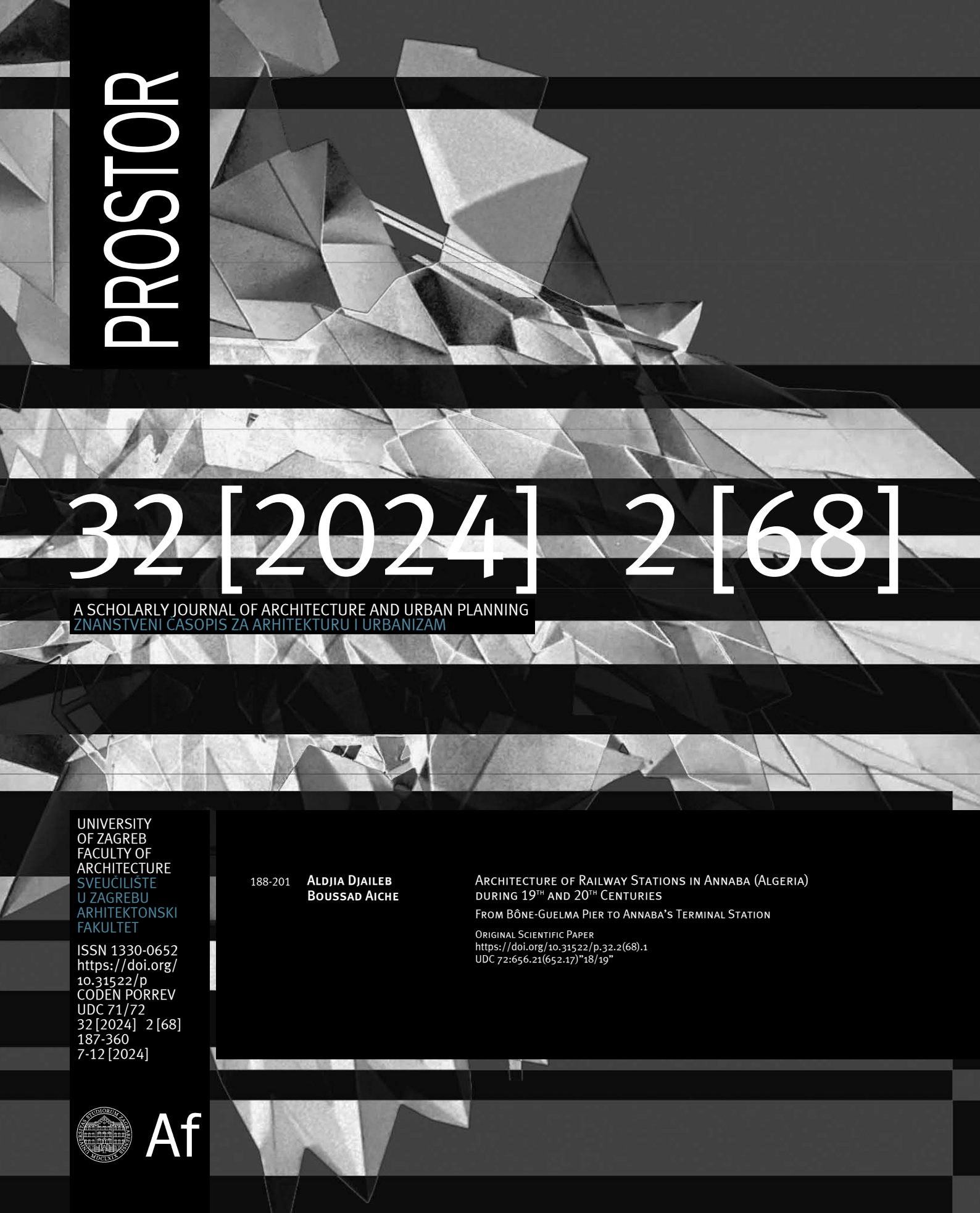


PROSTOR

32 [2024] 2 [68]

A SCHOLARLY JOURNAL OF ARCHITECTURE AND URBAN PLANNING
ZNANSTVENI ČASOPIS ZA ARHITEKTURU I URBANIZAM

UNIVERSITY OF ZAGREB FACULTY OF ARCHITECTURE
SVEUČILIŠTE U ZAGREBU ARHITEKTONSKI FAKULTET

ISSN 1330-0652
https://doi.org/10.31522/p
CODEN PORREV
UDC 71/72
32 [2024] 2 [68]
187-360
7-12 [2024]

Af

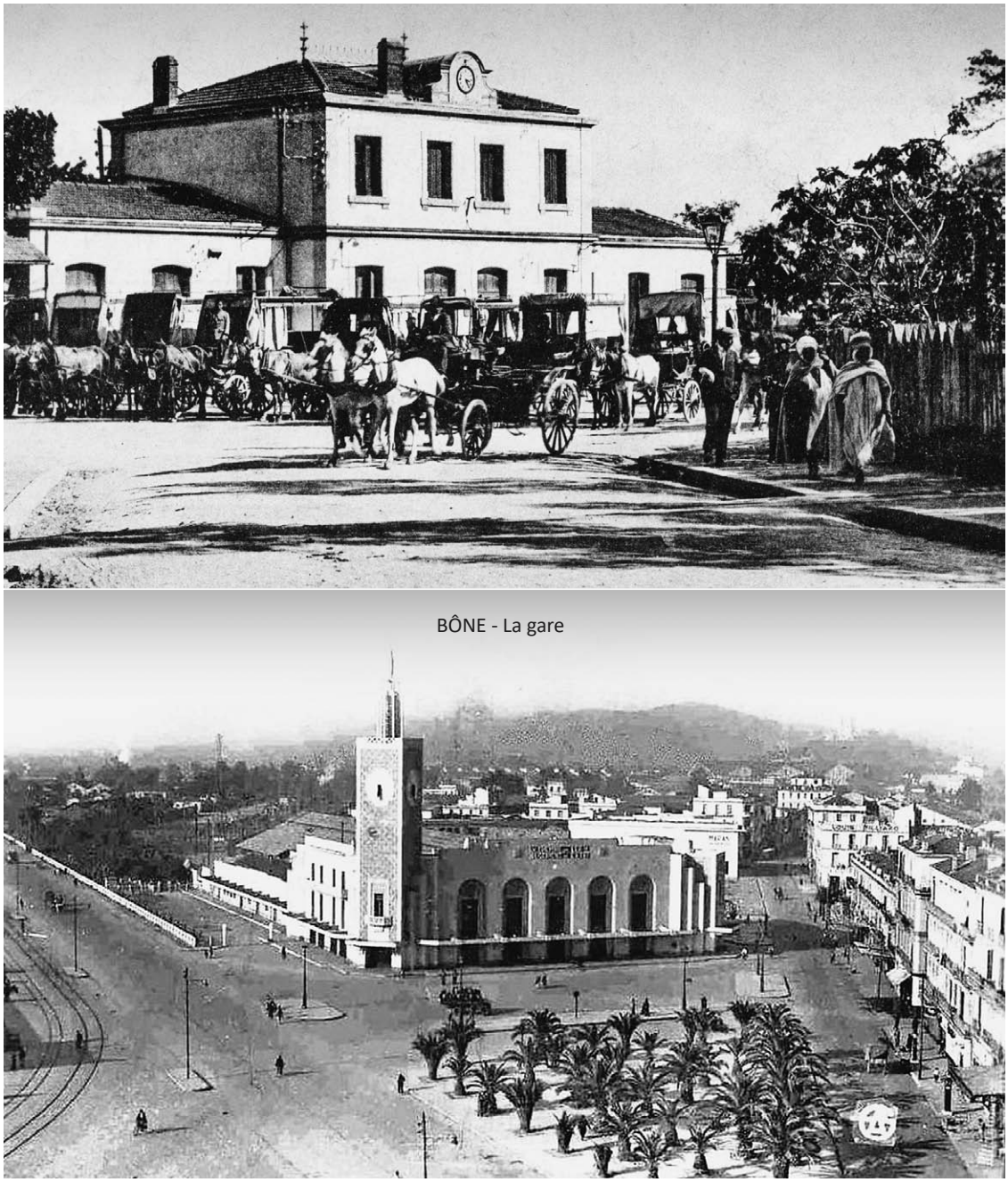


Fig. 1 (up) Bône-Guelma company's first railway station (early 20th century);
(down) second Bône railway station (mid 20th century)

Aldjia Djaileb[1], Boussad Aiche[2]

[1] University of Blida1, Laboratory ETAP, Institute of Architecture and Urban Planning, P.O.Box 270, Route de Soumaa, Blida, Algeria
https://orcid.org/0009-0006-5464-2211
[2] University of Mouloud Mammeri of Tizi Ouzou, Department of Architecture, P.O.Box 17RP, Nouvelle ville, Tizi Ouzou, Algeria
https://orcid.org/0000-0002-1238-588X

aldji.djaileb@gmail.com
a.kh.djaileb@etu.univ-blida.dz
b_aiche@yahoo.fr

Original Scientific Paper
https://doi.org/10.31522/p.32.2(68).1
UDC 72:656.21(652.17)"18/19"
Technical Sciences / Architecture and Urban Planning
2.01.04 – History and Theory of Architecture and Preservation of the Built Heritage
Article Received / Accepted: 29. 8. 2024. / 17. 12. 2024.

Architecture of Railway Stations in Annaba (Algeria) during 19th and 20th Centuries

From Bône-Guelma Pier to Annaba's Terminal Station

Annaba (Bône), Algeria
architectural style
heritage conservation
railway station
19th and 20th-century architecture

Annaba, with its port, was among the pioneering Algerian cities to have a railway system installed during the latter half of the 19th century. The Bône-Guelma company constructed its station in an architectural style that was brought over through French colonization. The station was operational for multiple decades and played a significant role in the city's growth during the early 20th century when a new, substantially larger station replaced it. This paper analyzes the architecture of both of these stations. Both structures were constructed during distinct historical and economic periods. By analyzing and comparing unpublished archival documents and conducting on-site research, we were able to examine the architectural typologies of these two buildings and identify their unique stylistic characteristics in comparison to similar buildings constructed in the colonies and mainland France. This work seeks to enhance the historical understanding of railway architecture in Algeria, specifically focusing on 19th and 20th-century railway stations. Its objective is to promote the preservation and acknowledgment of these stations, thereby contributing to scientific knowledge in this field.

INTRODUCTION

Railroads and railway stations, which emerged during the early 19th century as symbols of the industrial and railway revolution, serve as tangible evidence of the architectural and engineering advancements that occurred during that time. The station was introduced to Algeria in the latter half of the 19th century, coinciding with the arrival of French colonization, after its origin in Europe with the emergence of the railway. This new structure combines elements of *half-palace and half-factory*, showcasing both the grandeur of industrialization and the monumental architectural style prevalent in the 19th and 20th centuries (Schivelbusch, 1979, cited in Paone, 2023: 4). The architectural evolution underwent multiple stages (Meeks, 1995).[1] In France, during the early 19th century, the first stations were constructed without any historical influence. They were designed as basic structures resembling piers and landing stages, which were commonly used in river transport (Fournier and Lamming, 2017: 22). These stations were built in a neoclassical style that prioritized practicality and functionality over aesthetics.

Later regarded as modern-era cathedrals (Pruneda and Angoiti, 2005: 9), they were constructed in a variety of styles, including historicist, regionalist, and modern. In addition to the most prestigious stations, there are also terminal or transit stations that are categorized based on their level of significance, ranging from first to sixth class. Railroads altered the geographical landscape of territories and stations, which had previously captivated locations for exotic journeys (Ragon, 1984: 6). Their influence on writers, poets, musicians, and painters was profound, and they significantly transformed both the urban and natural environment. Historian Fernard Braudel went as far as stating that *"more than Jeanne d'Arc, it was the railway that shaped France"* (Cartier, Roux and Fessy, 2007: 10).

In Algeria, similar to numerous other ancient colonies in Africa and Asia, the railways exerted a significant impact on the process of colonization (Sulistyani, 2023: 2614) and brought about substantial changes to the conquered region. The concept of building a railroad goes back to the beginning of French colonization. The decision to completely and definitively occupy the country required that it be equipped with a railway network. In 1857, the many projects outlined resulted in the "central Tell line"[2] (Delavigne et al., 1854: 9). A sort of great North African ring road (Lartilleux, 1946: 6), it was intended to connect Algiers to Oujda in Morocco and Tunis in North Africa, promoting the growth of colonization. Perpendicular lines connecting major cities to important ports were constructed.

In 1879, a second program was launched with the primary goal of homogenizing all of the lines built by five different companies before constructing penetration lines to the south and branch lines to the main artery. The third plan of 1907 was developed after Algeria gained financial autonomy in 1900, creating new circumstances in which railroads could be used as a tool of pacification (Bejui, Raynaud and Vergez-Larrouy, 1990: 16), consolidating the existing network and establishing multiple branch lines and connections. The 1920 program came after the state had taken over the vast majority of lines and established CFAE[3], which shared the network with PLM and was primarily concerned with reor-

1 According to (Meeks, 1995), station architecture was divided into five phases, ranging from experimentation to maturity. They began as simple shelters built along the first railroad lines between 1830 and 1845, before becoming more standard in the middle of the nineteenth century. Railway stations became a veritable field of collaboration between architects and engineers during the sophistication phase that lasted from 1860 to 1890. The architects' intervention introduced the monumentality and megalomania that would characterize station architecture until World War I. The stations from the final phase (1914-1956), which was characterized by competition between railroads and new modes of transportation such as airplanes and automobiles, were designed in the twentieth century style, sometimes in a modern architectural style, sometimes in a regionalist language.

ganizing the entire system. This coincided with the decline of railroads due to competition from automobiles, prompting the government to focus on reorganizing network management and modernizing rail lines and infrastructure.

Following independence, Algeria inherited long railroad lines, which paved the way for the construction of numerous railway stations that can still be found in our cities today. While certain structures have become non-operational, posing a risk of losing a significant portion of Algerian railroad history, others continue to maintain their use value. The study of the architectural design of train stations in Algeria during the period of French colonization in the 19th and 20th centuries is not extensively explored. Except for a few specialized studies, the only work that examines the morphic aspect of Algeria's oldest railway stations is the work conducted by (Boulkroune and Bouslama, 2015). The authors analyzed the main façades of about twelve stations. The paper by Kebbour, Bouzaher and Alkama (2022) explores the impact of military factors on the design and structure of Algiers' central railway station. In their comprehensive theses, Safir (2011) examined all the stations and engineering structures along the Algiers-Tizi Ouzou line, and Benaissa Chérif (2023) focused on the significant railway stations during the colonial era.

This paper contributes to the body of scientific knowledge on Algerian railway stations, with a particular emphasis on the Annaba (formerly Bône) stations (Fig. 1). The two structures provide insight into the evolution of railway architecture during the colonial period. The first is one of Algeria's doyenne stations, an example of a typology newly imported by French colonization. The second, on the other hand, is regarded as a significant accomplishment of the 1930s in Annaba, with a unique architectural configuration that adapts railway attributes to an Arabist repertoire interpreted with modern lines and set in a local context.

This research focuses on the architectural and stylistic characteristics of two buildings built during French colonial rule in distinct historical, political, and economic contexts. It will attempt to answer the following question: What is the architectural character of Annaba's first and second stations, and what contribution do they make to the architecture of stations in Algeria and beyond (French colonies)? We will assume that these stations have distinct characteristics when compared to those built in metropolitan France during the same period.

Methodology

The first part of this study is based on a historical theoretical methodology, specifically examining the historical progression of the railroads in the city of Annaba and their influence on its growth and advancement. The second section examines the functional, stylistic, and structural aspects of the passenger buildings' architecture at both stations. The research methodology employed for this study has involved archival research[4], which brought together unpublished documents from Algeria and France. Additionally, documentary research was conducted by consulting various writings on the subject. Fieldwork was also carried out, consisting of a study of the stations in situ (Brajnov Botić and Sokol Gojnik, 2024: 131) and observational work (Kurniawan et al., 2019: 471) of all architectural elements of both buildings, accompanied by detailed photographic documentation. By employing a comparative approach, it became feasible to assign a distinct architectural character to each of the stations and determine their stylistic influence by comparing them to other stations and structures built during the same era in Algeria, North Africa, or France.

Bône, a Railway and a Railway Station for the Constantine Region Port

Annaba is a seaport located in the eastern region of Algeria. It is situated 500 kilometers away from the capital city, Algiers, and approximately 20 kilometers from the border with Tunisia. This city has a long and rich history, spanning thousands of years, during which multiple civilizations have influenced it. The origins of this can be traced back to ancient times, specifically to the establishment of the Phoenician trading post of Hippone (Cote and Camps, 1988: 3), which eventually transformed into the Punic Hippo (Salhi and Dönmez, 2021: 84). Hippo, constructed during the Roman era, was a prosperous trading hub situated between the Boudjema and the Seybouse valleys. Following the

2 The imperial decree of April 8, 1857 (Bejui, Raynaud, & Vergez-Larrouy, 1992) authorized the creation of three lines connecting the main Algerian cities to the ports: Algiers-Blida, Oran, Saint Denis Sig and Constantine-Phllippeville. Awarded to the Compagnie des Chemins de Fer Algériens (CFA – Algerian State Railway) and then to the PLM, the Algiers-Blida line, inaugurated in 1862, was the first rail line to carry both passengers and merchandise in Algeria.

3 CFAE: Chemin de Fer Algérien de l'Etat (Algerian State Railways)

4 In Algeria, we consulted the National Archives of Algeria, the archives of the SNTF (Société Nationale du Transport ferroviaire) in Algiers, and the archives of the regional rail authority in Annaba. We also consulted archives located in France, such as the ANMT (Archives nationales du Monde du Travail) in Roubaix and the ANOM (Archives Nationales d'Outre-Mer).

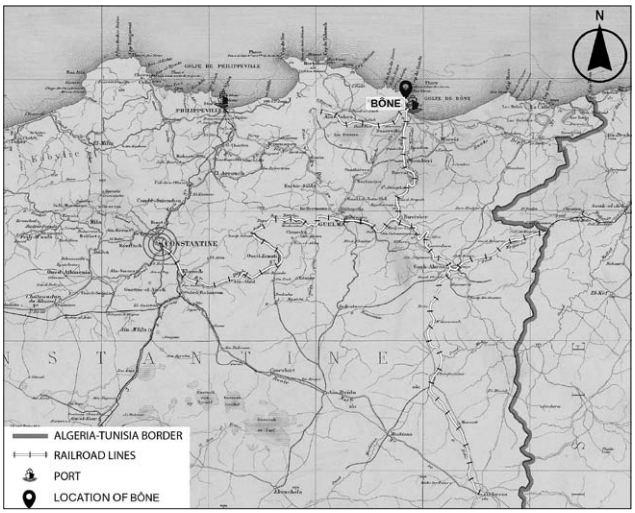


FIG. 2 RAIL AND PORT CONNECTION OF THE CITY OF BÔNE

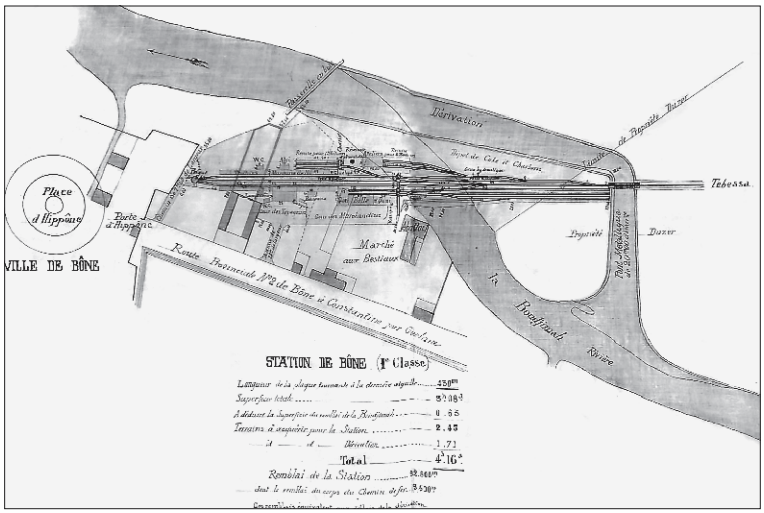


FIG. 3 MASTER PLAN OF BÔNE-GUELMA RAILWAY STATION

Muslim conquest in the 11th century, a city called Bouna El Hadidha was established (Hacini-Chikh and Rouag-Saffidine, 2009: 23). Although Bône had a favorable location near Tunisia and a port, it was not fit to become the capital of eastern Algeria during this period (Travers, 1958: 498). Undoubtedly, the Constantine region was primarily linked to the sea through the port of Skikda.

Meanwhile, the Far East focused on Tunisia (Travers, 1958: 498) in its trade relations. During the French colonial period, the city, which would later be renamed Bône (Djouad and Spiga, 2018: 52), finally achieved regional[5] dominance, both administratively and economically, thanks to the mines/railway/port importance (Cote and Camps, 1988: 7; Fig. 2), which would play a key role in the city's prosperity. The private mining line from Bône to Ain Mokra (Tomas, 1969: 49), established in 1859, was specifically used for transporting iron ore from the Karezas deposit to the port. This line was in operation even before the "Algiers-Blida" line opened in 1862[6] (Bejui, Raynaud and Vergez-Larrouy, 1990: 10).

The "Bône-Guelma" regional railway line, along with its steep descents, constitutes the eastern segment of the Algerian portion of this significant transportation route. The award was granted to the Société de Construction des Batignolles in 1872, officially recognized as being in the public utility in 1874, and subsequently acknowledged as being of general interest in 1877. Established in 1846 (Park-Barjot, 2005: 81), this company achieved significant success on a global scale in the field of public works. Following multiple projects in Europe and Asia, the company developed a particular focus on North African railroads. In 1875, it established the *"Compagnie des chemins de fer Bône-Guelma et prolongements"* to manage its railway line in the region. The company regarded the "Bône-Guelma" line as the main artery of an extensive railway network, serving as the central trunk (conseil administration du Chemins de fer de Bône-Guelma et prologements, 1877: 4) that connected Constantine to the Tunisian border on one side and the mineral-rich agricultural region to the coast on the other. Thus, it served as both an economic and military tool to facilitate colonial expansion towards Tunisia. In 1915, CFAE assumed control of the entire network as it strives to modernize rail lines and infrastructure.

RESULTS AND DISCUSSION

BÔNE-GUELMA RAILWAY STATION

Bône-Guelma, a first-class station, began operations on September 1, 1876, coinciding with the inauguration of the Bône-Duvivier railway section. The company chose an extramural site to the south of the European city, close to the port, on land, resulting from the diversion of the mouth of the Boudjemah into the Seybouse valley and the reclamation of the small plain (Bensaâd Redjel and Labii, 2015: 117; Fig. 3). Although considered a mainline station, the company built the passenger building in a layout parallel to the track, a design generally used for transit stations in France. Similarly, the central station

5 It became a transit port for wine and citrus products (Tomas, 1969: 39) and cereals from the sublittoral plains destined for export to mainland France. Industrial activity was also booming, thanks to iron ore from the Ouenza and phosphates from the Kouif, which could only be transported by rail.

6 It is considered the oldest railroad in Algeria. The *Société civile des mines et hauts fourneaux des Karesas* constructed this private, solely industrial railway in 1859. It was operated by the "Mokta El Hadid" company and opened to the public in 1905.

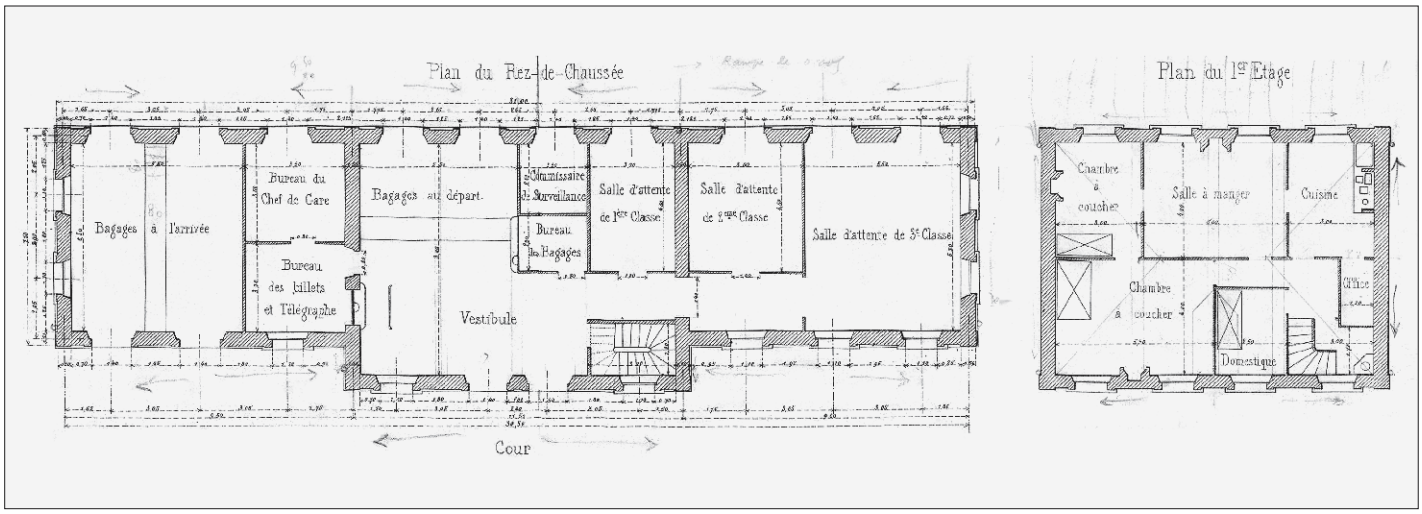
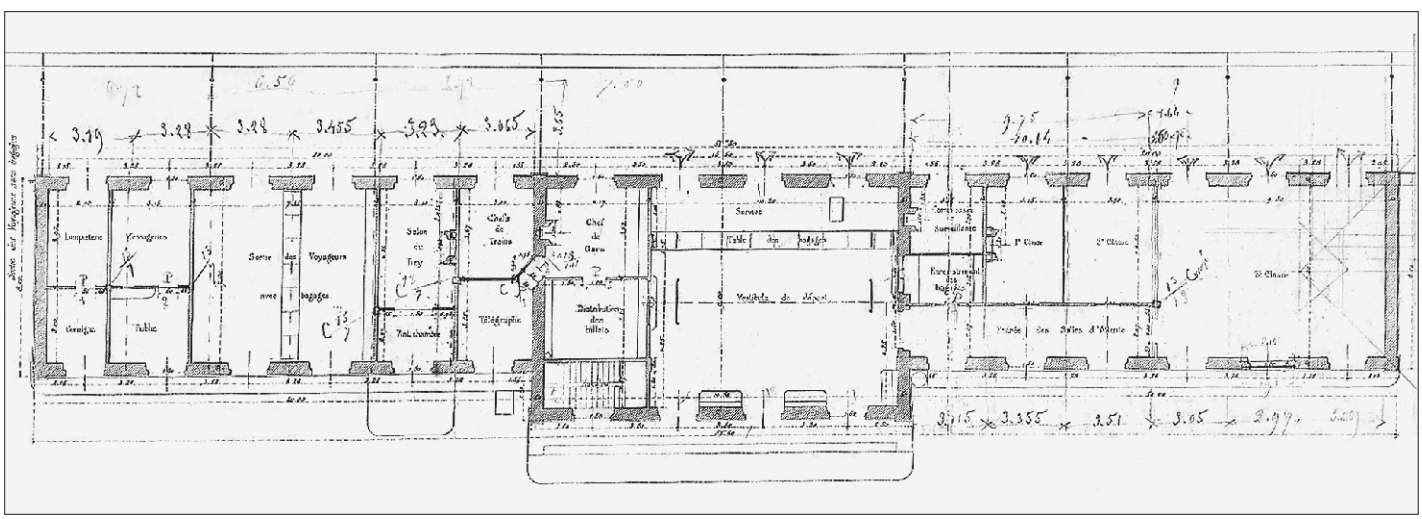


Fig. 4 Ground floor and first-floor plan of Bône-Guelma station

of Algiers, constructed in 1868 (Boulkroune and Bouslama, 2015: 45) and the Constantine station also experienced this situation. The station has a spatially elongated plan that adheres to the recommended passenger building layout for medium-sized French stations in the 19th century. This includes an entrance that is preceded by a passenger courtyard, a clear separation between the arrival and departure departments, and the segregation of classes in the waiting rooms. These design principles were outlined by (Perdonnet, 1856; Goschler, 1872; Humbert, 1891; Fig. 4).

The building can be accessed through the central pavilion, which contains the vestibule. The vestibule serves as a reception area and is surrounded by different sections dedicated to ticket sales, baggage drop-off and check-in, and waiting for first-class passengers. Conversely, the second and third-class waiting rooms are situated in the right wing. The left-wing, on the other hand, is designated for the station manager's office, the telegraph ticket office, and the arrival baggage room. Furthermore, this designated area not only facilitates the retrieval of passengers' luggage upon train arrival but also enhances the management of passenger traffic by providing them with a direct exit from the station, eliminating the need to navigate through other sections. Similar to other passenger stations during that time, the second floor accommodates the stationmaster's living quarters. The space comprises a dining room, a kitchen, two bedrooms, a maid's room, and a pantry. The Tunis station, also referred to as the Gare du Sud was constructed by the same company in 1877 (Azzabi, 2006: 73). This was done to distinguish it from the Italian TGM station (Mansour, 2018: 4), which shares a similar design but is larger. The vestibule and third-class waiting room at the Tunis station (Fig. 5) are larger compared to those at the Bône station.

Fig. 5 Ground floor plan of Tunis station



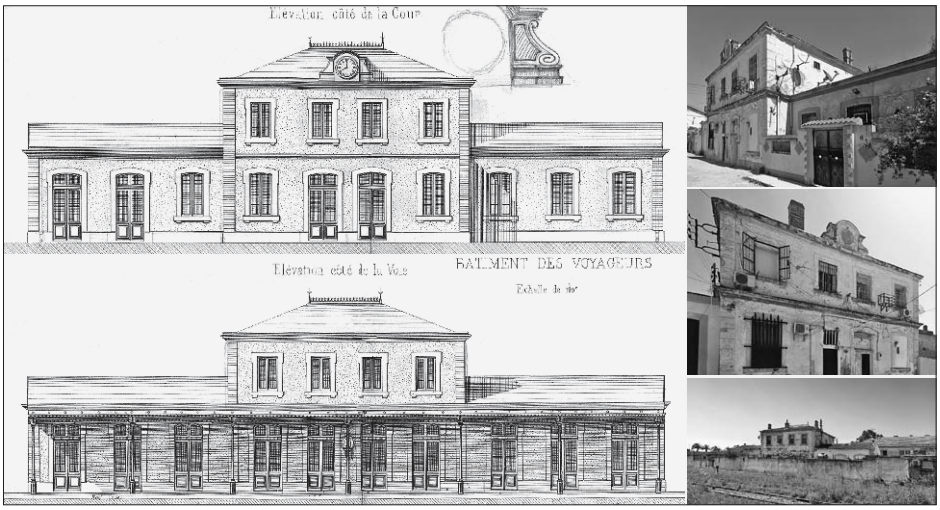


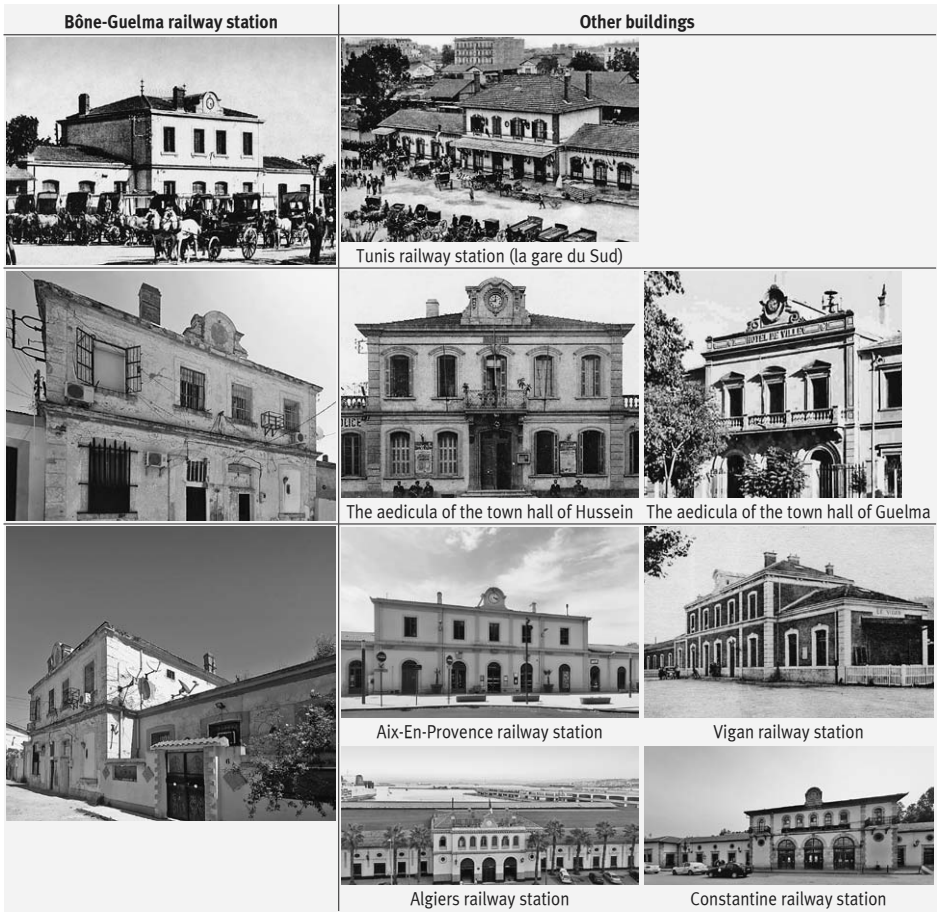
Fig. 6 Facades of the Bône-Guelma station

Additionally, the Tunis station has specific areas that are unique to it, such as Bey's salon with its antechamber, the lamp room, and other independent services that were not present in the passenger building at Bône.

Bône's initial station is characterized by the neoclassical architectural style (Fig. 6). The "conqueror's style" (Dali and Belakehal, 2023: 158) was the dominant architectural style in Algeria during the 19th century. Derived from Greco-Roman architecture, this style of decoration was primarily used in public buildings to symbolize the colonizer's authority and supremacy. The main front of the building lacks excessive embellishments and instead employs a vocabulary that is both logical and understated. The Bône station is distinguished by its symmetrical design and division into three parts: the basement at the bottom, main body in the middle, and crown consisting of a tiled roof structure.

Similar to the Tunis railway station, the central section consists of four spans and is divided into two levels by a string course. The first level is characterized by alternating bays and windows with a low arch, while the second level has four simple rectangular windows in a row. The building is surrounded by two side wings on the ground floor only, which are protected by a gambrel roof. The ornamentation is reduced to brick chainwork on the corners, which lends elegance to the whole, to the segmental-arched frame, which gives a robust effect, and to the punches that punctuate both ends of the ridge of the four-sided roof (Fig. 7).

Fig. 7 Comparison between Bône-Guelma station and other structures built during the same era



The difference from the Tunisian case is the more pronounced keystone framing of the openings, as well as the clock and decorative wall panels set between the openings, which add relief and artistic dimension to the overall design. The Bône Station Building is topped by a central clock enclosed in a pediment, forming an aedicula. The main facade of railway stations often includes a monumental clock (Perdonnet, 1856), which serves as a symbol of colonial power and technical progress. Its presence not only regulates rail traffic but also serves as a reminder of the value of time and, above all, of the triumph of the industrial and rail revolution.

The clock was generally incorporated into the ornamental system of the first town halls constructed in Algeria during colonial rule. The town halls of Hussein Dey (1868) and Guelma (1880) (Fekrache, 2022: 160) perfectly illustrate the use of this element as an integral part of a pediment constituting the characteristic aedicula of this typology, built in a neoclassical style as sober and simplified as that of the Bône station. The station's overall architectural appearance, with its neo-classical repertoire and railway features, is strikingly similar to the first-class PLM station model. Indeed, this company creates a "strict and austere" type (Notarnicola and Poupardin, 1991-1992: 108) for medium-sized stations. One variant, represented by the Aix-en-Provence and Vigan stations, has a single-

story central body topped by a pediment and slightly forward of the lower side wings (Poupardin, 2008: 60).

Furthermore, despite the difference in the number of bays, the passenger buildings in Vigan (which began passenger service in 1874) and Bône have the same architectural treatment in terms of composition and ornamentation. However, the first high-quality stations built by the PLM in Algeria clearly have a more elaborate architecture in terms of size and vocabulary. The Algiers and Constantine stations, for example, were inaugurated on July 1, 1867, and September 1, 1870, respectively, and feature more imposing neoclassical facades with a variety of architectural elements such as bull's-eyes, bas-reliefs, and larger openings.

The structure of the Bône-Guelma station is supported by 50 cm thick ashlar walls. At a distance of 9.5 m for the side wings, they support a wooden framework, and at 10.5 m, they support the wooden floor of the second level of the central body. A metal-framed canopy runs along the entire façade on the side facing the road. Supported by columns, it covered the platforms, protecting passengers and their luggage from the elements. Today, no trace of the marquee remains, and the station, now occupied by a residence, is in a state of neglect.

The Second Bône Station

During the first half of the 20th century, the city of Bône underwent major economic and demographic development. It was the third largest city on the Algerian coast (F.B., 1933: 3), after Algiers and Oran. The rail traffic in the area grew in importance, leading to the conclusion that the primitive pier (Mailland, 1934: 1), which also served as the station, was unhygienic and inadequate for a prosperous city like Bône. It was decided that a more modern station was needed (Cotereau, 1933: 1001). As part of the railway network modernization program, which happened at the same time as the electrification of the Bône-Oued Keberit line, the city was supposed to have the biggest station in North Africa at that time (C.M., 1933a: 1). The construction would take place on two plots of land measuring 21434.21 m² each, located 100 meters away from the port and in close proximity to the Cours Bertagna, which is an expansive esplanade that serves as a boundary between the European city and the Arab-Muslim Medina (Laouar, Mazouz and Teller, 2019). In 1891, BG obtained this site with the purpose of expanding their railway lines and constructing a new station (Ardoin, 1935) to provide passengers with easier access to the city center (Fig. 9). The CFAE adopted and approved it, and it was validated by the *Plan d'Aménagement et d'Extension du Grand Port Est-Constantinois*, under the authority of the *"Société des Plans Régulateurs de villes"*, commonly referred to as the *"plan des consorts Danger"* (Cotereau, 1933). The construction of the building was finalized, and it was made accessible to vehicles on July 1, 1933.

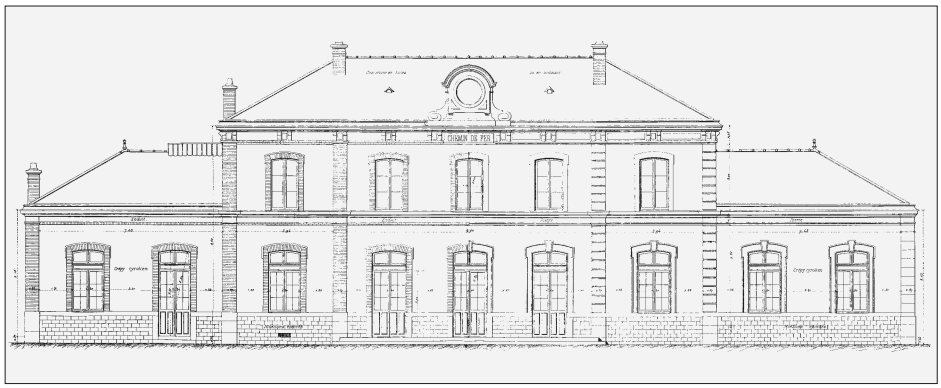
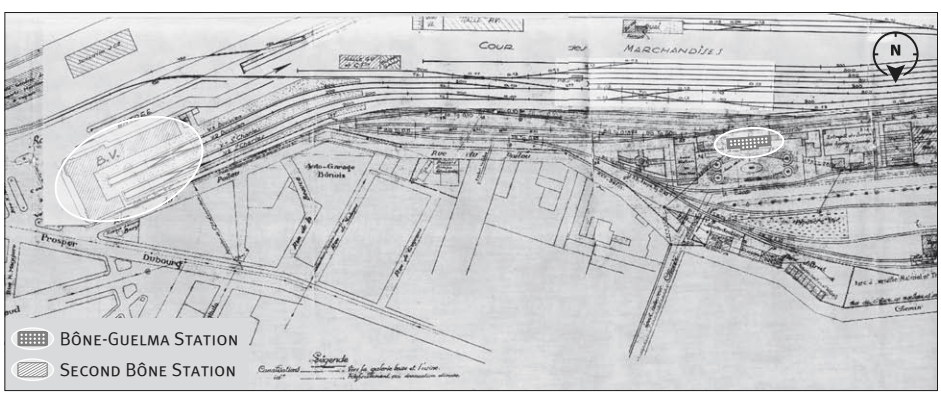


Fig. 8 First-class PLM station model

CFAE commissioned young architects Pierre Choupaut and Pierre Truchot to design the new passenger building, and Enterprise Nord-Africaine de Construction was contracted to construct it. Pierre Choupaut (1895-1956) and Pierre Truchot (1894-1970), both DPLG architects and architects of historical monuments, obtained their degrees from the Ecole des Beaux-Arts de Paris, one of the most prestigious architecture teaching institutions in France. In 1928, they established their architectural practice in Bône, opting to pursue their profession in the colony. By virtue of their titles, training, and administrative roles, they were granted the privilege of receiving public commissions from the colonial administration (Piaton and Chebahi, 2016: 41), in contrast to architects trained in the local area. Based on the suggestions of the CFAE administration (M, 1933a: 1), the two architects designed the passenger building in a U-shape,

Fig. 9 Localization of the second Bône railway station in relation to the first one



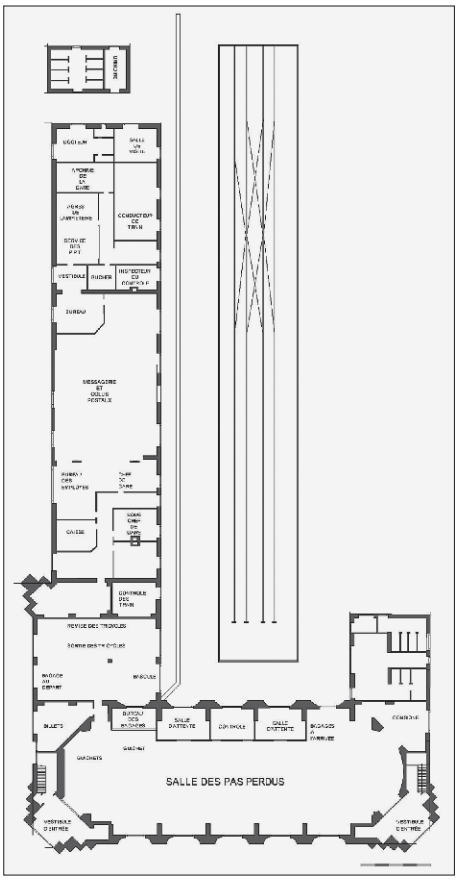


FIG. 10 PLAN OF THE SECOND STATION OF BÔNE

FIG. 11 INTERIOR VIEWS OF THE CONCOURSE

FIG. 12 THE MAIN FACADE OF THE SECOND STATION OF BÔNE

with the main body positioned at a right angle to the tracks. This arrangement is commonly used for head-of-line stations in France but has never been used in Algeria.

The Bône station is the only one in Algeria with this U-shaped layout. The spatial arrangement of the layout is both functional and practical, with the main body positioned in the east-west orientation. The announcement is made through a large open area that functions as a passenger courtyard and is preceded by a meticulously designed garden. At first, it contained the department responsible for passenger services. This department included a large concourse with services for departing passengers on the left side, waiting rooms for the three different classes of passengers in the middle, and services for arriving passengers on the right side. The administrative services were located in the east wing, while the staff apartments and mess halls were situated in the west wing (Fig. 10).

The expansive and radiant concourse (Fig. 11) is lit by a series of five towering openings that penetrate the main façade. The ends are delineated by two inclined sections from which the side facades emerge. The doors have a rectangular shape and are surrounded by ornamental stucco panels. The windows are adorned with intricately designed frames embellished with geometric patterns and are crowned with round arches adorned with rosettes (Fig. 12). The composition brings to mind the five elongated, curved, and minimalist bays of the Versailles-Chantiers station, which were designed by architect André Ventre and finished in 1932. Unlike the predominant verticality of the structure, a transparent concrete canopy serves as a prominent horizontal feature that extends along the facade of the Annaba station, positioned above the doors. The main facade's perfect symmetry is disrupted by a grand 45-meter tower adorned with a clock featuring three radiant dials. The dials measure 5.50 meters in height and 4 m in width, with hands that are 1.50 and 2 m long. From the 20th century onwards, the clock tower became an emblematic representation of railway architecture (Kanai, 2005). The incorporation of railway architecture began in 1902 when architect Marius Toudoire (Safir, 2011: 111) added a tower with a clock on each side to the Paris Gare de Lyon, commissioned by the PLM company. The identical company introduced it to Algeria, employing it for the construction of the Oran station in 1913, designed by Al-

bert Ballu and Toudoire (Aïche, 2020: 2), this time in a neo-Moorish architectural style.

Historians of railway architecture consider it to be a significant and influential structure that serves both symbolic and practical purposes. It stands out as a prominent landmark that enhances the visibility of the station within the city, competing with traditional landmarks like church bell towers that existed before the industrial era (Fig. 13). The campanile of the Raincy church, designed by Auguste Perret, was built in 1922 using reinforced concrete (Aymone, 2005: 196). It is topped by a spire and is considered a significant architectural achievement. This structure served as an inspiration for the designers of the Bône railway station. The spire-shaped clock tower is made of reinforced concrete, with a 6 meters extension for a lightning conductor. The Annaba covered market was designed in an Art Deco style by the same architects who drew inspiration from Auguste Perret's Paris Rotunda. In addition, they constructed a tower with a reinforced concrete spire on top. During the 1930s, clock towers gained popularity as a stylish addition to railway stations, and architects frequently incorporated them into their designs. For instance, in France, the second railway station in Le Havre has a layout and main body façade that resemble those of Annaba. This similarity is observed in terms of spatial configuration and the arrangement of high bays interrupted by a canopy. The tower, distinguished by its spire, is the sole upright component that contrasts with the overall horizontal arrangement. Its detached position enables the four clock faces to be visible from a distance. The building, which was opened in 1932 (Pacon, 1932), was created by architect Henri Pacon, who also received education at the Ecole des Beaux-Arts de Paris.

Architect Charles Rosazza (R, 1936: 1) selected to include a clock tower with a towering spire at the main entrance of his project as part of the competition for the construction of the Constantine railway station. The preliminary design for Tunis's central station, created in 1930 by Algerian architect Cés (*** 1930: 330), includes a spire on top of the tower. Cés was awarded the fifth prize for this design. Besides the spire, the clock tower at Annaba station includes a balcony that provides a view of a modest office. In contrast to city halls, which serve as symbols of administrative authority (Mohdeb, Attar and Saraoui, 2023: 103), balconies are infrequently utilized in railway stations. However, it is possible to install a prestigious balcony in the belfry of a city hall. An example that demonstrates this is the Mostaganem city hall, which was reconstructed in 1927 by architect Charles Montaland in the Art Deco architectural style (Fekrache, 2022: 216). If clock towers evoke the campaniles of churches and the bell towers of town halls in Europe and Algeria, they recall the minarets of the mosques that have been rising for centuries in Algerian cities. The minarets of the mosques have been rising for centuries in Algerian cities. At the start of the 20th century, they applied their unique style to public buildings, giving them an Arabized appearance while still adhering to European construction standards.

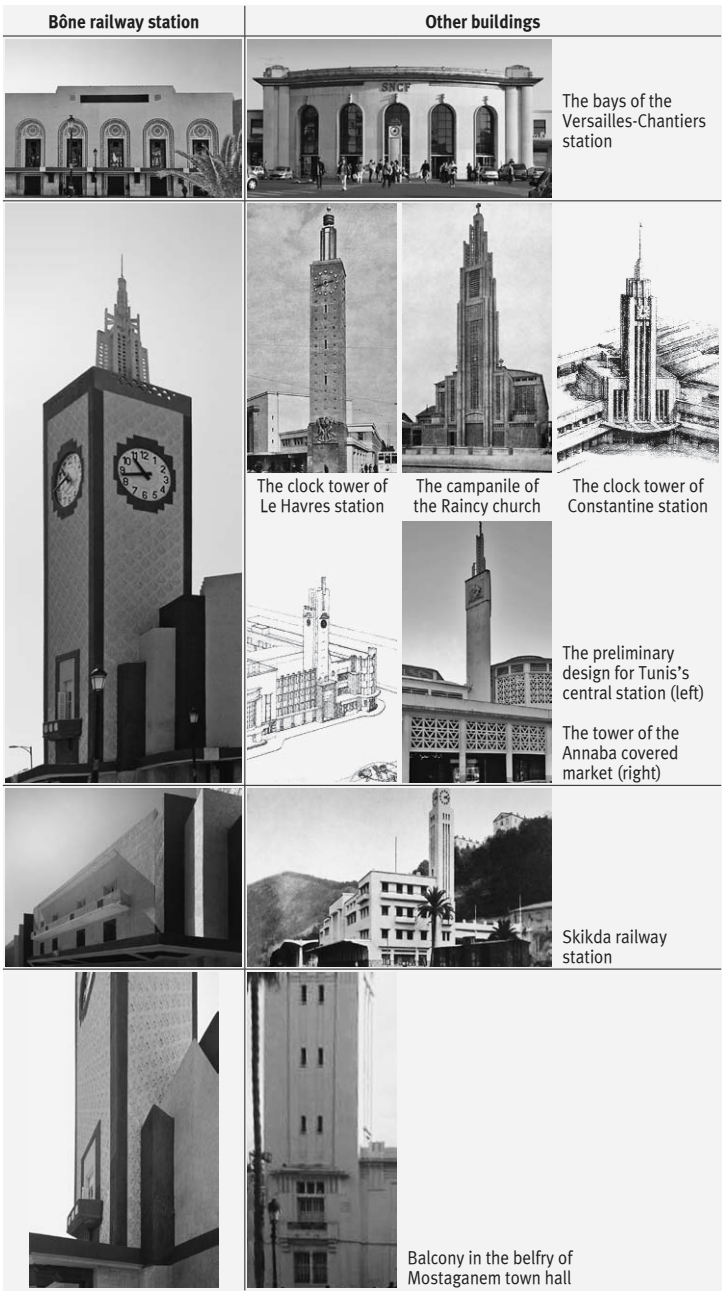


Fig. 13 Comparison between Bône station and other structures built during the same era

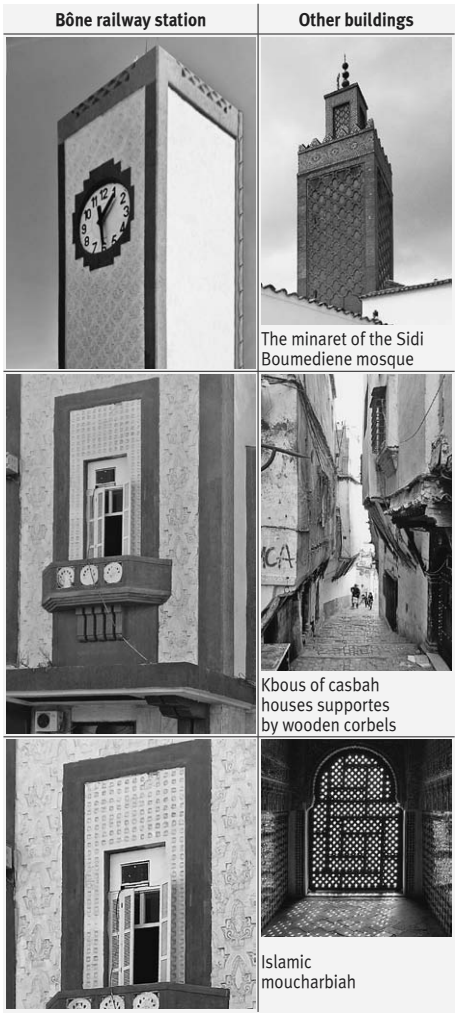


FIG. 14 THE INFLUENCE OF ISLAMIC ARCHITECTURE ON BÔNE STATION

The neo-Moorish style was formalized and generalized by Governor Jonnart as part of France's desire to revive Algeria's medieval Muslim past. Referred to as "the protector style" (Béguin, 1983: 19), this style takes inspiration from the local Arab-Muslim culture. Regarded as a Pastiche style, Cotereau (1933: 1003) argues that the uniqueness of the Bône station lies in the "energy boost" it offers, which the architects added to the neo-Moorish style mandated by CFAE (M, 1933a: 6).

Their design was characterized by a rational and harmonious style, incorporating Moorish influences, particularly in the tower, which resembled the square-based minarets commonly found in the Maghreb region. They also used a tapestry with a juxtaposition of floral patterns that resembled the minaret of the Sidi Boumediene Mosque in Tlemcen. The monumental balcony supported by a series of five brackets with claustra decoration is similar to the Kbous of casbah houses supported by wooden corbels, while the decorative claustra panel is reminiscent of the moucharabieh found in Islamic architecture (Fig. 14). Furthermore, they opted for an exterior paint color that initially resembled the sandy red hue commonly found on vernacular earthen structures (Benaissa Chérif, 2023: 249). During the same period, Montaland designed the Skikda railway station in a futuristic neo-Moorish style (Chalabi, 2011: 50), incorporating a clock tower and locally inspired decorative elements. The passenger building is oriented parallel to the tracks, in contrast to the layout of Annaba. It follows a traditional, linear design, consisting of a central structure and two wings on either side. The side façades feature long, narrow windows that open onto balconies, which extend outward and lack any additional decorative elements.

The composition is also visible on the lateral facades of the Annaba train station. In terms of its structure, Choupaut and Truchot utilized the capabilities of reinforced concrete, employing it for the concealed framework of the campanile. It allowed the clock tower to achieve a height of 40 meters. The expansive concourse, towering at a height of 12 meters, provides a spacious area of 42×16 m². This is made possible by a ribbed floor that is upheld by five arches. The terrace ceiling is constructed with a ribbed floor covered by a single slab that is waterproofed with Tecto. The walls are made of double-walled hollow agglomerate rubble, with a thickness of 1.10 m on the main section and 0.50 m on the secondary sections, providing good insulation. The interior partitions are constructed using hollow bricks.

Due to the unpredictable soil conditions near the western dock of the harbor, Franki piles foundations with a reinforced concrete base were employed. These foundations were occasionally extended to a depth of 18 meters below the clock tower (C.M., 1933b: 8). If the passenger building is the work of the architects, the metal hall is the engineers' place of expression, often hidden (Bowie, 1996: 20) behind a façade created by the former. It is a light construction housing the boarding platforms (Safir, 2011: 113), referred to as "these large metal canopies that were intended to protect both railroads and passengers". With its origins in market halls (Laborde, 2003: 9), it became the place to display new materials left bare as a structural and ornamental element. Maison Durafour designed the one at Bône station. The steel structure measures 101.5 meters in length and 26.5 meters in width. It is topped with a pitched, corrugated metal roof that includes two 12-meter-wide skylights made of reinforced glass (Fig. 15).

CONCLUSION

The railroads and the city influence each other. If the Bône-Guelma line and its first station had an impact on Annaba's economic and urban development, the importance of this city conditioned the architecture of its second station. The development of station architecture in the former Bône region can be likened to that of metropolitan France. These structures are the outcome of the exchange of knowledge and expertise between mainland France and its colonies, as well as the joint efforts of various stakeholders, including concessionary companies, engineers, and architects.

Furthermore, the comparative approach showed that, spatially and functionally, the companies played a major role in determining the type of station. Using the prominence of the locality as the primary criterion, the Bône-Guelma had a pre-established standard layout of passenger buildings in metropolitan France inspired by standard French passenger stations. Political influence could sometimes be exerted on this predefined spatial layout (as in the case of the Tunis station). In terms of style, the initial stations were designed in an institutional manner, evoking the influence of colonial authority. They were constructed using a neoclassical architectural style that was imported and widely adopted, reflecting the prevailing aesthetic of the time.

Nevertheless, the participation of architects in the design process of Annaba's second station resulted in a distinctive architectural masterpiece that combined contemporary design with a regional influence, evident in

the protective covering reminiscent of the local style. The metropolitan inspiration is derived from the exchange of models between the two sides of the Mediterranean. It can be rationalized by the architects' education and experiences or by the architectural publications that emerged during that period.

Thus, we can note that the first station's configuration and imported architectural style are typical of 19th-century French stations built in metropolitan France or the colonies. The second, on the other hand, is a product of a number of influences related to its construction context, which was marked by the rise of Bône, the nationalization of the railway network, an appreciation for local architecture, and the beginnings of modernism. The findings allowed us to ascertain the historical importance of the first and second Annaba stations in the field of architecture, as well as contribute to the documentation of the history of railway architecture in Algeria.

From a practical standpoint, studying 19th and 20th-century railway stations adds to our scientific understanding of Algeria's railway heritage. By providing an overview of technical and historical knowledge, it may serve as a theoretical foundation and tool for defining future conservation and enhancement strategies. On the one hand, this necessitates a better understanding of the restoration and renovation work required to restore buildings' architectural authenticity. On the other hand, upgrading can be accomplished by relocating buildings that have lost their use value in order to preserve their historical and architectural value and ensure their durability or by incorporating them into potential cultural and/or tourist circuits. In this way, the research project encourages institutional and public recognition of railway heritage, resulting in its patrimonialization. It also contributes to increased awareness of its role in the urban landscape, architectural history, and collective memory, particularly through digital and other traditional media.

[Translated by
Beyond Words Lingusitic Services]

Fig. 15 Views of the train shed of Bône station

Bibliography and sources

1. Aïche, B. (2020) 'Metal construction in Algiers: the Durafour factory', *The Journal of North African Studies*, 25(5), pp. 797-809. https://doi.org/10.1080/13629387.2019.1644902
2. Ardoin (1935) 'Emprises de la nouvelle gare de Bône'. Note 04. Gare de Bone. La nouvelle Gare de Bone. Box°186. Archives of the SNTF. Algiers.
3. Aymone, N. (2005) 'Christian Freigang : Auguste Perret, die Architekturdebatte und die "Konservative Revolution" in Frankeich 1900-1930, 2003', (9), pp. 168-169. Available at: https://www.persee.fr/doc/lha_1627-4970_2005_num_9_1_1006_t1_0168_0000_2 (Accessed: April 10, 2024).
4. Azzabi, T. (2006) *L'histoire du chemin de fer en Tunisie*. Hammam-Lif: Communic@tions i.
5. Béguin, F. (1983) *Arabisances : décor architectural et tracé urbain en Afrique du Nord, 1830-1950*.
6. Bejui, P.; Raynaud, L., and Vergez-Larrouy, J.-P. (1990) *Les chemins de fer de la France d'outre-mer: L'Afrique du Nord – Le Transsaharien*. La Régordane.
7. Benaissa Chérif, N.E. (2023) *L'architecture des gares ferroviaires en Algérie : enjeux et fragilités d'un patrimoine colonial*. Ph.D. thesis. Université Panthéon-Sorbonne – Paris I.
8. Bensaâd Redjel, N. and Labii, B. (2016) 'Alignement et extension : des plans pour Bône: Éléments sur l'application de l'urbanisme à la française en Algérie : 1855 et 1932-1933', *Cahiers de géographie du Québec*, 59(166), pp. 109-133. Available at: https://doi.org/10.7202/1034351ar (Accessed: July 28, 2024).
9. Boulkroune, H., and Bouslama, A. (2015) *Le patrimoine Ferroviaire Algérien: Connaissance Morphique des Gares (1857-1879)*. Presses Académiques Francophones.
10. Bowie, K. (1996) 'De la gare du XIXe siècle au lieu-mouvement, évolution ou rupture?'. *Les Annales de la recherche urbaine*, 71(1), pp. 14-23. https://doi.org/10.3406/aru.1996.1950
11. Brajnov Botić, D., and Sokol Gojnik, Z. (2024) 'Architectural Features of Churches in the Kaštela Coastal Area between 1492 and 1918', *Prostor*, 32(1/67/), pp. 128-141. Availableat:https://doi.org/10.31522/p.32.1(67).11 (Accessed: August 03 2024).
12. Cartier, C.; Roux, E. de, and Fessy, G. (2007) *Patrimoine ferroviaire*. Paris: SNCF (Patrimoine, Paris, 2000).
13. Chalabi, A. (2011) *Pour une nouvelle valorisation de l'architecture néo-mauresque en Algérie*. Memoire de magistère. Université Frères Mentouri-Constantine 1.
14. Conseil d'administration du Chemin de fer de Bône-Guelma et prolongements (1877) Rapport du Conseil d'Administration: Assemblée générale ordinaire du 23 Mai 1877, imprimerie centrale des chemins de fer, A. Chaix et Cie, Paris, Archival fonds of Chemin de fer de Bône-Guelma et prolongements, Box 156AQ4, ANOM, Aix en Provence.
15. Cote, M., and Camps, G. (1988) 'Annaba', *Encyclopédie berbère*, (5), pp. 674-685. https://doi.org/10.4000/encyclopedieberbere.2511
16. Cotereau, J. (1933) 'La nouvelle gare de Bône', *Chantiers*, (10), pp. 1001-1005.
17. Dali, A.I., and Belakehal, A. (2023) 'Hotel Architecture in the French Colonization Era: The Case of Biskra City, Algeria', *Prostor*, 31(2/66/), pp. 154-167. Available at: https://doi.org/10.31522/p.31.2(66).2 (Accessed: July 22 2024).
18. Delavigne, P. et al. (1854) *Chemin de fer de l'Algérie par la ligne centrale du Tell avec rattaches à la côte*. Alger. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k29129j (Accessed: March 8, 2023).
19. Djouad, F.Z., and Spiga, S. (2018) 'La Production Architecturale à Annaba : Entre Héritage Délaissé Et Contemporanéité Désirée', Available at: https://www.semanticscholar.org/paper/La-Production-Architecturale-%C3%Ao-Annaba-%3A-Entre-Et-Djouad-Spiga/c965fe8b91ab698359bb20f58c5793b5e6f81f0a (Accessed: August 7, 2024).
20. F, B [initials only] (1933) 'La nouvelle gare de Bône', *L'Écho d'Alger : journal républicain du matin*, 18 May, p. 3. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k7582902c (Accessed: June 8, 2024).
21. Fekrache, L. (2022) *L'expression d'une architecture coloniale officielle en Algérie : cas des hôtels de ville*. Thése de doctorat. Univesité Blida1.
22. Fournier, L., and Lamming, C. (2017) *Patrimoine ferroviaire / Luc Fournier*. Éditions du patrimoine-Centre des monuments nationaux. Paris.
23. Goschler, C. (1872) *Traité pratique de l'entretien et de l'exploitation des chemins de fer*. Librairie polytechnique. J. Batjdry, Libraire-Éditeur, Paris. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k65674330 (Accessed: July 11, 2024).
24. Hacini-chikh, N., and Rouag-saffidine, Dj. (2009) 'Annaba : une mutation de la ville pédestre *à* la ville automobile', *Sciences & technologie. D, Sciences de la terre*, (30), pp. 27-34. Available at https://www.asjp.cerist.dz/en/article/58172 (Accessed: March 7, 2023).
25. Humbert, G.C. (1891) *Traité complet des chemins de fer*. Paris: Librairie Polytechnique, Baudry et cie.
26. Kanai, A. (2005) *Les gares françaises et japonaises : halle et bâtiment principal : une recherche comparative*. These de doctorat. Marne-la-vallée, ENPC.
27. Kebbour, A.; Bouzaher, S., and Alkama, D. (2022) 'The Railway Station as a Contributing Element in the Colonial City Design and Landscape: Investigating the Algiers Railway Station Project', *International Journal of Innovative Studies in Sociology and Humanities*, 7(8), pp. 56-67. https://doi.org/10.20431/2456-4931.070805

28. Kurniawan, A. et al. (2019) 'The Effect of Dutch Colonial Architecture on Palace in Bali, Indonesia'. Rochester, NY. https://doi.org/10.2139/ssrn.3414744
29. Laborde, M.-F. (2003) *Architecture industrielle*. 2nd édition. Paris: Parigramme.
30. Laouar, D.; Mazouz, S., and Teller, J. (2019) 'L'accessibilité spatiale comme indice de fragmentation urbaine dans les villes coloniales. Le cas de la ville d'Annaba', *Cybergeo: European Journal of Geography*. https://doi.org/10.4000/cybergeo.31539
31. Lartilleux, H. (1946) *Géographie des chemins de fer français: Afrique du Nord*. Chaix.
32. Mailland (1934) *Notice sur les travaux d'établissement de la gare définitive de Bône-voyageurs*. Chemins de fer algeriens (reseau CFAE). Box CFAE. Archives of the SNTF. Algiers.
33. M, C [initials only] (1933a) 'La nouvelle gare de Bône', *Le Journal général des travaux publics et du bâtiment*, (758), pp. 1, 6. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k5598818m (Accessed: February 20, 2024).
34. M, C [initials only] (1933b) 'La nouvelle gare de Bône', *Le Journal général des travaux publics et du bâtiment*, (761), pp. 1, 8. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k5598825r/f1.image (Accessed: February 20, 2024).
35. Mansour, M. (2018) 'Genèse d'une gare, genèse d'une ville. Cas du quartier de la gare des voyageurs de Tunis', *Al-Sabîl: Revue d'Histoire, d'Archéologie et d'Architecture Maghrébines*, 5, pp. 1-17.
36. Meeks, C.L.V. (1995) *The Railroad Station: An Architectural History*. Courier Corporation.
37. Mohdeb, R.; Attar, A., and Saraoui, S. (2023) 'Forging the City Image during the French Colonial Period (1883-1962) in the Case of Jijel (Algeria)', *Prostor*, 31, pp. 96-111. https://doi.org/10.31522/p.31.1(65).9
38. Notarnicola, D., and Poupardin, F. (1991-1992) 'Un siècle d'architecture ferroviaire le bâtiment voyageurs comme espace de représentation urbaine des chemins de fer, de 1837 à 1937', *Revue d'histoire des chemins de fer*, 5-6, pp. 91-126.
39. Pacon, H. (1932) 'La nouvelle gare du Havre', *Construction moderne*, (48), pp. 60-71.
40. Paone, S. (2023) 'The Renovation of Italian Railway Stations: From the Journey to the Consumption of the Journey', *Academic Journal of Interdisciplinary Studies*, 12(1), pp. 24-33. https://doi.org/10.36941/ajis-2023-0003
41. Park-Barjot, R.-R. (2005) *La société de construction des Batignolles: Des origines à la première guerre mondiale, 1846-1914*. Presses Paris Sorbonne.
42. Perdonnet, A. (1856) 'De la disposition des gares'. In: *Traité élémentaire des chemins de fer*. Langlois et Leclercq.
43. Piaton, C., and Chebahi, M. (2016) 'Les architectes d'Alger, 1830-1940'. In: Piaton, C. et al., *Alger: ville & architecture, 1830-1940*. Éditions Honoré Clair, pp. 30-39.
44. Poupardin, F. (2008) 'Les bâtiments voyageurs édifiés le long de la ligne impériale', *Revue d'histoire des chemins de fer*, (38), pp. 59-71. https://doi.org/10.4000/rhcf.404
45. Pruneda, J.A., and Angoiti, I.B. de (2005) *Gares d'Europe*. Mengès.
46. R, C [initials only] (1936) 'La nouvelle gare de Constantine', *Le Journal général des travaux publics et du bâtiment*, (1160), 12 December, p. 1. *Ligne Alger-Constantine*. Box *123*. Archives of the SNTF. Algiers.
47. Ragon, M. (1984) *L'Architecture des gares*. Paris: Denoël.
48. Safir, M. ou S. (2011) *Patrimoine ferroviaire des XIX et XX siecles en Algerie*. memoire de magistère. Université Mouloud Mammeri.
49. Salhi, Z., and Dönmez, Y. (2021) 'Urban Identity and Environmental Perception in Annaba, Algeria', *Kastamonu University Journal of Engineering and Sciences*, 7(2), pp. 83-99. Available at: https://dergipark.org.tr/en/pub/kastamonujes/issue/66389/954758 (Accessed: May 7, 2024).
50. Sulistyani, H. (2023) 'The evolution of railway station architecture in Java', *Journal of Asian Architecture and Building Engineering*, 22(5), pp. 2613-2621. https://doi.org/10.1080/13467581.2022.2160214
51. Tomas, F. (1969) 'Annaba et sa région agricole', *Revue de géographie de Lyon*, 1(44), pp. 37-74. https://doi.org/10.3406/geoca.1969.2638
52. Travers, L. (1958) 'Bône. La formation de la ville et les facteurs de son évolution', *Annales de géographie*, 67(364), pp. 498-520. https://doi.org/10.3406/geo.1958.17012
53. *** (1930) '*La nouvelle gare de Tunis*', Les Chantiers Nord-Africains, April, pp. 325-333.

Sources of illustrations

Figs. 1, 9	Archives of the SNTF (Société Nationale du Transport ferroviaire)
Fig. 2	Base map: Gallica, BNF, modified by the authors
Figs. 3-5, 6 (drawings)	ANMT (Archives Nationales du Monde du Travail)
Figs. 6 (photos), 11, 12, 15	Authors, 2021
Figs. 7, 13, 14	Authors, 2024
Fig. 8	*Gare voyageurs PLM du Type 1ère classe – WikiPLM*, 2010. Available at: https://wikiplm.railsdautrefois.fr/wikiPLM/index.php/Fichier:DGCF_1880_BV1_001_CRDAJ.jpg (Accessed: 28 September 2024)
Fig. 10	Drawn by the authors based on an archival plan

Nomenclature

BG – Compagnie des chemins de fer Bône-Guelma et prolongements (Bône-Guelma railway company)
CFA – Chemins de Fer Algérien (Algerian Railways)
CFAE – Chemins de Fer Algériens de l'Etat (Algerian State Railways)
DPLG – Diplômé par le Gouvernement (Government-approved diploma)
PLM – Compagnie des chemins de fer de Paris à Lyon et à la Méditerranée (Railway Company of Paris to Lyon and the Mediterranean)
TGM – Tunis-Goulette-Marsa

Authors' biographies and contributions

Aldjia Djaileb – Architect holding a diploma from the EPAU in Algeria. She is now pursuing her doctorate at Blida1 University. Her research focuses on the heritage of 19th and 20th-century architecture in Algeria.

Boussad Aiche – Architect with a Ph.D. from the University of Bordeau and senior lecturer at the University of Tizi-Ouzou. He has contributed to numerous European programs about twentieth-century legacy. He is a senior consultant in the "Programme Patrimoine" and is in charge of developing inventory guides, thesauri, and catalogues.

Conceptualization: A.D. and B.A.; methodology: A.D.; software: A.D.; validation: B.A.; formal analysis: A.D.; investigation: A.D.; resources: A.D.; data curation: A.D.; writing – original draft preparation: A.D.; writing – review and editing: B.A.; visualization: A.D.; supervision: B.A.; funding acquisition: A.D. Both authors have read and agreed to the published version of the manuscript.

Acknowledgments

We would like to express our gratitude to the *Société Nationale du Transport Ferroviaire* and its Regional Management in Annaba for the permission to consult their archives and facilitate our fieldwork. We would also like to mention the financial and scientific support provided by "Rails & histoire" for the doctoral research this paper is a part of. We would also like to thank the DGRSDT, the ETAP/IAU laboratory and the University of Blida1 for their allocated resources.