



Ajuntament
de Barcelona

THE HIV ERNA GLE

**135 YEARS
OF NATURE
AND ART**

barcelona.cat/hivernacle

Parcs i Jardins

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DEL CONEIXEMENT

EDITION

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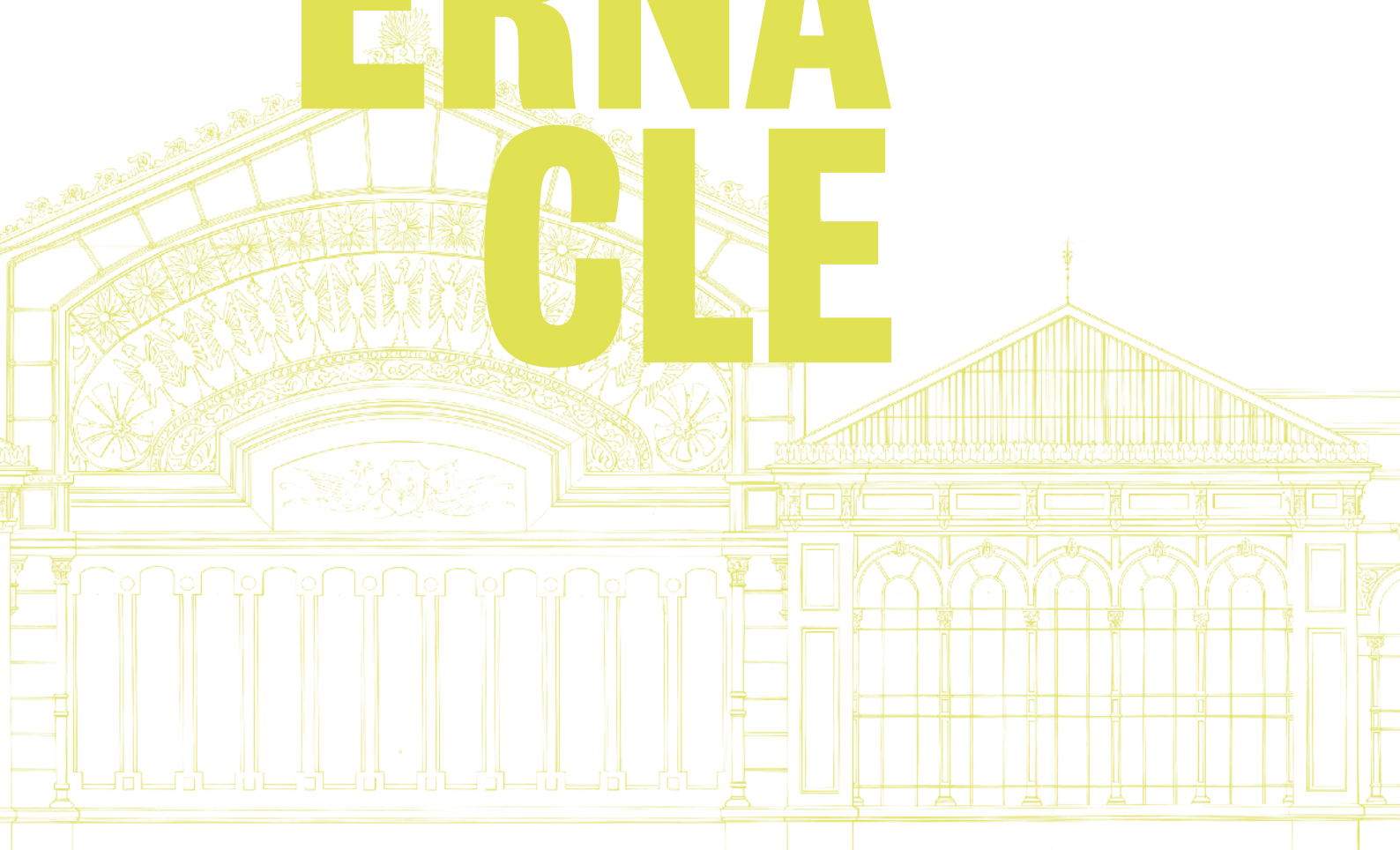
Communications Department.

With the collaboration of Néstor Bogajo.



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A new life for the Hivernacle

The Hivernacle (greenhouse) in Parc de la Ciutadella reopened in December 2023 after a major refurbishment that shows what it looked like when it was completed 135 years ago during the 1888 Universal Exposition. The refurbishment was based on a project by the architects Marc B. Trepàt and Marta Urbiola i Domènech, which treated some of the pathologies that had affected the building throughout its history and adapted the space so it could continue to be used as a greenhouse – to display botanical collections – as well as host outreach activities related to the city’s natural, cultural and historical heritage.

Fragile by definition, the Hivernacle has been the subject of numerous refurbishments over the years. After the work done in the 1980s and 1990s, it gradually fell into disuse and started to deteriorate. Further work was done in 2007 but it had remained closed to the public since then. It was intended to start a major refurbishment in 2015 but the company in charge of the project went bankrupt and the work was suspended. Four years later, in 2019, the City Council got the ball rolling to restore the building to its former splendour, one of the first steps being to commission a historical study while reactivating the processes to launch a new project. Refurbishment began in 2022, and now, after some hard work, the Hivernacle is once again open for public use and enjoyment, with the idea of relaunching it and positioning it in the context of Parc de la Ciutadella and the city as a whole.

Listed as an Asset of Local Cultural Interest (BCIL) and a prominent feature of Parc de la Ciutadella, which in turn is protected as an Asset of National Cultural Interest (BCIN) the Hivernacle is a unique building and an outstanding example of the city’s wrought-iron architecture. The current refurbishment, a clear example of the care and rigour with which the work has been undertaken from a heritage perspective, has revealed that the decoration project was the work of Alexandre de Riquer i Ynglada, one of the leading artists of Catalan Art Nouveau, or Modernisme. Many of these decorative features had been covered up but have now been recovered and restored.



To ensure that the building would have a life and an ongoing use, a use plan was drawn up, in addition to the maintenance tasks. The activities which will be held at the Hivernacle aim to promote the city's natural, cultural and historical heritage without putting the building's structure and its artistic, historical and botanical heritage assets at risk. Thus, the goal is for the facility to regain the vitality it had in other historical periods, such as the 1920s, when the Hivernacle was managed by the Barcelona Board of Natural Sciences, and after a thorough refurbishment in 1965, when the Municipal Parks and Gardens Service was in charge of it.

This portfolio contains a brief summary of the Hivernacle's history, as well as information on its heritage value, the current refurbishment and restoration work, the new botanical project (which will include the planting of more than 100 species) and the facility's uses in this new period. The annexes contain biographical notes on some of the prominent figures in the building's history and a timeline with the most important dates. The portfolio also includes a selection of photographs, graphic materials and blueprints.

Greenhouses, fragile buildings by definition

We could define hivernacles, or greenhouses, as constructions whose roof and walls are transparent to create the most favourable conditions for plants to grow.

In short, they are spaces where the regulation of light, temperature and humidity create an environment unlike the natural one around it, one that is optimal for growing plants either for productive purposes or to create a collection. More specifically, the Hivernacle de la Ciutadella was designed to house exotic plants from very moist, tropical environments.

The reason's behind the Hivernacle's misfortunes

It is often said that the Hivernacle is an unlucky building. However, the reasons leading it to deteriorate many times over the years are actually quite prosaic. Its wrought-iron and glass structure make it delicate, so, for example, it is notably more vulnerable to inclement weather than more solid buildings. This is why greenhouses are fragile by definition. And they are expensive to maintain. In addition to occasional repairs (of the glass panes in particular) managing the environmental conditions inside them requires highly specialised staff and specific installations, such as temperature-control systems that also have to be maintained. If the plants are not cared for, a greenhouse cannot serve its purpose and both the building and the plants are soon damaged.

The Hivernacle
at the start of the
refurbishment.

Albert Trepât



The Estudi històric de l'Hivernacle del Parc de la Ciutadella (Historical Study of the Greenhouse in Parc de la Ciutadella), conducted in 2019 and based on the legal precepts for protecting Barcelona's artistic and cultural heritage, concluded that the periods when the building declined were directly related to historical events which, for one reason or another, ended up hindering it from operating as usual, prime examples being the Primo de Rivera dictatorship, the Civil War and the post-war years.

Another key factor is that the Hivernacle had to be built in a hurry to replace the original 1874 building designed by Josep Fontserè i Mestre, which a heavy storm in September 1887 left so badly damaged that it was decided to tear it down and make a totally new greenhouse. Historians do not dismiss the possibility that "some of the building's pathologies can be associated with the specific circumstances under which it was built", on the eve of the 1888 Universal Exposition.

The fact that the Hivernacle was often used for purposes other than those for which it was designed have not helped, either. For example, it has been used as an exhibition hall, a concert venue, a restaurant and even as a space for zoological displays. Coupled with administrative processes and the lack of money available for optimal building maintenance, it is easy to understand why the Hivernacle has gone through so many ups and downs.



The origins of the Hivernacle

Parc de la Ciutadella, the home of the Hivernacle

On 3 March 1871, Barcelona City Council announced a contest to redevelop the site of the military citadel, which had been built over a large part of the La Ribera neighbourhood in the 17th century, on the orders of Philip V. The Spanish government agreed to the city's proposal to transfer some of the land, most of which would be turned into a park with gardens in 1869. Those were the years of the Democratic Sexennium, which started in 1868 with the Glorious Revolution.

Three projects were submitted to the contest, but none of them met the requirements, so the jury declared the contest null and void. In the second round, when the conditions had been modified, the winner was the master builder Josep Fontserè i Mestre. The slogan of his project, 'Gardens are to a city what lungs are to a body', was a clear statement of intent. In his book *Un triomf inesperat: l'Exposició Universal de Barcelona 1888*, the art historian Joan Molet Petit summarises the uses and purposes of the future Parc de la Ciutadella, which "was going to cover a series of uses related to hygiene and education through leisure".

He went on to say that "the interior space delimited by avenues, designed for pedestrians but for open horse-drawn wagons above all, allowing them to be seen, was divided into two sectors: the part looking inland was arranged as a picturesque English-style garden complete with a pond, a stream and a waterfall, while the part looking towards the sea became a huge esplanade, where there were plans to build a large palace for industrial and art exhibitions, another of the basic requirements of the contest. [...] spaces were set aside for other services commonly found in parks of that period, like greenhouses, zoos, large birdcages, a botanical garden, nurseries, a café and a vaqueria suïssa [...], where visitors could consume milk."

However, the idea was never fully realised. Fontserè was appointed to manage the park's construction, which began in 1873, but not long after that the San Fernando Royal Fine Arts Academy decided that as a master builder he could not serve as the construction manager. Therefore, starting in January 1875 Fontserè's projects had to be reviewed by Antoni Rovira i Trias. Poor communication with this architect, the major political changes during those years, the economic difficulties stemming from the cost of the construction work and other issues constantly interfered in the development of the project.

Layout of all the archaeological remains in and near Parc de la Ciutadella, with the plots in the La Ribera neighbourhood, the military citadel and the city today.

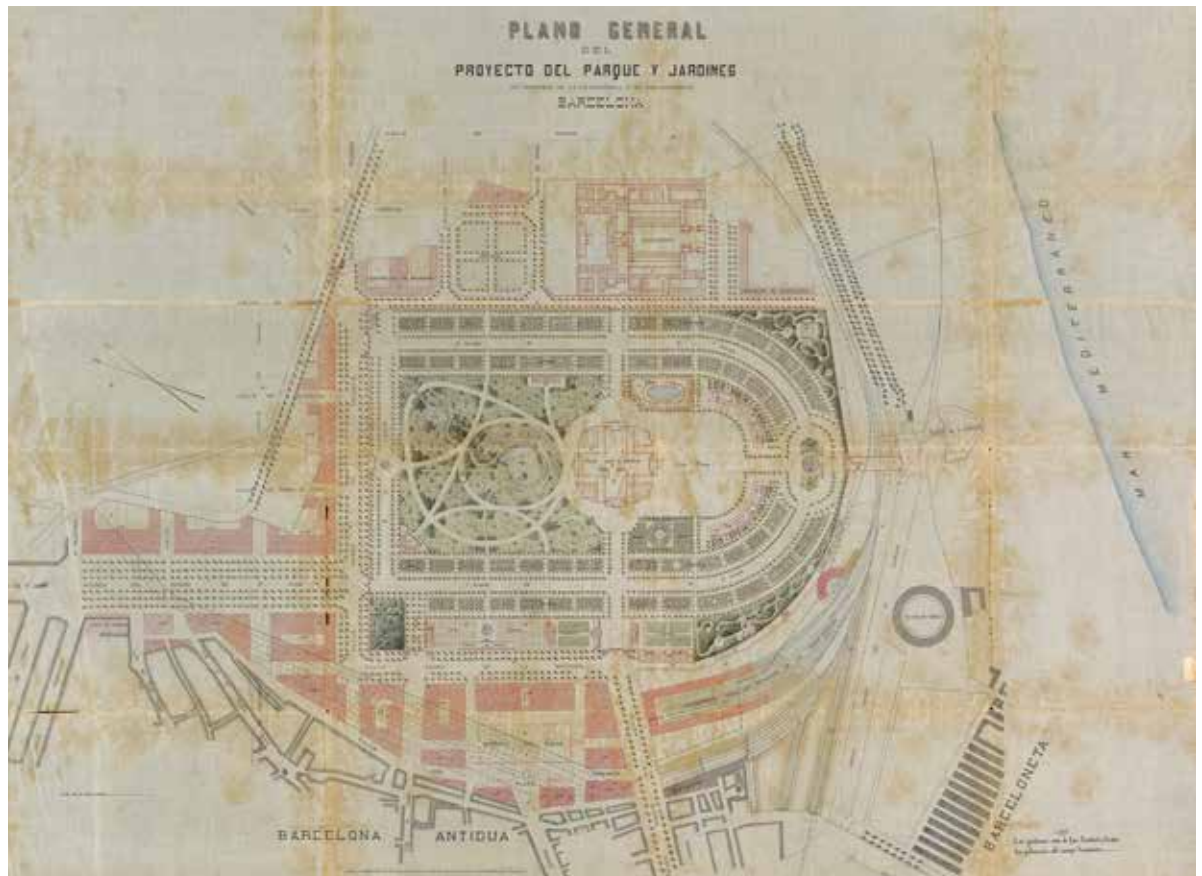
Esteve Nadal Roma, ACTIUM, Archaeological Service.

Barcelona City Council



Josep Fontserè i Mestre's project to redevelop Ciutadella in 1871.

AHCB



Fontserè's temporary greenhouse

One of the few buildings that Fontserè actually constructed in Parc de la Ciutadella, following his own design, was a greenhouse. Rectangular in shape, the building had quite a simple design. An engraving published in *La Il·lustració Catalana* in 1884 showed it radiant, filled with plants and even a working fountain inside.

That greenhouse, with its wrought-iron structure and glass enclosures, had a very brief life. On 7 September 1887, Barcelona was buffeted by a huge storm. The building was damaged so badly that the park works management declared it unsafe and decided to dismantle it and build another one. The press reported on the effects of the storm. A report published in *La Dinastia* gives us an idea of why the executive committee decided it could not be repaired:

“The torrential rain, mixed with heavy hail, hurricane-like gales and booming thunder seemed to freeze the soul [...]. It also caused considerable damage to the glass in buildings, as well as in public street lights. The city's streets soon turned into rivers.”

For its part, the *Diario de Barcelona*, reported: “The glass panes of the greenhouse and the gas globes on the park gates were shattered. The parterres were also heavily damaged by the hail, and many plants and shrubs cut down.”

Josep Fontserè i Mestre's project for the temperate greenhouse in Parc de la Ciutadella in 1871.

AHCB



Interior of the Hivernacle designed by Josep Fontserè i Mestre – which was demolished in 1887, according to an engraving published on 15 March 1884 in *La Il·lustració Catalana*.

AHCB



The Universal Exposition, an unexpected guest

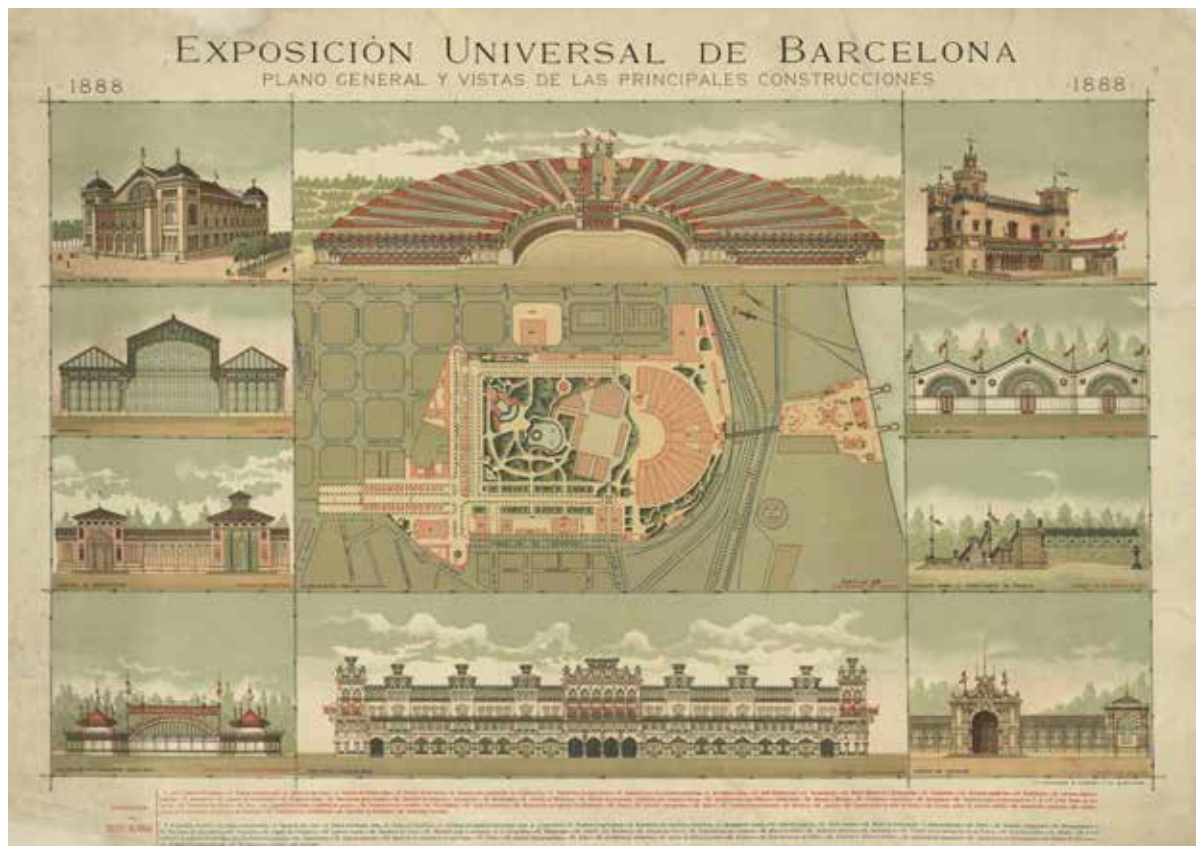
Before it became the park we know today, Ciutadella hosted the 1888 Universal Exposition, an international event first held in Paris, in 1855. Over the course of several months, different countries presented technological advances and promoted the goods that they manufactured and sold. The idea of Barcelona hosting an event of this kind was the brainchild of the businessman Eugenio Serrano de Casanova, who in 1885 asked the City Council if it had 200,000 square metres of land available, and, if so, to let it for free to host the expo.

It seems the City Council liked the idea, because holding an international event of this importance would put Barcelona on the map of Europe's major capitals, so it decided to grant Serrano de Casanova the Ciutadella land which had not yet been landscaped. Fontserè was not at all pleased, and he advised against this option in his report but the City Council dismissed his arguments. According to Molet Petit, Fontserè's stance against holding the Universal Exposition in the Parc de la Ciutadella contributed to his dismissal in 1886.

The Universal Exposition was supposed to open in late 1887, but it had to be delayed until

Layout of the 1888 Universal Exposition, one of whose main buildings was the Hivernacle.

AHCB



April 1888 due to a lack of funding and slow progress in the construction work. In fact, the City Council ended up taking over the reins of the project after forcing Serrano de Casanova to relinquish them, which also helped get the architect Elies Rogent onboard as the head of the Expo Construction Office.

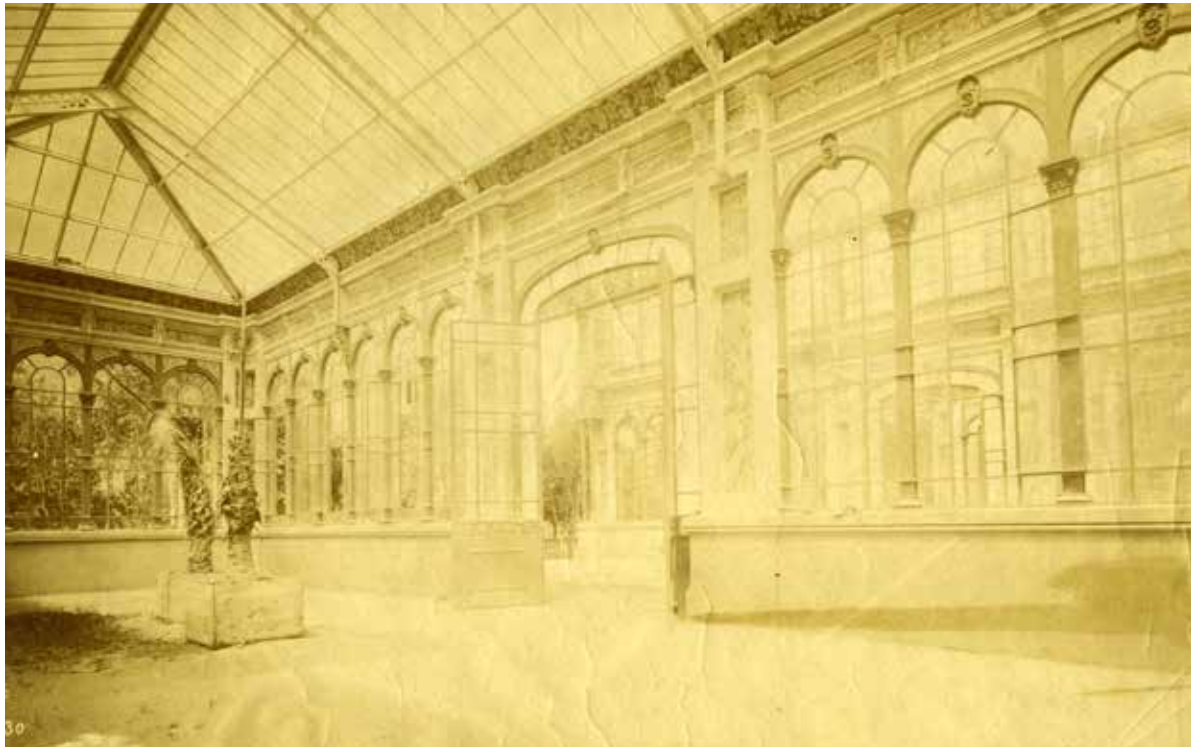
Josep Amargós i Samaranch's greenhouse

In October 1887, Rogent submitted the blueprints for a greenhouse to replace Fontserè's designed by the municipal architect Josep Amargós i Samaranch. The new building was not only safer, it was also more ambitious. It was to have three parts. However, the main one was left open on two sides, given that the planned enclosures were never built. Furthermore, the heating system planned for the side ones were never installed either.

The construction was assigned to Isidre Basso in November, but he was unable to start working until the Fontserè building was fully demolished, given that they shared the same location. Plus, the initial intention was to reuse some of the materials from the old building in the new one. However, this apparently never happened. In the end, everything from the first greenhouse was sold, even the boiler.

Interior of the Hivernacle designed by Josep Amargós i Samaranch before the opening of the 1888 Universal Exposition.

Pau Audouard Deglaire.
Photographic Archive of Barcelona



Work on the new building ultimately exceeded the initial budget. In order to pay for it, the enlargement planned for the Umbracle (shade house), where improvements were also being carried out, had to be scrapped. The Hivernacle's decoration was striking. It was the work of the painter and decorator Alexandre de Riquer i Ynglada, which was recently confirmed thanks to an article published on 23 March 1890 in *La Ilustración*, written by the Barcelona-based doctor and scholar Antoni Garcia i Llansó, which mentions the stuccoes and sgraffiti in the Hivernacle as some of the most important works by this *Modernista* artist:

“The sgraffiti that adorned the walls of the Gran Hotel Internacional, the large majolica coats-of-arms in the Restaurante del Parque, the sgraffiti in the Invernáculo [Hivernacle] and the decorative soffit in the large auditorium of the recently-opened company Fomento del Trabajo suffice to demonstrate the genius and good taste of this artist and his mastery of art in its brilliant decorative forms”.

It is important to stress that it was a race against the clock to build Amargós' greenhouse: it had to be completed by late April 1888 to be ready for the opening of the Universal Exposition. To shorten the delivery times, Basso hired two cast-iron companies. But even that was not enough, and the Exposition began with the Hivernacle still unfinished. Plants only started to be put inside in the summer of 1888. It is worth noting that this would not be the only building that would be late for the event.

View of Ciutadella during the Universal Exposition, with the three areas of the Hivernacle clearly visible directly in front of the Three Dragons Castle.

Audouard & Cia.
Photographic Archive
of Barcelona

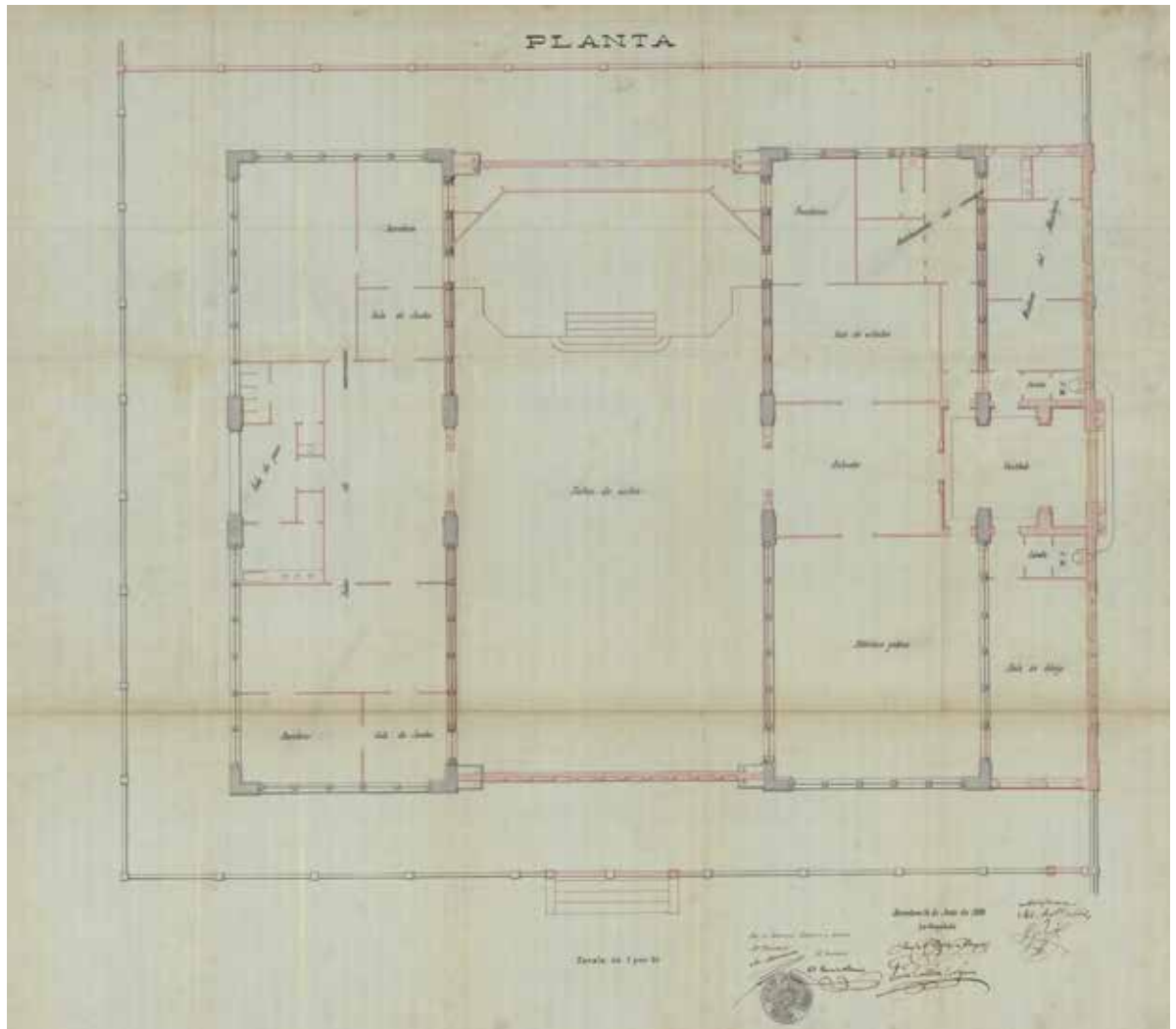


A chequered history

The publicists' headquarters (which it never was)

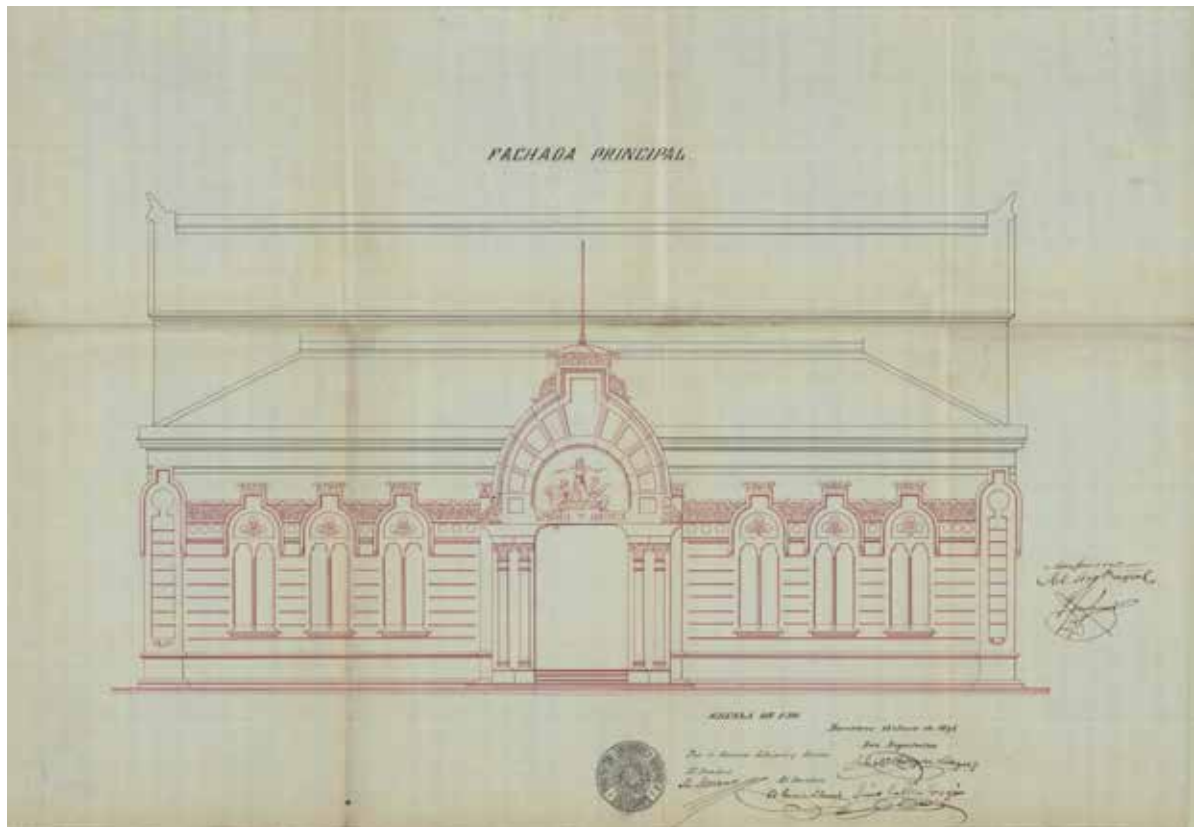
On 23 November 1893, the Barcelona Publicists' Association, which looked after the city's literary and artistic interests, asked the City Council to transfer the Hivernacle to them so they could use it as their headquarters and teach classes there, at least for a while. The association promised to complete the building, because the walls of the central part had not yet been built, and to adapt it to their needs. They also wanted to make a library and a modern painting gallery that the public could visit free of charge. The City Council gave its permission in December, but with several conditions: the concession could be cancelled at the City Council's convenience without any right to compensation, and the renovation of the space had to respect the building and have the approval of the municipal technicians. In addition, the organisation, which changed its name to the Artistic Association of Barcelona in 1894, was obligated to provide the services it had promised.

The association took possession of the Hivernacle on 21 September 1894 with the approval of the municipal architect Pere Falqués. Construction should have started on 25 September. There are blueprints of the new layout with the different parts, and even a design proposal for the façade enclosures of the Central Part and an addition to the building on Passeig de Picasso. But there is no evidence that any of these projects actually came to fruition. Barcelona's newspapers had never looked favourably on the transfer of the space, and the tensions became so pronounced that the association itself abandoned the project at the end of November.



Layout, enclosure of the Central Area and addition to the Picasso Area planned in the refurbishment proposed by the Literary and Artistic Association, which asked the Hivernacle to be transferred to it according to the open file from 1893-1894.

AMCB



The Board of Natural Sciences asks for the transfer of the building

By the early 20th century, the Hivernacle had fallen into a state of disrepair. It was only used as a temporary storage space for plants. In 1907, the Barcelona Board of Natural Sciences, which was under the aegis of the City Council, asked for the necessary work to be carried out so the building could be used to house animal species: birds, which lived there in semi-freedom; snakes and reptiles, making use of the areas attached to the side walls; and other smaller reptiles and fish in the central part, where a fountain and pond could be installed.

On 19 October 1909, the City Council handed over the Hivernacle and the Umbracle, which was also used to store plants at that time, so the Board could install the botanical and zoological collections there. Just like with the publicists, the City Council allowed the Board to use the building but did not transfer its ownership, so it could get it back whenever it wanted. The Board's idea was to turn the Hivernacle, the Umbracle and the Martorell Museum, which it also managed, into a kind of science park. However, this project would never see the light of day.

Work to refurbish the Hivernacle took years to get underway: the Board had no money, and the City Council did not decide to remove the plants stored there. The building's refurbishment began in 1915 with the repair of the roof. This was led by the architect Antoni de Falguera, who was in charge of public landscaping at that time. One year later, the Board sent the City Council a long list of plants to be acquired for the Hivernacle and the Umbracle. It seemed that the building would finally be put to full and ongoing use. At that time, the Board managed the Hivernacle, the Umbracle, the Martorell Museum and much of the Expo Cafè Restaurant (today known as the Three Dragons Castle), the aquarium in the waterfall and other pond and canal areas in the park.

The stone museum, across from the Martorell Museum, with the Hivernacle in the background in 1908.

Franz Walcker.
Photographic Archive
of Barcelona



The vitality during the Board of Natural Science years

In mid-1916, the City Council asked the Hivernacle and the Umbracle to be vacated so it could do more work on them. They still had the idea that the Hivernacle should house a section with terrariums in the current Picasso Area, with supports and tables where small animals would be placed, and another section in the Magnolia Area, called “hothouse and palmarium”, with supports for delicate cultivated plants like cacti, orchids and aquatic plants. Work began in September, and a heating system was installed at the end of the year.

The number of species in the Hivernacle continued to increase in the ensuing years. The person who managed the Botany section of the Board of Natural Sciences at that time was the botanist and pharmacist Pius Font i Quer, who was known for his contributions to our knowledge of Catalonia’s plants and mushrooms. Font i Quer’s biography can be read in the 1968 *Collectanea Botanica*, published in his honour, to get an idea of the Ciutadella’s scientific vibrancy during those years:

“When Font Quer started to lend his services to the Barcelona Natural Sciences Museum [the Hivernacle, right next to it, served as an annexe] in February 1916, the museum’s Botany Section was nothing more than a paltry local museum which housed around 1,500 portfolios of plants, almost all of them collected in Catalonia [...]. By the time he stepped down from the post of director of the Botany Institute in 1939, this centre had a global herbarium of 226,000 portfolios.”

Wild mushroom exhibition in the Hivernacle in October 1935.

Carlos Pérez de Rozas. Photographic Archive of Barcelona



The Hivernacle seemed to have been used continuously in the late 1910s but by the mid-1920s it was struggling again. This was partly the consequence of the Primo de Rivera dictatorship (1923-1930), when the Board was not dissolved but its purpose was changed, as clearly reflected in the decline in the number of its publications. Plus, the 1929 International Exposition shifted the public's focus of attention to Montjuïc, which detracted from the Ciutadella's former prominence.



Exhibition of the Canary-Breeding Competition held by Foment de la Cria del Canari in the Hivernacle in February 1932.

Josep Maria Sagarra Plana and Pau Lluís Torrents Roig. Photographic Archive of Barcelona



Wild mushroom exhibition in the Hivernacle in October 1933.

Carlos Pérez de Rozas. Photographic Archive of Barcelona



Poultry exhibition organised by the Barcelona Board of Natural Sciences in the 1930s.

Josep Maria Sagarra i Plana. ANC

However, the Hivernacle hosted many canary-breeding contests, a very popular activity in the city which would continue into the 1930s. Likewise, the main attraction in 1932 was a specimen of *manita phalloides*, one of the most common deadly mushrooms in Catalonia which visitors could see up-close in a fungi exhibition. The Hivernacle also hosted exhibitions of hens, roosters, ducks and rabbits. Many photographs from the period when the building was managed by the Board corroborate that its displays attracted large audiences.

Visitors looking at the cages with birds participating in the canary-breeding competition held in the Hivernacle in January 1934.

Carlos Pérez de Rozas. Photographic Archive of Barcelona



Exhibition organised by the Barcelona Board of Natural Sciences in the 1930s.

Brangulí Collection. ANC



The hiatus during the Civil War and the post-war years

The Spanish Civil War (1936-1939) signalled a new chapter for the Hivernacle, as it did in so many other areas of everyday life in Barcelona. The building, now fragile and exposed, suffered greatly from the bombing of the city. Several photographs by Leopoldo Plasencia show the damage caused to the Hivernacle during the conflict, with a lot of shattered glass panes on the roof and the side walls.

The work to refurbish the building was awarded in 1940. This included removing the boiler and demolishing the interior stairs, which were replaced with new exhibition tables. The Barcelona Board of Natural Sciences was dissolved, and the services offered at the Hivernacle were taken over by the city. But the space remained unused, even when the Ciutadella was declared a national monument as a historical-artistic garden in 1951.

Work to improve the building continued throughout the 1950s. The enclosure of the Central Area, which lasted until the 1980s, dates from this era, when activity at the Hivernacle started to revive. In January 1955, for example, the first Bird Contest-Exhibition was held there, organised by the Barcelona Ornithology Association and sponsored by the City Council, with an exhibition displaying a wide array of exotic birds. The contest's second edition was held in December of that same year. These outreach activities sought to return the Hivernacle to its heyday.



A group of Cubiertas y Tejados workers doing the preparatory work for the restoration of the Hivernacle in the 1950s.

Leopoldo Plasencia Collection. IEFC



The Hivernacle with its glass panes broken as a result of the bombing in the Spanish Civil War. Leopoldo Plasencia Collection. IEFC Archive

The Hivernacle with its glass panes broken as a result of the bombing in the Spanish Civil War.

Leopoldo Plasencia
Collection. IEFC
Archive



The renaissance of the 1960s

In the early 1960s, the Hivernacle was once again in need of extensive renovations. In 1961, the Friends of the Gardens called on the City Council to restore the building, along with other landmarks and features in Parc de la Ciutadella. The City Council did not get started until 1963, when it undertook a major overhaul of the park, beginning with the pond, the waterfall and the entry boulevard. The Hivernacle's turn came in 1965, together with the Umbracle building.

That restoration, which modernised them while respecting the original buildings, sought to reinforce the outreach or educational mission of the two buildings and make them more pleasant for the general public. Lluís Riudor, who was in charge of the project, decided to fill it with subtropical and tropical plants from the Americas, Asia, Oceania, the Canary Islands, Guinea and obviously the Mediterranean. This decision fit the original designs of the Hivernacle and Umbracle, venues where tropical flora and botanical specimens could survive even in the low temperatures of a European winter.

The *Catálogo de las plantas cultivadas en el invernadero y umbráculo del Parque de la Ciutadella*, published in 1966 by the Municipal Parks and Gardens Service, shows the efforts made during that period so that the Hivernacle and Umbracle could finally be more than just decorative and instead be used to spread information, the purpose for which they were originally designed. The project even planned on having the plants from the Hivernacle transferred to the Umbracle in the months when that was feasible to make it

easier for the public to enjoy them. The plants included coffee plants, banana trees, Araceae like philodendron and monstera, sansevieria and others. The participation of the botanical expert Joan Pañella proved crucial.

Some testimonies recall that in the late 1950s and early 1960s, the Hivernacle was filled with plants in all three areas, which were enclosed and heated at the time, with a wide variety of tropical plants of all sizes and kinds, all properly labelled. The lanes were not paved with hard materials but with chips of tree trunk or granite sand. The height of the roof even allowed tree-sized plants to grow. The effect was magnificent.



The Hivernacle with the plantings by Lluís Riudor and Joan Pañella i Bonastre in the 1960s.

Leopoldo Plasencia. Photographic Archive of Barcelona

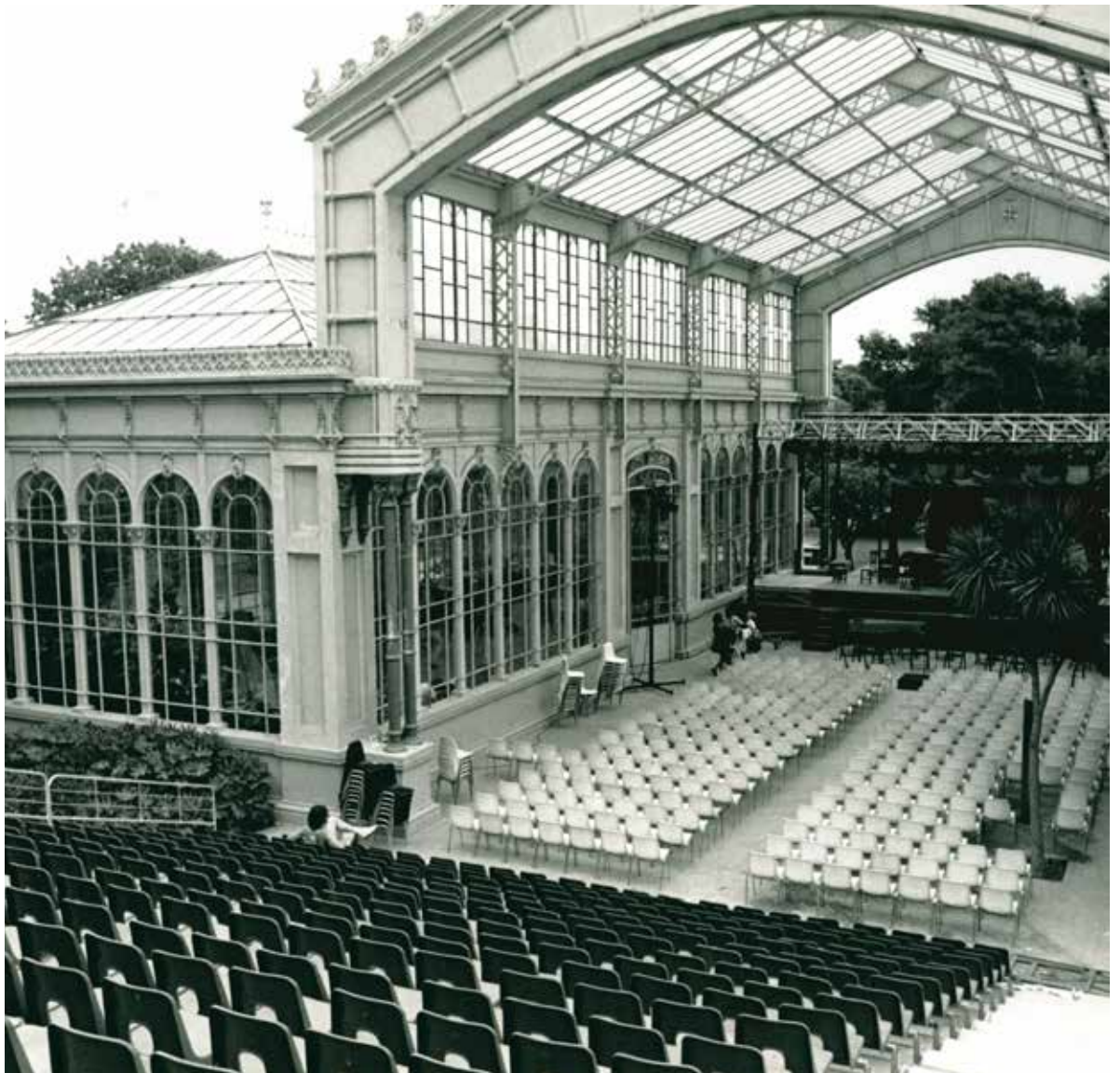


The 1980s and 1990s and the Hivernacle's new uses

Following its heyday in the 1960s, and probably due to the impossibility of keeping up with the maintenance of the collection and the building, the Hivernacle once again went into decline in the 1970s. At that time, the City Council had other priorities and did not come up with the resources needed to maintain such a delicate structure. It was the golden age of Barcelona's neighbourhood movement, when neighbourhood associations were calling for more green spaces in their areas and the City Council developed a policy to purchase private lands such as Vil·la Amèlia, Castell de l'Oreneta and Parc de les Aigües to turn them into gardens. The Hivernacle fell out of the spotlight, which negatively affected it.

The Hivernacle, ready to host the Enric Hernáez concert at the Festival Grec in August 1989.

Albert Casanovas and Lluís Sans.
Photographic Archive of Barcelona



In the early 1980s, the facility was unused and had broken glass panes, especially in the Central Area. This part still had its metal and glass walls from the renovation in the 1950s, which did look back to the original project's intentions but were not respectful enough of it in their design and form. Exposed PVC downpipes, dark stains on the walls, most likely from humidity, and faded mortar detracted from the building's appearance. It clearly needed another refurbishment.

And it began in December 1983. This time, it was also adapted to host new activities. The idea was to make the Hivernacle the site of the Urban Environment Centre, a new space where the general public and students could learn about the city's structure, natural environment, history, territory and growth. The building would undergo a complete overhaul, with the removal of the walls from the Central Area, which would be open once again.

Xavier Oller exhibition at the Hivernacle in January 1990.

Colita. Photographic Archive of Barcelona



The Urban Environment Centre project was never fully developed but several exhibitions were held there: “Barcelona Neteja” (Barcelona Cleaning, 1985), “Diputació de Barcelona: setanta anys de catalogació i conservació de monuments” (Barcelona Provincial Council: 70 Years Cataloguing and Conserving Monuments, 1986), “Vidre d’Art: 25 artistes txecs, 6 artistes espanyols” (Art Glass: 25 Czech Artists, 6 Spanish Artists, 1987) and an exhibition of Xavier Oller’s art (1990). Festival Grec activities were also held there, like the ones in August 1989.

In 1995, during a project overseen by Patrizia Falcone, an architect from the Department of Parks and Gardens, the Picasso Area was adapted to include a bar-restaurant and a conference room, while the Central Area was going to house a display of palm trees and become a venue where classical and jazz concerts could be held, as well as small temporary exhibitions. The Magnolia Area was going to permanently house the plants, with a large collection of sansevieria.

The penultimate refurbishment, unfinished

In 2007, the architect Marta Urbiola i Domènech oversaw another works campaign in the Hivernacle, this one focused on the roof of the Picasso Area. The roofs of the Central and Magnolia Areas were going to be repaired in 2008 and 2009, respectively. This was when the first attempts were made to restore Alexandre de Riquer's original decorations with floral motifs, which had been concealed under layers of paint and cement for decades. The Hivernacle had very few plants at the time, was unused and remained closed to the public. This contributed to it gradually deteriorating yet again.

The penultimate renovation began in 2015 but the company doing it went bankrupt and work had to be suspended in September 2016. Much of the visible iron structure of the three Areas was restored, but no work was carried out on the ornamental elements of the façade. The project was never completed.



Exterior of the Hivernacle in October 2022.

Albert Trepap



Plants protected inside the Hivernacle during the refurbishment in October 2022.

Albert Trepap

The current refurbishment and restoration

In 2021, the Municipal Institute of Parks and Gardens commissioned a project to complete the Hivernacle's refurbishment, which had been interrupted. Work began in September 2022. That same year, parallel to the start of work, Estudi Ramon Folch i Associats drew up a use plan to guarantee the building's management once it was completed. The current project, designed by Marc B Trepats and Marta Urbiola, has had two overarching objectives: to restore the Hivernacle's original appearance and to solve the pathologies that have arisen over its 135 years of history.

The window openings of the Hivernacle painted a golden green in October 2023.

Albert Trepats



‘Hivernacle’ green

During this renovation, all the paint layers were removed from the wrought-iron structure until it was left bare, a process called *stripping*. After that, primer – the layer that protects the iron – was applied and then it was painted to restore the original colour. If the iron was too severely deteriorated in any area, a new piece was soldered on.

One of the most striking aspects is the new colour of the building’s structure. When the paint samples adhered to the primer were removed, they were taken to be analysed and the result was surprising: the Hivernacle de la Ciutadella had been green. Actually, the experts were able to corroborate that green was quite a common colour for greenhouses and other buildings with cast-iron architecture from that period. One example is the Llibertat Market in Gràcia, which was also green.

The restoration of De Riquer’s decorative panels

The green of the Hivernacle’s windows combines with the ochre tones of Alexandre de Riquer’s decorative panels, midway between stucco work and paint, which were also an important part of the restoration. During construction, it was found that there were originally floral motifs by De Riquer, a second layer of decorative paintings and finally layers of paint without decoration. It should be noted that of all these layers, the one that has withstood the passage of time best is the oldest one, perhaps because it was the most protected. In order to restore it, the more recent paint was stripped off. Many of these decorations were found and restored in the Magnolia Area. A team of six restorers worked for months.

However, the passage of time and the effects of successive renovations have led many of the original decorations to be lost, and therefore the decision was taken to copy them. In order to do this as faithfully to the Modernista artist’s idea as possible, the restorers examined old photographs of the Hivernacle and identified the symmetries and repeated patterns. The ones on the daisy panel are a good example. To make the reproductions, or even to complete several incomplete panels, the experts also studied De Riquer’s works and drew inspiration from the drawings he made around that period. This reproduction process was crucial in some areas where only a few panels were conserved, and it was done such that only expert eyes could distinguish the restored from the copied drawings.

The decorations
by Alexandre de
Riquer at the start
of the building's
refurbishment in
October 2022.
Albert Trepat



Removed, like the paintings from Taüll

The recovery of De Riquer's paintings proved to be a real challenge to the restoration team, especially in the part with metal trusses in the Central Area. The cast-iron structure in that part was heavily damaged and had to be repaired but the brick panel covering had to be broken in order to reach it, which would completely destroy the drawings. The initial idea was to trace them to make templates so they could later be reproduced. However, when it was discovered that the floral motifs were by De Riquer, the decision was taken to find another solution that would enable them to be conserved. The proposal was to remove them, like the paintings from Taüll. The Heritage department agreed that an effort should be made to preserve them, as many of them were in fine condition.

Removing and restoring the paintings and then replacing them was a complex operation. Once the original image was clean, it was covered with an adhesive fabric. Afterwards, the undercoat was separated from the bricks from bottom to top. The adhesive protected the decorative panel and prevented it from crumbling. Once it had been removed and placed upside-down, another adhesive was applied, this time to the back, and the panel was placed on a support. At that point, the adhesive fabric in front could be removed and the image left exposed. Any time paintings are removed, it damages the paint, which has to be restored afterwards. After the cast-iron structure was repaired, the brick masons reproduced the structure surrounding the original one and the panels were installed on top of it.

Treatment of the trusses in the Central Area in October 2022.

Albert Trepas



Thus, these murals went from being immovable (static) property to being movable goods (which could be transported) even though in this case they remained in the same building. It is important to stress that removing paintings is never done on a whim but only when there is a structural problem that could mean that they would end up being lost. In fact, in the part of the Central Area where the trusses are, the originals on the outside faces had already been lost. After the restoration, there are 42 panels on each arch, 21 in front, which are reproductions of the originals, and 21 behind, which are the restored originals.

The decorations by Alexandre de Riquer stored in the Central Area during the refurbishment process.

Albert Trepap



Between stucco work and mural

De Riquer's decorative panels are halfway between stucco work and murals. The team of restorers strove to copy them to the extent possible by making stucco with lime and marble powder which was applied after the paste was dyed with pigments.

Once the surface was totally flat, the perforated template made previously was projected onto it. Then the drawing was made, and the incisions were cut while it was still wet. It is not the typical stucco work with two-centimetre reliefs; instead, these designs are fainter. From a distance, they look like paintings.

The work done on De Riquer's panels by the restorers is an example of rigour and technical prowess which revived the traditional procedures used in the Hivernacle's decoration, revealed several innovative elements in the stucco work and improved our knowledge of a decorative technique that is closely associated with the city of Barcelona.



The floral decorations
by Alexandre de
Riquer, after their
restoration.

Albert Trepat



Other improvements in the building

In addition to repairing the structure and recovering the original murals, the Hivernacle's restoration was also used to make other improvements.

For example, in the Magnolia Area, which had been open since the last work, new glass panes were installed that are sturdier than the ones originally used in this type of construction. Another action performed on the entire building has been to place the downpipes indoors, because in the past they were embedded outside, causing moisture and cracks. The brick and roughcoat base, which was still fairly well preserved, was also repaired as part of this project. However, the Central Area was not enclosed and the Hivernacle's appearance when it opened in 1888 was respected, even though the plans at that time were to enclose it.

The Central Area during the refurbishment in January 2023.

Albert Trepât



Everything is set to use it as a greenhouse again

Parallel to the building renovation, other actions were performed so the building could serve its primary purpose, both new and historical: to house plants from the botanical collection.

The Magnolia Area will be devoted exclusively to this purpose, and a process was undertaken to restore the specimens exhibited there. A motorised system for the windows and skylights was installed that enables the temperature inside the building to be controlled using programmed sensors.

Labourers working in one of the areas of the Hivernacle during the building's refurbishment.

Albert Trepal



The Hivernacle's heritage interest

An example of cast-iron architecture

The Hivernacle de la Ciutadella is a prominent example of cast-iron architecture, a building technique which arose and developed with the Industrial Revolution. Just like glass, iron was a building material that could be mass-produced in factories. Initially, this style was closely associated with international shows and fairs, because at that time it was the most advanced construction technology. The peak example of this architectural style was the Crystal Palace built in London's Hyde Park for the 1851 Great Exhibition, which became the largest metal structure ever built until then.

In Barcelona, this style became popular with the development of Cerdà's Eixample or expansion plan. When he drew up his project to urbanise the Ciutadella and its environs, Fontserè planned for the construction of a series of cast-iron buildings: the El Born Market built by Fontserè and the engineer Josep M. Cornet i Mas between 1873 and 1876; the Umbracle, built between 1883 and 1884; and the Hivernacle. Even though the original Hivernacle building no longer stands, its replacement designed by Josep Amargós was built in the same architectural style.

Cast-iron architecture is a hallmark of Barcelona, especially its municipal markets, which makes the Hivernacle a unique case. La Concepció Market in the Eixample and the Hostafrancs Market in Sants-Montjuïc opened in 1888, the same year that Amargós' Hivernacle was completed. They were both designed by the architect Antoni Rovira i Trias, who years earlier had also been responsible for building the Sant Antoni Market between 1879 and 1882 and the Barceloneta Market, which opened in 1884. All of these constructions, which are still functional today, are living examples of cast-iron architecture.

Hivernacle, Umbracle and Martorell Museum, facilities devoted to science

The Hivernacle, along with the Umbracle and the Martorell Museum, the first public museum in Barcelona city, were part of a proposal that was also highly innovative in the late 19th century: turning the Ciutadella into a kind of science park. Even though the project was never brought to fruition, all the facilities that were supposed to house it still stand today.

In his report on the project, Fontserè had this to say about the planned buildings: “[...] they offer perhaps not negligible advantages for science and industry, creating a site where the former can study plant growth and development”. The master builder also wanted nature to be a source of inspiration: “[...] new and varied drawings which make its products more beautiful and valuable”. He expressed this in the “Project for a Park and Gardens on the Lands of Barcelona’s Former Citadel”. And the idea seems to be fairly faithfully reflected in the Hivernacle, even after the building he designed was demolished, because the walls of the second greenhouse, the one by Amargós, stand out for their innovative, groundbreaking ornamental design by De Riquer, a man ahead of his time.

The Umbracle, which Fontserè started before the Universal Exposition, was completed by Amargós. Made of cast-iron pillars with curved iron beams on the rooftop, it has three roofs with five archways that create an interplay of lights and shadows that manage to recreate the climatic conditions of humid shady forests and thus foster the growth of tropical and subtropical plants. Inside, there are rubber plants, hydrangea, kenthia, palm, gardenias, elephant ears and more.

Construction on the Martorell Museum began in 1876. It was designed by Rovira i Trias, who later rejected Fontserè’s proposal. Opened in 1882, it displays an eclectic array of historicist pieces and was the first site of the Barcelona Natural Science Museum. For most of its history (from 1924 to 2010) it was the home of the Geology Museum.



The Hivernacle is once again filled with plants

After the current refurbishment and restoration, the Hivernacle is back to its original, historical purpose: to house plants from the botanical collection and spread scientific knowledge among the general public. Most of the existing parterres and tree pits were conserved, so visitors can see specimens in all three areas. The plants that have survived the years of abandonment were incorporated in the new planting campaign, which includes more than 100 species. The majority can be seen in the Magnolia Area, the one that has been planted the most. The missing palm trees will be placed in the Central Area, and the existing parterres in the Picasso Area will be used.

When choosing the plant species displayed there, almost all of them new, different criteria were borne in mind: the plants had to be available in the supply nurseries; they had to be able to live in a cold greenhouse with no shade; they especially had to be traditional indoor plants for greenhouses; and they had to be of botanical or agricultural interest. The project was also the chance to change the substrate to a depth of 60 centimetres. The plants were arranged according to their growth cycles, creating different strata, and in some cases according to the affinity of their needs or botanical features. The majority of specimens will be labelled with their scientific name, common name, family and origin.

Traditional and “modern”

Given its ups and downs throughout history, the Hivernacle has not continuously and steadily housed its original plants, which have been lost over time. This is why it is difficult to choose an initial appearance to be used to reproduce a precise layout of the plants. However, the Hivernacle’s new botanical project includes some plants that were common in nineteenth-century display greenhouses, especially in botanical gardens or greenhouses or large private gardens in Europe (in countries like the United Kingdom, France and Germany). Some of these species will coexist in the newly refurbished and restored Hivernacle, alongside specimens of other types. Here are a few of them.

Planting work in 2023.



Traditional greenhouse plants (common in the 19th century)

- *Aechmea*
- *Alocasia*
- *Asplenium nidus*
- *Chamaedorea elegans*
- *Cymbidium*
- *Dicksonia antarctica*
- *Howea*
- *Monstera*
- *Philodendron*
- *Sansevieria*
- *Stephanotis floribunda*
- *Tradescantia zebrina*



Plants used for food, medicinal purposes and fabrics

- *Ananas comosus* (pineapple)
- *Annona cherimola* (cherimoya)
- *Averrhoa carambola* (carambola)
- *Carica papaya* (papaya)
- *Coffea arabica* (coffee)
- *Dioscorea sansibarensis*
- *Ipomoea batatas* (sweet potato)
- *Mangifera indica* (mango)
- *Manilkara zapota* (sapodilla)
- *Moringa oleifera*
- *Musa* (banana tree)
- *Pandanus utilis*
- *Selenicereus undatus* (pitahaya)



“Modern” plants (introduced into the market 10-15 years ago)

- *Echeveria pollux*
- *Fatsia japonica* “spider web”
- *Mangave*
- *Phlebodium* “blue star”
- *Zamioculca*

Spreading the word about greenery, biodiversity and gardening

The Hivernacle refurbishment included plans for the building to host outreach activities for families and adults related to greenery, biodiversity and gardening, which would take advantage of the facility's central location and give it life and a continuous use. The Hivernacle would also become an information point on all the parks in the city, as well as the activities and guided tours that La Fàbrica del Sol has been organising for some time now geared to students and the general public. In fact, the Hivernacle will become part of the Parc de la Ciutadella guided tour.

There are also plans to hold exhibitions and the launch of books or other publications related to the building's fields of knowledge, such as urban geology guides. They are all public, nonprofit initiatives which seek to foster knowledge of greenery, biodiversity and gardening, as well as the cultural and historical heritage of the Hivernacle and the city. The building may also host activities currently held at the Parc de la Ciutadella Toy Library, which becomes an outreach point during the Spring Festival.

The Hivernacle interior.



A revitalisation service will be in charge of the information point set up in the Central Area and the activities and workshops held in two of the areas (Central and Picasso), as well as handling any possible incidents. A night watch service has also been hired to monitor the entrance to the facility when it is not open to the public. Thus, the Hivernacle will be active and monitored 24 hours a day to ensure its conservation and prevent it from being damaged.

Signs have been installed in all three areas of the Hivernacle to explain the building's history and heritage value, one in each room and a generic one for the building.

The Magnolia Area: a new botanical project

The Magnolia Area has the most plants and best maintains the essence of the historical Hivernacle, with a botanical route that complements the one in the Umbracle and Parc de la Ciutadella as a whole. The specimens are labelled with the plants' names and provenances.

The Central Area: information point and large multi-purpose space

The welcome and information point for visitors to Parc de la Ciutadella and, by extension, all the city's green spaces has been set up in the Central Area. It measures more than 15 square metres, is integrated into the space and surrounded by palm trees. It has a small storeroom for outreach materials like brochures and books, a toilet that employees and visitors can use, and some small cupboards with electrical panels and other installations required by the information point. After the project, the Central Area can serve as a multi-purpose space. Fitting 150-200 people, it can host medium to large events.

The Picasso Area: Small-group activities and workshops

A lounge area with chairs has been set up in the Picasso Area, along with a small multi-purpose space that can fit up to around 50 people. It will host training, information, and citizen participation activities and workshops in the fields of green initiatives, biodiversity, gardening, the environment and sustainability. The space has a small storeroom for furniture measuring around six square metres, where chairs and any other items needed for scheduled activities and workshops can be kept.



Refurbishment and restoration credits

Promotor

BIMSA

Monitoring project and execution

Institut Municipal de Parcs i Jardins

Project design

Marc B. Trepàt and Marta Urbiola, architects
Batllori & Trepàt Arquitectes SLP

Site manager

Jordi Morros Cardona, architect
Ondara Arquitectura SLP

Collaborators

Marta Urbiola, architecture
Mercè Marquès, restoration
Eduard Simó, structural calculations

Execution manager

Dídac Dalmau, technical architect
Dalmau Morros SLP

Coordinator

Joan Miravet

Health and safety

ACS Coordinació SLP

Construction group

Jordi Batllor, group leader
Carlos Gil, construction manager
Noemí Bernal, head of production
Simón García, construction foreman

Catering

Ideart Restaura

Industries

Industrial Vidriera Catalana (glass panes)
Derivats d'hivernacle (locksmithery and misted water)
Urucol Zinc (conduits and downpipes)
Moix (landscaping)

Labour

VOUSI 08 SL

Historical study of the Hivernacle

Xavier Cazeneuve
Albert Cubeles
Aina Catasús
Ana Medina Cano, documentation

Historical-artistic study of the decorative panels

Fátima López, GRACMON, University of Barcelona
Daniel Pifarré, GRACMON, University of Barcelona

Timeline

1869 Spain, the owner of the lands where the military citadel is located, transfers them to Barcelona City Council to build a public park.

1871 The master builder Josep Fontserè wins the bid to create the park.

1873 Work starts on Parc de la Ciutadella. The Hivernacle is one of the first constructions.

1875 Fontserè's Hivernacle is opened to the public and features an important collection; the newspapers highlight a "Musaneta" (*Ensete ventricosum*) specimen because of its rarity.

1885 The businessman Eugenio Serrano de Casanova suggests that Barcelona host a Universal Exposition in 1887. The City Council offers the Ciutadella land.

1886 Fontserè is dismissed as the director of the Ciutadella project.

1887 On 7 September, Fontserè's Hivernacle is severely damaged during a storm. The construction management decides to dismantle it, and the plant collection is lost.

1887 The Universal Exposition is postponed until 1888, given that construction is progressing too slowly.

1887 In October, the blueprints for the new Hivernacle by the municipal architect Josep Amargós i Samaranch are submitted.

1888 The Universal Exposition opens in April, with the Hivernacle not yet completed. Plants do not start to be put in until July.

1893 The Barcelona Publicists' Association asks the City Council to transfer the Hivernacle to them so they can use it as their headquarters. The City Council agrees.

1894 The Artistic Association of Barcelona (the Publicists' new name) take possession of the Hivernacle. Shortly thereafter, they abandon the project, which is criticised by the press.

1907 The Barcelona Board of Natural Sciences, under the aegis of the City Council, suggests that the Hivernacle, which is almost in ruins, house birds, reptiles and fish.

1909 The City Council transfers use of the Hivernacle to the Barcelona Board of Natural Sciences, initially to install the botany and zoology collection.

1915 The City Council starts work on refurbishing the Hivernacle.

1916 The City Council asks that the Hivernacle and the Umbracle be vacated so it can take over the work to repair the space and refurbish it as a museum.

1922 Restoration of the space, which had deteriorated yet again, gets underway.

1923 Coup by Primo de Rivera, which blocks several municipal projects and affects the regular operations of the Board of Natural Sciences.

1925 A canary-breeding contest is held at the Hivernacle. Many others were later held there.

1932 The Hivernacle displays an *Amanita phalloides*, a deadly mushroom.

1936-1939 Spanish Civil War. Bombing damages the Hivernacle.

1940 The Board of Natural Sciences is dissolved and its services are taken over by the city.

1940 The project to repair the damage caused by the bombing is awarded. Work continues until April 1942.

1951 Ciutadella is declared a national monument as a historical-artistic garden but the Hivernacle remains unused.

1955 The Hivernacle hosts the first Bird Contest-Exhibition.

1957 The Directorate of Parks and Trees becomes the Municipal Parks and Gardens Service.

1963 The City Council undertakes the renovation of different spaces in Parc de la Ciutadella.

1965 Building work starts at the Umbracle and the Hivernacle, under the aegis of Parks and Gardens. Its director, Lluís Riudor, will be the architect in charge of the project.

1983 The Hivernacle, which is open to the public but in a state of abandonment, is to be repaired once again. The City Council wants to house the Urban Environment Centre there but the project never takes off.

1985-1990 The Hivernacle hosts a series of exhibitions and concerts.

1995 The architect Patrizia Falcone, from Parks and Gardens, oversees a new project at the Hivernacle.

1997-1998 The Hivernacle presents two exhibitions of exotic orchids.

2007 New public works campaign, this time overseen by the architect Marta Urbiola. The action focuses on the roof of the Passeig de Picasso Area.

2008-2009 Restoration of the roofs of the Magnolia and Central Areas on Passeig de Picasso. There is another project to recover the original decorations with floral motifs.

2015 Renovation of the Hivernacle resumed. It had been closed to the public since the last work was done, which contributed to its deterioration.

2016 The company working on the project goes bankrupt. The renovation is suspended.

2018 SOS Monuments and other organisations call for the restoration of the Hivernacle and the Umbracle.

2022 The current renovation begins.

2023 Opening of the Hivernacle.

Biographies

Josep Fontserè i Mestre

Likely born in Barcelona in 1829, he was the son of the architect Josep Fontserè i Domènech, who designed the El Torín bullring in Barceloneta. He became a master builder in 1853 and helped Ildefons Cerdà to draw up the topographic map of the Barcelona Plain prior to the Eixample expansion project (1855).

In 1859, he submitted a plan to the contest to urbanise the Eixample, where he was named third runner-up with a proposal that enhanced the centrality of Passeig de Gràcia and connected the villages with diagonals that respected the existing lines. The motto: “Not destroying to build, but conserving to rectify and building to enhance”.

In the second round in 1870, he won the contest to urbanise the lands of the former military citadel. His slogan, “Gardens are to a city what lungs are to a body”, was revolutionary at a time when the conception of green spaces was quite different to the prevailing one now. “Today Barcelona has no gardens; Barcelona has no grand squares; Barcelona has a dearth of boulevards... Transforming the lands of the Citadel into gardens and parks will fill these needs,” he claimed in his project report.

Because Fontserè was a master builder and not an architect, his competence to oversee the project was often questioned. For example, the municipal architect Miquel Garriga i Roca disapproved of the idea of doing away with the different levels of the fortress. In 1875, when Garriga was no longer the municipal architect, he still asked that any modification of the project submitted by Fontserè be examined by Antoni Rovira i Trias, who had succeeded him in that post. (In fact, Rovira i Trias had already replaced Fontserè as the park works manager when the latter was dismissed after the First Republic was declared in 1873, until he was reinstated following Pavia’s coup d’etat in 1874.)

The master builder oversaw the Parc de la Ciutadella project until 1886, when he was replaced by the architect Elies Rogent. Fontserè was able to leave his mark on the waterfall (1874-1882) and the Umbracle (1883-1884). The greenhouse that was built was then demolished in 1887, after a storm caused irreparable damage.

In Barcelona, the Palau del Marquès de Santa Isabel on Passeig de Gràcia (1883-1884) and the restaurant of the Cercle del Liceu (1886) also bear Fontserè’s imprint. El Born Market was also designed by Fontserè, a project in which he collaborated with the engineer Josep Maria Cornet i Mas. He died in Barcelona in 1897.

Josep Amargós i Samaranch

Born in Barcelona in 1849, he earned a degree in architecture in 1877. However, by 1870 he had already participated in several projects to develop Poble-sec with Fontserè. A leading figure in Catalan Modernisme, he began by designing historicist architecture and is the designer of the Hivernacle for the Parc de la Ciutadella that, just in time to be included in the Universal Exposition activities, replaced the one designed by Josep Fontserè, which had been demolished in 1887 due to storm damage.

Amargós also designed the Torre de les Aigües de Dos Rius on Tibidabo (1902). Another notable building he designed is the Aigües de Barcelona Pumping Centre in Cornellà de Llobregat. Built between 1903 and 1907, today it serves as the headquarters of the Agbar Water Museum. In 1900, he also participated in building the neo-Gothic Santíssim chapel in the church in Sant Climent de Llobregat, the town where his father had been born. In 1894, he designed the partial urbanisation of Montjuïc, which was dismantled for the 1929 International Exposition. Another project of his, Plaça d'Espanya (1915), was never carried out. He died in Barcelona in 1918.

Alexandre de Riquer i Ynglada

Born to a family of aristocrats in Calaf (L'Anoia) in 1856, he held the title of Count of Casa Dávalos. He was the son of the Carlist leader Martí de Riquer i de Comelles and Elisea Ynglada, who was related to the painters Modest and Ricard Urgell. A multifaceted artist, he stood out in the Modernista movement as an illustrator, painter, decorator, enameller, engraver, bookbinder, poster artist and bookplate maker.

De Riquer introduced trends that were fashionable in Europe to Catalonia, while he also revived old, obsolete techniques, like etching. In an article published in 1890 in *La Ilustración*, which enabled the authorship of the paintings in Hivernacle to be attributed to De Riquer, the Barcelona-based doctor and scholar, Antoni Garcia i Llansó, talks about him in these words:

“One can detect a kind of brilliance that gives him a personality of his own, both in that extraordinarily intelligent combination of yesteryear renaissance with good modern taste, and in those admirable decorative imitations, those precise ornamental drawings and his remarkable paintings of birds, like the ones that earned Giacomelli well-deserved fame.”

“His drawings, always elegant and with self-assured lines, beautify a considerable number of illustrated works and publications”, added the scholar, who then asserted the following: “[De] Riquer has managed to make a good name for himself and build a personality within modern art, using the creations of the past as his medium in order to reveal the vigour of his ingenuity, endowing them with value with the beauty of his inexhaustible fantasy.”

In 1894, De Riquer travelled to London, where he was exposed to the Arts and Crafts Movement. When he returned to Catalonia, he became the prime representative of the English Art Nouveau-style graphic and decorative arts.

Alexandre de Riquer i Ynglada is the grandfather of the writer and philologist Martí de Riquer i Morera and the great-grandfather of the historian Borja de Riquer i Permanyer and the philologist Isabel de Riquer i Permanyer. He died in Palma de Mallorca in 1920.

Lluís Riudor i Carol

Born in 1906, he was the director of the Parks Service between 1940 and 1968. An architect by profession, he is considered to be the person who brought landscaping to Catalonia. At the helm of the Barcelona City Council's Landscaping Department, he carried out projects like Parc del Turó de la Peira (1936), Parc de Monterols (1947), Jardins de Moragas (1959), the Austria Gardens in Park Güell (1960s) and Parc de Cervantes (1965).

Riudor remained at the helm when the Porcioles-led City Council reformulated and bolstered the Park Service in 1957 and turned it into the Municipal Parks and Gardens Service. In fact, in the mid-1960s, he was one of the driving forces behind the revival of the Hivernacle, which experienced one of its heydays at that time after a thorough refurbishment and a rethinking of the botanical collections displayed there with the goal of modernising the facility and making it more accessible and attractive for visitors.

Riudor is the author of texts for a general readership like *Guia dels espais verds de Barcelona* (1984) and *Apuntes de jardinería y paisaje*, published in 1989, the year he died.

Joan Pañella i Bonastre

Born in Barcelona in 1916, he began studying landscaping in 1933 in the first graduating class of the Barcelona City Council's School of Landscaping, where he became the deputy director and head of studies in 1970. In 1950, he began to work as a botanical expert in the Park Service, where he helped to create many gardens built in the second half of the 20th century, such as Jardí de Mossèn Costa i Llobera, Jardí de Mossèn Cinto Verdaguer and Jardí de Joan Maragall, all three on Montjuïc.

In the 1950s, Pañella began to draw up the school's *index seminum*, a seed catalogue that also sought to exchange seeds with botanical centres around the world. In the mid-1960s, while Riudor was still at the head of the Municipal Parks and Gardens Service, he actively participated in modernising the Hivernacle and updating the catalogue of plants displayed there.

Pañella, who excelled in the field of botanical nomenclature, is the author of *Las plantas de jardín cultivadas en España* (1970), a reference for the names of cultivated species. He was also an expert on cacti and succulent plants, a founding member of the International Organisation for Succulent Plant Study (IOS) and his cactus collection is conserved in the Jardins de Costa i Llobera.

Pañella was also the conservator at the Jardí d'Aclimatació Pinya de Rosa in Blanes and the Jardins S'Avall in Mallorca. He died in Barcelona in 1992. To pay tribute to him, the species *Opuntia panellana* and the Professor Pañella rose variety by Dot breeders were named after him.

