

# THE HIGHER SCHOOL OF AGRICULTURE OF MOGRANE (1947-1952) IN TUNISIA

## A referential architectural work by Jean Pierre Ventre

Salma Gharbi, Hédi Derbel

**ABSTRACT:** In order to document the architectural production of the Modern Movement in Tunisia<sup>1</sup>, we propose in this article to study a major project in the production of academic institutions, the "Ecole d'Agriculture de Mograne" at Zaghouan in northern Tunisia. The school was designed by architect Jean Pierre Ventre (1913-1979) and his collaborator Marcel Faure (1882-?) and built between 1947 and 1952. The commission for this institution of higher learning, located in a verdant natural setting, was programmed with the political aim of bringing a breath of modernity to the country, breaking with the local traditional heritage. The complex is a classic example of structural modernity, in which the building's layout reflects both the functional nature of the complex and its coherent integration into the surrounding context. The overall aesthetic of the building is based on a rigorous geometric composition, with horizontal and vertical lines giving it a monumental character. The individual parts, meanwhile, are rationally designed, giving them a functional dimension in terms of sun shading, circulation, or structural maintenance. The mixed use of jointed ashlar masonry and bush-hammered concrete lends stylistic coherence to the whole and has contributed to the school's longevity and durability for over 70 years. For all its students, the school represents an exemplary academic environment where the memory of the place has left its mark on past generations and continues to do so. Over the years, the School of Mograne has been subject to a number of modifications. What's more, several of the annex buildings are now in a state of neglect. This calls for urgent action to rehabilitate and reconvert these abandoned spaces. And even more importantly, the Mograne School of Agriculture needs to be protected and classified as a modern heritage and national heritage monument for the values it offers in terms of history, architecture, and environmental integration.

**KEYWORDS:** Tunisian modernity, post-war reconstruction, Ecole Supérieure, Jean Pierre Ventre, Tunisia

**INTRODUCTION:** The history of the Tunisian university does not begin with the national university. Tunisia's university institutions are the fruit of a political will and a piece of legislation that gave a fundamental impulse to the current structure. These facilities are based on an archetype of institutions that the independence reform took in hand to found a national university. Due to the lack of resources, in the 1940s, several universities were installed in colonial buildings in the center of Tunis. In a modernist vision, Bernard Zehrfuss' team of architects (1911-1996) was called to rebuild Tunisia, which was destroyed by the Second World War. Between the 1950s and the 1970s, they provided the country with two exemplary productions in terms of academic institutions. Namely, the Higher School of Agriculture of Mograne, designed by architect Jean Pierre Ventre

between 1947 and 1952, and the University Campus of El Manar<sup>2</sup>, designed later, in the 1960s, under the regime of former President Habib Bourguiba, by Bernard Zehrfuss and Russian and American architects. This paper presents the Ecole Supérieure de Mograne, a project of higher education institution, a reference in terms of architectural design, atmosphere, and sensitive experience.

### THE DESIGN PROCESS OF THE SCHOOL BUILDING IN THE CONTEXT OF THE POST-WAR RECONSTRUCTION IN TUNISIA (1943-1955)

The period of the Tunisian post-war reconstruction from 1943 until the country's independence is a historical moment rich in events, whether political, economic, or social. The country had to, at that time, rise from its ashes



01 Current state of the High School of Agriculture of Mograne. © Author, 2023.



02 The School of Agriculture of Sidi Naceur in Mograne before the mountains of Zaghuan, seen from the entrance block. © Author, 2023.

and face a chaotic situation. The period of post-war reconstruction in Tunisia is so called for the work done in different sectors and mainly in the urban and architectural fields greatly affected by the bombings. The Tunisian State had to implement a reconstruction program, with policies aiming, above all, at rehousing its stricken populations but also at reconfiguring the urbanism of the cities and at restoring its main facilities.

For this purpose, the State engaged architect Bernard Zehrfuss to establish an inventory of the country's situation and to set in motion an action plan aiming to implement urban and architectural studies to rebuild the country. Zehrfuss brought together several architects, including Jason Kyriacopoulos (1909-2002), Jacques Marmey (1906-1988), Jean Le Couteur (1916-2016) and several others. The team of architects' interest in offering architecture that is conscious of its environment and its user is very explicit in their speeches. Zehrfuss' team advocated the ideals of the Modern Movement, especially those of Le Corbusier (1887-1965), often trying to apply the recommendations of the Athens Charter (1931) and developing a new vision and conception of the elements, such as light, air, and sound. In addition to this wave of modernity, we note a mimicry, born of the architectural landscape present on the territory, whether in the north or south of the country. Some speak of "Tunisian" architecture, others of a "local modernity" that carries the identity or characteristics of local architectural elements, others still evoke a "universal architecture". It is a simple architecture, pure, without ornamentation, executed with available materials such as rubble, hollow bricks, plaster, hydraulic or fat lime, and the Tunisian workforce, expert in local construction techniques that are fast and inexpensive in their implementation<sup>3</sup>.

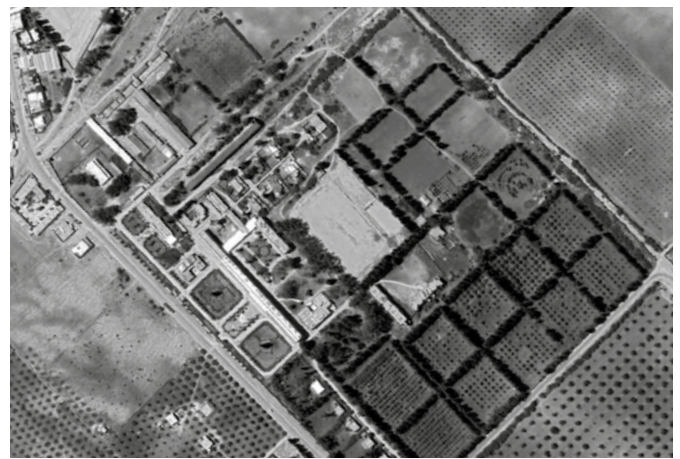
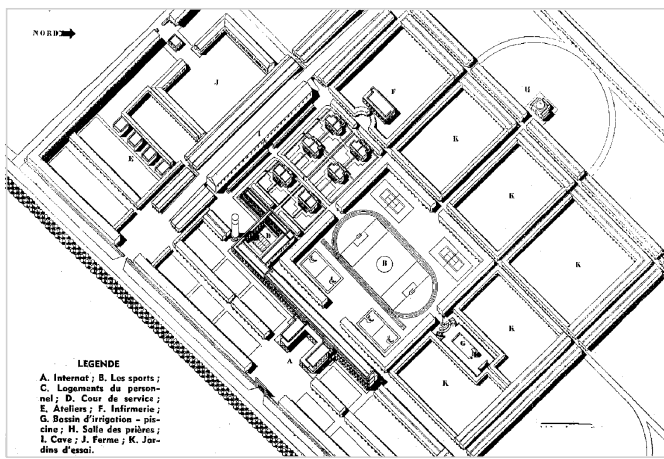
The architects wanted to explore modern architecture vocabulary<sup>4</sup>. They designed buildings with a strong expression with pronounced vertical and horizontal lines, distinct volumes with a play of height between the blocks, and clearance of the vertical circulation on the façades

[FIGURE 01]. This was feasible especially when adequate materials could be used, such as concrete, steel, or prefabricated elements for details designed by the architects, giving the façade a certain rhythm, a certain linearity but also contrast with the light generating a play of shadows dynamizing the façades. Otherwise, they favored the use of traditional techniques that relied on the use of expert labor in the execution of vaults, arches, or domes. The economic constraints, the traditional architectural landscape but also this post-war reconstruction team's idealism and know-how offered an undeniable diversity in the architectural production and the entire Tunisian territory.

### THE SUPERIOR SCHOOL OF AGRICULTURE OF MOGRANE (1947-1952)

The agricultural school Sidi Naceur de Mograne was built between 1947 and 1952 according to the design of the architects Jean Pierre Ventre and his collaborator Marcel Faure. It is located 50 km from the capital Tunis in a grandiose landscape with, in the background, the silhouette of the mountains on which the small town of Zaghuan clings to the hillside [FIGURE 02]. This school was initially requested by the Services of Education and Agricultural Research within the Ministry of Agriculture. Only in 1976, it became an institution of higher learning and is now denoted as the Ecole Supérieure d'Agriculture de Mograne (ESA). The collaborators on this project were Charles Galea (drawing designer), Henri Novak (engineer BA), and Mohamed Kria (constructor).

The School of Mograne testifies to the new air of modernity in total contrast with the Islamic heritage known before. However, it reminds us of the rich ancient heritage and, in some cases, vernacular expression of clean lines and simple volumes. This architectural expression, with a modern character, denies any ornamentation and superfluousness at the façade level. It offers functionality between the interior spaces and the various paths, highlighting the exterior spaces and the views of the green areas.



03 The original project by Jean Pierre Ventre and the actual implantation of the School of Mograne. ©AA n°20, 1948, p.91 (left), © Google Earth (right).

Two scales of architectural production testify to the approach of the “workshop of the Reconstruction”<sup>5</sup> (Bonillo, 2021): the smaller scale of public buildings designed from a critical reflection on Tunisian tradition and the larger scale of regional and national development aiming to provide Tunisia with a modern built environment. These scales of modernist production follow the rationalist conceptual logic close to the classicism of Auguste Perret<sup>6</sup>. Amongst the buildings realized in the post-war period, the School of Mograne is a reference with a political objective, which breaks with the local tradition and advocates a new breath of modernity for the country.

### LOCATION AND IMPLANTATION MATRIX

The School of Mograne extends over 800 ha; built to train young Tunisian farmers on modern techniques of agricultural exploitation. Nowadays, the school provides two educational paths; training engineers in agro-economy and management of agricultural enterprises in addition to research and professional master programs. The location has been the major aspect of the general layout of the building, highlighting the wonderful view of the mountains of Zaghouan. The region, where rainfall reaches an annual average of more than 500 millimeters, was particularly favorable to creating a school of agriculture with large test gardens, typical plantations, and market gardens for both teaching and practical activities of students and school staff.

The composition of the complex is defined around two main orthogonal axes [FIGURE 03]. The purpose of the first axis is to create a prayer room treated as a small isolated pavilion. The second axis overlooks a raised courtyard lined with arcades arranged with a central pool serving as a swimming pool and irrigation system. The composition of the plan was also studied according to several parameters, namely: a southeast orientation indisputable in the region, the existing buildings including a cellar (wine cellar) 125 m long, the nature of the basement, and the slope of the land, the location of water points, and the view on the mountains of Zaghouan.

The exterior circulations, deliberately placed along the southeast façade, fully protect the walls and openings from the summer sun. A frieze of sunshades completes this protection on the southeast and the northwest façade, protecting them from the dreaded 15 to 18 hours of sunlight in summer and the rains of the north in winter. The thick façade is a particular feature of the architecture of the Tunisian reconstruction, testifying to the designers’ interest in the microclimatic data of the site and the aim to create an architecture concerned with its environment.

### FUNCTIONAL ORGANIZATION

The original complex program consisted of the following major parts: the boarding house, classrooms, administration, principals’ and teachers’ quarters, workshops, infirmary, sports fields, and test gardens. The School of Mograne includes six big functional entities, namely [FIGURE 04]:

- The main building, grouping the boarding school, the classrooms, and the direction;
- The services and the housing of the personnel;
- The principals’ and teachers’ headquarters
- The workshops;
- The infirmary;
- The sports grounds.

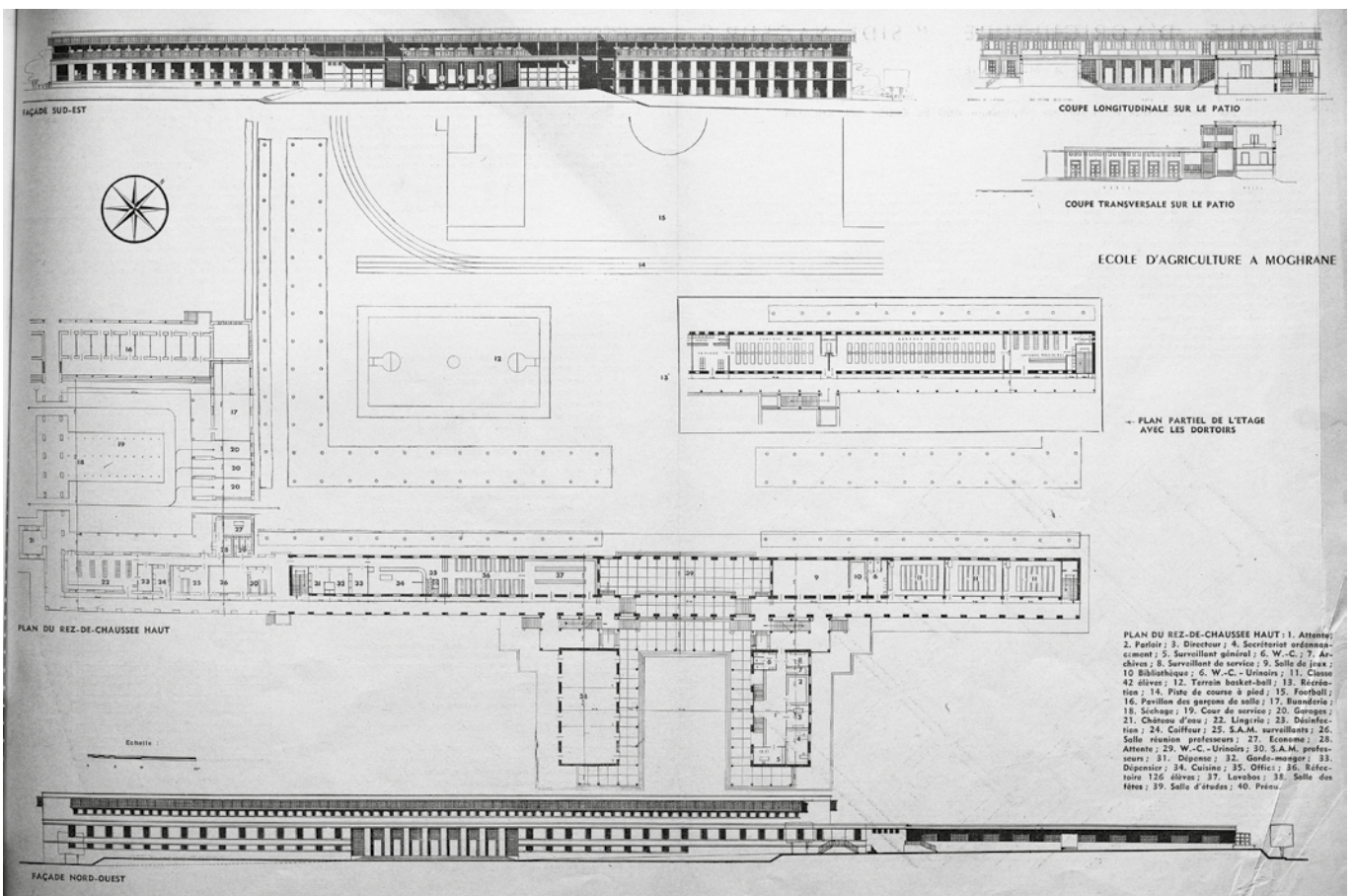
The school, in its present form, was built in 3 phases:

- The first phase, realized between 1947-1952
- The second phase, built in 1960;
- An extension carried out in the 1980s, built in two phases: the first phase included accommodation and laboratories, and the second phase included a 300-person restaurant with a kitchen.

### ARCHITECTURAL STYLE AND CONSTRUCTIVE CHOICES

The School of Mograne responds to a rationalist modernity advocating the architectural and constructive rigor of the “school of structural classicism” developed by several protagonists of the early twentieth century and mainly French architect Auguste Perret. The buildings are built with





04 The first phase of construction, built between 1947 and 1952, © AA n°20, 1948, p. 89–90.

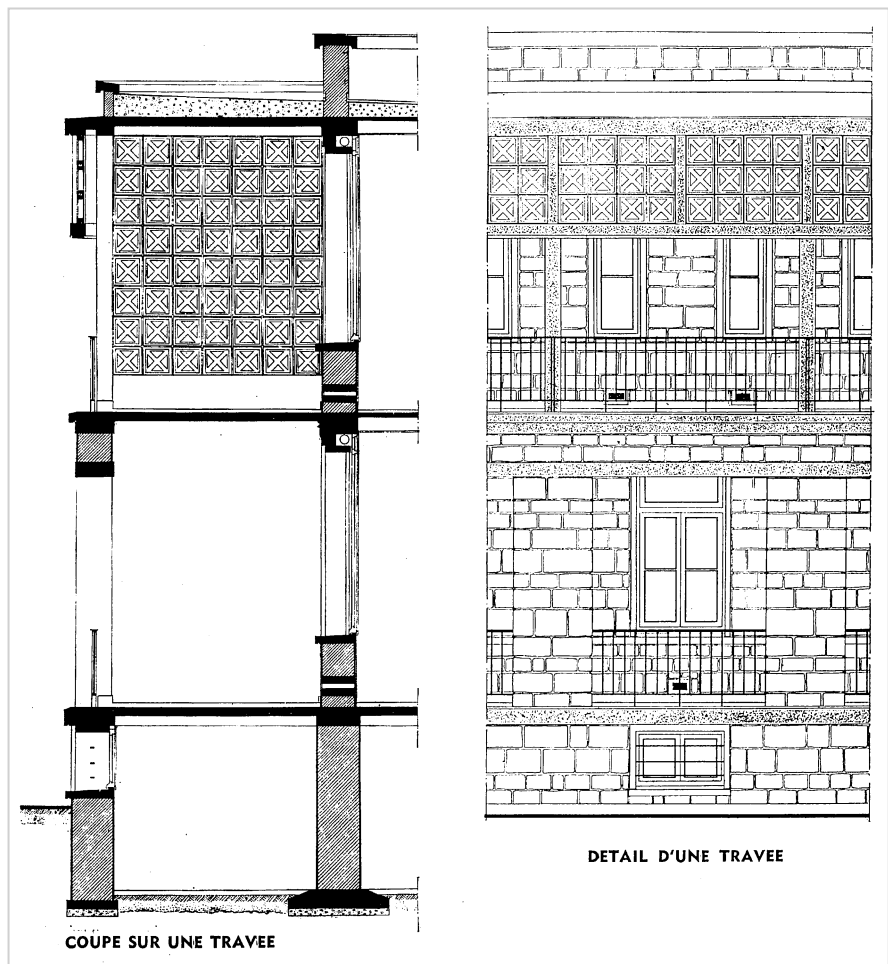
load-bearing walls of exposed masonry joined together. Horizontal lines mark the façades, encircling them with chains and lintels. Vertical lines of light and shadow are created with reinforced concrete framing, opposing the horizontality of the façade and highlighting a thick fringe materialized in the gallery.

The thin and slender pillars support prefabricated concrete sun shields, bringing a certain aesthetic and harmony to the whole of the blocks [FIGURE 05]. Even though the geometry and the structured composition of the façade represent its only ornamentation, the contrasting play of

textures between masonry repointed walls and cut stone concrete gives a coherent aesthetic to the whole, marking the historical continuity of European classicism far from the doctrines of Le Corbusier preaching a modernity of *tabula rasa*. We can thus discern, in this work of Jean Pierre Ventre, the reference to the precursors of modernity of the early twentieth century, even if the references to Tunisian traditions are still visible in several other projects by the architect, namely the fish market in Bizerte in northern Tunisia [FIGURE 06].

05 Interior-exterior limits and façades conception with prefabricated breeze blocks. © Author, 2023.





06 Details of the façade, architect Jean Pierre Ventre.  
© AA n°20, 1948, p. 93.

## THE EXTENSION OF THE 1980S

The project was extended in the 1980s [FIGURE 07] to ensure that it was up to the standards of that time and to meet its new capacity. This new extension, designed by Tunisian architect Hédi Derbel, adds accommodation blocks, a university restaurant, and laboratories to Jean Pierre Ventre's project. The extension was realized, truly respecting the original work and being built with the same materials. However, it was built at the expense of the sports fields.

Architect Hédi Derbel states in his presentation report of the preliminary project: "It is an architecture of sunlight that is developed by the interpenetration of open, closed, and open-covered spaces opened by the claustras. The

architecture is sober, pure, and majestic, affirmed by the use of geometrically cut stone." The architect, faced with his first project for a civil building, was confronted with a rather delicate situation: firstly, to develop his extension project in a conceptual approach integrating it into the initial work of Jean Pierre Ventre and secondly, to come up against an administration that was too strict in terms of budgeting.

The preliminary design proposal was rejected at the time of its first submission and evaluation before the commission for exceeding the budget due to using stone as construction material. This did not slow down the designer,

07 The extensions of the 1960s and 1980s © Author, 2023.







08 The dilapidated state of the annexes: the wine cellar and the chapel. © Author, 2023.

who was determined to project an extension in perfect stylistic and conceptual harmony with the existing sections from the end of the 1940s and 1960s. An explanatory file was submitted comparing the use of cut stone and hollow brick, which was very popular at the time for the construction of state projects. This file showed the profitability of the project in the long term and the gain generated by the use of sustainable materials. A well-informed member of the commission representing the Ministry of Public Works supported Hédi Derbel's choice, who, despite his well-considered choices, suffered due to the reluctance of a sometimes overly bureaucratic administration and later from a public limited company with the lowest level of approval. The 1960s extension suffered certain difficulties compared to the original built by contractor Mr. Mohamed Kriaa. Considered to be one of Tunisia's finest builders at the time, he is credited with several major projects, including Souk Jdid in Sfax, commonly known as Souk Kriaa, designed by architect Etienne Laingui (1905-1995).

### CONSERVATION STATE OF THE PROJECT

The initial project has undergone several other transformations and additions over time, such as the circular fountain built on the axis of the entrance hall or the transformation of a meeting space into a technical room. Other buildings annexed to the main blocks have been neglected over time, such as the wine cellar, a space that existed even before the school was built, the chapel, and some function houses that are unfortunately falling into ruin [FIGURE 08]. This leads us to question the safeguarding of this university complex with a heritage character and the problem of the rehabilitation or the reconversion of these buildings annexed to the main entity.

Indeed, the School of Mograne represents an emblematic building of the period of the post-war Tunisian reconstruction and includes several ideals of the Modern Movement contextualized in Tunisia. The choice of materials and mainly the cut stone played a fundamental role

in the durability of the building. Nevertheless, the lack of means poses a problem in the maintenance of the various entities of the school, where some entities are dilapidated, abandoned, falling into ruin. Over the years, the succession of directors has led to different choices and strategies that modify the entities and do not necessarily fit in with the poetics of the place. These transformations should be well thought out to not stain the memory of this place and its singular atmosphere. It is imperative to put this architectural work in the spotlight and to make it known nationally and internationally. The patrimonialization of the school of Mograne is, therefore, a process that urges us to guarantee the durability of this referential set.

### CONCLUSIONS

The School of Mograne by Jean Pierre Ventre is a witness of a universal modernity transposed from the doctrines and ideologies of some protagonists of the Modern Movement onto Tunisia. By its architectural and architectonic style, rigorous, rational and geometrically designed, the architect wanted to emphasize the monumentality of the project and its durability through time. Through the use of carved stones and bush-hammered concrete, the result of Ventre's work testifies to the rich reference to the local ancient heritage on the one hand and to those half-modernity, half-classicism projects advocated by Auguste Perret. The extension carried out in the 1980s by Tunisian architect Hédi Derbel does not disfigure in any way the initial work; rather, it fits perfectly with the language adopted by Jean Pierre Ventre. All the units forming the higher education institution continue to function properly and meet the needs of its students and its teaching and administrative staff. However, attention should be paid to the annexes, which are now in a state of disrepair and call for rehabilitation and conversion into functional spaces for the institution. More than that, the School of Mograne calls to be protected and classified as a modern heritage and national historical monument for its modern architectural values.

## REFERENCES

- AA. (1948, octobre 20). L'école d'agriculture Sidi Naceur à Mograne. *L'Architecture d'Aujourd'hui* (20), pp. 92-93.
- BEN YOUNES R., (2022), Ecole supérieure d'agriculture à Mograne : Un exemple de l'architecture de la période de la reconstruction en Tunisie, (en ligne), disponible sur <http://archimag.tn/2022/02/18/ecole-superieure-dagriculture-a-moghren/>
- BREITMAN, M. (1990). *Rationalisme et tradition : Tunisie 1943-1947*. Paris : éditions Pierre Mardaga.
- BONILLO, J. L. (2021). D'Oppède à Tunis, les ateliers de la guerre et de la Reconstruction, <https://ensarchi.hypotheses.org/1706>, Accessed June 20, 2023.
- DESMOULINS, C. (2008). *Bernard Zehrffuss*. Paris : éditions du patrimoine, centre des monuments nationaux.
- DHOUB MORABITO, H. (2010). *La reconstruction en Tunisie de 1943 à 1947*. Paris : thèse de doctorat Université Paris I Panthéon-Sorbonne 2010, janvier 29).
- GHARBI, S. (2016). L'architecture de la période de la Reconstruction : entre mimétisme traditionnel et transposition moderniste. Dans N. Gmach, I. Ben Youssef, & S. Jemmali, *La création à l'épreuve du lieu* (p. 264). Editions Université Ibn Khaldoun.
- KENZARI, B. (2006). The Architects of the "Perchoir" and the Modernism of Postwar Reconstruction in Tunisia. *Journal of Architectural Education*, pp. 77-87.
- ZEHRFUSS, B. (1950). *Annales de l'institut technique du bâtiment et des travaux publics : la construction en Tunisie*. Architecture et urbanisme (5), Juin 1950.

**Salma Gharbi** is an architect and a doctor in "architectural sciences" and a member of the Research Team on Ambiances (ERA) of the Doctoral School of Architectural Sciences and Engineering (ENAU), Carthage University in Tunis. Her research interests include architectural and urban environments as well as 20th century modern heritage. She teaches at the Higher Institute of Environmental Technologies, Urbanism and Construction (ISTEUB) in Tunis. For some years, she has initiated a research on the repertoire of Tunisian architectural modernity in pre- and post-independence and works for the recognition of the value of Tunisian modern heritage. She is a founding member and president of the association docomomo Tunisia.

**Hédi Derbel** is an architect and has taught for several years at the National School of Architecture and Urbanism of Tunis (ENAU), Carthage University in Tunis. His agency "Architecture, Research, Continuity" is a forum for theoretical and practical questions about architecture. He is the architect of the extension of the Mograne School in the 1980s.

## ENDNOTES

- <sup>1</sup> The Docomomo Tunisia chapter was recently created and will work on the documentation and conservation of the plural modern architecture that Tunisia has known in the twentieth century.
- <sup>2</sup> The "Faculté des Sciences de Tunis" (FST) was founded by decree no. 98 of March 31, 1960. It constituted the first core of higher scientific education in independent Tunisia. The contract for the Faculty of Sciences awarded to architect Bernard Zehrffuss is a mark of exceptional architectural value and structural prowess, which should also be documented. The two extensions to the El Manar University Campus—the Faculty of Law and the School of Engineering (ENIT)—were designed by American and Russian architects respectively.
- <sup>3</sup> These architects have ideals of modern architecture. They believe in the influence of climate on architecture, in the authenticity of constructive expression, in the sincerity of simple and unadorned volumes, in the regular and rational organization of ensembles. (Huet, 1995, pp. 9-10)
- <sup>4</sup> Marc Breitman states in "Rationalisme et tradition: Tunisie 1943-1947": "Their entire architectural and urban production oscillates between these two extremes. On the one hand, they continued the tradition, even to the point of mimicry, while on the other hand they applied the rules of the Athens Charter and aligned themselves with the ideas of the modern movement." (Breitman, 1990, p. 25).
- <sup>5</sup> "The workshop of the Reconstruction" or "l'Atelier de la Reconstruction", created by Bernard Zehrffuss in 1943, grouped a number of architects who had studied at the Ecole des Beaux-Arts de Paris in the studios of Eugène Beaudouin (1898-1983) and Emmanuel Pontremoli (1865-1956). Initially, this workshop included Jean Drieu La Rochelle (1903-1986), Jacques Marmey, Roger Dianoux (1913-1998), Michel Deloge (1903-1979) and Jean-Pierre Ventre (1913-1979). In October 1944, two other architects joined the team: Lu Van Nhieu (1902-?) and Jason Kyriacopoulos (1909-2002). Later, Etienne Laingui and Jean Le Couteur (1916-2016) joined the team to form the "Services architectures et d'Urbanisme".
- <sup>6</sup> Auguste Perret (1874-1954) is considered the precursor of architectural modernity. He pioneered the use of reinforced concrete, emphasizing functionality and simplicity while merging classical and modern architecture. His vision influenced many architects and his works became iconic examples of his innovative approach. Auguste Perret's project in Le Havre was of immense importance. It represented a major achievement in architectural history and urban planning. Perret's innovative use of reinforced concrete, combined with his thoughtful urban layout, transformed the city into a modern and vibrant center. His work in Le Havre remains a UNESCO World Heritage site and continues to inspire architects and urban designers worldwide.