



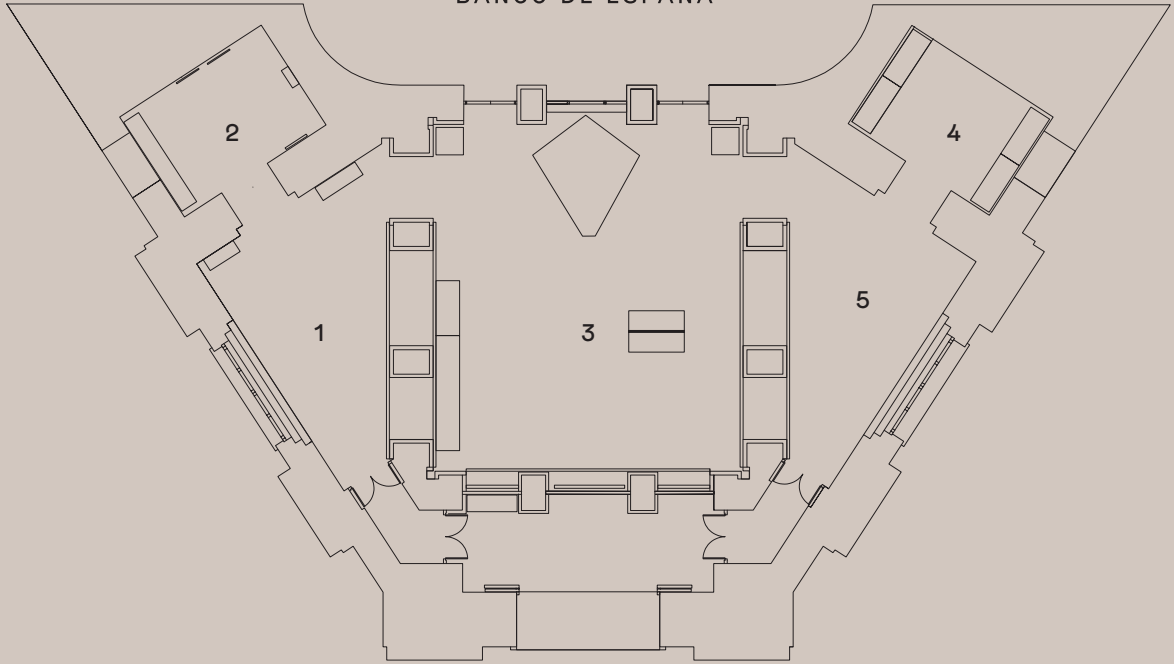
Exhibition Gallery  
Banco de España, Madrid

THE ARCHITECTURE OF  
**EDUARDO**  
DE  
**ADARO**  
AND BANCO DE ESPAÑA

24/10/2023 — 24/02/2024



# EXHIBITION GALLERY BANCO DE ESPAÑA



## 1 THE ORIGINS OF A NEW BUILDING FOR BANCO DE ESPAÑA

Precedents  
The start of construction  
The first stone  
Accidents during the works  
and first photographs

## 2 SECURITY

Safe deposit boxes  
Security doors  
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(documentary)

## 3 THE PALACE OF MONEY

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Modern times, modern  
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Industrial architecture  
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The branches of Banco de España  
Banco Hispano Americano  
Closure: Manolo Laguillo.  
*Adaro: A Case Study*, 2021





The exhibition described in this catalogue forms part of a larger project initiated in 2019 with the goal of reinstating the figure of Eduardo de Adaro (1848-1906), chiefly responsible for the design of the original Banco de España building, and probably one of the most interesting architects of the last third of the nineteenth century. His creativity, his profound knowledge of the technical and constructional innovations of his time and his familiarity with banking functions allowed him to develop a singular typology for bank architecture. Drawing on the knowledge and contributions of his predecessors, particularly Severiano Sáinz de la Lastra, he succeeded in combining the palatial with the industrial, the technological and the artisanal, the functional and the ceremonial, and tradition and innovation. He applied this model not only to the bank's head offices but also to the numerous branches he worked on, and even to other private establishments he was responsible for designing, such as Banco Hispano Americano in Madrid's Plaza de Canalejas. Since this fruitful

professional career is relatively little known, a project was implemented to explore his legacy in three phases.

The first was to draw up a monographic study that would unearth new facts about his most emblematic work, the nineteenth-century headquarters of Banco de España, while relating them to other lesser-known aspects of his activity in the fields of residential, penitentiary, industrial and funerary architecture. Entitled *Eduardo de Adaro. Arquitecto del Banco de España*, the monograph, available for free on our website, is the result of the research carried out by Esperanza Guillén, Professor of History of Art, who not only traces out the architect's biography and career but also broadens the focus to show us aspects of the social and economic reality of a country in the midst of transformation. The extremely rapid construction of the headquarters of Banco de España between 1883 and 1891 is narrated in this volume as an event that reflects the metamorphoses of fin-de-siècle Spain, from the consolidation



View of the Gate of Alcalá from Calle de Alcalá, Madrid. Unknown artist, c. 1885-1886. Albumen print. Rijksmuseum Collection, Amsterdam

of a large-scale international trade in goods, supported by the development of maritime and terrestrial communications, to the beginning of the country's technological dependence on powers like Germany, France and England. Moreover, the minute research carried out by the historian in archives, collections and repositories of periodicals and photographs has brought to light copious information on lesser-known aspects of the building of Banco de España, such as the accidents suffered by labourers during the work, the living quarters of the employees and cashiers, the heating systems employed and the application of other curious and innovative installations like the washrooms, which were hierarchically differentiated in terms of those who would be using them.

The second phase of this project was to commission a visual memoir that would use photography to update Adaro's contributions and bring them into the present day while at the same time enriching the artistic contents of the Banco de España Collection. Once the research on the figure of the artist was complete, a photographic series was then commissioned from Manolo Laguillo, a key referent in the field of documentalism and one of the great innovators in the practice of architectural and urban photography in Spain. The commission covered not only the Banco de España building in Madrid, its decorative programmes and its many architectural details, but also extended to other works by the architect. The final result, *Adaro: un estudio de caso* [Adaro: A Case Study], comprises more than three hundred images grouped into six large contact sheets, providing a novel documentary record of Adaro's architectural production.

The last phase of the project is this exhibition, which shows a selection of the architect's principal contributions through a variety of documents, objects, photographs and artworks. The public is brought closer to this chapter in Banco de España's history and presented with part of its artistic and documentary heritage, and is led at the same time into the changing world of the last decades of the nineteenth century and the beginning of the twentieth.

Yolanda Romero

Eduardo de Adaro (1848-1906), the principal architect of the new headquarters of Banco de España built on the junction of Paseo del Prado and Calle de Alcalá, is a figure whose work, with this one important exception, has been little studied in the context of late nineteenth and early twentieth-century Spanish architecture. This exhibition aims to rescue his work from oblivion and relate this singular building, his most outstanding production and the winner of praise and awards in its day, to other projects that are less well-known, some no longer extant while others were never built, in the fields of architecture for prisons, health care, industry, religious and funerary use, and urban residences.

Eduardo de Adaro lived in a historical period of great social and political transformations, and particularly of a scientific and technological progress that led to radical and unstoppable changes in working and domestic life, particularly after the gradual spread of the use of electricity. The stylistic components of the buildings he planned, essentially Neo-Renaissance and Neo-Mudejar, tend to distract from the interest in technical progress of an architect who travelled through Europe on several occasions, and who combined the structural and decorative use of iron in his constructions with the most recent advances in systems of security, hygiene, heating, lifts, telephones, lightning conductors and electric lighting.

Adaro's work would not have been possible without the support of his clients, many of whom formed part of the Spanish entrepreneurial, political and financial elite, and without the assistance of a very large number of highly qualified specialists



who worked under his direction on brickwork, stonework, sculptural decoration or iron construction. Attention must also be drawn to the companies that provided and installed the equipment necessary for the correct use and functioning of his buildings, which are represented here through their letterheads and some of their works. Together with historic photographs, plans, drawings, paintings and various objects and documents, this exhibition also includes visions of Adaro's work by some contemporary photographers.



Edgardo Debas. Photographic portrait of Eduardo de Adaro. *Arquitectura y construcción*, March 1906. Biblioteca Nacional de España

Professional letterhead of Eduardo de Adaro. Archivo Histórico del Banco de España

## ROOM 1

### THE ORIGINS OF A NEW BUILDING FOR BANCO DE ESPAÑA

#### PRECEDENTS

The ‘House of the Five Major Guilds of Madrid’, an eighteenth-century building designed by José de la Ballina and located in Calle de Atocha, was the last headquarters of Banco de España in old Madrid. Severiano Sáinz de la Lastra, who became the institution’s house architect in 1859, carried out various refurbishments on this building and made alterations to another, the ‘House of Valmaseda’, which had been acquired for purposes that included the manufacture of banknotes and the collection of financial contributions. This was made necessary by an especially important development prompted by the need to alleviate the state debt, incurred essentially through the Third Carlist War. José de Echegaray, then the Finance Minister, engineered the proclamation of a Decree on 19 March 1874 that granted Banco de España a monopoly on the issue of banknotes throughout the national territory, making the bank the country’s principal financial institution. The building on Calle de Atocha proved insufficient for the bank’s growing need for space in which to carry out its functions, which now included ceremonial requirements, and proposals started to be made for the construction of a new headquarters. Even so, none of the bank’s directors can have imagined how large the building would soon become, nor could they have foreseen how its size and external appearance would end up making it the most powerful symbol of the country’s economic strength and a model for other financial establishments.

Although other options were considered, such as expropriating and demolishing houses adjacent to the ‘Five Guilds’ building or acquiring the former convents of La Trinidad and El Carmen, or even purchasing the Palace of Medinaceli or that of the Marquis of Salamanca, the bank finally decided to acquire an old palace with a garden and orchard located at number 74, Calle de Alcalá, with a side overlooking Paseo del Prado. The Palace of



José de la Ballina. Detail of *Plano de fachada*. *Expediente de construcción de los Cinco Gremios Mayores de Madrid* [Plan of façade for the building of the Five Major Guilds, Madrid], 1788. Archivo de Villa, Ayuntamiento de Madrid (AVM 1-50-105)

Alcañices was a seventeenth-century building modified over the following centuries of which records remain in the form of paintings, prints and photographs, like the ones taken by Charles Clifford in this area of Madrid. Although the palace had been heavily remodelled in 1872, it was bought for demolition in March 1882 from José Osorio y Silva, Duke of Sesto and Marquis of Alcañices. The choice of this site meant leaving the historic centre and moving to what would become the pivotal zone of the new times, dominated by two long axes. One stretched from the stations of Las Delicias and Atocha along Paseo del Prado, Paseo de Recoletos and Paseo de la Castellana, while the other descended from the recently renovated Puerta del Sol to Cibeles and continued from there along Calle de Alcalá towards Retiro Park, areas which had gradually been occupied – as they continued to be in the ensuing years



One of the most significant sets of artworks in the Banco de España Collection is without doubt its gallery of official portraits. It reflects the history of the institution almost uninterruptedly from the creation of Banco de San Carlos in 1782 up to the present day. This set of portraits is not made up exclusively of images of personalities involved in the management of the bank (directors, governors or finance ministers) but also includes representations of the different monarchs and premiers who have governed the country during the institution's history. Among the artists who painted them are such outstanding names as Goya, Vicente López, Antonio María Esquivel, José Villegas, Federico de Madrazo, Sorolla, Zuloaga, and more recently Isabel Quintanilla and Carmen Laffón.

The two portraits shown in the exhibition help us to understand the importance of the sitters for the construction of the new headquarters. José de Echegaray was the minister who turned Banco de España into the country's leading

financial institution by granting it the monopoly on the issue of banknotes, and Alfonso XII was the Head of State when the works commenced.

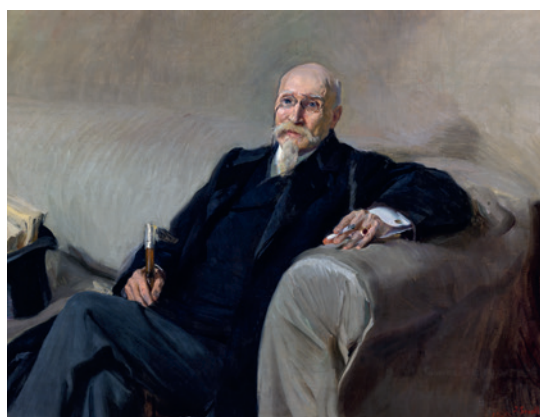
The portrait of Alfonso XII was commissioned by the institution in 1875 from Carlos Luis de Ribera, who had painted Amadeo of Savoy in a similar pose not long before. The young monarch, aged only twenty and recently proclaimed King of Spain, wears a riding uniform with sash, sword, the Golden Fleece around his neck, and the Cross of Charles III upon his breast. He stands with his hand resting on a table with the Bourbon coat-of-arms, upon which the crown is seen sitting on a cushion. Appearing behind it is the top of the throne, and in the background, on the right, are the lion symbolising the monarchy and a bust of Isabella II, an expression of the dynastic continuity re-established by the Restoration.

The Banco de España Collection has several portraits of José Echegaray: an oil on canvas commissioned from Marceliano Santa María in 1902, a bust made by

Lorenzo Coullaut Valera in 1925, and the picture shown here, painted by Joaquín Sorolla in 1905 and acquired by Banco de España in 1953 from Echegaray's heirs. The portrait, produced for the Casino de Madrid after the politician and writer was awarded the Nobel Prize for Literature in 1904, was shown along with those of Santiago Ramón y Cajal and Benito Pérez Galdós in Sorolla's one-man exhibition at the Galerie Georges Petit in Paris in 1906. Joaquín Sorolla depicts him ten years before his death, elegantly dressed and seated on a sofa with a cigar in one hand and a cane in the other. Next to him is a top hat that serves as an impromptu container for some papers or books that the sitter appears to have brought in from outside. Especially surprising is Sorolla's extraordinary use of a limited range of colours that marks a strong contrast between the black of Echegaray's clothing and the beige which establishes a continuity, differentiated only by the direction of the brushstrokes, between the sofa and the background. EG



Carlos Luis de Ribera y Fieve.  
*Alfonso XII*, 1875. Oil on canvas.  
Colección Banco de España



Joaquín Sorolla. *Portrait of José Echegaray*, 1905. Oil on canvas.  
Colección Banco de España

-by such representative institutions as the Congress of Deputies, the Palace of National Libraries and Museums, the Stock Exchange and the Palace of Public Works, as well as by companies, luxury residences and banks.

The first idea for the new Banco de España was to make two separate buildings. The first and principal one, with a chamfered corner on Plaza de Cibeles, was to be destined for the public areas, vaults, offices and halls for the Board of Governors and General Assemblies, while a second building was to be devoted essentially to workshops and machinery for the manufacture of banknotes and a furnace for burning them, and also to the collection of financial contributions.

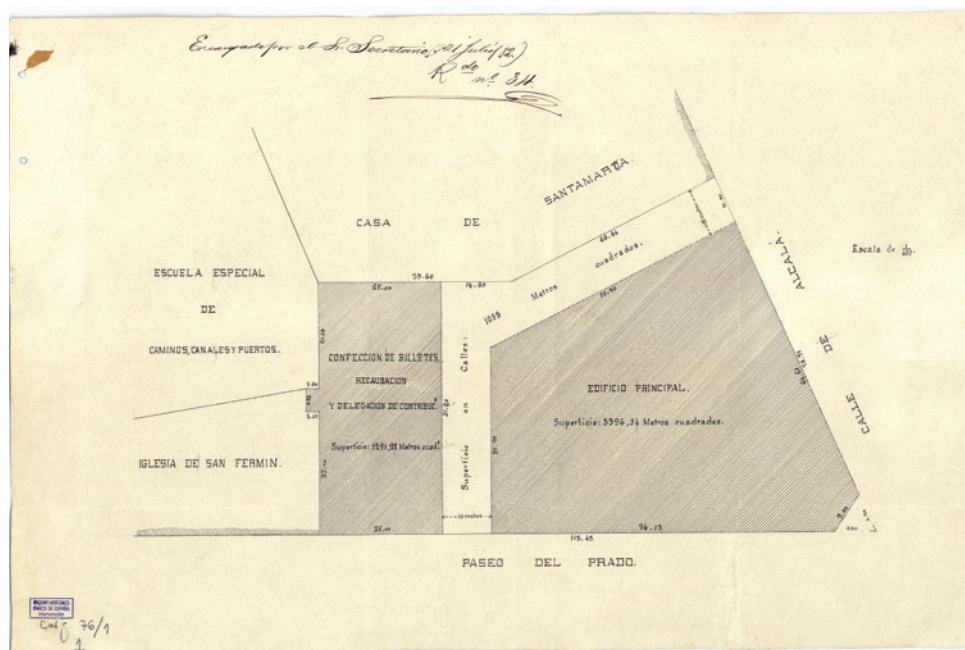
Sketch of the site originally chosen for the two buildings planned as the head offices of Banco de España, 1882. Archivo Histórico del Banco de España, Colección de Planos de Arquitectura (Sig. 76/1, 1. BE\_PLANOS\_99\_1)

Fernández de la Torre. Lithograph after original plan by Eduardo de Adaro, early 1889. Groundplan of Banco de España. Archivo Histórico del Banco de España, Colección de Planos de Arquitectura (Sig. 76/2, 3 BE\_PLANOS\_100\_1)

## THE START OF CONSTRUCTION

The idea of constructing two free-standing buildings on the site of the former Palace of Alcañices was submitted to a public competition convened in the *Gaceta de Madrid* on 1 August 1882, whose programme was drawn up by the house architect of Banco de España, Severiano Sáinz de la Lastra, and his auxiliary architect at the time, Eduardo de Adaro. The result was to be decided by the bank's Board of Governors with expert consultants appointed by the Royal Academy of Fine Arts of San Fernando. The decision was announced at the end of January the following year. Only four projects had been presented, probably because the deadline had been so short. One of them was discarded because it did not meet the specified conditions, but none of the other three was deemed worthy of the prize because the planned premises were too small, showing that the chosen site was insufficient for the bank's requirements. Nevertheless, two consolation prizes of 15,000 pesetas were awarded, one of them shared between two of the contestants.

The Banco de España architects were then requested to produce a draft project. After consultation with the chief clerks and office managers,



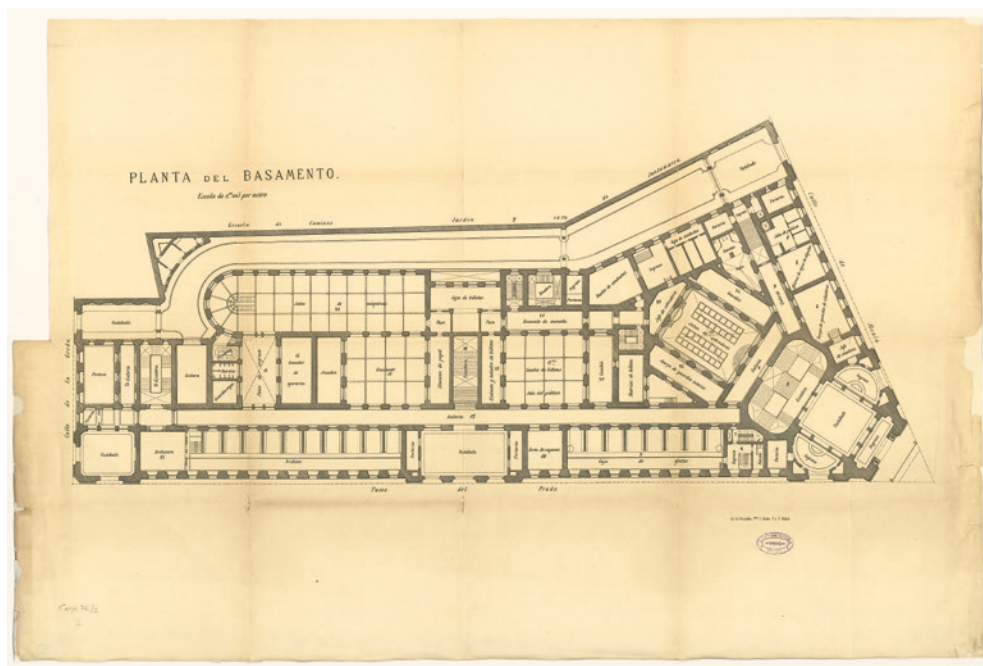
it was decided to plan a single building with an entrance on the chamfered corner facing Cibeles and two similar façades on Calle de Alcalá and Paseo del Prado, at the ends of which two further entrances would be housed in projecting pavilions. Adaro was commissioned to visit the main European credit banks, and upon his return, he drew up the first plans for the building practically on his own. This project, which he co-signed with Sáinz de la Lastra, won the first-class medal in the architecture section of the National Exhibition of Fine Arts in 1884. At the end of that year, Sáinz de la Lastra died and Adaro took his place as house architect. Lorenzo Álvarez Capra was then appointed as his auxiliary, but this architect worked for only a short time as he too died, and José María Aguilar y Vela was contracted in his place on 3 June 1885. He proved to be a highly efficient collaborator, although the chief responsibility for the construction of the building is unanimously assigned to Eduardo de Adaro.

The lack of building space led to the acquisition of the church of San Fermín de los Navarros, then to that of part of the grounds of the School of Civil Engineers, and finally to the purchase of a house owned by the dowager Marchioness of Larios on the corner of what is now Calle de los Madrazo. After

these buildings had been demolished, the subsequent enlargement of the site led to a considerable extension and modification of the initial project.

Both in these early phases and throughout the process of construction, there were problems with the sewage system. The bank's Archive contains a great deal of information on this matter, which has been studied by Elena Serrano García, with a large number of plans showing how it was necessary to reinforce a municipal sewer that ran parallel to the façade on Paseo del Prado and create a private one for the bank, and how an application had to be made to divert the one that crossed the site on Calle de la Greda, which would have resulted in a municipal easement. In fact, the problems generally derived from water seepage owing to the high level of the phreatic layer, and from the fact that the depth necessary for the foundations of the new building was greater than that of the public sewage system.

The definitive plans have not been preserved, but we do have those which were presented to the City Council and signed on 8 July 1884. Although there are differences with respect to the final result, these show a chamfered corner and projecting pavilions with caryatids. Also, the façade on Paseo del Prado was already planned with its





full final length, determining the formation of two main internal axes: one parallel to that street, and a shorter one running diagonally from the chamfer on Cibeles.

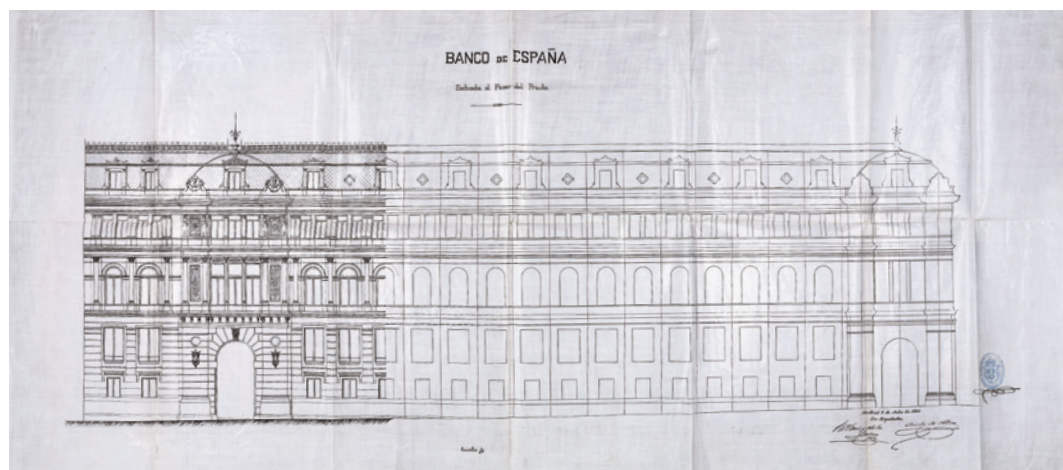
In December 1888, on the basis of Adaro's plans, Manuel Fernández de la Torre made a hundred lithographic prints of each of the five storeys of the building to serve as a guide for the firms that had been invited to present proposals for the heating system. From these plans and some others published in magazines, as well as from the press of the day, we know how the interior of the bank was distributed after Adaro had consulted the directors and chief clerks to ascertain the precise characteristics and requirements of certain departments. This spatial organisation was adapted to the various functions to be carried out in the basement, ground floor, mezzanine, main floor and second floor of the establishment. Above these storeys, in the rooftop mansards, were the caretakers' dwellings.

Located in the basements were the vaults for coinage, paper money and jewellery, and the furnaces for burning banknotes and for the heating system. On the ground floor were the workshops for manufacturing banknotes, the Collection Hall and the safe deposit boxes. The mezzanine had offices for liquid asset services and other sections like current accounts and the Cash Till Court. On the main floor were the offices of the governor and vice-governors, the Shareholders' General Assembly Hall and the Boardroom. The second

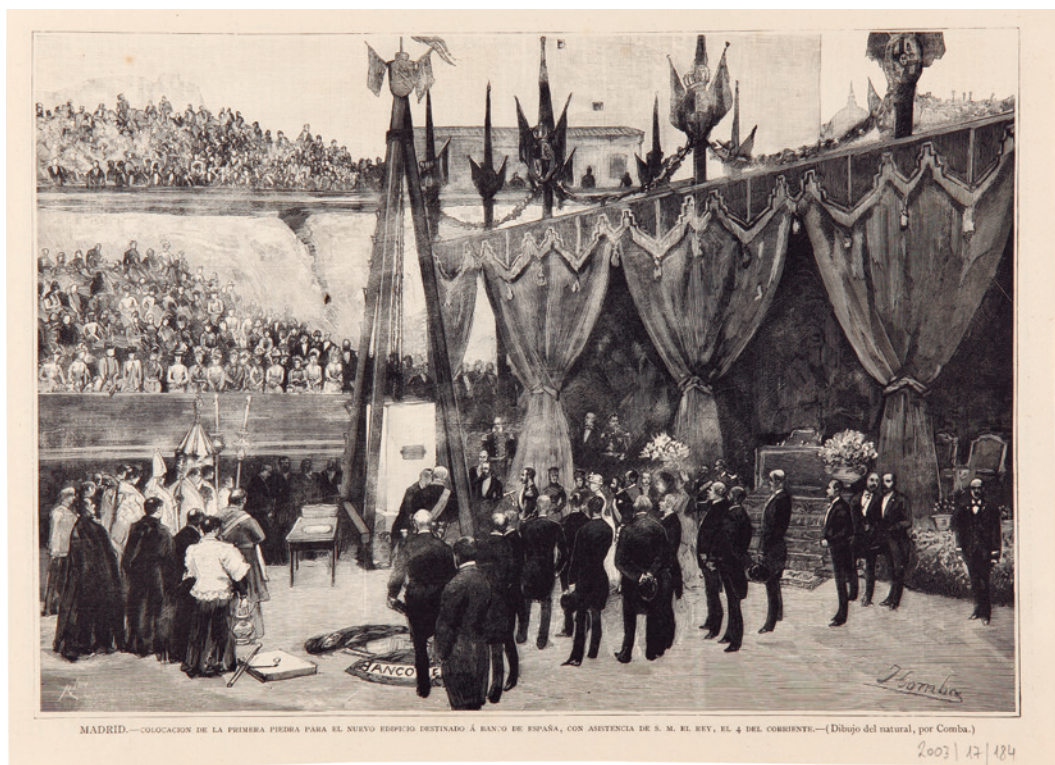
floor contained various sections, with the living quarters of the cashiers at each end. The public entrance through the chamfered corner on Cibeles led especially to the safe deposit boxes and the Collection Hall, both on the lower ground floor, and to the Cash Till Court on the mezzanine, which also contained the so-called Twin Courts on either side of the imperial staircase rising perpendicularly to the Paseo del Prado axis.

## THE FIRST STONE

As a private credit bank at the service not only of the State but also of companies and private individuals, Banco de España was founded with links to the Spanish Restoration monarchy, and therefore to Alfonso XII. It is unsurprising, then, that there should be numerous figurative references to the Crown, such as the Bourbon coats-of-arms, the effigies of the monarchs from coins and their portraits in the Banco de España Collection, and it is also natural that the royal family should have attended the laying of the first stone of the new building, an event for which invitations were also issued to representatives of the public institutions, the most select aristocrats and diplomats, the worlds of business and culture, and nearly all the press of the period. The trowel and pick used in the ceremony have been preserved, as has the pen with which the king signed the proceedings, while the commemorative plaque is still to be seen







Juan Comba. Woodcut of the laying of the first stone for the new Banco de España building, with H.M. the King in attendance. Museo de la Historia de Madrid

affixed to a pilaster of the main cash vault. A further record of the ceremony, which took place on 4 July 1884, is also found in a drawing published in *La Ilustración Española y Americana*.

## ACCIDENTS DURING THE WORKS AND FIRST PHOTOGRAPHS

The oldest known picture of the building works, held by the Rijksmuseum in Amsterdam, shows Calle de Alcalá with the wooden scaffolding of the future Banco de España covered with advertising tarpaulins on stretchers, which were installed on request in 1885 by the advertising entrepreneur Juan Sproman.

An essential document recording the process of construction of Banco de España is one of the set of nine photographs taken of the building by Laurent & Cía. Seen in it is a steam crane made at the Munaut factory in the Belgian city of Liège, which was able to lift very heavy stones for the façade or all kinds

Severiano Sáinz de la Lastra and Eduardo de Adaro. *Proyecto de fachada al Paseo del Prado del nuevo edificio del Banco de España. Del Expediente de tira de cuerdas y construcción de edificio del Banco de España* [Project for the Paseo del Prado façade of the new Banco de España building], 8 July 1884. Ink drawing on treated fabric. Archivo de Villa, Ayuntamiento de Madrid

of other materials necessary for the work. In a trial run held in January 1887, to which the press was invited, it was demonstrated that the lifting mechanism could cope with a weight of 7,000 kilos and that the machinery functioned rapidly.

Another photograph taken by Juan Moya Idígoras shows a very singular moment. Large numbers of people are leaning out of the windows of the building under construction, or have climbed onto the roofs or even the scaffolding of the belfry of the clock that was soon to crown the chamfered corner on Cibeles, to gain a privileged vantage point from which to watch the military parade taking place below. From the state of the works, the image can be dated to the beginning of 1890, as the iron scaffolding constructed by Bernardo Asins for positioning the bells was finished in March that year.

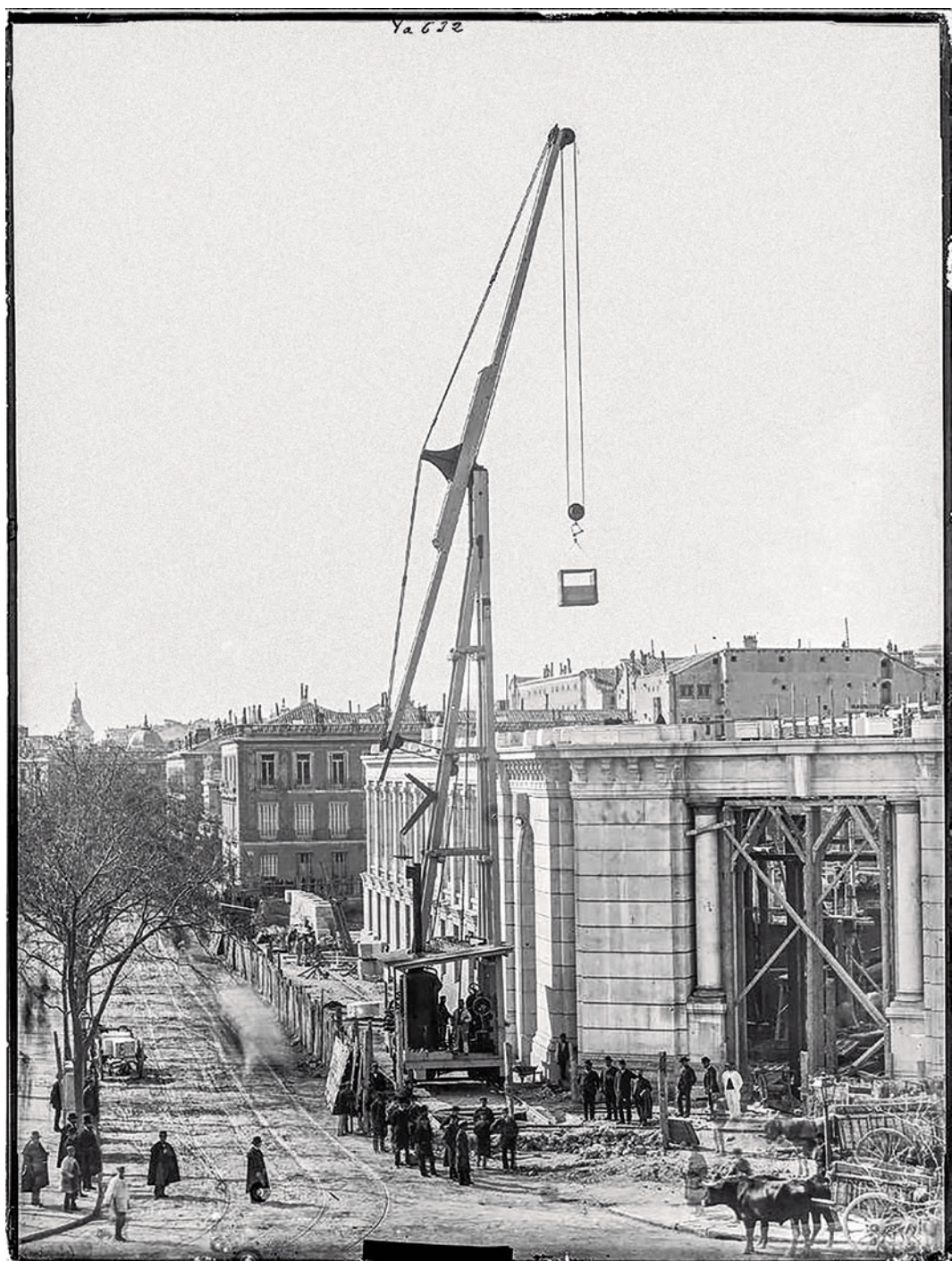
The scale of the figures in this photograph in relation to the building gives some idea of the enormous risks involved in construction work, which was bedevilled at that time by countless accidents, many of them fatal. When a family's livelihood depended exclusively on the wages earned by one of its members, generally the father, a working injury or death could plunge the entire family into absolute misery. The number of orphans whose fathers had worked in construction was so high in nineteenth-century Madrid that an institution was created specifically for them, the Asylum of Nuestra Señora de la Asunción, where they were taught professions that might be of benefit to them in the future. This helped some of them to earn a living in later life as lithographers or bookbinders.

Eduardo de Adaro and José María Aguilar were very mindful of these precedents and of the need to prevent further accidents when they signed a memoir on the framing of the floors. Instead of the traditional custom among builders in Madrid of concluding the ceilings before beginning the plasterwork, the architects took the height of the building into account, together with the fact that the distances between the double T iron beams were much larger than those in buildings made with wooden structures, with gaps of up to one metre seventy, to propose that accidents might be prevented by framing the floors with small vaults and using a quick-setting cement to ensure

impermeability, so leaving the ceiling ready for its last layer of plaster on the lower face.

Even so, accidents occurred. The proceedings of the Works Committee contain requests for aid from the mothers and widows of labourers, who were to be paid the weekly wage earned by the workers for a few months. On many occasions, this payment was prolonged for some months more. When the accidents were not fatal but left the workers so badly injured that they were unable to continue working, the small initial aid was followed by a request to be employed in some service that might allow them to sustain their families. Upon completion of the works, Banco de España paid its workers a special bonus. Seen in the exhibition is a document that gives the names of seven deceased workers, five who were invalided, and the jobs offered to some of them or their children, one as a stoker and two as lift attendants.





J. Laurent y Cia. *Banco de España under construction*, c. 1886. Fondo Archivo Ruiz Vernacci, Instituto del Patrimonio Cultural de España, Ministerio de Cultura y Deporte

## BANCO DE ESPAÑA ACCORDING TO LAURENT & CÍA.

J. Laurent (Jean 'Juan' Laurent), a French photographer who began working in Spain, built up a prosperous photography business in the second half of the nineteenth century, opening a commercial establishment in 1856 at number 39, Carrera de San Jerónimo, just a few yards away from what decades later would be the headquarters of Banco de España. He resembles Eduardo de Adaro in his constant interest in the application of technical innovations to his work and in the practical sense of his professional approach. He also recalls the Lumière brothers, who soon afterwards followed similar commercial principles with a new tool for documentation, the cinema. That invention was first presented in Spain in 1896 just a few doors away from Laurent's shop, at number 32, Carrera de San Jerónimo.

Although Laurent died on 24 November 1886, five years before the completion of the construction of Banco de España (1883-1891), the owner of his firm since his retirement in 1883 had been his stepdaughter Catalina Melina Dosch, who continued Laurent's work together with her husband, Alfonso Roswag. This confirms that the nine pictures in the reportage carried out on Banco de España after the building's completion, plus the chronologically earlier one of the construction work on the exterior, are the work of the Laurent brand rather than of the photographer himself.

The reportage, of which a selection is shown here, reminds us how the work of Laurent & Cía. accompanies the contemporary history of Spain in the same way as the stratified architecture of Banco de España. It speaks to us of a transitional moment when

modernity was beckoning a country that was bidding farewell to its imperial past and trying to forge a new image of its institutions, particularly in the unstable context of the Restoration of which Adaro's building is the child. Part of Laurent's reportage was published in the form of engravings in *La Ilustración Española y Americana* in March and April 1891. However, besides that first outlet (which was probably the origin of the commission), the firm managed to make the most of the curiosity aroused by the image of the new building. In the words of Patricia Alonso and Elena Serano of the Historic Archive of Banco de España, the authors of *Primeras fotografías del Banco de España (1891)* (Madrid, Banco de España, 2019): "The fact that the reportage was offered for sale through the establishment's commercial catalogue demonstrates the enormous interest aroused by the new building of Banco de España and [...] reveals the business strategy of the Laurent firm, whose photographs were advertised for sale both inside and outside Spain through commercial

catalogues which since 1866 had also been published in English, French and German." The commercial and even popular interest aroused by the reportage may have died down long ago, but today it provides us with a magnificent record of Adaro's most significant spaces in their original state, some of which were later remodelled by José Yarnoz in the 1930s or altered by successive changes in their use over the twentieth century: the Cash Till Court (now the Library), the Treasury Court (now known as Twin Court I and used for various functions), the main staircase (whose landing now opens onto the new Trading Floor designed by Yarnoz) and, very particularly, the Shareholders' General Assembly Hall. This photograph is especially significant in the context of this exhibition, as it shows a space that has now partially disappeared after being resurfaced in 1935, almost completely destroying the original decoration and giving the room a much more uncluttered appearance, far from the opulent and courtly air of Laurent's picture. CM







J. Laurent y Cía. Shareholders' General Assembly Hall at Banco de España in Madrid, 1891. Chemically developed gelatin silver. Positive print by Juana Roig (1915-1921?). Archivo Histórico del Banco de España, Colección de Fotografías



J. Laurent y Cía. Main staircase of Banco de España in Madrid, 1891. Chemically developed gelatin silver. Positive print by Juana Roig (1915-1921?). Archivo Histórico del Banco de España, Colección de Fotografías

J. Laurent y Cía. Cash Till Court. Banco de España, 1891. Chemically developed gelatin silver. Positive print by Juana Roig (1915-1921?). Archivo Histórico del Banco de España, Colección de Fotografías

## ROOM 2

### SECURITY

Eduardo de Adaro already had considerable experience of security when he started working on the project for the new Banco de España building, as he had been the auxiliary architect of the Model Prison of Madrid, designed by Tomás Aranguren. There he had exceeded his work as an architect, as he had designed a famous type of lock, all of which were different and impossible to open with the keys of the others, but for which there were nonetheless keys that could open ten cells and others which opened those of an entire wing. He also invented a spring-loaded bar that kept cell doors ajar while the prisoners were attending mass. Moreover, he signed a solo project in 1881 for a jail on the island of Cabrera.

His experiences of penitentiary architecture were applied to the programme developed at Banco de España, the most advanced and complex of its time, to ensure security – that is, preventing anyone from entering without surveillance, and above all making sure that nothing of value could be removed from the building with impunity. Besides protecting the access points from the exterior with iron grilles, exceptional measures were taken in areas of special sensitivity or susceptibility to theft. The reinforced doors of the vaults for cash, supplementary cash, minted banknotes, jewellery and safe deposit boxes were thus ordered from the London firm Hobbs, Hart and Co., Ltd., and were to be of the same quality as those fitted “in the vaults of the Bank of England.” They arrived in Bilbao on the steamer *Calderón*, and were transferred from there to Madrid in December 1890.

Some of the vaults were in the basement. These were rooms enclosed by thick walls and covered with groin vaults supported by granite pillars. Running around them was a surveillance gallery with small windows covered with wire netting to allow the guards to see inside. In the caretakers’ guardroom, there was a gun locker with Colt rifles and revolvers, and during their rounds,

the uniformed wardens carried a modern apparatus with a clockwork mechanism that ensured they complied with their tours of duty.

The safe deposit boxes, which were also accessed through reinforced doors, were on the mezzanine floor. Their walls and ceilings were covered with a metal structure and riveted iron plates.

The exhibition includes two life-size photographs by Manuel Laguillo of the door through which clients entered the safe deposit area. Made of iron and carbon steel, it is gunpowder-proof and has a lock with levers and keys that is impossible to open with skeleton keys or other mechanical devices. Also on display is one of the strongroom’s numerous furnishings containing safe deposit boxes, a non-existent service in Spain until then that allowed money or jewels to be left for safe keeping upon payment of a small fee. The small cubicles of these metal furnishings were numbered and had a security lock opened with two keys, one for the client and the other for the bank employee. The latch of the second lock obstructed the keyhole of the first, so that the depositor was unable to turn the key unless the employee had done so previously.

In the meantime, the Jewel Vault, a vaulted room with shelving located beneath today’s exhibition gallery, was described in the following terms in the newspaper *Madrid Censor*:

“It is spacious and uncluttered, with iron shelving for the large boxes or safes, and compartments reserved for the smaller boxes. The jewels will spend a delightful summer there (because the basement is cool), while their charming owners, the true gems of Madrid, go to the beaches in search of excitement. Piled up in this vault during the dog days are diamonds, sapphires, rubies, topazes, emeralds, turquoises, amethysts, pearls, brilliants, malachites – all the most celebrated precious stones, the ones which adorn and embellish most, and which give a stamp of class and a whiff of distinction...”. *Madrid Censor*, 22 February 1891. Enrique Sepúlveda.

Safe deposit boxes at Banco de España.  
Archivo Ruiz Vernacci, Instituto del Patrimonio  
Cultural de España, Ministerio de Cultura y Deporte



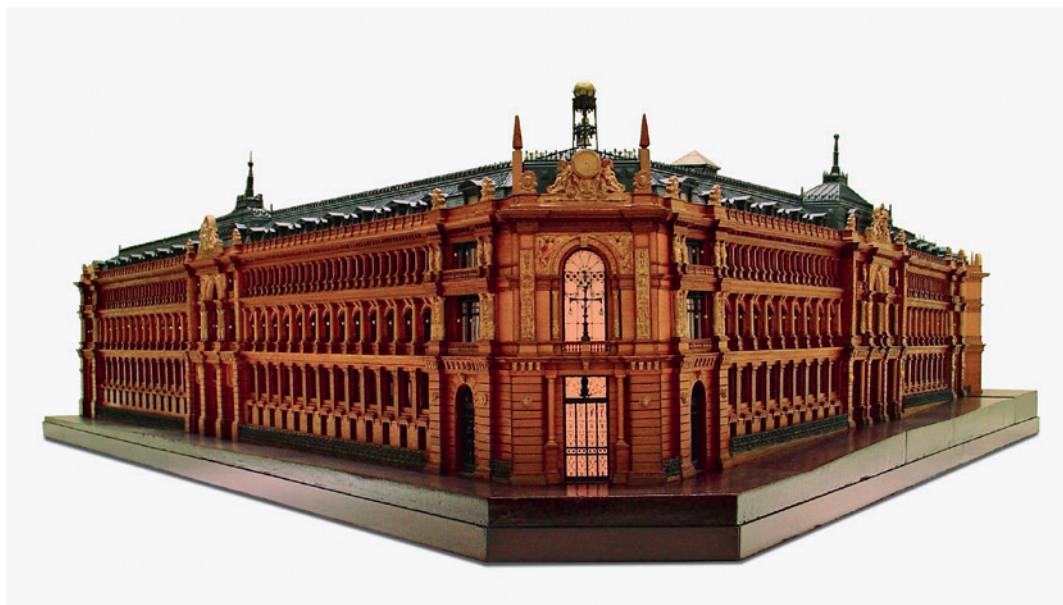
**EDUARDO DE ADARO  
(DOCUMENTARY)**

Also shown in this room is a documentary on the main projects and buildings designed by Adaro, not only for banking activities but also for industrial, penitentiary, religious or residential purposes.



## ROOM 3

### THE PALACE OF MONEY



Scale model of the Banco de España building, c. 1970. Made by Miguel Prim, possibly on the basis of the one designed by José Yarnoz in 1928. Colección Banco de España.

#### THE SCALE MODEL OF BANCO DE ESPAÑA

The scale model of Banco de España reflects the successive enlargements of Adaro's initial project up to the complete enclosure of the block.

The building designed by Adaro, first with Sáinz de la Lastra and afterwards constructed under his direction with the collaboration of Aguilar, has an irregular plan resulting from the successive acquisitions of land. It had a façade facing Paseo del Prado, turning into Calle de los Madrazo at one end, and rounding the chamfered corner of Cibeles at the other to continue along Calle de Alcalá as far as the middle of today's entrance pavilion, which bordered at the time on what were known as the 'Houses of Santamarca'. When the scale model is viewed from above, it is possible to see the private road or carriageway that separated Banco de España from these dwellings and ran as far as today's Calle de los Madrazo, formerly Calle de la Greda.



## THE LIGHTNING CONDUCTORS OF BANCO DE ESPAÑA

On display in the exhibition is a multiple-rod lightning conductor. It consists of a steel cylinder and an upper piece of copper from which the rods project in diverging directions. The rods are tipped with platinum, a metal with a very high melting temperature, and therefore optimally resistant to electrical discharges.

The installed lightning conductors were connected to a cable that ran down the façade of the building to the ground. Unlike the most usual earthing system, where the cable is connected to a metal rod in a hole, the cable at Banco de España entered a small tank of water, a

great conductor of electricity, and penetrated a tray with double concentric copper cylinders suspended by chains. On the sheet where the water tank is drawn, we can also see the connections of the rods with the armatures of the main staircase and aisles, as well as the position of a lightning conductor in relation to the zinc cresting of the roofs.

Also on display is a general plan of the roofs showing the location of the lightning conductors, with circles around these points to indicate the protected surface, whose diameter was equal to the height of the conductor. MCGM



Lightning conductor with multiple rods, c. 1890. Steel, copper and platinum. Patronato de la Alhambra y Generalife. Colección Miguel Giménez Yanguas

After the demolition of those houses next to Banco de España, the extension designed by José Yarnoz Larrosa along Calle de Alcalá, completed in 1934, was exquisitely respectful with Adaro's exterior. The original entrance pavilion was moved up the street, and a new one was built in the centre, larger and more impressive but faithfully replicating the existing structure and decoration and employing the same materials. The next enlargement, completed in 1975 by Javier Yarnoz Orcoyen, closed off the block along Calle Marqués de Cubas and Calle de los Madrazo. To complete the perimeter, there remained the upper corner of Calle de Alcalá, occupied by the Palace of Lorite, which housed the headquarters of Banca Calamarte and afterwards Banco Pastor before it was finally demolished in 2002. In its place, Rafael Moneo designed a very successful addition, completed in 2006, with a new chamfered corner and forms that synthesise the elements of the nineteenth-century façade. The latest transformation to have taken place in the block is the restoration of the Tower building located in the inner courtyard to designs by the Ruiz-Larrea & Asociados studio, still in the process of completion.

The scale model displayed here, mostly made at the workshops of Miguel Prim in the 1970s, recreates part of the model presented by Yarnoz along with his project of 1928. It was recently updated at the scale model studio of the Escola Técnica Superior d'Arquitectura del Vallès in 2023 to include the newly restored Tower building.

### MODERN TIMES, MODERN INSTALLATIONS

The buildings designed by Adaro demonstrate his interest in the latest technological advances of the period. In 1889, he was commissioned by Banco de España to travel to Europe for the second time and study the heating systems at the Bank of France and the Law Courts in Brussels. In Paris, he was able to gain first-hand knowledge of the most modern systems presented to the eyes of the world at the Universal Exhibition which was taking place there, and to collect information not only on heating systems and specialised firms but also on other innovations, such as pneumatic tubes and telephones, advances in lavatory facilities, mechanical

## ARC LAMPS

The system of incandescent filament lamps was accompanied at Banco de España by another more conventional system, the voltaic arc lamp, in which light was produced by two separate vertical carbon electrodes. Wear and tear on these electrodes was compensated by a regulator, a clockwork mechanism with two electromagnets lodged in an upper cylinder that gradually brought the graphite rods closer together. A very intense arc of light was generated between these two electrodes, which made it a good system for the illumination of façades. Until the start of the twentieth century, it was also in general use for street lamps.

The voltaic arc lamps were installed on the exterior, next to the upper windows of Banco de España, as well as in other places like the General Assembly Hall and the Twin Courts. Cylindrical in shape, they had large covers of wire mesh to protect those below from falling glass in case of fracture.

At Banco de España, these lamps also had an ornamental function, with decorative arms and claws, and with flowers on the cylindrical body. The best example of their decorative use is the great candelabrum of lights in the main window of the chamfered façade.

The greatest difficulty of arc lamps was the scarce duration of the carbon rods, which had to be replaced after several hours. To change them, the glass casing and the first segment of the iron carcase were slid down and held by chains to prevent them from falling. MCGM

## DIRECT CURRENT DISTRIBUTION BOARD

Displayed in the exhibition is a portable distribution board for direct current, predominant in both industrial and domestic use until the development later in the twentieth century of the alternating current generators invented by Nikola Tesla.

The structure of this piece of equipment, preserved at the Museo Nacional de Ciencia y Tecnología, is of cast iron while the control panel, characteristically of the period, is of marble. There were two main reasons for this.

One was aesthetic, as the meters, switches and fuses stood out against it, and the other was practical, since it acted as an insulator.

The equipment was used to regulate the voltage with rheostats. However, this method of regulation with resistors, which was widely used in both industrial engines and railways, fell into disuse owing to its high inefficiency. It led to a voltage drop through the transformation of electricity into heat, resulting in energy losses. ILG



locks, tower clocks, and, of course, electric lighting. The firms that were finally contracted demonstrate the international nature of the facilities installed at Banco de España, which spared no expense to equip the building with the best materials and the most recent technological advances.

However, all these efforts were liable to be in vain if the integrity of the building was not assured. Two fire hydrants were therefore installed on the roofs, and further hydrants were distributed all over the interior of the bank, each in a cast iron case with enamelled doors built into the wall. Each had its own waste pipe and angle valve, and every case contained stopcocks, an eight-metre leather hose, a nozzle and a T-handle faucet. According to the conditions of the contract signed with Sanz y Loubinoux, twenty-four fire hydrants were installed: four in the basement and ground floors, four on the second floor and two in the mansards. Every fire hydrant was accompanied by two waterproof canvas pails, described by the press as “very elegant”.

Besides ensuring protection against fire, it was also a priority for Adaro to prevent the building from being damaged by lightning. Together with Aguilar, he therefore prepared an extensive report to inform the Banco de España Works Committee of the most appropriate systems for preventing the dire consequences of electrical discharges, bearing in mind the enormous amount of iron that had been used in the construction. The objective was to convince the bank's directors of the effective protection provided by these apparatuses, demonstrated by science and proven in practice. Their arguments must have been convincing, as Luis Loubinoux was contracted to supply and fit eighteen complete lightning conductors.

In the second half of the nineteenth century, the generation and control of electricity was the most important of the advances in modern technology. Research on its variants and applications burgeoned, while companies were founded to fight for command of the electrical supply. In Spain, the first trials with electric lighting took place in the 1850s, although electricity was not available for industrial purposes until the 1870s. From then on, there was an acceleration in the rhythm of both the creation of companies and the development of uses of electricity owing to growing demand, particularly for lighting in public buildings, where it afforded greater safety than oil and gas.

Electric lighting was necessary from the very beginning of the building works of the new Banco de España in order to ensure their completion in the shortest possible time. To hasten their progress, the contractor of the foundation works, Juan Pruneda, requested authorisation from the bank in 1884 to work at night with the aid of electric lighting, but it was in the final phases of construction that it became necessary to study the most appropriate lighting systems and how they were to be installed. It was decided that housing electrical generators inside the bank might lead to excessive noise and unwanted ‘tremors’, and it was therefore deemed preferable to opt for the external supply offered by certain companies.

Since the use of alternating current did not become widespread until the twentieth century, and what was used until then was direct current, energy suppliers were unable to provide services at long distances, and their power stations had to be relatively close to their consumers. This led to an increase in the number of such companies. Although direct current was initially installed at Banco de España, its requirements of power and voltage subsequently led the bank to switch to alternating current, with its transformers, and to three-phase energy, formed by three phases of alternating current. Shown in the exhibition is a distribution board that was used in physics laboratories to explain how direct current worked, and a marble electrical panel with knife switches, a meter and protective fuses for three-phase alternating current.

Javier Campano. Iron candelabrum with voltaic arc lamps on the chamfered corner of Banco de España. From the series *Banco de España Building*, 2000–2001. Gelatin silver on baryta paper. Commissioned from the artist. Colección Banco de España

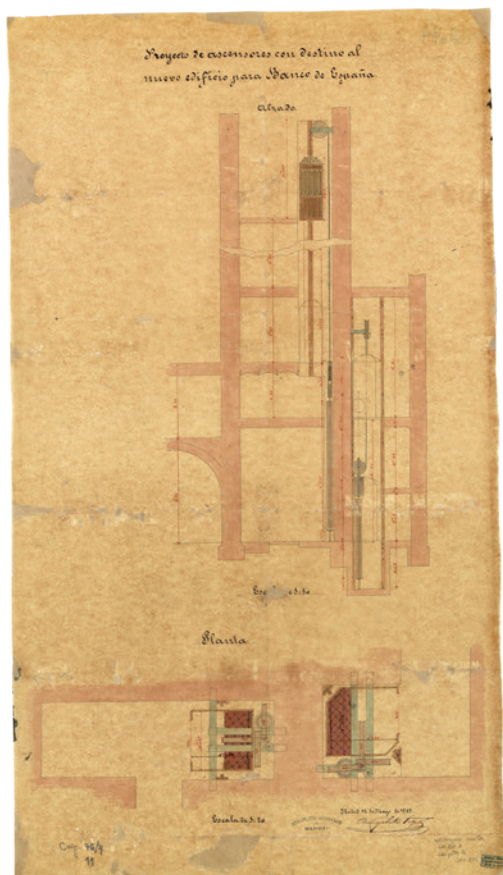
Banco de España had the use of electric lighting from 18 December 1890. In all, the building held some two thousand lights.

## COMMUNICATION

Owing to the large distances between the bank's various departments, it was necessary to provide communications between the different parts of the building in order to minimise time spent on transit from one to the other. For example, after the commissioning of a report from the Paris firm Mignon et Ronart, a system of pneumatic tubes was set up, initially in the current accounts service, to send papers in small volumes. The network was mounted by the firm Zindars. Another way of connecting different parts of the building was a network of electric bells "with their buttons" that was contracted from the firm Mayor y Ochandarena, the successors to Gil Machón. With the large number of departments in Banco de España, the installation would have involved numerous bells and indicators with numerical plaques.

From the first moment, the architect was also concerned to make vertical transportation in Banco de España both possible and comfortable. Indeed, he had published an article on the Siemens electric elevator in the *Revista de la Arquitectura Nacional y Extranjera* in 1881. On 15 March 1889, Eduardo de Adaro and José María Aguilar signed an illustrated list of specifications for a tender to provide Banco de España with three lifts and three service elevators. One of the lifts was to be used by the governor and Board of the bank, another by the bill of exchange service, and a third by the banknote manufacturing service. The service elevators, in the meantime, were to connect the jewel vault, the cash tills and the bill of exchange deposit.

Preserved in the bank's Historic Archive are the drawings presented by the companies that tendered offers. Among these were an English company based in Chester, The Hydraulic Engineering Company, Ltd.; the Spanish firms Bonaplata Hermanos, Centro Industrial Mecánico (whose director was F. Sivilla) and Julián Prinetti; and the French companies Machines Hydrauliques Samain & Cie. Ingénieurs-Constructeurs and Auguste



Bonaplata Hermanos. Design for lifts for the new Banco de España building: elevation and plan, 1889. Archivo Histórico del Banco de España, Colección de Planos de Arquitectura (Sig. 76/4, 11. BE\_PLANOS\_102\_11)

For the electrical installation, the bank approved the proposal of the Compañía General Madrileña de Electricidad, founded by Levi & Kocherthaler, the Madrid branch of the Allgemeine Elektrizitäts-Gesellschaft of Berlin (AEG). The bank also chose the types of lamp presented by Levi & Kocherthaler, the holder of the patent of Thomas Edison, who had perfected and patented incandescent filament light bulbs.



## CALL INDICATOR PANEL

Gesling Successeur, both based in Paris. On the basis of reports received from the French capital, the architects verbally informed the Board that the safest system was the Otis, “hoisted, with no piston or well, and adopted for the climb to the second floor of the Eiffel Tower in Paris.”

The contract was awarded to the firm Bonaplata Hermanos, which was also commissioned to provide the service lifts, document elevators and dumbwaiters. The ‘funicular’ system proposed by this firm used four steel cables, offered safety and guaranteed a uniform speed. It had been widely used in the United States and was spreading in France and England. In the end, eight were made. The American Otis system was used to instal four lifts and a service elevator for the cash boxes. The three remaining service elevators for the other vaults were direct-acting hydraulic lifts. Luis Loubinoux was in charge of channelling the water supply to enable them to function.

Years later, when Adaro constructed Bruno Zaldo’s house and the Banco Hispano Americano building, the hydraulic system for lifts had been definitively replaced by electrics. This was the only system used in these projects, with special measures for the safety of the cabins, once more showing the architect’s commitment to modern developments.

This electro-mechanical call indicator panel, which worked in conjunction with electric bells, was able to serve six different points in the building. It operated on the basis of a system of electric wiring that connected each room with a specific number on the panel. Every room had a button which, when pressed, closed the electric circuit and activated a small metal plaque on the main panel with the number of the room from which the call had been made. This allowed the staff at reception or on service to identify the place requiring attention.

These devices were commonly used in palaces, mansions, hotels, hospitals and other buildings where it was necessary to attend to requests from proprietors and guests. They were generally located in a reception hall or a central area where the staff on service could easily see incoming calls.

To return the numbered plaques to their original position after attending a call, this model had an external mechanism activated from outside the box. In other cases, the resetting was done manually. RMML

Call indicator, c. 1910. Wood, brass, paper, copper. Museo Nacional de Ciencia y Tecnología (No. Inv.: CE2001/030/0016)



## WALL TELEPHONE



This wall telephone is distinguished by its design, which incorporates a support in the form of a desk lid holding the two main elements, the transmitter and receiver. The former functions on the basis of the properties of imperfect contacts between small pieces of carbon upon passage of a direct current generated by a battery, while the receiver uses the characteristics of the electromagnet.

To establish communication, the receiver had to be unhooked from its mobile support, and the caller had to speak through the wooden board screwed onto the top of the box. The air agitated by the sound waves exerts pressure and makes the cover vibrate, causing the pieces of carbon beneath it to move inside the box. The induced currents in the spool of the transmitter reach the electromagnet of the telephone receiver at the other end of the line, making the membrane of the receiver vibrate in the same way as the transmitter. As a result, the transmitted sound waves, perceived only when the earpiece is brought close to the ear, are reproduced with the same tone and timbre.

This model of telephone, with two receivers for two different users, was manufactured at the end of the nineteenth century in Paris by the Société de L'électrophone, following the system designed by Louis Maiche. The electromagnetic receivers were developed by Boisselot, whilst their distribution and sale to the public was handled by Oliva y Marín, "opticians to His Majesty", whose establishment was at number 21, Calle Principe, in Madrid.

It is important to stress that the telephones based on Maiche's patents were capable of long-distance transmission, establishing communication across several hundred kilometres. RMML



Wall telephone, c. 1900. Wood, brass, chrome steel, carbon, ebonite, copper, silk. Inscriptions: On the front of the transmitter: "S\_TÉ DE L'ÉLECTROPHONE / S\_ME MAICHE / B\_TE S.G.D.G. / N° 1063". On the receivers: "S\_ME MAICHE B\_TÉ S.G.D.G. BOISSELOT A PARIS 5246" and "S\_ME MAICHE B\_TÉ S.G.D.G. BOISSELOT A PARIS 5063". On the rear: "OLIVA Y MARIN / OPTICOS DE S. M. / SUCESTORES DE ORTEGA / PRINCIPE 21 / MADRID". Museo Nacional de Ciencia y Tecnología (No. Inv.: CE1985/004/0629)

Desk telephone, c. 1910. Bakelite, wire, steel, cotton, silk, brass, wrought iron, paint, ebonite. Inscriptions: On the central support: "1791795". On the microphone: "A. B. L. M / ERICSSON SWEDEN STOKHOLM / ALLM. TELEFON". On the support: "STOKHOLM." and "L. M. ERICSSON". Museo Nacional de Ciencia y Tecnología (No. Inv. CE1986/006/0672)

## DESK TELEPHONE

This telephone is supported on four elegantly decorated lateral arches with the magneto and two bells attached to them. Resting on the side legs or pieces is the stand and the cradle for the single horizontal handset, an innovation that appeared in 1890. The mouthpiece and receiver extend over the sides. Opposite the handset cable, another wire stretches out to end in a circular piece with nine terminals for mounting in the wall.

This model consolidated the standard pattern for desk telephones that was to last for much of the twentieth century. Designed personally by Lars Magnus Ericsson, the founder of the company, it was to become the firm's most characteristic product. It was manufactured from 1892 until the early 1920s.

It was also known in Spain as the *Esqueleto*, in Britain as the *Skeleton Type* and in Germany as the *Sklettapparat*, since it was designed with no covers or carcasses, leaving its internal structure visible. It was solid and robust, with a weight of 5.3 kilos, but its finish and appearance were embellished with nickel plating, lacquer, black enamel decoration and decals with floral designs.

Produced in Sweden, the United States, Great Britain, Portugal, Denmark, Germany, Mexico and Brazil, the model was immediately a huge commercial success. It was described in one of Ericsson's British catalogues as "a masterpiece with a unique design." EJB

For communications with the exterior, a telephone network was set up. This was adjudicated to Eduardo Estelat and José Oliva, whose catalogue marketed the most modern apparatuses manufactured abroad. There was also an alarm system connecting the most sensitive points in the building with the porters' lodges, which allowed all the exits from the building to be closed at the press of a button. We know that the firm Mayor y Ochandarena also installed three telephones as well as the system of electric bells. Here we show a wall telephone marketed by Oliva, identical with some of those used at Banco de España, and also a desk telephone, the 'skeleton' model by Ericsson. The most luxurious phone of its time, it was likely to have been purchased by Adaro's wealthy clients, and may well have stood on the desk of the governor of the bank.

### TEMPERATURE

In the late nineteenth century, architects were keen to make interiors pleasant not only with attractive

furnishings and décor but also, and very particularly, by controlling their temperature. To ensure comfort in this respect, it was essential to forecast the weather and measure the degrees inside the building. There are still a surprisingly large number of barometers in Banco de España, generally accompanied by thermometers. At the end of the nineteenth century, these were fashionable meteorological instruments that could even be seen in the streets, both on façades and on free-standing structures created specially for them. In 1891, José Oliva was contracted for the installation inside Banco de España of 42 metal barometers, 28 of porcelain, 35 of wood and 6 with fantasy designs. Next to the scale model, however, we have opted to display a barometer and thermometer whose dates of manufacture indicate that they must have been in the building on Calle Atocha, and would have been installed afterwards in the new building. In fact, an early twentieth-century photograph shows one of these two devices in the office of the governor of the bank.

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Detail of a photograph by J. Laurent y Cía. of the Cash Till Court at Banco de España, showing heating pipe coil. Archivo Histórico del Banco de España, Colección de Fotografías (no. inv. 6391)



Grasselli y Zambra. Barometer, 1849-1863. Wood, brass, glass, mercury. Inscriptions: At the top: "GRASSELLI Y ZAMBRA / Ópticos de S.. M.. / en Madrid". On the weather scale: «Muy Seco / Sereno Fijo / B. Tiempo / VARIABLE / Lluvioso / Muy Lluvioso / Borrascoso». Rest of inscriptions, from top to bottom: «Pétersbourg / Londres / Venise / Paris / Milan / Toulouse / Laigle / Arras / Zurich / Madrid / Saragosse / Mt Cenis / Mts Pyrénées / Id. Ste Marie / Id. du Jura / Haut Stey / Sommet de la – Rigý / Mont St – Gothard / Mont St – Bernard / Mont – d' Or / Canigou / Pitchincha / Pic du – Ténériffe / Mont – d' Arcus / Zone – México / Ephís – Afrique / Mont – du Pérou / Mont – Cayambé / Chimboraco / Tibet (Asie) / la plus haute cime – de l' himalaya». Colección Banco de España

This wall barometer was manufactured in Madrid by Grasselli y Zambra between 1849 and 1863. It consists of a rectangular wooden box that supports a brass plate with two scales and various inscriptions. Fixed onto this plate is the glass tube that connects with the mercury container at the bottom.

The barometer has two scales for measuring atmospheric pressure. The scale graduated from 5 to 80 expresses the measurement of the barometric pressure in millimetres of mercury (mm Hg). There is also a secondary vernier scale for greater precision. In the meantime, the second scale, graduated from 2 to 29.4, provides an equivalent measurement in inches of mercury (in Hg).

Besides the scales, the barometer also has a movable pointer for weather forecasts. This allows the day's meteorological conditions to be predicted in accordance with the level reached by the mercury in the glass column. The face bears the following inscriptions: *Muy Seco* (Very Dry), *Sereno Fijo* (Set Fair), *Buen Tiempo* (Fine Weather), *Variable*, *Lluvioso* (Rainy), *Muy Lluvioso* (Very Rainy) and *Borrascoso* (Stormy).

To adjust the barometer, the indicator of the vernier scale is placed at the height of the meniscus of the mercury. The weather outside is then observed, and the atmospheric weather scale

is adjusted with a screw. As the weather improves or becomes more anticyclonic, the atmospheric pressure increases, leading to an increase in the height of the mercury in the column. By contrast, on rainy or stormy days, associated with low pressures, the column of mercury falls.

In this type of barometer, atmospheric pressure is measured by taking the height in millimetres reached by the column of mercury (mm Hg). The reference is established by the value of the pressure at sea level, which is 760 mm Hg, equivalent to one atmosphere. For this reason, some cities located at an altitude close to sea level, like Saint Petersburg, London, Venice and Paris, are indicated at the top of the barometer. These cities represent higher values on the scale, since they experience greater atmospheric pressure owing to their proximity to sea level. On the lower part of the barometer, on the other hand, are the names of higher locations, like Madrid, as well as well-known mountains, peaks or passes, such as the Pyrenees, the Saint-Gothard Massif and the Saint Bernard Pass. These locations register lower values on the scale because they are at higher altitudes, resulting in a lower atmospheric pressure. As a curiosity, the lowest reference on this barometer corresponds to the highest peak in the Himalayas, Mount Everest, with a reading of 255 mm Hg. RMML



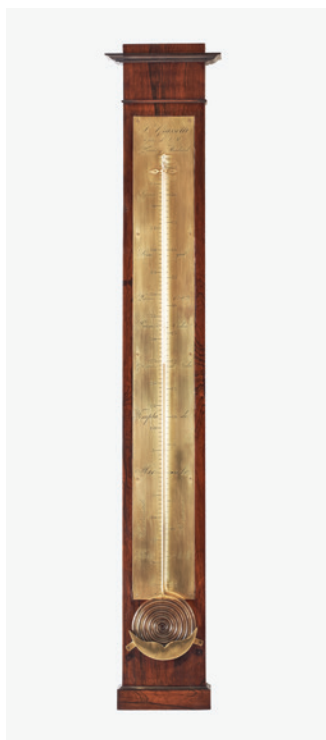
This wall thermometer was made in Madrid in the second half of the nineteenth century by José Grasselli, who held the title of "optician to His Majesty" in recognition of the scientific instruments he made for the Royal Household. It consists of a wooden box with a brass plate screwed onto it, attached to which is the capillary glass tube containing the alcohol. The lower part of the tube ends in a spiral with a decorative and artistic intent besides its scientific function of precise measurement.

It has the two most common temperature scales of the time: degrees centigrade (from  $-27^{\circ}\text{C}$  to  $69^{\circ}\text{C}$ ) and degrees Réaumur (from  $-21^{\circ}\text{Re}$  to  $55^{\circ}\text{Re}$ ). Although the Réaumur scale has fallen into disuse, it was widely used at the time in France, Germany and Russia.

Thermometers of this type have engraved inscriptions with various temperature references, some of them common and others more unusual. Among the most habitual were the appropriate temperature for breeding silkworm ( $23.7^{\circ}\text{C}$ ), extreme temperatures like the maximum recorded in Paris ( $38.7^{\circ}\text{C}$  in 1802) and the minimum ( $-19^{\circ}\text{C}$  in 1838), and the freezing point of water ( $0^{\circ}\text{C}$ ). Also included were the temperatures of certain localities like Syria and Senegal.

José Grasselli was one of the founders of the establishment Grasselli y Zambra (c. 1840), reputed as one of the first shops in Spain to specialise in the production and distribution of precision instruments. Its offer covered a wide range of disciplines, from optics, physics and mathematics to geodesy, mineralogy, astronomy and surveyance. After 1864, José Grasselli continued to carry on the business independently at number 5, Calle Montera.

Both Grasselli y Zambra and the establishment run by José Grasselli were purveyors of scientific material for schools and scientific societies. They also supplied scientific instruments to prominent institutions like Banco de España and the Royal Palace of Aranjuez. Preserved at the latter is a thermometer signed by Grasselli and Zambra that predates their appointment as "opticians to His Majesty" in 1849. RMML



J. Grasselli. Thermometer, c. 1864. Wood, brass, glass, alcohol.  
Inscriptions: Top to bottom:  
"J.. Grasselli / Óptico de S.. M.. / Paris y Madrid / Syria / Sénégal / Paris – 1802 / Baños – Ordins.. / Gusanos – de seda / Templado – Hielo / Centigrado / Réaumur / Paris – 1838".  
Colección Banco de España

Systems for producing heat to make interiors more comfortable were the object of special attention during the nineteenth century. It was initially proposed to provide gas heating for the new headquarters of Banco de España, but this idea was discarded in November 1888, when a report by Adaro and Aguilar on different procedures for the production and conduction of heat was read to the Works Committee. Given the absolute novelty of these inventions in Spain and the lack of experience regarding their requirements and benefits, advice was first sought on steam systems and low or high water pressure systems, and various Spanish and international firms were then invited to present proposals.

Everything seemed settled when Adaro ascertained during a trip to Paris that the firm Geneste, Herscher et Cie. had won the first prize for its heating system at the International Exhibition of 1889. However, the pace of technical progress soon showed that low-pressure steam had already proven much less effective than high-pressure water, so the contract was finally awarded to the

firm Julius G. Neville y Compañía, the representatives in Madrid of the Liverpool company Renton Gibbs, which had adapted the thermosyphon invented by Perkins. The materials – laminated iron pipes, stoves, boilers, expansion vessels, taps and supports – started to arrive at Banco de España after being carried on steamships to the ports of Seville, Lisbon, Bilbao and, particularly, Pasajes.

From the boilers located in twenty-one brick furnaces, patented by Renton Gibbs, the water circulated constantly at high pressure through laminated pipes.

These pipes were visible in some places and covered up with iron or lead grilles in others, such as difficult curved stretches, or were hidden behind 158 cast iron fretwork plates on the window sills, and four made of bronze on the main staircase, which let the hot air through. On certain occasions, however, the pipes were coiled up like spools and hidden in the so-called ‘coil boxes’, a kind of ornamented and fretted radiator cover of bronze-plated cast iron in a marble case. 119 of these boxes were



Commercial catalogue. Sanitary appliances TWYFORD'S. Inside pages.  
Colección Miguel Giménez Yanguas



"The Combination" lavatory. Doulton (England), 1883-1900. Painted porcelain (bowl), wood and metal hinges (lid). Museo Cerralbo

A toilet of the typical Victorian type, whose functioning was related to the modern conveniences of new buildings in European cities. They had to be installed in buildings with running water to feed the cisterns that made it possible to clean them by flushing, and they required a connection to the public sewerage system. The lid and seat made it possible to use them as urinals (standing) or toilets (sitting), besides allowing the toilet bowl to be covered. Both private dwellings and public buildings benefited from this latest model of sanitary fitting, which guaranteed cleanliness and hygiene in their lavatory facilities.

The decoration and even the forms of these pieces were very varied. The motif in this case is "raised acanthus",

commercialised by Doulton in glazed porcelain with blue decoration. The piece bears a number of inscriptions and marks that indicate an approximate date of 1882-1886, although the time frame could be broader.

Benefited by the transcendent changes in public and private hygiene in mid-nineteenth-century England, Doulton, a small domestic china factory, had the opportunity to supply piping for the sewerage works in London. In imitation of cutting-edge products like Twyford's 'Unitas', it was soon in a position to offer consumers 'The Combination', with the innovation of a multi-position wooden lid. This type of sanitary fitting was in fashion for decades, and the system with which it functioned remains current today. CCD

installed in different sizes and models. Thanks to the twenty kilometres of piping running through the building, which had a volume of some 120,000 cubic metres, it was possible to maintain a temperature of 16 degrees in the interior as long as the outside temperature was no lower than 6 degrees below zero.

In the exhibition, we present two historic photographs that show one of the coils in the Cash Till Court (now the Library) before it was hidden behind its iron cover, and a radiator cover or 'coil box' in the governor's office.

During the enlargement and refurbishment carried out by José Yarnoz in the 1930s, this heating system was replaced. Although it had also been installed in the Senate, the City Hall of Madrid and a number of residences, it was never again used by Adaro, who turned to the Jacobo Schneider company to provide heating with more conventional radiators, still in use today, for the Banco de España branches in Huesca, Logroño and

Pontevedra, the residential block he designed for Bruno Zalda in Calle de Alfonso XII, and the central headquarters of Banco Hispano Americano.

## HYGIENE

In the nineteenth century, there was a fully-fledged revolution in sanitation occasioned by the need for the industry to serve a society whose health had been shattered in many European cities by outbreaks of cholera or other contagious diseases. Hygiene was a priority in Eduardo de Adaro's planning, and the question of sanitation therefore occupied a very important place in all the works he undertook. In the case of Banco de España, the size and importance of the building, its institutional character and the large number of people who would be working in it, some of whom would also reside in the building, led him to investigate and apply the most recent advances in the field.

Thanks to his trip to Paris to visit the Universal Exhibition of 1889, he was able to examine the products offered by the most prestigious firms, the most outstanding of all being Doulton, an English company based in Lambeth that produced all types of ceramic goods from crockery to tiling, but had by then become the most reputed producer of ceramic sanitary equipment, greatly in demand all over Europe for its quality and decorative variety. Indeed, the Works Committee of Banco de España agreed “that proposals be requested from the firm Doulton in accordance with the offer made to it by the aforementioned architect to supply the new building with as many lavatories and wash basins as necessary of the type installed at the International Exhibition in Paris.” The rival firm, Twyford, produced and marketed the Unitas line of sanitary units, whose design was very similar. Both firms, and especially the second, were to manufacture the units that were installed in Banco de España.

In the report he signed on 1 May 1890 on water distribution, sanitation and hygiene in the new building, Adaro considered it of prime importance to address four fundamental aspects: the exterior plumbing, the interior plumbing, the fire precautions, and finally the toilets, urinals and other sanitary equipment for cleanliness and hygiene. This report was drafted after consultation with Sanz and Loubinoux, the contractors responsible for the installation, in whose warehouses the architects were able to examine and select what they thought was most appropriate from a wide range of sanitary equipment, mostly manufactured, as said above, by the Twyford company, whose colour illustrated catalogues gave their clients a fairly precise idea of the characteristics of each unit.

All the services were to be properly equipped and distributed with good direct ventilation. The units were to be of first-class quality and set in position with great care to guarantee complete impermeability. The toilets would be completely odourless through the use of dual flush syphons, and would be fed with sufficient amounts of water, besides conforming to the regulations of the Canal de Lozoya on taps, stopcocks and automatic deposits with a view to preventing excessive water consumption. The model that was most often used at

Banco de España was the ‘Unitas’ by Twyford, a firm whose catalogue can be seen on a screen in this exhibition.

Relief and colour were recurrent characteristics of these sanitary fittings. They were decorated as though they were pieces of crockery, showing that they were regarded as luxury items. Among the models chosen for Banco de España, the decoration, materials and price varied depending on whether their users had the professional category of assistants, general employees or upper management. The governor’s toilet, for example, had a gold trim.

For the wash basins, Adaro designed some varnished pinewood furnishings with an Italian marble top and a mirror. Destined for the workers, they could be used by three people simultaneously. The furnishings for employees of a higher rank were of more expensive woods like American oak, walnut or mahogany. The wash basin furniture for the vice-governors and governor also had English tiles, those of the former only on the upper part of the lower body, and that of the governor also on the wooden cornice. The basins were revolving bowls of English porcelain that nearly always emptied into a receptacle of the same material in the case of single basins, and of copper if they were more numerous.

To the displeasure of a powerless Adaro, the heating systems, lighting, telephone networks and sanitary facilities left a complex network of conduits on the basement level that surprised visitors when the building was inaugurated in 1891.

## THE MAIN STAIRCASE

The imperial staircase that rises from the enormous main vestibule on Paseo del Prado is the most significant decorative element of the whole building in terms of ostentation and the use of sumptuous materials. We do not know how far Eduardo de Adaro was assisted on the design by José María Aguilar, as they made a joint presentation of drawings and samples of materials to the Works Committee in 1888, together with the specifications for the tender, which was finally won by



## FERNANDO MAQUIEIRA: ADARO'S BUILDING AS A REPOSITORY OF ARTWORKS

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Fernando Maquieira is the photographer who has documented the interior of Banco de España in the greatest and most complex detail over the past decade. His work at the institution, always in colour, has run parallel to the restorations of recent years and the directives for the management of the building and its art collection, which have been adapted to present-day requirements. For this exhibition, we have selected a series of recent photographs of the main staircase, the most impressive feature of Adaro's project.

In the first place, in a dialogue with those who have preceded him, Maquieira makes an exact replica of one of the photographs of Laurent & Cía, probably the first one to be taken of this part of the building, repeating the viewpoint, the framing and even the lighting to the smallest detail. Besides producing a photograph of the general context, this procedure relates to the photographer's facet as a collector and retriever of old photographs through the group he belongs to, the 'Ministry of the Lost Image'. In the meantime, the other images are fed from two other sources: Maquieira's meticulous technical specialisation as a photographer of artworks, and his work as an author on projects that have produced unorthodox images of the heritage of various parts of the world, such as *Guía nocturna de museos* (Nocturnal Guide to Museums) and *Ciudad nocturna* (Nocturnal City).

Fernando Maquieira's images narrate this space as a great container of artworks. The extraordinary iconographic density of the staircase is displayed in reliefs, tondos and stained glass windows that signify the space in accordance with the interests of those who commissioned it, but also contribute a series of visual and luminous rhythms that the photographer skilfully emphasises. Examples include the sideways



Fernando Maquieira. Plaster medallion of the goddess Fortune on the main staircase of Banco de España. Archivo de Conservaduría del Banco de España



Fernando Maquieira. Plaster medallion of the god Mercury on the main staircase of Banco de España. Archivo de Conservaduría del Banco de España

glance that humanises the head of a Mercury, or the veins that run through the Carrara marble in which the stairway is clad. Moreover, these details are seen from unusual viewpoints that bring the decoration closer to the eye and allow the viewer to transcend the general theatrical effect, understand the elements it comprises, and perhaps end up

feeling 'interested' rather than 'seduced'. In this respect, they could be said to illustrate the criticisms received by Adaro's project in 1890 for an excess of luxurious opulence "more suited to a palace than to an industrial establishment," and to pose a new question on the complex eclectic quality of the building. CM

The series of photographs taken at Banco de España by Candida Höfer in 2000 reveal the German photographer's interest in portraying an "architecture of absence" by resorting to public or semi-public spaces devoid of all human presence. However, this absence does not mean that no imprint remains on the architecture of those who pass through these spaces, of the history of the place and of its condition as a monument, an imposing and eloquent edifice that is nevertheless nuanced by its uses.

The pictures by Höfer exhibited here reproduce the state of parts of Adaro's first building at the turn of the following century. A certain seriality in the elements reflects the photographer's interest in reiteration and in the search for an internal order in the architecture and an essential sense of the decorative. This impulse, inherited by Höfer from the magisterial example of the Bechers, can be read in the white-painted filigrees of soft iron in what today is the Library, the former Cash Till Court of the building designed by Adaro. Both here and in the photograph of the main staircase, the photographer curiously avoids symmetry by displacing the framing almost imperceptibly to one side. The latter photograph emphasises the palatial quality of the staircase by lighting the electric lamps on the upper balustrades, so that the light seems to compete with the overhead illumination provided by the great upper window. Another interesting thing about this picture is that its vanishing point is in one of the transitional areas between Adaro's building and Yarnoz's later extension. The opening towards the rotunda where Lorenzo Coullaut's statue of José Echegaray was erected points to the accumulation of horizontal strata that makes up the headquarters of Banco de España.

Among Höfer's images of Adaro's spaces is an outstanding picture of the vestibule of the original entrance to the building on the chamfered corner facing Cibeles, now Banco de España's exhibition gallery. A rather more complex image, it reflects the various vicissitudes of the space where this exhibition is being held. Höfer shows this place with its original diaphanous arrangement and at a specific moment of its history, when it was used temporarily as a storeroom or transit area for pieces in the Banco de

España Collection. The effect is one of a sort of challenge on the part of the artworks, which imitate human presence in their heterogeneity, against the rotund seriality of the giant orders of pillars and pilasters that sustain the first floor.

All this demonstrates Höfer's ability to apply a scrutinising and essentialist gaze not only to the architecture that responds best to it (that of the Modern Movement and its derivatives) but also to a building as stylistically and functionally eclectic as Banco de España. CM



Candida Höfer. Staircase of Banco de España. *Banco de España Madrid III* 2000, 2000. Chromogenic print on paper. Edition 2/6. Colección Banco de España

a sculptor from Bilbao, Adolfo de Areizaga. The construction of the staircase was long and complicated as it involved the use of marble from Carrara. Columns, Paonazzo plaques, balustrades and steps, each one fashioned in a single piece of more than five metres, had to be transported from Italy and shaped in Bilbao. The ready-carved stone materials for the staircase were then taken to Madrid by train. Various circumstances delayed its construction, such as the fact that the iron armature for the skylight that was to cover the stairwell was not yet in place, and that once this armature was fixed and provisionally covered and the plasterwork had begun on the walls and ceilings, the work had to be suspended owing to the onset of severe frost. The large scaffolding was subsequently also used for the painting, decoration and glazing of the skylight, which made it advisable to delay the laying of the steps.

After passing the large area of the main vestibule on Paseo del Prado, the staircase rises from the centre of the extremely long ground floor passage with a straight flight between rusticated walls and a frieze with rosettes. It reaches the mezzanine floor, where two galleries open out with stone columns on pedestals between balustrades. These galleries, stuccoed in imitation of marble, lead to the Treasury Court and the Current Accounts Court, known today as the 'Twin Courts', which allow natural light into the rooms organised around them through the skylights that cover them. The staircase, covered by an extraordinary stained glass window, continues for a flight further. At that point, before it branches into two to climb to the main floor, there stood the stained glass window of Wisdom, which originally closed off the back wall of the staircase, but has today been displaced from its original position and can now be seen in the adjoining transition space between Adaro's building and the extension of Yarnoz, who commissioned another window with different motifs as a twin to stand opposite it.

The sumptuous main staircase was designed all in one. In the stone decoration, as well as in the plasterwork on the walls, are the iconographic elements to be observed in the rest of the building, although with a greater presence here of direct

allusions to the monarchy, since around the great stained glass window mentioned above, and also on the walls of the ascending flights, a series of medallions simulate recently minted coins with the effigies of the kings who supported the bank's creation and development, from Charles III to Alfonso XIII, although the latter must have been modified later as it bears the date of 1905. On the back wall of the staircase, two groups enclose the heads of the goddess Fortune, with a star in her hair, and the god Mercury, with a winged helm, which are repeated on the sides of the lintel providing access to the upper floor. Lion's heads wearing crenellated crowns are situated between friezes of laurel wreaths with ribbons beneath the balustrades leading to the main floor, and in line with the columns of veined Paonazzo marble supporting segmental arches. The lions seem to be an allusion to the power both of royalty and of the institution, since they have a rolled-up paper or note in their mouths. It may be, as María José Alonso suggests in *Arquitectura del Banco de España. Imágenes de un edificio histórico* (2001), a "tribute to the fiduciary circulation that had been achieved by the National Bank." Above the galleries, the passages leading to the main floor also display rich decoration, with triangular pediments and coloured stained glass windows. The space, whose stairwell reaches a height of twenty-four metres, is magnificent not only because of its dimensions but for the richness of its ornamentation and materials. Even the walls of the galleries were laid with hot-ironed stucco. The plaster decoration was carried out by Medardo Sanmartí, who made the corbels, the decorated lintels, wall sections with the heads of Mercury and the goddess Fortune, the royal coat-of-arms in the centre of the pediment located above the great window which was subsequently dismantled, and many other decorative elements.

The presence of coloured figurative stained glass windows at Banco de España forms part of a more general phenomenon in the nineteenth century of the revival of the prestige of artisanal activities. The stairwell is covered by a stained glass window featuring the goddess Fortune. The iconographic programme of the set is centred on this goddess, who is accompanied by a representation



Mayer, a firm founded in 1847, opened its stained glass workshop in 1862, with studios located in Stiglmaierplatz, Munich. They were badly bombed during the Second World War, leading to the destruction of many of the firm's archives. Among the few documents still preserved are some order or dispatch books (crucial for research into the works), books of preparatory drawings, models, and even some photograph albums with pictures of stained glass windows. In one of these books, there are photographs and drawings of the windows ordered for Banco de España in 1889. Regrettably, no other document, correspondence or information relating to the order has survived.



Stained glass window by Mayer on one of the two mezzanine doors of the main staircase. *Enterprises leading to Happiness and Glory: Love*. Banco de España

The order was placed with the branch Mayer had opened in London in 1865, but the windows themselves were manufactured in the Munich workshops. The London office had to be closed in 1914, just before the First World War. In the process, numerous archive documents were lost. The London agency dealt principally with the foreign distribution of the firm's products, mainly in America but also in Europe. The first stained glass windows ordered from Spain were sent to Málaga (in September 1880) and Madrid (in July 1881), and thereafter to Vitoria, Burgos, Barcelona, Córdoba and other cities around the country.

In 1888, Mayer was awarded the Knight's Cross of the Royal Order of Isabella the Catholic, probably because of the firm's large production of works for Spain. This distinction undoubtedly motivated the architect and directors of Banco de España to contact the Mayer office in London. The order was placed in August 1889, but the first contact had of course taken place much earlier. During that time, the teams at Mayer and the bank worked in collaboration on the iconographic programme of the stained glass windows. It was important to adapt the classical repertoire of allegories to the narrative that the banking institution wanted to project.

Mayer had a team made up of several artists and experts on iconography, among them Franz Borgias Mayer himself. Most of these artists and professionals had passed through the art academies. Some of them, particularly the draughtsmen, had permanent contracts to make the cartoons for the stained glass panels. In his book *La Vidriera Española* (The Spanish Stained Glass Window), Víctor Nieto Alcaide published two models representing allegories of Sculpture and Architecture that were probably presented to Mayer as examples

of the style sought as inspiration for the designs. These are engravings made by the artist François Ehrmann (1833-1910) for the album *Le Musée artistique et littéraire*, published for the Universal Exhibition of 1878 held in Paris.

François Emile Ehrmann was a French painter who made designs for stained glass windows like those of Autun Cathedral and the church of Montmorency. The name of the artist who designed the windows at Banco de España was unknown until recently, but when the drawings preserved in the books of the Mayer archive were closely examined, researchers discovered the signature of Martin von Feuerstein.

Carl Martin Feuerstein, known after 1914 as Ritter von Feuerstein (6 January 1856, Barr, Alsace – 13 February 1931, Munich) was a late representative of the Nazarene movement, but he also incorporated elements of Impressionism and *Art Nouveau* in his work, which was mainly inspired by religious themes. He attended the grammar school of Colmar until 1870, and then went on to study at the Academy of Fine Arts of Munich. He moved to Paris in 1878, and from 1880 to 1882 worked as a painter of genre scenes in Alsace. He travelled to Italy in 1882 and 1883, and then went to settle in Munich, where he devoted himself to religious painting. From that date on, he produced numerous designs for Mayer's stained glass windows. Between 1898 and 1924, he was a professor of religious painting at the Academy of Fine Arts of Munich.

A comparison between the original design and the final execution shows that there were changes in the composition, both in the form and in the content. For example, the central medallion was suppressed and certain allegories, like those of Fortune, the continents and the Rape of Europa, were modified. Only the Three Graces and the





Fates were left with scarcely any modifications. There is nothing very exceptional about this, as the client could always request changes, and when the cartoons were executed on a 1:1 scale, it was still possible to introduce or remove elements during the technical resolution of the composition, which had to be adapted to the lead contours.

Martin von Feuerstein was a profoundly religious artist, and there

are not many examples of civil works designed by him. However, one outstanding example is the design of 1909 for the stained glass windows at the Municipal Theatre of Rio de Janeiro.

Knowing which artist designed the stained glass windows at Banco de España is of great importance for continued research on the history of this notable building in Madrid. WU

Mayer of Munich. Stained glass window of Fortune over the main staircase of Banco de España. Photograph by Fernando Maquieira. Archivo de Conservaduría del Banco de España

Preparatory sketch for the stained glass window of Fortune. Mayer'sche Hofkunstanstalt GmbH – Mayer Archive, Munich

of the Rape of Europa and allegories of the other four continents. At the centre of the upper and lower sides of the great window are the Three Graces and the Fates. In the corridors of the mezzanine, the stained glass windows overlooking the Twin Courts represent enterprises which, according to the interpretation of José María Viñuela, lead to happiness and glory, with Vigilance, Love and Friendship on the left, and Glory, Happiness and Labour on the right.

Above them, on the main floor, are the allegories of Poetry, Sculpture and Painting on the left, and Architecture, Music and History on the right. The last of these was possibly chosen to accompany the major arts for reasons of symmetry. Recently, a photograph album was discovered in the archives of Mayer, a Munich firm, with sketches that include some of the images finally used in Banco de España.

Further up, beneath round arches, the allegories of the senses (Smell, Hearing and Taste on the left, and Touch and Sight on the right) are accompanied by Knowledge, which these senses make possible.

Inside the building, the grand staircase is the most explicit and palatial expression of the bank's importance, with iconography that transmits its values and functions. The stained glass windows of Banco de España made a great impression at the time, and helped to spread the use of certain decorative features, such as *candelieri*, to other stained glass work of the period.

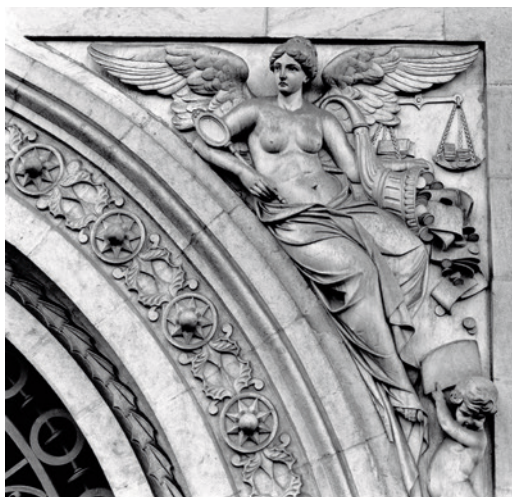
## MATERIALS FOR ORNAMENTATION

### THE FAÇADE

When the contractors Juan Pruneda and Joaquín Cifuentes began the construction of Banco de España, the phase of laying the foundations and basements was followed by the building of the structural elements of the façades, which were of granite up to the main floor and of white stone from La Alconera from there to the cornice. It was not until January 1888, however, that the architects presented the budgets for their decoration, which included both plasterwork and stone carving, and at the same time sought the Works Committee's approval for a number of drawings with details of the exterior ornamentation, which unfortunately have not survived. They must have been fairly well-defined sketches illustrating the overall iconographic programme of the institution, which was represented on keystones, capitals of columns and pilasters, shafts, the intrados and extrados of arches, spandrels, wall sections, caryatids and medallions. The artists commissioned for its design and execution were Francisco Molinelli, Miguel Alimbau, Juan Vancell, Jerónimo Suñol, Francisco Font, Tomás Fernández, Rafael Alguero, Sanmartí and Ángel Franzoni. An Italian artist who had had an establishment in Madrid since

Javier Campano. The goddess Fortune on the façade of Banco de España. From the series *Banco de España Building, 2000-2001*. Gelatin silver on baryta paper. Commissioned from the artist. Colección Banco de España

Javier Campano. Clock on the chamfered corner of Banco de España. From the series *Banco de España Building, 2000-2001*. Gelatin silver on baryta paper. Commissioned from the artist. Colección Banco de España







1853, Faustino Nicoli, was also designated to act as Carlo Nicoli's representative in supervising the carving of certain prominent features like the caryatids, the twelve medallions for the pilasters of the lower floor of the façade and the wall sections on the sides of the pavilions, the chamfer and the central section, the wall sections between the columns of the façade on the main floor, and the spandrels of the arches of the main doors, which were to be made of Carrara marble. This was greatly resented by the Spanish sculptors, who had won recognition for their works and were now to be denied the possibility of executing them, as the models were to be produced in Italy. They saw this as harmful to their interests, and documents show that their demands were partially met.

The result of the use of artistic vocabularies in an original combination of classicist elements with the modernity bestowed by the profuse use of iron on the façades led to considerable contemporary admiration for the monumental building designed by Adaro. The success of its decorative formulae continued to be appreciated decades later, even by those like Juan Antonio Gaya Nuño who rejected the ostentation of other nineteenth-century constructions but who thoroughly applauded the use of Plateresque on Banco de España, "well interpreted, substantial, noble, fully monumental [...]. The illustrious author of the plans, Don Eduardo de Adaro, did not elude evident reminiscences of

Sansovino and Scamozzi, but handled them with such skill and authority that the result could boast extreme originality."

One outstanding feature of the façade is the clock on the tower of the chamfer, made in London by David Glasgow, whose dial is flanked by figures of angels. Displayed in one of the showcases in this room is a drawing of the stonecutting planned for this architectural finial.

For the façade of the private street that connects today's Calle de los Madrazo with Calle de Alcalá, Adaro employed a modern interpretation of the Mudejar style in a suggestive combination of brick, stone and tiling. The Neo-Mudejar style is also found inside the building in the Collection Hall, which is entered through horseshoe arches and contains wall tiles of Nasrid and Renaissance inspiration.

#### THE INTERIOR DECORATION

Among the work that had to be done to give the Banco de España building a solemnity and magnificence worthy of that already displayed by its façades, the ornamentation of the interiors occupied a key place.

Besides colour, already widely present in the paintwork and stucco that covered the walls, plaster reliefs were also used to decorate some passageways and main halls, and the decoration of the vestibule and staircase on the chamfered corner was similarly increased. Around the building, Rafael Algueró, Medardo Sanmartí, Juan Vancell, Manuel Sánchez and Francisco Molinelli distributed corbels, floral decorations, coffers, triglyphs, antefixes with palmettes, friezes, oval mouldings, pilaster capitals, medallions, garlands, door lintels, cornices, beast motifs and coats-of-arms. Especially singular decoration is found in certain areas like the Twin Courts, for which Algueró made, among other things, twenty-four coin medallions and eight 'allegories of commerce' consisting of a winged caduceus with a cogwheel to symbolise industry.

The large entrance vestibule on the chamfered corner, now the exhibition gallery, and the staircase leading off it constituted the entrance to Banco de España as conceived from the start by Adaro, before

## THE DOUBLE MEANINGS OF THE *RESTORATION*, ACCORDING TO JORGE RIBALTA

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The series *Restoration* (2017-2018) is the result of a commission received by the artist from Banco de España to document the work of restoration and cleaning of its façade between 2017 and 2018. During the process, Ribalta went all over the building to compose a series made up of 96 photographs organised in six groups of 16 images each. The first is made up of photographs of the street and the façades hidden by scaffolding and hoardings, with pictures of passers-by and some portraits of security staff. The second group is formed by pictures of the top of the cornice, including the gilded ball and clock that surmount the chamfer. The third, shown in the exhibition in its entirety, presents details of the stonework of the cornice during the restoration work. These micro-cosmic shots (extreme close-ups) clearly reflect the fragility of the material. The fourth group deals with the activities of the labourers on the scaffolding. The fifth includes pictures of the sculptures of mythological figures that decorate the building, both before and after cleaning. The sixth and final group concentrates on the interior of the bank, with the scaffolding visible through the windows. Employees of the Conservation Department and the Historic Archive appear in some of the pictures. The final photograph, taken in the Gold Chamber, shows a silver eight *reales* coin with the effigy of Charles III (1788), the monarch under whose reign Banco de San Carlos, the origin of today's bank, was founded. As a set, the photographs spark meditation on the institution of Banco de España

and its history. In the artist's view, the scaffolding and the structural reinforcements are "a prosthesis on the building palliating a state of debility or convalescence." However, when he also considers that the Banco de España building dates from the 1880s, the artist, who regards the photographic camera as a kind of 'time machine' for encapsulating history, inevitably relates it to the history of photography and the beginning of the era of Kodak, founded in 1888, as well as to the historical period of the Bourbon Restoration in Spain (1874-1931). In this way, the Banco de España building appears as a document/monument of the Restoration, and the idea of 'restoration' thus acquires "a double meaning".

The other subtext we find in this series is the relation or equivalence between photography and money. As the artist has pointed out, "in the years around 1850, Oliver Wendell Holmes established a priceless and visionary analogy between photographic archives and money." With the appearance and proliferation of photographic archives, the possibility emerged of a universal system of image exchange that made photographs comparable with banknotes. In an unexpected shift of the idea that marks the appearance of photography – introduced by Fox Talbot twenty years earlier – that nature in photography represents itself, Wendell Holmes contributes a new dimension to that same idea: photography as a great 'Bank of Nature'. If photography is an instrument of reification, the photographic archive is therefore a bank. YR





Jorge Ribalta. From the series *Restoration*, 2017. Gelatin silver bromide prints. Edition 1/5. Commissioned from the artist in 2016. Colección Banco de España



the modification determined by the enlargement of the initial project. On 2 June 1891, one of the budgets presented to the Works Committee was that of the exquisite balustrade of the staircase on the chamfered corner, which had been contracted without a tender, at Adaro's express request, from Calvo y Monasterio. Its extremely elegant gilt bronze banisters can be seen through the end doors of today's exhibition gallery. All along their length are bands with bas-relief grotesques, featuring representations between vegetable scrolls of an immense variety of real animals (monkeys, dogs, horses, dromedaries or deer) and fantastic creatures like fauns, satyrs and even a winged horse. None of these forms is repeated in the entire double flight of the staircase. Also to be seen are warriors' heads, cornucopias and *putti* belonging to a Neo-Renaissance repertoire that experienced a formidable development in the architecture and furnishing of the ensuing decades. This frieze, possibly made in papier mâché by Alguero, is completed with certain features alluding clearly to the functions of the building and its links with the Spanish monarchy, such as coins with the effigies of Alfonso XII and Alfonso XIII as a child.

Special mention should be made of the General Assembly Hall, whose appearance was completely modified in later refurbishments. Because of its special ceremonial character, it was the first room that the architects chose to decorate. Thanks to old photographs and to a group portrait in the Banco de España Collection that was painted by Asterio Mañanós in 1915, we have a fairly clear idea of the work carried out in this hall by the sculptor Francisco Molinelli. The pilasters with bas-reliefs presenting allusions to the institution (like coins or notes) or the monarchy (like castles and lions), arranged symmetrically on either side

Asterio Mañanós. *Visit to the Bank of Spain of King Alfonso XIII and Queen Victoria Eugenia on 23 May 1915, 1916*. Oil on canvas. Commissioned from the artist in 1916. Colección Banco de España

Manolo Laguillo. Details of the stuccos on the mezzanine floor of the main staircase. From the series *Adaro: A Case Study*, 2021. Commissioned from the artist. Colección Banco de España

## BANCO DE ESPAÑA'S 40,000 METRES OF STUCCO AND ITS FAMOUS PLASTERER

Among the hundreds of workers and craftsmen who took part in the construction of Banco de España, there was one who later became a Board member of the institution after having been a minister and prime minister of the nation. This was Francisco Largo Caballero (Madrid, 1869 – Paris, 1946), who worked as a plasterer for 32 years (1878-1910) and afterwards became a socialist leader. In the course of research on Largo Caballero, it was discovered that more than 40,000 square metres of stucco had been applied during the construction of this emblematic building, probably during the summers of 1889 and 1890.

Stucco, an interior or exterior facing of gypsum, lime or a mixture of the two, painstakingly polished and generally pigmented with mineral colours imitating or artificially recreating certain types of marble, has been used since ancient times and had its apogee in the nineteenth and early twentieth centuries. Relegated to a marginal status by the change of architectural paradigm in the second half of the twentieth century, it lives on as a largely unknown heritage in outstanding buildings, but also in the entrance halls and stairways of ordinary old dwellings in, for example, the centre of Madrid.

The contract of August 1888 for the application of the stuccos was awarded to the builders Cifuentes and Pruneda, who probably subcontracted the master plasterer Agustín Pérez, the employer of Largo Caballero. The latter claimed that this job was the first time he was paid the wage of a first-class assistant, although he had held this status for some time. When the work was finished, Eduardo Adaro and José María Aguilar wrote: "Although we were authorised on 5 August 1889 to use hot-ironed lime and gypsum stucco on vestibules, courtyards and staircases at the price of three pesetas per metre, we have made use of this authorisation only in the staircase and vestibule of the chamfer, having plastered the other staircases and all the courtyards with ordinary stucco that costs only one peseta per square metre." This reflects the concern of the Board of Governors to save money as the works were approaching their completion. From the accounting documentation that follows these lines, it transpires that 37,000 m<sup>2</sup> of the cheapest smooth stucco were laid, covering almost half the walls of the immense building (the other half were covered with ordinary paint). Nearly 3000 m<sup>2</sup> of levelled

stucco were applied to the cashiers' apartments, and hot-ironed stucco (also called fire-ironed or 'Catalan-style' stucco), the most expensive and artistically appreciated variety, was used on almost 2000 m<sup>2</sup> of surfaces.

After the historical research, physical and chemical analyses of the walls of the bank were made by taking stratigraphic samples. With these test cuts, remains were found in passages and stairways of a greenish gypsum stucco, difficult to date, which might be the smooth stucco. With greater certainty, it can be affirmed that the reddish and ochre stuccos found in the vestibule of the main entrance and the staircase of the chamfered corner are the original ones. These important areas of the bank were decorated with vigorous ochre tones, and in the case of the staircase of the chamfer, there was a plinth with an intense red stucco that imitated the brocatelle marble of Tortosa. To imagine the original ambience created by these combinations of colours, it helps to think of the warm and vibrant colours characteristic of *art nouveau*, the pattern of artistic innovation at that time. French influence in Spain was all-pervading at the end of the nineteenth century, and impregnated both the nascent socialist ideas of Largo Caballero, whose political and unionist activity began in those years, and the architectural standards of the time, including the massive use of stucco.

Little remains in the building of the stucco decoration imagined by its architects, not only for the ceremonial rooms but also for most of the common areas frequented each day by thousands of clients and employees. The historic colours and textures have gradually been replaced by homogeneous and unassuming plastic paints. CPP





## THE ICONOGRAPHY OF BANCO DE ESPAÑA

In his designs, Eduardo de Adaro emphasises the iconographic features both inside and outside the building that allude to the bank's functions, using a limited but very eloquent repertoire for the purpose. Attentive to each and every detail, he provided the sculptors with drawings as guidance for decorative elements suited to the new building. The most habitual allegories and symbols in the bank, repeated with multiple variants and with the particularities brought to them by each artist, are:

*Mercury or Hermes.* The messenger of the gods and the protector of trade and industry. He symbolises prosperity. Distributed all over Banco de España are representations of his head, with his traveller's helm, and his principal attributes, the caduceus and the purse, as well as the sandals and the staff. The wings on the helm, caduceus and feet are references to speed.

*Caduceus.* A rod with two serpents coiled around it without attacking each other. It alludes to Mercury's function as an ambassador, conciliator or intermediary, and is an expression of equilibrium. It also symbolises peace, prosperity and abundance. It is used as an emblem for commerce, and is the most frequently repeated element in Banco de España.

*Fortune.* The goddess who personifies luck. Generally represented at Banco de España over a wheel, as an allusion to the possible vagaries of fortune, and with a cornucopia to distribute her gifts.

*Wheel.* Attribute accompanying the goddess Fortune. At Banco de España, it can sometimes appear on its own. It is also associated with Mercury in the Library (the former Cash Till Court), and is transformed in the Twin Courts into a cogwheel symbolising

industry. Also a symbol of the future and circulation.

*Horn of abundance or cornucopia.* This is a horn overflowing with flowers, fruits and other gifts or items of wealth, such as coins or, in the case of Banco de España, also banknotes. It symbolises material prosperity. When associated with the goddess Fortune, it alludes to the distribution of gifts.

*Owl.* In classical antiquity, it symbolised prudence and wisdom. It also has a meaning associated with vigilance, as it is a bird that remains awake at night. Its presence on both the interior and the exterior of Banco de España is explained by the fact that this was an institution entrusted with the custody of goods.

*Scales.* It alludes to commerce and is the symbol of justice and upright behaviour. Also, as a precision instrument, it symbolises measure and balance.

Besides these symbols and allegories, there are constant references to the monarchy, which is referred to by the lion and crenellated castle on the main staircase and in the Shareholders' General Assembly Hall, but is most clearly represented by the royal coat-of-arms or the effigies of Alfonso XII and Alfonso XIII as a child, seen on coins on the façade of the private street, in the Twin Courts and on the staircase of the chamfered corner as a reference to the circulation and custody of capital. EG



Manolo Laguillo. Cogwheel of Fortune and other symbols of Mercury made by Rafael Alguero for one of the Twin Courts, the former Current Accounts Court. From the series *Adaro: A Case Study*, 2021. Giclée (pigment inks on paper). Commissioned from the artist. Colección Banco de España

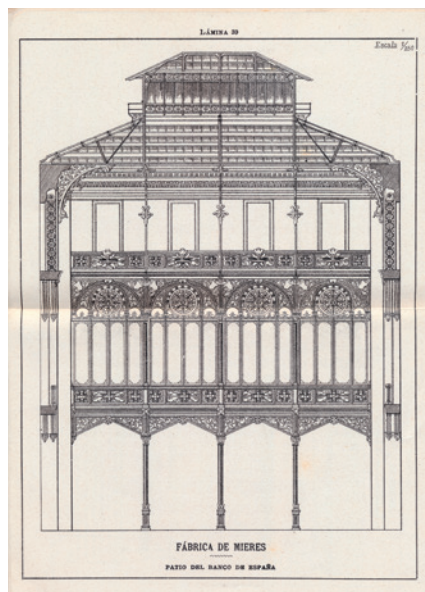
Court of Banco de España. *Catálogo publicitario de la sociedad anónima Fábrica de Mieres. Álbum de hierros especiales y construcciones metálicas* [Fábrica de Mieres iron and metal construction catalogue], April 1892. Biblioteca del Banco de España



of the central aisle, are paired at certain points where round arches with archivolts spring from above the cornice, their bases decorated with elements like angels or shields. The profusion of decoration, which includes a large number of griffins, also extends to the carved mouldings, the corbels, the keystones and the pendants of the skiff, a long vaulted ceiling with a flat centre for which Adaro may have intended a decorative fresco that was never realised.

On 24 June 1890, the Marquis of Aguilar de Campoo, a member of the Works Committee, wrote to the governor, Salvador Albacete, to express his disapproval of the architects' intention to continue decorating the interior of the bank, as he felt its excessively luxurious ornamentation was "more suited to a palace than to an industrial establishment. What I think of the exterior, I also think of the interior: I do not think that committing one error makes it necessary to commit two, and any use of marbles and gilding consequently has my disapproval."

The Marquis's opinions must have had an effect, as it was agreed a few days later to curtail the decoration and use ordinary paint in the "General Assembly Hall, staircases and rooms for which special decoration had been planned."



Besides stone and plaster, a very important role was played in the architectural decoration of Banco de España by iron, the most technologically advanced material of the period and the one which most precisely reflected a country's industrial progress. Its function as a principal structural element in railway stations, markets, exhibition pavilions and other private or institutional buildings by no means ruled out its decorative use. Iron was highly fire-resistant, allowed broad spans to be covered and enabled more rapid construction, as the pieces were prefabricated and then put together on site.

Neither Eduardo de Adaro nor the directors of Banco de España wanted a building impervious to the new times. Quite the reverse was the case, even if those new times also called for an acknowledgement of history, and if the material in question, where it remained visible, was to mask its industrial character and purely constructional function with a decoration that referred back to a wide variety of architectural styles. On countless occasions, therefore, structural elements like beams, braces, columns and trusses were embellished with features designed for decoration in keeping with the tastes of the time, which were made possible by the great formal adaptability of the metal.

In this way, cast iron became an essential component of the rich ornamentation of both the interior and the exterior of Banco de España, a wealth of decoration that reflected its economic might. At Banco de España, iron was used not only in the vertical and horizontal structures but also for grilles or as a support for roofing. In 1884, the tender was issued for the ironwork and casting. Of the fourteen national and international firms that responded (offers were received from Belgium, Germany and England), the one chosen was Fábrica de Mieres in Oviedo, which had obtained a Gold Medal at the Universal Exhibition in Paris in 1878. Later, in 1888, it won the Gold Medal at the Universal Exhibition of Barcelona, and afterwards it was awarded two 'grand prix' at the World's Fair in Paris in 1900.

A formidable volume of iron was sent from Mieres. The columns are distributed all over the exterior and interior in very different sizes and variants that combine elements from the Egyptian and Greco-Roman artistic traditions, among others.



Javier Campano. Front and finial of a buttress on the façade of Banco de España. From the series *Banco de España Building*, 2000-2001. Gelatin silver on baryta paper. Commissioned from the artist. Colección Banco de España

The widely recognised career of Javier Campano, distinguished since the 1970s in the field of urban photography, persuaded Banco de España to commission the photographer in 2000 to produce an ample reportage on the architecture of the institution's headquarters. From this came the publication *Arquitectura del Banco de España*, which appeared at a moment when the institution was reflecting upon the history of its own building and its character as an architectural icon. On the one hand, the building was officially declared a Property of Cultural Interest in 1999, and on the other, the adjacent Palace of Lorite was about to be demolished to make

room for the structure designed by Rafael Moneo to close off the block.

In his work for Banco de España, Campano empties all the interiors of any human presence. This decision makes the architecture emerge as a ghostly presence, occasionally with an almost archaeological and timeless appearance. The photographs selected for this exhibition include spaces and features that make Adaro's building unique. In the interior, the presence of metal as a structural element, as well as on balustrades and staircases, is emphasised by Campano through the contrasts of black and white. On the exterior, the imposing clock face and the allegorical reliefs

and tondos on the façade are intentionally photographed from a low-angle viewpoint, assimilating the position of the passer-by (metonymically, the public or citizenry) over and above the impersonal gaze of the institution.

In Campano's photographs, the architecture is rooted in a particular moment of the bank's long history, but at the same time portrayed as an ahistorical accumulation of its own memory. His scrutinising but distanced gaze, deliberately fragmented, sometimes seeks a snapshot effect, while in other cases he underscores the architectural strength of certain spaces with a pondered classical framing. CM

Among the most significant spaces, however, are two halls with a basilica plan superimposed one on top of the other. Ending in an apse that gives onto the private street, the use of cast iron allows them to be given three aisles and an ambulatory. On the façade of the building, also made by Fábrica de Mieres, are the most singular columns of all. Set back in pairs, they have vegetable adornments climbing in spirals up their very thin shafts. They are to be found on the advanced sections of the main and second floors.

Among the work carried out by this firm, special mention should go to the filigree work in cast iron that decorates the former Cash Till Court, as it is the most refined and monumental work of this type accomplished in Spain. The heaviness of the iron seems to be transfigured into something light and airy that makes us forget its structural and sustaining function. Owls and heads of Mercury in wheels of Fortune are among the figurative elements integrated in the minutely fretted geometric and vegetable decoration of the space, now the bank's Library, which is covered by a great iron and stained glass window.

Proud of their work, the directors of Fábrica de Mieres decided to include prints of the columns of Banco de España in their subsequent catalogues as a demonstration of the quality of their products, as well as a detailed section of the Cash Till Court.

However, Fábrica de Mieres was not the only firm responsible for working the iron necessary for the building, from grilles to interior staircases or banisters. Among the leading firms commissioned for ironwork were Pablo Roland e Hijo, Juan González del Valle and Bonaplata, but especially outstanding was the work of Bernardo Asins, who made the low grilles that surround the building, the belfry or armature for the bells of the clock tower, and the complex and monumental wrought iron doors with fretted grilles to designs by Eduardo de Adaro. Years after the building was finished, his son, Gabriel Asins, made the great candelabrum for the arc lamps on the Cibeles chamfer.

The abundant minor pieces of ironmongery, from hinges to screws, locks and keys, were supplied by the firms of Calvo y Monasterio, Manuel Llorente y Compañía and Federico Bonastre.



## ROOM 4

### THE VERSATILITY OF AN ARCHITECT: OTHER PROJECTS OF EDUARDO DE ADARO

While the exhibition so far has been dedicated essentially to the architecture of the bank, this section includes plans, photographs and documents that show Adaro's activities as an architect whose theoretical concerns and building practice were also centred on other types and functions, such as constructions for penitentiary, religious, residential, industrial or funerary purposes.

None of the industrial buildings designed by the architect have survived, and we know of them only from old photographs, like those of the La Covadonga winery in Alcázar de San Juan, or from plans. Together with the documentation preserved in the city archives, the latter show us what La Industrial Madrileña was like, an important biscuit factory whose Neo-Mudejar façades faced onto the streets of Alcalá, Hermosilla and Alcántara. La Industrial Madrileña was a limited company formed in Madrid on 21 March 1891 with a capital of one million pesetas to manufacture biscuits, chocolates, sweets, 'fantasy sponge cakes' and jams. Its facilities, located close to what was then the bullring, proved too small, so

a significant extension was commissioned from Eduardo de Adaro in 1901. Besides housing the most advanced manufacturing systems, this enlargement was meant to project an image of prestige and modernity.

In 1907, the firm's assets were auctioned and finally acquired by La Industrial Española.

As mentioned earlier, one of Adaro's first jobs was acting as Aranguren's auxiliary architect on the construction of the Model Prison in Madrid, to which he dedicated a long article that demonstrates his early commitment to penitentiary reform. He also carried out a study full of mathematical calculations centred on a double T iron frame for the floors that were being built. In recognition of his services to the works at the Model Prison, the Ministry of Governance awarded Adaro a simple Cross of Charles III.

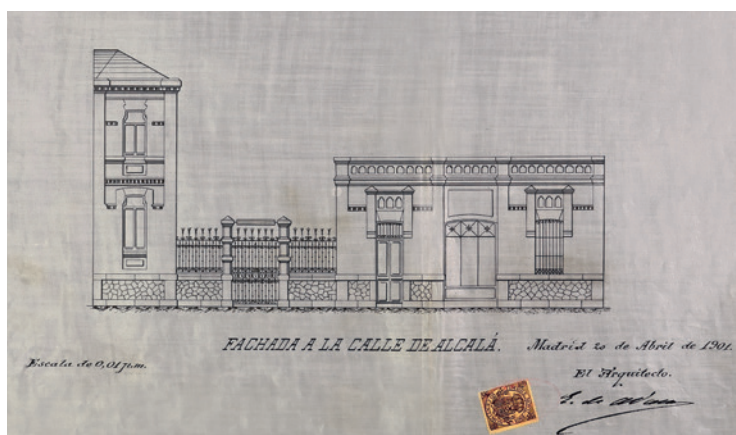
Owing to his efficiency, he was commissioned to visit the prisons of Belgium in 1880. That same year, he accompanied Alberto Bosch, the Director of Penal Establishments, to the island of Cabrera, where it was planned to build a cellular prison for





Eduardo de Adaro. Drawing of the façade on Calle de Alcántara of the biscuit factory La Industrial Madrileña, 20 May 1901. Archivo de Villa, Ayuntamiento de Madrid (AVM 14-12-89)

Eduardo de Adaro. Drawing of the façade of the main floor, Calle de Alcalá, of the biscuit factory La Industrial Madrileña, 20 May 1901. Archivo de Villa, Ayuntamiento de Madrid (AVM 14-12-89)



convicts serving life sentences in order to clear other jails of permanent inmates.

In the project, signed on 20 July 1881, Eduardo de Adaro makes calculations for a population of 2,425 people, of whom 1,500 would be prisoners, 500 civilian inhabitants, 300 soldiers and 125 prison wardens with their families. The convicts would be isolated at night in large cellular cells with a built area of 28.25 square metres, but during the day they would be employed on communal labour. However, the large workshops designed for other penal establishments would not be necessary, as the prisoners on Cabrera would devote themselves mainly to agriculture and path clearance.

The General Military Archive in Segovia holds the descriptive report made by the architect together with his twenty-seven blueprints, which include ground plans, elevations, sections and details. Some examples are shown here. In the end, the prison was never built.

In the meantime, Adaro's social commitment was also reflected in his work as qualified architect for the Royal Commission created after the provinces of Granada and Málaga had been devastated by a series of terrible earthquakes. At nine in the evening on Christmas Day 1884, an intense earthquake caused vast damage to buildings in many localities, and it was followed in the next few days by a number of less intense aftershocks. Some villages and hamlets were completely destroyed, as were ranch buildings and farmhouses all over the region. A vast amount of repairs had to be carried out on dwellings over the following years, and

it was necessary in some cases to rebuild entire neighbourhoods from scratch and to undertake the repair or rebuilding of churches, schools or hospitals. The tremors affected about a hundred localities, and two thousand people were killed or seriously injured.

An international call for aid in reconstructing the towns devastated by the earthquakes met with a rapid response not only from public institutions but also from associations all over Spain and abroad. One of these was the Madrid Press Association, which joined forces with the Circle of Fine Arts to enlist large numbers of writers and artists to produce a fundraising publication. *La Ilustración Española y Americana* reported on the earthquakes and published prints of the disasters from the beginning of 1885.

Adaro designed churches for three localities in the province of Málaga: Periana, Fuente de Piedra and Torre del Mar. The last of these no longer stands. For all of them, he adopted the Neo-Mudejar style in an interesting combination of brick with an iron structure. The interior space is articulated by cast iron columns separating the aisles.

Besides working on the repairs to the church of Alhama, Adaro also designed a monument in gratitude to King Alfonso XII, who involved himself in the relief efforts and died only a few months after travelling to the affected areas. The sculptures for the monument were commissioned from Molinelli, one of the artists who worked on Banco de España.

The urban residences designed by Adaro were located in the newly expanded areas of Madrid.

Several of them, like the two buildings on Calle Juan de Mena and the one forming a block opposite Retiro Park with its main entrance on Calle de Alfonso XII, were commissioned by Bruno Zaldo, an impresario whom the architect had met during the construction work on the Model Prison, as he was one of its contractors. The second of these buildings has a fairly regular quadrilateral plan of some thirty metres on each side, with five-metre chamfers on the corners of Calle de Alfonso XII. On the main floors of these chamfered corners are enclosed balconies, finely wrought like all the ironwork in the building, which is imbued overall with an indefinite classicism that visually enhances the status of the block's proprietor. With natural light and ventilation in all its rooms, the building has a sumptuous staircase with stained glass windows by Maumejean.

The Neo-Renaissance style is dominant on the façades of the most notable dwellings designed by Adaro, and the interiors are equipped with new modern comforts like electric lighting, heating and lifts.

The last showcase is dedicated to the figure of Adaro. The architect belonged to the National Association of Hygiene, whose international conference was held in Madrid in 1898. He published an extensive article on hygiene in construction dealing with the ventilation of interiors, among many other aspects, and in his professional reports, like the one on the house he made for Félix Herrero, no longer extant, whose plans can be seen in this exhibition, he gives detailed written descriptions

and provides drawings on aspects related to the lavatory facilities, their syphons and their waste pipes.

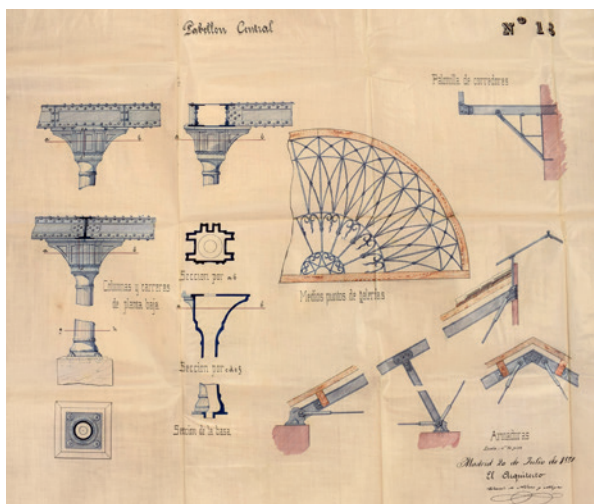
Particularly outstanding among his dwellings is the mansion he designed for the Viscount of Torre-Almiranta on Calle Sagasta, a building that is highly representative of urban civil architecture at the end of the nineteenth century. Since this was a noble residence whose upper floors were also to be rented, it was necessary to make a clear hierarchical arrangement of the different storeys in spite of the general uniformity of the façades, which present an elegant combination of materials (brick, stone, iron and wood), an orderly distribution of doors and windows, and an overall harmony which symbolically expresses the economic power of its dwellers. All the ornamental details, from the doors to the adornments of the plinths and lintels, were designed by Adaro.

The building he made for Luis Loubinoux, the entrepreneur responsible for the roofs, lighting conductors and sanitary facilities of Banco de España, was more modest, with a brick façade and a structural combination of wood and iron. On either side of the main entrance, the ground floor was given over to shops, and there were four dwellings on each of the upper storeys.

Adaro was a member of the Central Association of Architects, and he took part in 1888 in the competition to erect a monument in honour of the memory of Ventura Rodríguez and Juan de Villanueva, the architects whose works had done

Eduardo de Adaro. Project for a prison on the island of Cabrera. Central pavilion (detail of iron fixtures), 20 July 1881. Document on treated fabric, manuscript and illuminated with inks in different tones. Ministerio de Defensa. Archivo General Militar de Segovia (S 3º/D3ª, Leg. 443, Fols 42-59. Plano 18)

View of a street in Alhama after the earthquakes, after a drawing by Medina. *La ilustración Española y Americana*, 15 January 1885. Biblioteca Banco de España





Eduardo de Adaro. Project for a monument to Ventura Rodríguez and Juan de Villanueva. *Revista de la Sociedad Central de Arquitectos. Resumen de Arquitectura*, 31 January 1891. Biblioteca de la ETS de Arquitectura, Universidad Politécnica de Madrid

most to embellish the city of Madrid in the eighteenth century. Although the monument was never built, Adaro's project was the winner, and an article was published the following year in *Resumen de Arquitectura* that reproduced the drawing of the monument in a phototype. The showcase also contains the architect's personal file preserved in the Historic Archive of Banco de España, and the proposal to appoint Adaro as a numerary academician of the Royal Academy of Fine Arts of San Fernando after the death of Arturo Mérida. The proposal was endorsed by the architects Enrique María Repullés y Vargas, José Urioste y Velada, Francisco Fernández González, José María Sbarbi, Ángel Avilés, Emilio Nieto Nieto and Amós Salvador. He was granted the nomination in a secret vote held during an extraordinary session on Monday 9 February 1903. He never came to take possession of his seat at the Academy, but we know that he wrote an induction speech which has not been preserved.

Eduardo de Adaro died on 27 February 1906 at the age of 56, a consequence of the tuberculosis he had long suffered from. Notice of his

death appeared in the leading Madrid dailies, and among the obituaries published after his demise, those written by his intimate friend Enrique María Repullés y Vargas were especially poignant.

Although Adaro is buried beneath a simple family gravestone, he designed some important mausoleums, like the one he made in Salamanca for Teresa Zúñiga in collaboration with Asensio Bergiguer, and the mausoleum for Carlos Jiménez Gotall, Marquis of Casa-Jiménez and father to the Viscount of Torre-Almiranta. The marquis, who was a member of the Board of Banco de España and formed part of the Works Committee of the new building, was also a prominent philanthropist who donated part of his estate in Carabanchel Bajo for the construction of the Reformatory of Santa Rita, destined for the rehabilitation of young people and built by Adaro. The Marquis's mausoleum, reminiscent of the masonic aesthetic, is highly original in the context of the sacramental cemetery of San Isidro, with its somewhat bizarre combination of the pyramidal form with mediaeval references.





House designed by Eduardo de Adaro for Bruno Zaldo in calle Alfonso XII, Madrid. *Arquitectura y construcción*, March 1906. Biblioteca Nacional de España

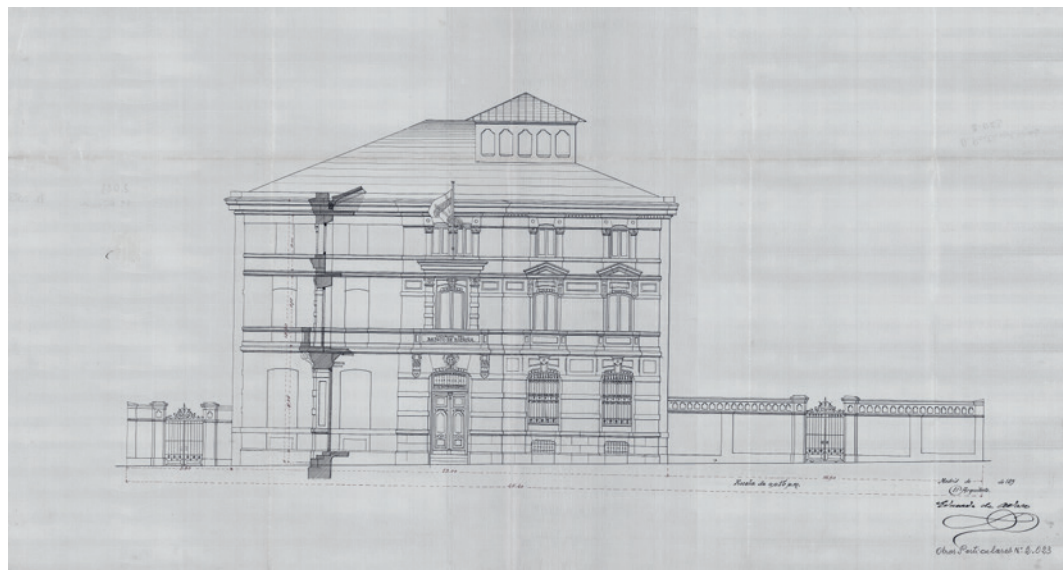
Manolo Laguillo. Mausoleum of the Marquis of Casa-Jiménez in the Sacramental Cemetery of San Isidro. Madrid. From the photographic series *Adaro: A Case Study*, 2021. Giclée (pigment inks on paper). Commissioned from the artist. Colección Banco de España

Eduardo de Adaro. Plan of the façade of Banco de España in Burgos accompanying the planning application for the new building, 1898. Archivo Municipal de Burgos



# ROOM 5

## EPILOGUE



### THE BRANCHES OF BANCO DE ESPAÑA

Eduardo de Adaro carried out numerous refurbishments in branches of Banco de España all over Spain, including those in Badajoz, Palma de Mallorca, Seville, Granada, Zaragoza, Las Palmas, Málaga, Cartagena and Alicante. In this exhibition, however, we shall concentrate on three of the four he designed as new constructions, those of Burgos, Huesca and Logroño. Of the building for the bank's offices in Pontevedra, which Adaro also designed, we have only plans and pictures of a later remodelling.

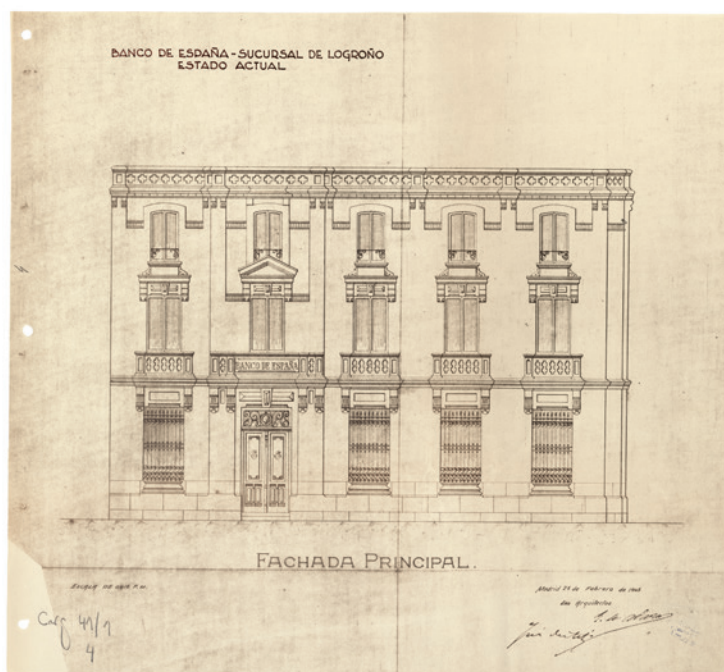
In all these cases, the branches originally occupied rented premises whose small dimensions, lack of security or deteriorated conditions persuaded Banco de España to buy plots on which to construct new buildings.

Eduardo de Adaro signed the project for the Burgos branch on 31 June 1897. It was to occupy a site alongside Paseo de la Isla, where it was to have

its main entrance, and it later adjoined the school of El Niño Jesús, built shortly afterwards by Vicente Lampérez.

The tender for the works was awarded to Joaquín Cifuentes, a contractor who had already worked on the construction of the central headquarters in Madrid. Indeed, it was in the Spanish capital that the cast iron columns, iron beams and grilles were prepared, together with the carpentry for doors and windows, for dispatch to their destination when necessary. The works were completed very quickly during 1898.

The resulting branch office had iron skylights over the stairs and courtyards and gardens flanking the building on both sides. Burgos City Council requested that the gardens be enclosed with iron fences "because this will contribute better than walls to the embellishment of that part of the city." The fences were raised on a plinth of fine brick, and



Eduardo de Adaro. Construction project of the branch of Banco de España in Huesca. Main façade, 6 February 1902. Diazotype. Archivo Histórico del Banco de España, Colección de Planos de Arquitectura (Sig. 32/4, 5)

Eduardo de Adaro and José de Astiz. Main façade of the branch of Banco de España in Logroño, 25 February 1905. Diazotype. Archivo Histórico del Banco de España, Colección de Planos de Arquitectura (Sig. 41/1, 4)

their sections were separated by pillars of limestone from Santa Olalla (also laid on the plinths), matching the façade of the building. Always attentive to every detail, Adaro even designed the small garden on the right.

Although it did not seem to be a matter of priority concern for the director of the branch, the installation of the heating was commissioned from the firm Korting. From the extant documentation, we are also given an idea of how unaccustomed the local people were to some of the modern advances included in Adaro's project: "It has also been judged advisable to place two door knockers on the main door, proportionate to its size, to prevent people who do not see the button of the electric bell next to it from using stones or other objects to knock on the door, so sullying and deteriorating it."

The softness of the terrain and the arrival of waters from the mountains led to seepages that made it necessary for repairs and refurbishments to be carried out in successive years by both Adaro and José Astiz. In 1936, an adjoining plot was purchased for an extension built by Juan de Zabala. In 1955, José Yarnoz designed a new branch in Calle Victoria, and Adaro's building was sold to the neighbouring school. Both the school and the former branch now form part of a residential complex.

The project for the new branch in Huesca was signed by Eduardo de Adaro on 6 February 1902. The site formed part of the former barracks of San Vicente el Real, which had been divided into lots for auction. The set of two lots acquired by the bank formed an angle with El Coso, where it bordered on the Jesuit church, and with a street that it was planned to extend as far as Plaza del Mercado. Both the director and the chief cashier were to live on the main floor. The offices were planned on the ground floor, and on the second floor, or attic, were the living quarters of the concierge and the porters or caretakers. The use of iron in this building is less profuse than in other projects, as the architect, who was familiar with the building materials of each area, planned to use frames of local wood and a "double fabric of cane in accordance with local usage."

The restricted area of the safes on the ground floor was also to be reinforced with iron and various protective systems, with a limestone floor

resting on a concrete base. White marble was used for the floor of the two vestibules, as well as the plinth and the stairs. Coloured cement was applied in the stairwell, floorboards were laid in the offices and the most important rooms on the first floor, and floor tiles in the rest. The porch had strips of plaster adornment and decorative painting applied with stencils. The central courtyard was covered with a skylight, and the building had two lightning conductors, electric bells and electric lighting, as well as a general heating system contracted from the firm Schneider.

The exterior appearance is that of a crenellated fortress, although Adaro's original project was to crown the façades with wooden eaves. On the exterior, the architect made decorative use of fine pressed brick from Zaragoza, arranged in bands with dentils. Also used was stone from the quarries of Siétano near Huesca.

In 1988, the branch was transferred to a new building on the corner of Avenida de Martínez de Velasco and Calle de Juan XXIII, designed three years earlier by the architect Eleuterio Población Knappe. Activity continued at this new building until its closure in 2003. Adaro's building was used first to house the law courts, and then the offices of the National Institute of Statistics until 2014. Today, it is the seat of the borough council of La Hoya de Huesca.

Since 1885, the Logroño branch had occupied rented premises that had been refurbished on several occasions until a plot was purchased in 1904 at number 33, Calle Bretón de los Herreros, on the corner of Siervas de Jesús. It was there that the bank's new offices were built to plans signed by Eduardo de Adaro and José de Astiz on 25 February 1905. The building was inaugurated in 1908, and was Adaro's last project for Banco de España, as he died the following year.

The architects designed the façades in brick and reduced the use of stone to the most significant features. It had a very slight chamfer on the corner, and its balconies rested on corbels and had stone parapets. The portal was slightly displaced from the axis of symmetry, with a lintelled doorway, and had a larger and deeper balcony over it with the name of the bank on the front and a triangular pediment above. The rest of the balconies had cornices

## BANCO HISPANO AMERICANO

with corbels and prominent keystones. The windows had lintels on the lower and main floors and segmental arches on the second floor. The building had a stone plinth and no lower ground floor. As with other branches, like that of Huesca and later that of Pontevedra, the firm of Jacobo Schneider was contracted to instal the heating.

The Logroño office was enlarged in 1917 thanks to the purchase of an adjacent plot. In 1954, there were suggestions for an integral rebuilding on the same site, for which José Yarnoz Larrosa proposed a construction in two phases “to prevent the bank from having to cease its activities or transfer its offices to another place.” The idea was eventually rejected, and in 1956, the same architect signed the project for the last of the branches built by Banco de España in that city, which occupied a site on Avenida del General Vara del Rey that was bought from the State when the course of the railway line was modified. These offices were inaugurated in 1959 and remained open until 2011. Yarnoz’s building is currently the headquarters of the Department of Public Health and Consumer Affairs of La Rioja, while the one designed by Adaro has not been preserved.

The former central headquarters of Banco Hispano Americano, located at the junction of Calle de Sevilla with Carrera de San Jerónimo, was Eduardo de Adaro’s last major project.

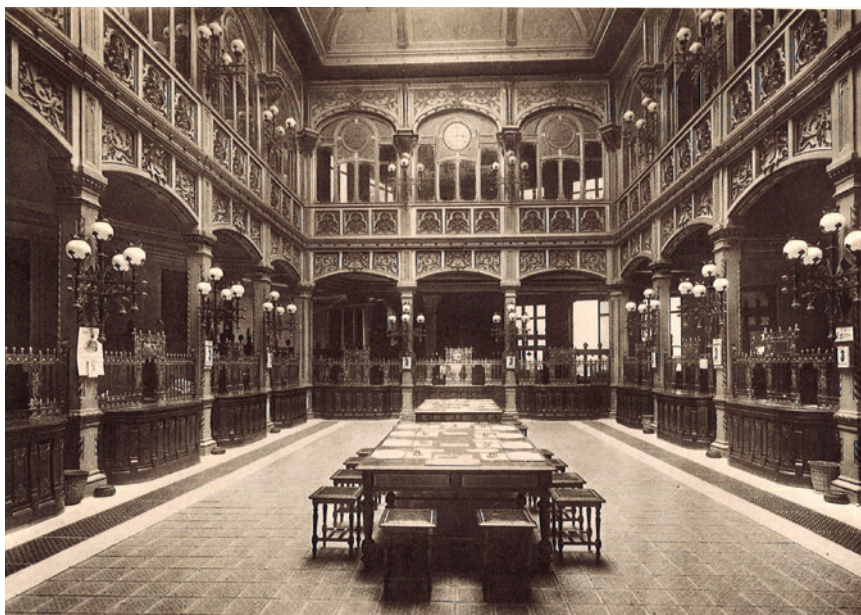
Banco Hispano Americano was founded on the basis of a company formed largely by entrepreneurs with financial interests overseas and shareholders keen to strengthen commercial ties with the other side of the Atlantic, some of whom had lived there and were familiar at first hand with the possible advantages to be gained from a greater flow of capital between Spain and the American countries.

The objectives of the new bank were therefore to tighten and develop commercial relations between the former metropolis and the countries of a New World that was not so new any longer, and which had been gaining independence from Spain throughout the century, sometimes as recently and dramatically as Cuba and the Philippines, which together with Puerto Rico had come under the sway of the United States. The press stressed the patriotic character of this banking enterprise destined



Eduardo de Adaro. Project for Banco Hispano Americano. Main floor, 1902. Ink drawing on treated fabric. Archivo de Villa, Ayuntamiento de Madrid (AVM 16-20-17. Folio 3)





Banco Hispano Americano. Building of the head office in Madrid. Central court. *Banco Hispano Americano (1926): XXV aniversario.* Archivo Histórico Banco Santander

to “facilitate the import and export of products on both sides, strengthen mutual credit, and, in short, to realise any ideas aimed at the greater development and prosperity of the interests of both parties.”

The land, purchased in public auction in January 1901, was part of a series of plots made available for development as part of an urban reform programme of expropriations and demolitions aimed at broadening Calle de Sevilla after the remodelling of Puerta del Sol.

Owing to the widespread recognition received by the architect for his work on Banco de España, the Board of Governors of Banco Hispano Americano unanimously proposed in June that year that Eduardo de Adaro should draw up the plans for their new building. It may also be that Bruno Zaldo, the vice-president of the bank and an old acquaintance of the architect’s since the days of his collaboration with Tomás Aranguren on the Model Prison, of which Zaldo was the constructor, was decisive in choosing who was to design the building and direct the works. Seen in the previous room were two other buildings that Adaro also designed for this entrepreneur.

On the irregular site, a nine-sided mixtilinear polygon, Adaro proposed a façade that would curve inwards from Plaza de las Cuatro Calles, now Plaza de Canalejas. The block was adjacent to the building of the insurance company La Equitativa, the work of José Grasés Riera. The vaults and accessory services were to be located in the basement, the offices and banking services were to be on the ground and main floors, and the second and third floors were to be rented out, though they might prove necessary in the future to extend the office space. For reasons of security, no usable lofts or attics were designed, and the total height was to be twenty-two metres, the same as that of the adjoining building.

The interior decoration was the work of Leopoldo Barreda, Juan Grau, Manuel Domínguez, José Alcoberro and Rafael Alguero, one of the sculptors who had worked on Banco de España. Various Madrid firms were contracted for the ironwork, like that of Gabriel Asins (the successor to that of Bernardo Asins), that of Miguel González, Jareño y C.<sup>3</sup>, Sociedad de Construcciones Metálicas, and the foundry of Bonaplata y Sanford. From a list of

clients published by the firm of Jacobo Schneider, we know that the heating was installed in 1904.

Until it moved to the new building in 1905, the bank carried out its activities at numbers 5 and 7, Calle de Alcalá. The move took place before the work on the upper floors had been completed. That same year, the Ministry of Public Education and Fine Arts awarded the architect the Grand Cross of Alfonso XII for merits displayed in the planning and construction of Banco Hispano Americano, a building that was described by Repullés y Vargas as “a rich and sumptuous edifice where modern procedures have been judiciously and successfully employed.”

After Adaro’s death, José Urioste y Velada reported on 16 August 1907 that the works had been concluded, and that all the prescriptions in the municipal edict of 5 October 1898 on the sanitation of urban properties had been complied with.

Moreover, this architect and the industrial engineer Jacobo Schneider, who had been contracted for the heating system, informed the City Council of the installation of three lifts made in Milan by Augusto Stigler, and constructed with the latest advances guaranteeing the necessary safety conditions for both the installation and the mechanisms.

Repullés was to say that when he started work on Banco Hispano Americano, Adaro was already very ill, and that he virtually directed the proceedings “from his deathbed”. From the press, we also know that in the last days of his life, he would drive out to “view his work”.

In the 1940s, the interior of the building was thoroughly refurbished, and with the recent drastic intervention on the building, which included an increase in the number of floors, all that remains of Adaro’s building is the façade, now a mere decorative stage curtain.

## MANOLO LAGUILLO. ADARO: A CASE STUDY

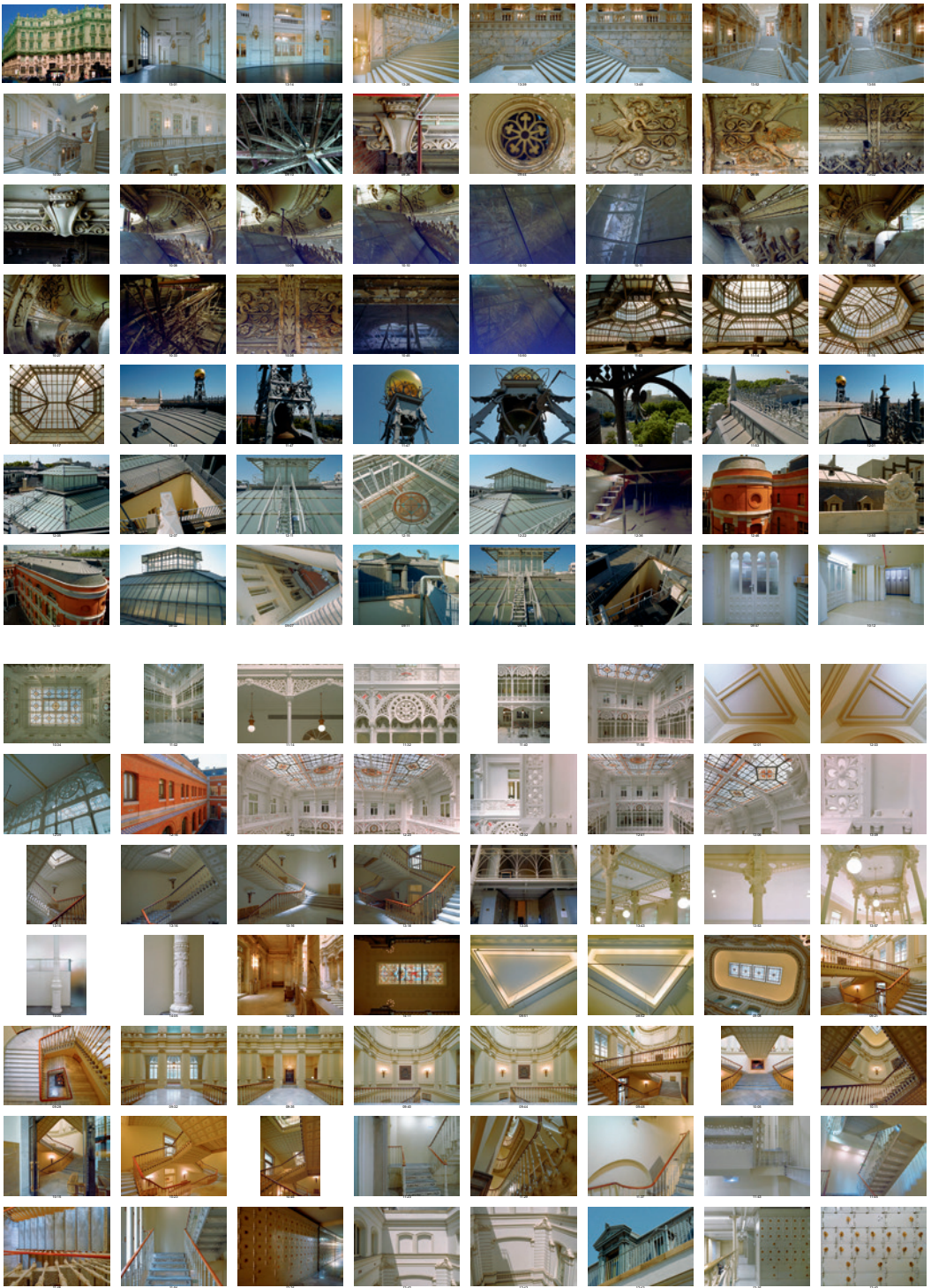
Manolo Laguillo (Madrid, 1953) is a professor of photography at the University of Barcelona and a member of the Royal Academy of Sciences and Arts of Barcelona. His oeuvre, which he began in 1976, focuses on the representation of cities in line with debates on the tensions of urban growth in the fields of geography, anthropology, history and sociology. He has worked in numerous Spanish cities, and also in France, Germany, Italy, Switzerland, Portugal, Mexico, the United States, the Maghreb, Lebanon, Ethiopia and Japan. As a documentary photographer, he is aware of the need to reflect upon the limits of the medium, and so has written several reference books that investigate key

aspects of the theory and technique of photography.

“In 2020, Banco de España commissioned me for a visual exploration of the work of Eduardo de Adaro. As it was a question of going further than mere reproduction, of photographing it intentionally to erect a discourse that would represent it, I opted for an approach that was not free of subjectivity – that is, removed from the clichés of ordinary architecture photography. I have tried to construct a coherent series of photographs which, as a continuation of my work, will place that of this architect of the Restoration in a new light.

To show the result, I choose a form inspired by the classical idea of the contact sheet, but in order to aid comprehension, I take

advantage of the powerful possibilities for editing, ordering and labelling provided by today’s image processing programs. The photographs are arranged chronologically and with the indication of the hour and minute at which each was taken, because I want it to be possible to reconstruct my routes and to know where I paused and what drew my attention. Because the sheets are large, each photograph can be appreciated in detail. However, this way of viewing the sheets – hovering close over them in order – is not the only possible one. Seen from far off, in a comparison, there appear patterns, textures, motifs and themes which reveal both Adaro’s characteristic manners and the capacity of photography to transcend verbal description.” ML



Manolo Laguillo. From the series *Adaro*:  
*A Case Study*. 2021. Giclée (pigment inks  
on paper). Commissioned from the artist.  
Colección Banco de España



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### **Cover:**

Manolo Laguillo. From the series *Adaro: A Case Study*, 2021. Colección Banco de España. Detail of the ornamentation of the former Cash Till Court, currently the Library, and detail of the stuccos on the mezzanine floor of the main staircase.

### **Inside cover:**

Letterheads and logos of firms related to Adaro's work.



