48 The two reasons given were probably taken by the current administration of the City Council of the city of Puebla, to choose the trees to be planted. That is to say that there was a tendency to cultivate trees in the mid-twentieth century

49 «This species was considered when, in mid 1832, there was an interest in planting trees in the public spaces of the city», en AHAP, LC, V101, Año 1832, fs. 161vL-162L. 26 junio, en Amigón Amigón, «Establecimiento de un paseo público en Puebla 1814-1842», 68.

Table 4. Comparative tree analysis on the Paseo Bravo between 1838 and 1839

Scientific Name	Number in 1838	Number in 1839	Increase (+) or Decrease (-)of plant species
Ash	538	735	+ 197
Willow	118	319	+ 201
Alder	300	51	-249
Oranges	134	21	-113
Pines	30	23	-7
Total 6 species	**1120**	**1149**	

Table 5. Height of the arboreal landscapes present in 1838 and 1839

Trees in 1838	Trees in 1839	Maximum height in meters (m)	Minimum height in meters (m)
Ash	Ash	15	30
Willow	Willow	10	30
Alder	Alder	6	15
Oranges	Oranges	5	15
Pines	Pines	3	5
	Zapotes	25	45
	Hawthorn	4	10
	Black Cherry	5	38
	Avocados	8	20
	Apricots	3	6
	Peaches	6	8
Average range in 1838= 27m	**Average range in 1839= 42 m**		

Source: «*Fraxinus uhdei*», Conabio... «*Alnus acuminata*», Conabio... «*Azahar, Citrus sinensis*», Enciclovida, acceso el 4 de mayo de 2022, https://enciclovida.mx/especies/170946-citrus-sinensis. «*Salix bonplandiana*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/62-salic2m.pdf. «*Pinus cembroides*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/54-pinac11m.pdf. «*Crategus pubescens*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/59-rosac1m.pdf. «*Prunus Serotina*», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/60-rosac6m.pdf. «*Manilkara zapota*», Conabio… «*Aguacate, Persea americana*», Enciclovida, acceso el 14 de mayo de 2022, https://enciclovida.mx/especies/164662-persea-americana. «*Durazno, Prunus persica*», Enciclovida…

As we can see in Table 5 the heights above the tree species present in 1838 and 1839 make up a predominantly arboreal landscape. In 1838 the minimum height of the arboreal stratum

was 3 meters and the maximum was 30. While in 1839 the minimum height was also 3 and the maximum was 45 meters. The average height range for 1838 is 27 meters and for 1839 it is 42. This means that the height of the landscape tree stratum in 1838 was lower than in 1839. And in this last year, the landscape was 15 meters higher than in 1838. The tallest trees were in 1839 and are the zapotes that reach heights of up to 45 meters, and the black cherry that maximum reach 38 meters.

Herbaceous composition of Paseo Bravo in 1838 and 1839

In 1838 800 rose bushes were registered as the only herbaceous plant that are perennial, of European origin and among its environmental benefits are pollination (reproduction), as they serve as a food source for bees, butterflies, bats and birds, and form colorful plant micro landscapes. Additionally their biological requirements mean that they grow better in temperate climate and are resistant to cold, except in flowering season, and finally their uses are ornamental and cosmetic.

By contrast, in 1839 there were 257 herbaceous plants composed of seven species: nightshades, bladdermallows, cheeseweed mallows, ivy, pink fringe, carnations and dog roses. It should be noted that the number of carnations and roses present is not specified. Table 6 shows the common and scientific nomenclature, as well as the information on their foliage, origin, environmental benefits, uses, quantity and percentages of importance of herbaceous species recorded in 1839.

As for the origin, three herbaceous species are native to Mexico and America, and the remaining four species: three of these are from Europe and the other is of European, Asian and African origin. In addition to the above particularities, the environmental benefits, ecological requirements and various uses are also equally significant as listed in Table 6. The predominant uses of this stratum are for food, medicinal and ornamental.

Shrub composition of the Paseo Bravo in 1839

Only one species is recorded and they are the Poinsettia *(Euphorbia pulcherrima)*, in total there were 156 plants. They come from southern Mexico, in terms of environmental benefit their wild populations form germoplasma banks. In relation to the biological requirements they develop in the photoperiod (short days and prolonged nights) to obtain their coloration; They are also not resistant to high temperatures or cold.[50]

50 «Noche buena silvestre», Conabio, acceso el 14 de mayo de 2022, http://www.conabio.gob.mx/malezasdemexico/euphorbiaceae/euphorbia-pulcherrima/fichas/ficha.htm. «Clavel, Dianthus caryophyllus», Enciclovida…

Table 6. Composition and herbaceous plant characterization of Paseo Bravo in 1839

Common Name	Scientific Name	Stratum	Type of Foliage	Origin	Environmental Benefits	Biological Requirements	Uses	Number	Percentage
Nightshade or Black Nightshade	*Solanum nigrescens*	Herbaceous	Perennial	America	_____	_____	Edible, medicinal and fodder.	143	55.64%
Bladdermallows	*Herissantia crispa*	Herbaceous	Perennial	Almost the whole country	_____	_____	Fibers and medicinal.	102	39.68%
Cheeseweed Mallow	*Malva parviflora*	Herbaceous	Perennial	Europe	_____	_____	Medicinal, fodder and food.	8	3.11%
Ivy	*Hedera helix*	Trepadora leñosa	No aplicable	Europe, africa y asia	_____	It withstands shade and grows on walls of unruly forests.	Ornamental	3	1.16%
Pink Fringe	*Arthrostemma ciliatum*	Herbaceous	Perennial	Mexico y Central américa	_____	_____	Edible, medicinal and ornamental.	1	0.38%
Carnation	*Dianthus caryophyllus*	Herbaceous	_____	Iberian Peninsula	_____	Necesita riego intermedio. Requiere luz solar.	Ornamental and medicinal.	No specification	_____
Dog Rose	*Rosa canina*	Herbaceous	_____	Europe	Plant reproduction (pollination) Food for bees, butterflies, bats and birds Micro colorful plant landscapes	Temperate climate. Resistant to cold except in the flowering season.	Ornamental and Cosmetic.	No specification	_____
							Total	**257**	**100**

Source: Own elaboration based in Rutilia Amigón, «Establecimiento de un paseo público en Puebla 1814-1842» (tesis de maestría, Universidad Nacional Autónoma de México, 2012), 48.

Vázquez-Yanes, C. et al., Árboles y arbustos potencialmente valiosos… Conabio, «*Malvaceae Herissantia crispa (L.) Brizicky*»… «*Prunus Serotina*», Conabio…

«*Crategus pubescens*», Conabio… «*Hedera helix L., Hiedra*», Conabio, acceso el 7 de mayo de 2022, http://www.conabio.gob.mx/malezasdemexico/araliaceae/hedera-helix/fichas/ficha.htm. «*Arthrostemma ciliatum Pav. ex D. Don, Xoxocoyolcera*», Conabio, acceso el 7 de mayo de 2022, conabio.gob.mx/malezasdemexico/melastomataceae/arthrostemma-ciliatum/fichas/ficha.htm. «*Clavel, Dianthus caryophyllus*», Enciclovida, acceso el 7 de mayo de 2022, https://enciclovida.mx/especies/163465-dianthus-caryophyllus.

Conclusions

The Paseo Poblano studied here "was designed from the beginning as a space for recreation and Sunday walks for the surrounding population".[51] This urban green site was analyzed under two approaches: Environmental and urban history; these orientations obey different multifactorial causes.

The first urban historical approach is that these sites are part of the urban historical heritage of the city of Puebla and that their transcendence and their transformation can be historiated within the prevailing urban layout, given that the urban design obeys different policies implemented by the corresponding administrative authorities, and in addition these green places have a specific equipment, either for example type and number of planters, roads, water outlets, lamps, incandescent light bulbs, kiosks, fountains, benches, lakes, meadows, memorials, swings, soccer and basketball courts, among others. Such furniture can continue to exist and be maintained or even is sometimes replaced by new because of its state of conservation. As is the case of Paseo Bravo that had different adaptations of its urban space over time. For example, in 1850 ash trees and flowers were planted and it was also adorned with fountains. Already in 1896 it was a boulevard composed of a stone bench, in addition to two roundabouts one with fountains and in the other a monument that was established in honor of Nicolás Bravo. While in the Porfirista period Governor Mucio P. Martínez ordered to perfect the fence of the promenade and placed a statue of an illustrious poblano, Gabino Barreda. Already in 1921 to alleviate the remnants of the conflict with the French troops, the Reloj del Gallito was placed on the Paseo, which was given by the French who resided in Puebla. In the 40s a skating rink was built, and a few years later a zoo and herpetarium were constructed. During the 1950s a history museum was built with pieces from the UAP on display. Finally, in 1974, there was a very specialized system of configuration and distribution of the promenade, since it had 16 functional areas such as: vegetable, water, faunal, food, recreational areas, surveillance, services, among others, and two unidentified in terms of its use.

The second historical environmental approach is due to the fact that urban green areas are the habitat of flora and fauna, and their conservation status is reflected in the type of species that are present whether native or exotic. Likewise, the study under this environmental perspective is essential, since the species of fauna and flora provide diverse ecological and socioeconomic services, which allow the functional viability of cities and their inhabitants.

For this study the historical environmental object was the comparative analysis of the plant composition, the biological and ecological characterization, the environmental benefits, the origin, the uses, as well as the number and the percentages of the three vegetal stratas: tree, shrub and herbaceous of the Paseo Bravo, during 1838 and 1839.

The dominant tree composition in 1838 was made up of five species: ash, willow, an-

51 Edna Hernández, «Espacio urbano y la modernización del alumbrado público en la ciudad de Puebla entre 1888 y 1910» *Amérique Latine Histoire et Mémoire*, n.° 29 (2015), https://doi.org/10.4000/alhim.5223.

dean alder, pines and orange trees. In 1839, there was also presence of these five previous species; However, andean alders and orange trees decreased considerably unlike willows and pines, which in both years have a high presence. So it would be pending to answer for a future investigation, what was the cause of the decrease in the number of andean alders and orange trees in 1839? Possibly the answer would be inadequate policies of the city council or the presence of some disease or plague.

It should be noted that in addition to the five species mentioned above for 1839, there are also six more recorded species of fruit trees, zapotes, hawthorns, black cherries, avocados, apricots and peaches, but in small quantities.

The dominant tree in both years was the ash, with 538 specimens in 1838 and 735 in 1839, that is, it went from a percentage of representativeness of 48% to 61% respectively, it would also be worth finding out what was the reason for its increase between both years? This species is the most used due to its ecological requirements that allow its easy cultivation, such as its large frond, fast developing and resistant to pests, which is why this species has been planted throughout the urban and environmental history of the city of Puebla during the nineteenth and twentieth centuries.

Likewise, the height of the trees was analyzed in both years of study, which formed in 1838 an arboreal landscape with an average intermediate height of 27 meters, while in 1839 the average height was 42 meters.

The main foliage type was evergreen with five species in 1838 and nine in 1839. This meant that the vast majority of trees did not lose their leaves annually, which represented less activity of maintenance of the walk by the workers in charge.

As for the origin of the most dominant at least, there is a greater presence of native trees of Mexico, followed by those from Central, South and North America and finally those from Asia. That they are native Mexican species facilitates their care and maintenance, since they adapt and acclimatize naturally in the urban green ecosystem in which they are found.

The shrub stratum is the least frequent, there is only one species recorded in 1839 and it was Poinsettia, which comprised a total of 156 individuals.

In 1838 800 dog rose bushes were recorded as the only plant in the herbaceous stratum and by 1839, there were a total of 257 herbaceous plants composed of seven species: night shades, bladder mallows, cheeseweed mallows ivy, pink fringe, carnations and dog roses.

In this regard, it is relevant to point out the importance of the presence of native plant species in urban green sites, for the environmental benefits they provide, such as: 1) benefit to urban animal biodiversity, whether insects, small and medium mammals and birds, which interact and coexist in urban green ecosystems; 2) contribution in pollination, seed propagation, disintegration of matter, and recycling of soil nutrients, from the interaction mentioned in the previous point; (3) reduction in the presence of diseases and pests; 4) adaptation to the climatic conditions of the area and use of the water that the urban green habitat provides; 5)

resistance to low, high temperatures and winds; 6) the non-need for large quantities of extra substrates or fertilizers and 7) contribution to the conservation of the environment.[52]

It is important to note that there was a historical tree permanence of five dominant species: ash, willow, alders, pines and orange trees in 1838 and in 1839 in the Paseo Bravo. That is, there was no species replacement. Currently these trees are still planted in the urban green areas of Puebla, that is, they are urban flora that has historically persisted over time and space from the nineteenth century to the twenty-first century.[53] This previous persistence is due to the composition of the existing landscape and the type of current environmental system in question, whether with or without the presence of disturbance. So there may or may not be replacement of plant species over time and space, due to atmospheric quality, the type-state and nutrients of the soil, the existence of water bodies or hydraulic facilities for the maintenance of vegetation.

From the approaches analyzed, it can be affirmed that gardens, promenades and urban parks are a living expression of environmental and urban history; They have been studied by these earlier disciplines in historical periods. In addition, public green sites are of academic interest and are also part of a necessary public policy to address, to the extent that these areas contribute to improving the quality of life of three elements of coexistence: the human users, the flora and fauna, who cohabit these spaces and generate microcosms suitable for these three components.

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