

BULLETIN OF INDUSTRIAL ARCHAEOLOGY AND SCIENCE AND TECHNOLOGY MUSEUMS

EDITORIAL

Here you have number 80 of the AMCTAIC Bulletin in your hands.

This publication has been issued without interruption since 1989. It is, and will continue to be the medium of communication for our members, and way of circulating news, giving information about events, and also publishing research by the many contributors who generously share their work free of charge. Their writings keep us updated on what's happening in the world of industrial and social heritage, both past and present.

AMCTAIC would like to thank you for your interest, loyalty, support and collaboration.

We warmly welcome your contributions and ideas.

25 YEARS OF THE BONAPLATA AWARDS

Throughout history, there has always been a desire to reward, to recognize, to highlight facts, objects, people, creativity ... to give a first prize.

The Bonaplata Awards are presented annually, but always from a new angle, and with a new passion and endeavour to understand and value the work presented, and always mindful that there is still a lot of work to be done when it comes to awareness raising. There is great anticipation getting everything ready on time; all the machinery, records, people ... in short, the industrial heritage.

With the aspiration of the prizes continuing to gain importance over the years, I would like to thank the entities that give loyal institutional support, especially the Fundació Caixa d'Enginyers, which has funded the Study Prize.

10TH ANNUAL CONFERENCE OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY OF CATALONIA. INDUSTRIAL FOOD HERITAGE

VIC 1-3 DECEMBER 2016

The 10th annual conference of Industrial Archaeology, was held in Vic from 1st to 3rd December 2016, building on the fact that the city was nominated Catalan capital of culture. The conference runs every three years in different Catalan cities, and is centred around the local economic activity. In Vic, the topic was industrial food heritage, and the conference was organized by the Association of the Museum of Science and Technology and Industrial Archaeology of Catalonia.

In addition to the local industrial food heritage, other fields were also addressed by researchers and specialists. It is worth remarking on the apt choice of Vic as a host city, for what it represents, and has represented in the region's food industry since the early 19th century. Vic opted for the industrial transformation of its farming products, aware of its new potential and also the industrial weaknesses the region would be immersed in due to the few energy sources it had at hand for more intensive industry.

The Conference opened with a keynote address by engineer Antoni Garrell i Guiu, Industry 4.0: Opportunity for the Future, in which he stated that companies' need to adopt innovative organizational and management technologies in order to keep ahead. The second lecture, Food Preservation Techniques from Prehistory to Modern Times was given by Antoni Riera Melis, the academic who first pioneered the field of food history in Spanish Universities. His talk centred on the evolution of food conservation systems developed over the ages in order to have certain foods at any time of the year. Francesc Roca Rosell, economist and specialist in the history of Catalan science, closed the conference with his paper The Catalan Agri-food Revolution from 1878 to 1920, presenting some findings related to the period. The fifty presentations were distributed in five sessions, and included those related to using ice houses to conserve food in the Pyrenean region of Lleida, as well as the study

of a dying and textile finishing factory, dating back to the introduction of electrical power and the beginnings of the ceramics industry. It was evident that associations defending heritage and the Industrial Tourism Network of Catalonia played a crucial role in the conference, which finished with a tour of relevant sites: Casa Riera Ordeix sausage factory, still located where it first began in 1852; the modernist factory which is the conference headquarters and Espai Sucre. This was followed by a visit to the cultural centre in the central square in the old part of Vic, then the Town Hall, and to finish, the cathedral (considered the most significant jewel of medieval Catalan art), and the Diocesan Museum of Art. Using a room showing panels by Fray Bentos and the Triptolemos Foundation, the conference was broadcast via television with a panel debate between representatives from various institutions within the food sector. The debate was moderated by Mr. Josep Alabern, president of Mnactec Association, and participants were Mr. Joaquim Comella from Casa Riera Ordeix; Mr. Pere Fàbregas, President of the Coordinating Committee of Catalan Associations, Mr. Ramon Clotet, Secretary of the Triptolemos Foundation, and Mr. Jaume Perarnau, director of the Science and Technology Museum of Catalonia.

CAIXA D'ENGINYERS: 50 YEARS OF RESPONSIBLE BANKING TOGETHER WITH ITS MEMBERS

A long history

Founded by a group of industrial engineers, the bank was originally a cooperative credit company aimed at providing financial services and global insurers to the engineers' group. Since then, values such as trust, proximity and empathy have been key to building a community with over 150,000 members.

Until now, the bank has expanded to respond to the needs of a wide range of professional groups and the wider society. After 50 years, Caixa d'enginyers offers an excellent service, with more than 95% of its operations online, and a network of 25 offices offering personalized attention.

Socially responsible entity

True to its spirit of responsibility, Caixa d'Enginyers is committed to sustainable practices, developing initiatives leading to environmental improvement, as well as offering socially responsible investment alternatives. The Caixa d'Enginyers Foundation channels the majority of the institution's corporate social responsibility actions along the following lines: training, professional excellence, scholarships and prizes, social return and return to work, environment and sustainability.

Solvency and liquidity, pillars of responsible banking

In a macroeconomic environment posing significant challenges, Caixa d'Enginyers continues to stand out because of its high solvency (CET 1 Fully Loaded 15.51%) and its structural liquidity of 142%, much higher than the sector as a whole, and above regulatory requirements.

At present, the quality of assets, availability of liquidity and the solvency of the Group, together with trust from its members and professional team are the corner stones of the business's current growth policy. All this with the aim of offering its members a greater and better service within a responsible and sustainable framework.

150 YEARS OF INDUSTRIAL AND CULTURAL WATER HERITAGE

In the one hundred and fifty years since the foundation of Aigües de Barcelona, the company has always shown a great entrepreneurial spirit. This has not only been in its business practices helping drive the economic development of the country, and its pool of scientific and technological in-

novation, but also in the form of sensitivity towards cultural heritage, and a commitment to society.

The Eixample district aspired to Barcelona becoming a major European city, and Aigües de Barcelona was established to serve it with running water. Today, the company covers all aspects of the water cycle: from collecting and supplying water, to treating, reusing and disposing of waste water to return it safely to the environment. In its one hundred and fifty years, the company has left a unique trail of industrial buildings, water tanks, pipelines and corporate headquarters, illustrating its close links with development of districts within its metropolitan area, and, above all, its inhabitants. These links benefit society in many ways, ranging from educational work on the value of water and its management, to providing assistance programmes for low-income families, so that no one is at risk of their water supply being cut off. Aigües de Barcelona also supports cultural initiatives and heritage protection.

Aigües de Barcelona was established along with the expansion of modern Barcelona

Barcelona's mid-nineteenth century regeneration project compounded many of the city's needs. Urban reform responded to social and public health emergencies in a city with a dense population and recurring health problems. At that time, citizens used water from city wells (which were running out and contaminated by cesspits and industrial waste from local factories), or from water fountains, via a precarious municipal water system which also reached important government buildings and wealthy households.

In 1854 the city walls began to be demolished, and in 1859 the Cerdà Plan was approved. The plan allowed the city to grow in an organised grid structure, with all the planned housing, facilities and services of a functional and hygienic modern city. As clean water was considered essential for health, and demand rose, multiple supply companies emerged, availing of the deregulation of water concessions (1866 Water Law. Among them was the Compagnie des Eaux de Barcelone, founded in Liège, with Franco-Belgian investment. Within a few years many water supply companies crowded to the city, and by the end of the late 19th century, Societat General d'Aigües de Barcelona (SGAB) prevailed. The company had been established in 1882, following on from Aigües de Barcelona, and with contributions from Societé Lyonnaise des Eaux et de l'Éclairage.

Its importance in the city was evident in 1904, when the Torre de les Aigües (Tibidabo Water Tower) was inaugurated. Today, the water tower is still a unique feature of Collserola hillside. It sits at the highest point of the city, and ensured water got to anywhere in Barcelona at the correct pressure.

The current headquarters of Aigües de Barcelona, is in Collblanc, a glass-shaped building opened in 2007. It includes a laboratory and the operational control centre, and is considered a world reference in the management of complex water networks. It is from here that the network is coordinated, and managed.

An internationalized model covering the whole water management cycle

From the 1980s onwards, Aigües de Barcelona's experience and capacity for innovation in water supply meant it was managing drinking water in more than three hundred municipalities throughout Catalonia, as well as other regions in Spain. This included drinking water treatment plants (ETAP) and Wastewater Treatment Plants (WWTP). This expansion was carried out through the Agbar group (now part of the Suez group), which saw a great growth in international business in the 1990s in Europe, and especially Latin America. Aigües de Barcelona, the Metropolitan Company for the Complete Water Management Cycle, has a 4,600-kilometer network of drinking water pipelines, 77 large storage tanks, 6 ETAP and 7 WWTP, with which it supplies drinking water to close to three million inhabitants in

23 municipalities in the city, as well as managing wastewater purification in 40 towns. As already mentioned, this is a company present throughout the entire water management cycle, this limited natural resource, and an example of what future collaboration between administrations and private enterprise should be: public-private management.

ROCA, ONE HUNDRED YEARS OF EVOLUTION AND INNOVATION

Roca has taken advantage of its centenary celebrations to reflect on the keystones of achievement which have brought it to this great event, something very few companies can boast nowadays. The review of its history, and opinions collected from more than a hundred professionals linked to the company (workers, architects, designers, distributors, etc.) agree that the key to its success is monitoring the values of entrepreneurship, trust, independence and the long-term vision that led the Roca family to launch a new project at the beginning of the 20th century.

In the field of industry, these values translate into large scale production, with high quality standards on a world-wide scale, and also constant investment in innovation and technology, which on numerous occasions has led to developing solutions and own work methods. This spirit marked the rebirth of the company when a new generation of the Roca family decided to refocus its traditional business and move from the assembly and repair of steam engines, which had been in continual decline due to the arrival of electricity, to the production of radiators for domestic heating, a market which was little known in Catalonia at the time.

Specializing in home comfort

The launch of radiators and boilers is framed in a context of people migrating from rural areas to new urban centres, and the demand for products that could improve the quality of life, and provide families with home comfort.

Another demand was improvement in personal hygiene, and the concept of bathrooms being key spaces in new homes. So, the Roca family began to think about producing bathtubs and cast iron enamelled bathroom fixtures (1926). This was technologically challenging, but it was an area where they could apply their knowledge of cast iron. The main difficulty lay in the enamelling process, but Roca was able to find a lead-free solution which was only 4mm thick, and would also retain whiteness of the piece. The American Radiator & Standard Sanitary Corporation, a collaborating company, recognised the quality of the enamel, and used it for production in the United States.

Roca's alliance with the American company introduced quality standards, hitherto unknown in Spain, as well as new commercial and advertising techniques, also key to the company's progress during its first decades.

The Roca family's enterprising and ambitious spirit led them to expand their range of products, and their decision to manufacture bathroom suites in vitrified porcelain marked how the company has evolved to the present day.

Progressively specializing in this new collection of products meant that Roca was able to address the spike in demand during the Spanish building boom.

Its own industrial design centre

The market for bathroom fixtures grew quickly and then levelled out. Once personal hygiene and functionality were satisfied, users looked at other aspects, such as design and sustainability. Roca was also a pioneer in these fields, through two new breakthroughs that would define the quality of its offer to this day. On one hand, their commitment to controlling water consumption by reducing the size of toilet tanks. This later led to the pioneering innovation of dual-download technology, among other ideas. On the other hand, the department of industrial projects became an industrial design department, initially called "new models" (1964), which focused on strategic renewal through product design. All in all, the company was able to maintain their coordination and production capacity and continue serving a construction sector that never ceased to grow.

The 1970s saw the opening of new factories throughout Spain (Alcalá de Guadaíra, Burgos, Cortes ...), as well as producing ceramic tiles and the start-up of the first subsidiaries in Portugal and France. This was the starting point of an international expansion strategy that fully developed between the end of the 20th century and the beginning of

the 21st century. The policy was to acquire new production plants in the main emerging economies world-wide (Brazil, Russia, China and India, and their areas of influence) with the aim of selling to large markets by manufacturing locally.

TREMP ICE FACTORIES THROUGHOUT THE TWENTIETH CENTURY (1912-1975)

Around 100 years ago, industrialization reached the region of Pallars Jussà with the help of the company Barcelona Traction, known as 'The Canadian'. Until then, agriculture and livestock farming was the economic base of the region. One type of pre-industrial business was the production of natural ice through snow and ice houses.

Production of natural ice in the Pallars Jussà region

Pallars Jussà had several ice and snow houses throughout the region. The Pui de Lleràs and Serra del Boumort snow wells are found in the highest mountains in the region. Notable towns with ice wells along the ravine included Tremp, Talarn, Palau de Noguera, Sant Martí de Canals, Llau del Xírol (Fígols), Montsec d'Ares, and others mentioned in literature on the region. However, remains of wells in Vilamitjana, Conques, Bastures or other towns have not been confirmed. It can be assumed that each town had its ice house, since the region has many shaded areas with countless ravines and streams. Finally, it is worth mentioning the cave or ice pit in Montsec de Rúbies.

The industrialization of Catalonia included a short period of ice and snow wells and ice factories; however, at the beginning of the 20th century, natural ice production disappeared forever. It had gone from a successful business to a bad business when compared to the production of industrial ice in factories in the centre of large cities. Here production was faster, so they could produce more ice which could be quickly transported to retail outlets. Eventually, the production of natural ice was abandoned in favour of factory production.

Tremp ice factories

Tremp had most of the ice factories in the area. This was because of a law passed in 1925: Regulation and nomenclature of uncomfortable, unhealthy and dangerous establishments. This law was subsequently reformed in 1961, and replaced by Regulation of annoying, unhealthy, harmful and dangerous activities. Factories located in urban areas implicitly impacted the process of industrial change; the urban landscape in Tremp was transformed, and this is demonstrated by the fact that there is a street called Carrer Indústria which, at the beginning of the 20th century, was the industrial axis of the town. It included factories producing soap and bleach, Aleix ice factory, a plaster factory, and an electrical plant.

In the 1960s, Tremp had a population of 4,667 and the legislation permitted fishmongers to operate without a refrigeration room on the premises, or if they had one, it was small. The 1961 regulation established that new butcher and fishmonger businesses, in areas of more than 10,000 inhabitants, had to have fridges by law. Despite this, the Tremp town council established a regulation on fish and meats in the Municipal Code of Ordinances in 1923.

Transport and distribution of ice

The production of artificial ice for sale to the general public was transported and distributed in Tremp and the smaller neighbouring towns. One of the most important aspects of transporting and distributing ice to homes was the handling of the ice, and this was subject to council regulations.

Despite having a small transport and distribution network, the biggest problem was transportation outside the region, since roads were not built until the arrival of 'The Canadian'. Thus, the difficulty, or rather the impossibility, of establishing a transport network

for fish coming from the fishing zones is unsurprising. It was not until the arrival of the Lleida-La Pobla de Segur railway line, in 1951, that there was a regular freight line. By road, Minera Industrial Pirenaica, SA (MIPSA) was the main transport company.

The end of the ice factories

Between 1970 and 1975, the arrival of the first electric fridges led to the disappearance of this type of industrial ice production. It had lasted less than 100 years, a short time

when compared to the long tradition of natural ice production in the Pallars Jussà region, with its snow and ice houses. In Tremp, the premises of all these small ice factories have been redeveloped over time to give them other uses or to modernize the facilities, leaving no trace, all except for the Resa ice factory, which still conserves its structure and ice store, as well as the counter top and water channels.

EL MOLINO AND LA REDONDA: TWO CASES OF RECOVERY OF INDUSTRIAL BUILDINGS IN SANTA FE, ARGENTINA.

Santa Fe, the Argentine city of Santa Fe province has had interesting cases of government funded building recovery, clearly benefiting citizens. On a municipal level, there are two interesting cases. The first is the General Manuel Belgrano railway station, which gradually deteriorated after its closure in the 1990s (a tragic period for the Argentinian railway system). Today the station has reopened as an exhibition centre and council offices. The second is a private flour mill in the city's port, ("Molino Marconetti", an impressive brick building from the end of the 19th century), which after being abandoned for decades was acquired by the city council and recently became the Metropolitan Art Centre and headquarters of the Liceo Municipal (School of Arts).

The provincial government backed two projects presented in this article. The first is a flour mill called "El Molino. Cultural factory", and the second, the recovery of a railway workshop - "La Redonda. Art and daily life". Both are examples of the region's modernization process which took place during the second half of the 19th century. This followed along two interconnected lines: the first was social, involving the reception and integration of the European immigration; the second economic, and concerned with the introduction of the railroad. Both projects are examples of urban regeneration (therefore not pursuing what is conceptually a restoration). The original structure of El Molino has been modified to a greater extent, with contemporary architectural features. It is also worth noting that both projects, inaugurated in December 2010, are part of an integrated program called "Triptych of Imagination", run by the province's Ministry of Innovation and Culture. The aim is to promote creative, playful activities for children and young people and foment social integration.

CA L'ANDAL AND THE "FUNDICIÓN GRIS" SIDE-BY-SIDE FOR OVER A CENTURY

Ca l'Andal farmhouse and the former "Fundición Gris" are located in the Bufalà district of Badalona, at the intersection of Avenue Martí Pujol and the bridge on the C-31 road. Both buildings coexist on the same estate, which is council owned, and in recent years the council has been forced to turn its attention to it in response to demands from the local community.

Ca l'Andal farmhouse and "Fundición Gris" are closely related to each other. Ca l'Andal was known locally as Casa del Delme, and the existing building was constructed around the 15th century, probably on the site of earlier buildings which can be traced back to the Roman era. It was used as a tax collection office for the Chapter of the Cathedral of Barcelona in Badalona. Among the various taxes collected were tithes (10% of each crop), and first-fruits, which was a tax on the year's profit obtained from the first harvest. The numerous taxes collected by Casa del Delme led to the construction of a barn, a shed and some wine presses, in other words, large storage facilities. Casa del Delme remained the property of the Chapter of the Cathedral of Barcelona until 1841, when it was confiscated by Pascual Madoz, and sold together with other ecclesiastical goods.

Both the farmhouse and the factory are two very important landmarks of Bufalà's local history. Unfortunately, the 1960's immigration boom led to the uncontrolled growth of Badalona and many farmhouses were demolished in order to make way for new, large scale housing developments. Among them was the farmhouse that gave the neighbourhood its name, and presently less than half a dozen farmhouses remain. Today, Ca l'Andal and "Fundición Gris" are an oasis within the urban structure of a traditionally working-class district. Currently, the local community is asking the Badalona City Council to recover both the farmhouse and the factory so they can be used as a cultural centre, which has been much needed for over forty years.