PHI (Book Series)

ISSN Print: 2161-3907
ISSN Online: 2639-0205

Series Editors

Mário S. Ming Kong
CIAUD – FAUL, Lisbon School of Architecture, Lisbon University, Lisbon, Portugal

Maria do Rosário Monteiro
Faculdade de Ciências Sociais e Humanas, Universidade NOVA de Lisboa
Modernity, Frontiers and Revolutions

Editors:
Maria do Rosário Monteiro & Mário S. Ming Kong
CHAM, FCSH, Universidade NOVA de Lisboa, Lisbon, Portugal
CLAUD-FA ULisboa, Lisbon, Portugal

Co-editor:
Maria João Pereira Neto
CLAUD-FA ULisboa, Lisbon, Portugal
CHAM, FCSH, Universidade NOVA de Lisboa, Lisbon, Portugal
19th century industrial architecture related to the “olive grove revolution” in the province of Jaén, Spain

Sheila Palomares Alarcon

HERITAS PhD, Heritage Studies, CIDEUHS, University of Évora, Évora, Portugal

ABSTRACT: The image of olive grove monoculture that characterises the province of Jaén, and motivated the proposal to include “The olive grove landscapes of Andalusia” in the UNESCO Tentative Lists, is a landscape forged mostly from the second half of the 19th-century onwards when the change from polyculture to olive grove monoculture began. This transformation had various consequences for agricultural production, economy, society... and also for the industrial architecture related to the production of olive oil. On the one hand, there were several “cortijos”, “haciendas” or “caserías” that had been mainly focused on the production of grain and started producing olive oil, leading to the reuse of the existing facilities. On the other hand, this “olive grove revolution” (the expression we symbolically chose to refer to this stage of economic change in this paper) contributed to the opening of new olive oil factories that introduced the most significant technological advances of the time from the second half of the 19th-century to the first decades of the 20th-century and that, sometimes, involved stakeholders of different nationalities.

This paper aims to analyse, focusing on case studies, the influence of the “olive grove revolution” on the 19th-century industrial architecture in the province of Jaén (Spain) in a comprehensive way, i.e., considering its historical, economic and technological context.

Keywords: Industrial architecture, 19th-century, olive oil factories, industrial heritage, Jaén (Spain)

1 INTRODUCTION, THE “OLIVE GROVE REVOLUTION”

The image of olive grove monoculture that characterises the province of Jaén, and motivated the proposal to include “The olive grove landscapes of Andalusia” in the UNESCO Tentative Lists, is a landscape forged mostly from the second half of the 19th-century onwards.

According to the description made by Dean Mazas1 in the late 18th-century, the fields of the province of Jaén “overlooked a vast expanse of Countryside, Olive Groves, Vineyards, Vegetable Gardens, and mountains” (Martinez de Mazas, 1794, p. 301) where the cultivation of wheat and barley was predominant. However, after the first Spanish confiscation (“Confiscación de Godoy”, in 1768) there was a period, during the first half of the 19th-century (reinforced by the “Confiscations of Mendizabal”, in 1836, and the “Confiscations of de Madoz”, in 1855), in which there were significant changes in the agricultural sector in the province of Jaén related to the ownership of the land and the social structure: the number of owners who belonged to the agrarian bourgeoisie increased, as well as the number of owners who were former tenants of lands owned by the nobility or the church, and the number of traders, officials or industrialists who invested their money in confiscated estates.

In this context, and following the fall in the price of grain occurred after 1872 (Bernal, 1979, p. 121), olive grove became the cultivation of choice of the new owners, thanks to the sales opportunities it offered, and olive groves began expanding in the first quarter of the 19th-century. However, the trend towards monoculture only became more evident in the period between 1830 and 1881 (Garrido, 2007).

According to Mariano Serra, in 1875 olive cultivation was rapidly expanding. Despite the crisis that affected the olive-growing sector in the late 19th-century, the agricultural entrepreneurs improved their holdings and the quality of their products to remain competitive in the world market. (Zambrana, 1984) In this period, the mechanization process for the production of olive oil stabilized, the direct


2 Dean Mazas, according to D. Manuel Muñoz y Garnica was a “creative and reforming genius” who arrived to reform and improved traditions in the province of Jaén (Muñoz, 1857, p. 47).
exploitation of lands increased significantly, as did the planting of olive groves, continuing along the path of monoculture that began to consolidate in the 20th-century, with the so-called "golden age of the olive grove" during the first thirty years of the 20th-century (Infante, 2012).

The "olive grove revolution" (the expression we symbolically chose to refer to this stage of economic change in this paper), in addition to triggering a far-reaching change in agricultural production, society or economy, was also a phenomenon that fostered a transformation in the landscape of the province of Jaén and turned it into a unique territory, as we can see today.

This paper aims to analyse, focusing on case studies, the influence of the "olive grove revolution" on the 19th-century industrial architecture in the province of Jaén (Spain) in a comprehensive way, i.e., considering its historical, economic, and technological context.

To pursue this research work we carried out a thorough bibliographic and archival search, fieldwork and on-site analysis of the results.

2 ARCHITECTURES RELATED TO THE PRODUCTION OF OLIVE OIL IN THE PROVINCE OF JAÉN: CASE STUDIES

The "olive grove revolution" had various consequences for the industrial architecture associated with the cultivation of olives, as its primary purpose was to meet the formal needs required to develop the production of olive oil.

One of the technological advances brought about by the Industrial Revolution was the invention of the hydraulic press, by Mr. Joseph Bramah, who patented it in 1795. Initially, this machine was used to press paper or fabric and, therefore, reduce its volume. However, in Spain, it was used for the first time to press olives, as it was introduced for this purpose by the entrepreneur D. Alvear y Ward in Montilla (Cordoba), in 1833 (Alvear y Ward, 1834), thus revolutionising pressing in this country.

This new system, which quickly replaced beam presses, tower presses, etc., allowed producing olive oil more rapidly, meaning that the time lapse between picking and processing the olives was shorter and, thus, improving the quality of the olive oil.

Since then, its use was extended to other factories and conditioned their architecture because, despite taking up less space, this new pressing system required an energy source to be activated; initially, energy was generated from steam, so the new olive oil factories started building brick chimneys to carry off smoke.

In this context, there were different "cortijos"; "haciendas" and "caseríos" that had been mainly focused on the production of olive oil using the reuse of the exi hand, the new economic plantation of olives opening of new olive oil involved stakeholders.

As representatives of these, we chose the "I oil factory and the "L" oil factory.

2.1 "Hacienda La La Puente del Obispo"

In 1641, the Society of we find "La Laguna" which is the cortijada de (p. 204) and planted its property in 1680 by the House of Alba who asked the Polish Bartmanski to model modernisation involves olive trees and the impli
gation system supplied work of channels that were as three water-powers. Additionally, it was an olive oil cellar (1846 maximum splendour in tauris. Unfortunately, v original plans, because disappeared in the ear complex remained vir architect Luis Berge

3. Despite the fact that during the first seventy years of the 20th-century grain was still a traditional cultivation, due to the interventionist policy imposed during the period of Franco's regime, the growth of olive grove plantations was promoted via the implementation of irrigation systems, a decision that is still being pursued today and that fostered the consolidation of this monoculture (Palomares, 2016).

4. The reason for a brick chimney: The industrial chimney, associated in its inception to a steam engine, built from an easy-to-use and cheap material—brick—is a hollow tube with a variable section which fulfills two functions; on the one hand, the hygiene-related function of expelling smoke at a sufficient height to avoid harm and, on the other hand, the economic function of increasing air intake to promote combustion, reducing fuel costs (López Patiño, 2013, p. 17).

5. A "cortijo" is "a detached building, in the middle of the countryside, comprising houses for farmers and the facilities required for farming arranged next to them" (Florio, 1996, p. 178 quoting Torres Balbas, 1930).

6. Agro-industrial complex built in latifundia where, in this case, olive tree growing is the primary activity, which produced olive oil and was the second residence of the owners (Florio, 1996, p. 110).

7. Large or small property, with vineyards or olive groves and a house (Berges y López, 1997, p. 16 quoting Madoz, 1847).

to, the olive groves and built using bricks and rou
search work we carried out a historic and archival search, field-analyses of the results.

RES RELATED TO THE OF OLIVE OIL IN THE JAÉN: CASE STUDIES

volution" had various con- stellations of architecture associated with olive groves, as its primary purpose, formal needs required to be of olive oil. Imological advances brought a change of perspective to Mrs. Joseph Bramah, 95. Initially, this machine was a fabric and, therefore, reduced in Spain, it was used for the first time, as it was introduced for the first time by entrepreneur D. Alvear y Ward, in 1833 (Alvear y Ward, raising pressure in this context, which quickly replaced beam engines, allowed producing olive oil that the time lapse between the olives was shorter and a greater quantity of olive oil was provided. It was extended to other facades in the architecture because space, this new pressing system was source to be activated; initiated from steam, so the new "beds"-brick chimneys were different "cortijos", "serias" that had been mainly

k chimney: The industrial chim- ney to a steam engine, built at a sufficient height to avoid hand, the hygiene-related function

2.1 "Hacienda La Laguna" olive oil factory in Puente del Obispo, Baeza

In 1641, the Society of Jesus bought the land where we find "La Laguna" and, in 1648, built a "cortijo" or "la cortijada de la Laguna" (Madoz, 1847, p. 204) - and planted the land. The Jesuit order owned this property until 1767 when King Charles III expelled them, and the "Cortijo" was taken over by the House of Alba. Afterwards, following the "Confiscation of Mendizabal (1836-1837)" the property was bought by José Manuel Collado, Marquis of Viana and, later on, Marquis of La Laguna, who asked the Polish engineer Tomasz Franciszek Bartmanki to modernise the latifundium. That modernisation involved the plantation of 1,000 olive trees and the implementation of a modern irrigation system supplied by Laguna Grande, a network of channels that flowed into an aqueduct, as well as three water-powered olive oil mills.

Additionally, he built an olive oil factory and an olive oil cellar (1846-1848), which reached their maximum splendour in the 19th and early 20th centuries. Unfortunately, we were unable to access the original plans, because the "La Laguna" archive disappeared in the early 21st-century. However, the architect Luis Berges Roldán designed the "Olives"

9. Polish civil engineer (1797–1880) who arrived in Spain in 1844 to work in the construction of several railway lines. In addition to participating in the design of projects such as those for the Madrid-Aranjuez or Valencia Cartagena lines, he supervised the construction of the Barcelona and Madrid gasometers. He wrote the book "Manual de economía doméstica", in 1848. He left Spain in 1850 (Orlovsky, 1987, p. 128).
10. Laguna Grande is a reservoir supplied with water from the river Torres that is used to irrigate the olive grove. It has an area of 23 ha.
11. The aqueduct is part of the hydraulic network of channels that irrigates the farm and connects the reservoir, the olive groves and the vegetable gardens. It was built using bricks and round arches.

Modernities, frontiers and revolutions


Grove Museum Project" for the old olive oil factory* (A.H.M.B/RP/c143), which provides interesting and valuable information on how the olive oil factory used to operate.

It was a rectangular building with two floors (lookout basement and ground floor), a hip roof and a brick chimney. According to A. Carpio, in 1988 two hammer mills had replaced the original ones, built from truncated cone-shaped stones. Also, there were six hydraulic presses with the corresponding pumps, which were not being used at the time because a continuous system for the production of olive oil had already been installed.

The decantation room was quite large, with more than 20 vats, and the olive oil cellar had six deposits for 100,000 kg each. (Carpio, 2007, pp. 291–292) In the olive oil cellar, we can see the groins resting on columns between which the deposits are accommodated. "The style reminds us of certain Central-European buildings due to the use of plain fascia mouldings on the intrados of the vaulting arches" (Sobrino, 2008, p. 62).

Outside, a sequence of semi-circular buttresses counters the forces. Spatially, the building is fascinating due to its large scale and to the contrast with the perimeter corridor where all the olive oil piping, taps and drains that are connected to the ten cylindrical stone masonry deposits are half buried to ensure better thermal conditions.

After the segmentation of the marquisate, following the Civil War, and after falling into the hands of several owners, it underwent a period of decadence and negligence from 1990 onwards. The Hacienda "La Laguna" Consortium (formed by the City Council of Baeza and the Government of Andalusia) (Carpio, 2007, p. 294) was incorporated

12. A.H.M.B/RP/c143. My sincere thanks to Mª José Calvo Restrepo, responsible for the Municipal Historical Archive of Baeza and Library.
in 1992 and bought most of the main buildings planning to create a Rural Hotel, the Museum of Olive Oil and accommodate the Regional School of Hospitality, all of which are currently operating there.

2.2 “La Esperanza Cubana” olive oil factory in Bailén

The agro-industrial complex “La Esperanza Cubana” was founded in 1870 by Antonio Vicent de Cola (1819–1872), 5th Marquis of Palomares de Duero, resident in Santiago de Cuba, of Spanish descent, specialised in the banking sector and very dynamic when it came to commercial and industrial investments. Antonio Vicent turned this company into one of the best examples of his great entrepreneurial spirit. As far as we know, after the death of the Marquis of Palomares de Duero his son José took over the business and gave each of his brothers their corresponding shares. (Álvarez, 1986, pp. 365–366) The factory operated until the 1960’s.

He bought a property with an old ruined inn, close to the river Rumbiar, where he built this whole complex with an area of 4,428 m² in 1870.

The complex comprises three buildings. The first one, with an area of 1088 m², included the courtyard that accommodated the olive barns; a trough; the olive oil; four depots; a drinking water well; the pump room with the tank; the kitchen; the foreman’s house; the stable; the owner’s house and bedrooms; two warehouses with built-in clay vessels with a capacity of 9 to 10 “arrobas” – one with 24 and the other with 22 –; the area where the olive oil was prepared using a 6-horsepower steam boiler that powered three roller mills; two hydraulic presses; a hot water tank; an olive pomace deposit; and the operator’s quarters.

The second building had an area of 309 m² and was connected to the first one by a courtyard. Also, it had a stable, the straw loft; the workers’ quarters; the kitchen and other rooms. Finally, the third building, which had an area of 120 m², was used for pig farming.

It was an agro-industrial complex that combined the production of olive oil with livestock farming and the residence of both workers and owners, who lived there during the olive picking season. (Álvarez, 1986, p. 365).

Currently, and following the refurbishment of the complex carried out between 1989 and 1992, based on a project by the architect Manuel Rubio Malpesa, it accommodates the central offices of the company Cerámica Malpesa, S.A. (Rubio, 2007).

3 CONCLUSIONS

Both the “La Esperanza Cubana” olive oil factory (1870) and the “La Hacienda La Laguna” olive oil factory (1846-48) are considered pioneering undertakings in the province of Jaén for incorporating the latest technology associated with the “olive oil revolution”.

Built in the same period of expansion of the olive growing industry in the 19th-century in the province of Jaén (although, in the case of Hacienda La Laguna, the new factory was built in an existing agricultural holding), they have several aspects in common: they combine a residential use with an industrial use; they are organised around a courtyard; the factory is a one-floor building, because it accommodates functional: the formal needs of the mill carried out horizontally (La Hacienda has an uneveness); they have: allow producing olive oil they have a brick chimney they are a symbol of progressive technology that gave birth to a new era: the olive oil revolution” in the 19th-century.

They were a model, a type, in other words, that allowed the production of olive oil during the 20th-centuries with an extraordinary combination of technologies and trends, within an extraordinary architectural and technological context.

ACKNOWLEDGMENT

School of Architecture, University of Lisbon (Portugal).

BIBLIOGRAPHICAL REFERENCES


Modernity, frontiers and revolutions

ACKNOWLEDGMENT


BIBLIOGRAPHICAL REFERENCES


