

“LA FABRIL” RESISTENCIA’S INDUSTRIAL HERITAGE: RE-FUNCTIONAL CHANCE AND  
MANAGERIAL CHALLENGE

*Original*

“LA FABRIL” RESISTENCIA’S INDUSTRIAL HERITAGE: RE-FUNCTIONAL CHANCE AND MANAGERIAL  
CHALLENGE / Mele, Caterina; Piantanida, Paolo. - In: TEMA. - ISSN 2421-4574. - ELETTRONICO. - 6:2(2020), pp. 62-  
72. [10.30682/tema0602f]

*Availability:*

This version is available at: 11583/2863585 since: 2021-01-19T19:51:59Z

*Publisher:*

ArTec Edicom Edizioni

*Published*

DOI:10.30682/tema0602f

*Terms of use:*

This article is made available under terms and conditions as specified in the corresponding bibliographic description in  
the repository

*Publisher copyright*

default\_article\_editorial [DA NON USARE]

-

(Article begins on next page)



TEMA

Technologies  
Engineering  
Materials  
Architecture

Journal Director: R. Gulli

e-ISSN 2421-4574

**Vol. 6, No. 2 (2020)**

Issue edited by Editor in Chief: R. Gulli

Cover illustration: The west grandstand of the Flaminio Stadium in Rome, by P.L. and A. Nervi.  
© Archivio dell'Ufficio Beni Storici Culturali e Documentari, CONI, Rome

Editorial Assistants: C. Mazzoli, D. Prati



e-ISSN 2421-4574

**Vol. 6, No. 2 (2020)**

Year 2020 (Issues per year: 2)

### **Journal Director**

Riccardo Gulli

### **Scientific Committee**

#### *Construction History and Preservation*

Santiago Huerta, Antonio Becchi, Camilla Mileto, Amedeo Bellini, Stefano Della Torre, Alberto Grimoldi, Claudio Varagnoli, Tullia Iori, Antonello Sanna, Renato Morganti, Giovanni Fatta, Marco Dezzi Bardeschi, Corrado Fianchino

#### *Construction and Building Performance*

Matheos Santamuris, Francisco Javier Neila González, M. Hyle, John Richard Littlewood, Gianfranco Carrara, Riccardo Nelva, Enrico Dassori, Marina Fumo

#### *Building and Design Technology*

Maurizio Brocato, José Luis Gonzalez, Emilio Pizzi, Francesco Polverino, Raffaella Lione, Angelo Salemi, Giorgio Cacciaguerra, Enrico Sicignano, Antonella Guida

### **Editor in Chief**

Riccardo Gulli

### **Assistant Editors**

Marco D'Orazio, Annarita Ferrante, Enrico Quagliarini

### **Editorial Assistants**

Cecilia Mazzoli, Davide Prati

---

### **Scientific Society Partner:**

Ar.Tec. Onlus

c/o DICEA, Università Politecnica delle Marche,

Polo Montedago, Via Brecce Bianche 12

60131 Ancona - Italy

Phone: +39 071 2204587

Email: [info@artecweb.org](mailto:info@artecweb.org)- [tema@artecweb.org](mailto:tema@artecweb.org)

### **Media Partner:**

Edicom Edizioni

Via I Maggio 117

34074 Monfalcone (GO) - Italy

Phone: +39 0481 484488

**TEMA: Technologies Engineering Materials Architecture****Vol. 6, No. 2 (2020)**

e-ISSN 2421-4574

**Editorial****Bridging over bridges' sources problems***Tullia Iori*

DOI: 10.30682/tema0602i

5

**CONSTRUCTION HISTORY AND PRESERVATION****“Structural fantasies” in 20<sup>th</sup> century architectural heritage:****The forgotten works of Enrico Castiglioni***Ilaria Giannetti*

DOI: 10.30682/tema0602a

8

**The use of “structural prefabrication” in the Flaminio Stadium by Pier Luigi and Antonio Nervi.  
A technical-constructive study aimed at formulating guidelines for a future conservation plan***Rosalia Vittorini, Rinaldo Capomolla*

DOI: 10.30682/tema0602b

20

**Italian building models in the 1950s. the Agip motels***Giorgia Predari, Riccardo Gulli*

DOI: 10.30682/tema0602c

31

**Designed for machines. Italian bridges and viaducts (1965-1990)***Gianluca Capurso, Francesca Martire*

DOI: 10.30682/tema0602d

42

**Methods and instruments for prefabricated housing refurbishment: the French case (1960-70)***Angelo Bertolazzi, Agata Maniero, Giorgio Croatto, Giovanni Santi, Umberto Turrini*

DOI: 10.30682/tema0602e

52

**“La Fabril” resistencia’s industrial heritage: re-functional chance and managerial challenge***Daniel E. Vedoya, Claudia A. Pilar, Caterina Mele, Paolo Piantanida*

DOI: 10.30682/tema0602f

62

**H-BIM objects for modern stone facing. Genesis and informative contents for the shell of the station of Messina**

*Alessandra Cernaro*

DOI: 10.30682/tema0602g

73

**Operational atlas of exposed mortars and conglomerates for interventions on the widespread architectural heritage**

*Sara Fasana, Marco Zerbinatti, Alessandro Grazzini, Federico Vecchio*

DOI: 10.30682/tema0602h

85

# “LA FABRIL” RESISTENCIA’S INDUSTRIAL HERITAGE: RE-FUNCTIONAL CHANCE AND MANAGERIAL CHALLENGE



e-ISSN 2421-4574  
Vol. 6, No. 2 - (2020)

Daniel E. Vedoya, Claudia A. Pilar, Caterina Mele,  
Paolo Piantanida

DOI: 10.30682/tema0602f

## Highlights

The history of *Fabril Financiera* and industrialization in Resistencia. The relationship between people and industry settlements: outlining work, progress and social issues through chronicles and history. The difficult management of industrial heritage in a value growing context. The first project (Galdeano et al.) to save the Fabril district. The role of the people’s feeling and actions. Public intervention and the present situation. The challenge of managing industrial heritage in a context of economic crisis. Lessons for the future.

## Abstract

The *La Fabril Financiera* oil factory, founded by Juan Rossi in 1888, became a pioneer factory in the production of furfural oil. In 1919 it was acquired by the *Compañía General de Fósforos* and in 1920 by the *Compañía General Fabril Financiera*, becoming one of the most important industrial companies in the region. When “La Fabril” closed, the abandonment began: at the beginning of 2009, the official decision was made to demolish the complex to build a housing district, but a popular movement was organized to demand the preservation of the buildings, which motivated the Authorities to review their intentions and find a better solution to the need of the people of Chaco people.

## Keywords

Industrial heritage, Housing districts, Urban regeneration, Building renewal.

## Daniel E. Vedoya

*FAU - Facultad de Arquitectura y Urbanismo, Universidad Nacional del Nordeste, Resistencia, Chaco (Argentina)*

## Claudia A. Pilar

*FAU - Facultad de Arquitectura y Urbanismo, Universidad Nacional del Nordeste, Resistencia, Chaco (Argentina)*

## Caterina Mele

*DISEG - Dipartimento di Ingegneria Strutturale, Edile e Geotecnica, Politecnico di Torino, Torino (Italy)*

## Paolo Piantanida

*DISEG - Dipartimento di Ingegneria Strutturale, Edile e Geotecnica, Politecnico di Torino, Torino (Italy)*

\* Corresponding author:  
e-mail: [paolo.piantanida@polito.it](mailto:paolo.piantanida@polito.it)

## 1. THE INDUSTRIAL PAST OF THE CHACO PROVINCE (AR)

In Argentina, the interest in industrial heritage began in the 1980s, expressing itself mainly through local and inhomogeneous policies and initiatives. Because of its industrial past, Chaco has many buildings of historical and architectural interest: despite public intention to protect the cultural and material values of the abandoned industrial complexes, not much progress

has yet been made in the identification and regulation of protected areas or even in the definition of standard intervention criteria to promote the conservation and enhancement of historical complexes. An emblematic case of this incoherence is the chimney of the *Forestal* factory, a large complex located in the city of Fontana, in the metropolitan area of the Grande Resistencia. The

Decree by Law No. 1130 of 2002 declared this building “the Province of Chaco’s Cultural Heritage”, but despite this, it risked being demolished in 2006: only strong intervention by the NGO *Memorias de Nuestro Pueblo* prevented the demolition [15].

Chaco’s industrial heritage originated at the end of the 19<sup>th</sup> century when the main production activities shifted from agri-pastoral to industrial thanks to Argentine national policies that favoured the arrival of immigrants, many of them of Italian origin. French and German companies discovered the properties of tannin extracted from Quebracho wood for tanning leather and, at the end of the century, the 1895 census showed [18] that the settlements and cities with the highest demographic growth were those where the industrial plants had settled: Resistencia, Barranqueras, Colonia Benítez and Las Palmas, although at that time in history, Chaco’s industry consisted mainly of distilleries and sugar mills. To give an idea, the capital invested by the companies of Las Palmas and Svea accounted for 86% of the total investments in the Chaco region, with their factories occupying an area of 29,619 square hectares. During the sugar cane harvest, the workforce required absorbed 20% of the active population. In the years that followed, Chaco’s grew in line with the Argentine national ratios, tripling the number of industrial plants in just thirteen years (from 44 plants

in 1895 to 144 in 1908). During that same period, the number of industrial workers rose to 3,171 in 1908, from 273 in 1895. The initial activities were gradually joined by oil production from different types of seeds, and the extraction of tannin from Quebracho. Industrialization was supported by massive inflows of foreign capital, mainly Belgian, French, German, English and American, and partly from the Buenos Aires region. It was also favoured by the extension of the railway line (Ferrocarril de la Provincia di Santa Fe) to the North East regions.

At the end of the First World War, market demand for Chaco’s products changed: the main buyer was no longer England but the United States and Belgium, with a decrease in demand for tannins.

Chaco underwent another important expansion of its industry between 1930 and 1935. In 1935, the national census data indicated the presence in the region of 1.13% of the national industrial settlements, 1.35% of the employees and 1.66% of the installed motive power. The economic crisis of 1929 caused a worldwide collapse in export demand, so the industry market re-oriented itself towards domestic targets, where production was stimulated by the production of textiles such as cotton, food production and the oil industry, perhaps the most characteristic element of provincial production. The events of *La Fabril Financiera* began in this context.



Fig. 1. *Compañía General Fabril Financiera, Resistencia*. This aerial view goes back to the Forties. It was taken by the famous photographer Pablo Boschetti.

## 2. OUTLINING THE “FABRIL FINANCIERA” HISTORY

At the beginning of the twentieth century, the major industrial activity in the city of Resistencia and the AMGR (Resistencia metropolitan area) was based on the transformation of local agricultural produce, as the Chaco province was and still is predominantly agricultural.

In fact, the leading industrial activities were linked to the transformation of agri-forestry products, particularly the extraction of tannin from the Quebracho and the production of various seed oils.

The industrial complex, now known as “La Fabril”, was established in 1888, at the behest of Juan Rossi, an Italian immigrant who, just ten years after the foundation of Resistencia, planted a sawmill which was then converted to the processing of vegetable oils, pioneering the local production of castor, peanut and cotton oils.

In 1919, Compañía General de Fósforos purchased the land located in a site called “La Liguria”, near the town of Barranqueras, to build a factory there. A year later, the President of Compañía General Fabril Financiera was the Italian Earl Antonio Devoto, assisted by Víctor Valdano as Head Engineer. They decided to purchase the Compañía General de Fósforos plant together with the land around it, transforming the unit into one of the most important manufacturing companies in the region. The



Fig. 2. Mandiyu cottonseed oil, Thirties colour advertising.

area was ideal for the establishment of large-scale industrial activities, largely due to the efficiency of the communication routes, with the convenient railway network and the proximity of the Paraná River.

Seven years later, the General Manager Don Julio de Nicola, an eminent citizen of Resistencia, began building the large industrial complex that we see there today; in 1928, the San Fernando Oil Mill, formerly owned by Eugenio Varela, was added (Fig. 1): the seed oil produced was sold all over the country under the Mandiyu brand

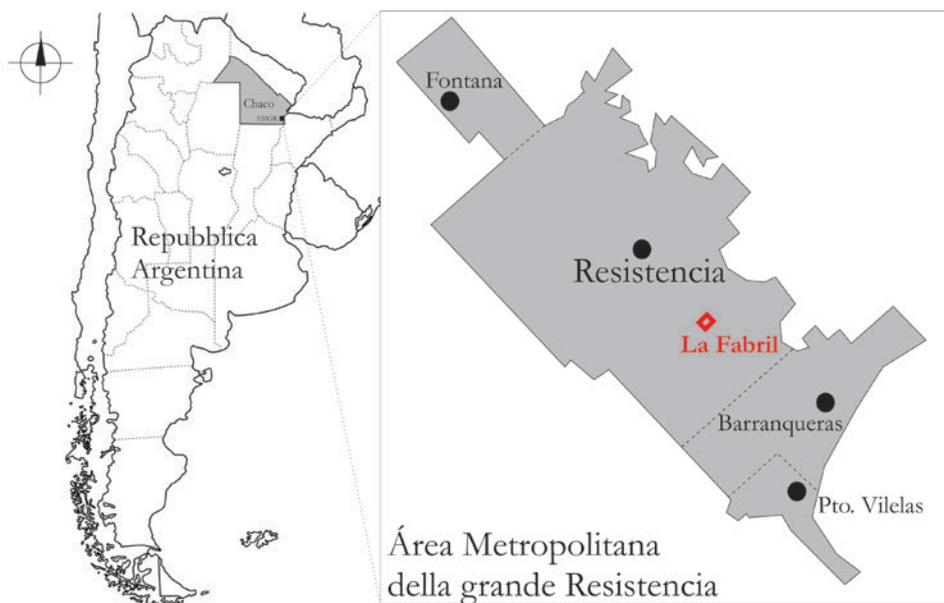


Fig. 3. Left: map of Argentina Republic; right: the metropolitan area of the “Grande Resistencia” (AMGR). Resistencia is the capital of the Chaco Province, located in the northern part of Argentina (left); the complex of “La Fabril” is within the AMGR area, towards the city of Barranqueras (right).

(vintage advertising in Fig. 2), and the operation continued for decades.

This industry gave work to thousands of Chaqueni for many years and was a true driver of progress and development. Today, however, the entire industrial area located between Resistencia and Barranqueras is almost completely abandoned, and the future looks vague. Together with other heritage sites closely related to the history and culture of Chaco, these former industrial areas are linked to the production chain and to railway development. They bear witness to the complex social processes that determined the human and economic aspects of local idiosyncrasy [13].

### 3. RESISTENCIA AND ITS METROPOLITAN AREA

La Fabril's location and its impact on the territorial system would be unexplainable without understanding the genesis and structure of the city of Resistencia.

Capital of the province of Chaco, in the North of the Argentine Republic, the city is the hub of the Metropolitan Area of Grande Resistencia (AMGR), which also comprises the municipalities of Barranqueras, Puerto Vilelas and Fontana, covering a total area of 33,578 hectares. Other places are related to its economy too, despite being separated by extensions of non-urbanized land: Puerto Tirol, Colonia Benítez and Margarita Belén. The location of the Chaco Province in the Argentine Republic and the AMGR, consisting of the four locations mentioned, is shown in Fig. 3: *La Fabril Financiera* is highlighted in red, towards Barranqueras (where the port is located), but still within the town area.

Resistencia is on the river Paraná floodplains, an area very rich in water which also comes from tributaries of the Paraná such as the Río Negro and the Riacho Arazá. The climate is warm without dry season, with an average annual temperature of 21 °C. Mean summer temperatures exceed 25 °C and the maximum temperature can be over 43 °C. In winter, average temperatures exceed 10 °C and the minimum temperatures are rarely below 0 °C. Average annual rainfall amounts to 1,300 mm: however, the Chaco province is characterized by

the alternation of drought weeks, and heavy rains with floods and these morphological and climatic characteristics favour its predominantly agricultural and forestry vocation.

#### 3.1. ORIGIN OF THE TOWN

Between October 1875 and March 1876, at the time of the presidency of Nicolás Avellaneda, a Commission was appointed to explore and assess places for a possible foundation of new settlements, including the area where the ancient mission of San Fernando del Río Negro had been active from about 1750 to 1774. At that time, an accident suggested the name for the new colony to be founded in this area. On February 6<sup>th</sup>, 1876, the Chief of the Chumpies broke the agreement between the Aborigines and the Exploration Commission and attacked a village near the forest. The settlers and surveyors resisted the attacks nearby the home of Colonel J. M. Avalos: in memory of this, the new settlement took the name of "Resistencia".

Resistencia, together with Formosa, is one of the seven cities that were founded in implementation of the border areas defence policies that were implemented in 1878, at the end of the war with Paraguay and Brazil [11]. The birth of the city of Resistencia also came about due to the project to install a Government bridgehead in the Chaco territory and to encourage contact with the urban centres of Western Argentina [7].

What is now the town centre was originally the entire urban area and is based on the orthogonal territorial planning typical of the American colonies. Marked out by national surveyors in around 1882, the orthogonal grid was applied to the town territory without any consideration for the geological and hydrological characteristics of the area, rich in forests and lagoons. It was thought that the lagoons could and should be filled in and that all the geomorphological disadvantages could be overcome by dominating nature with the human intervention [11]. The consequences of this underestimation of the natural characteristics of the site resulted in numerous hydrogeological instabilities, in relation to the water regime and land drainage. Subsequently, all the lagoons were reclaimed and built upon them.

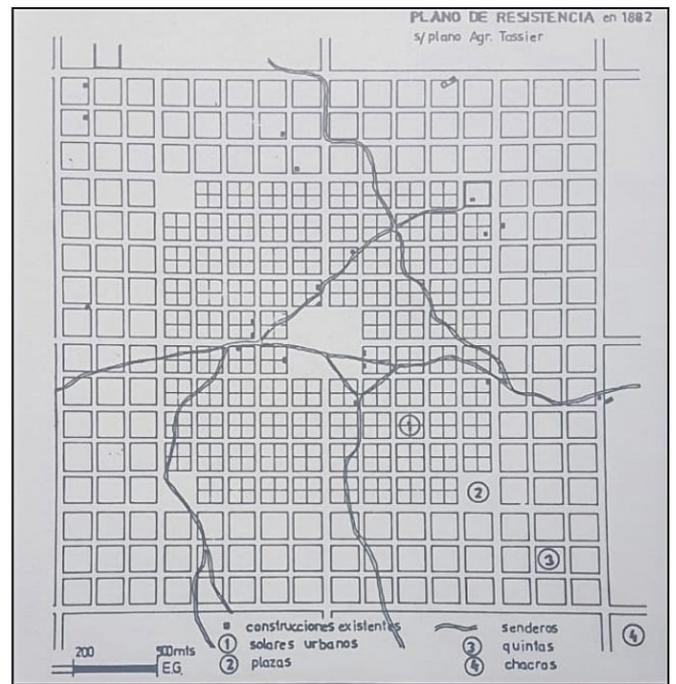
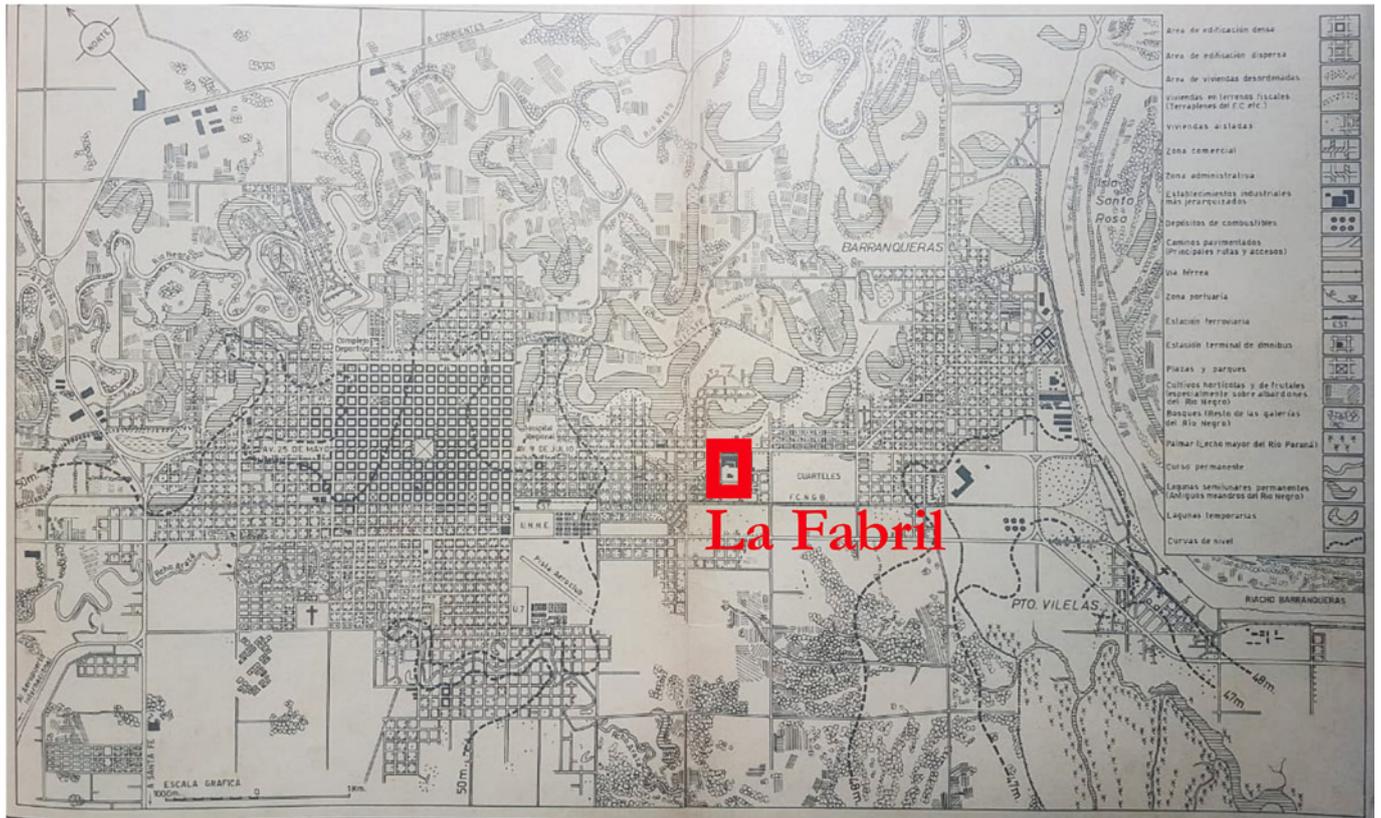


Fig. 4. Resistencia, old town planning scheme (1882) [11]. Top left: Resistencia old town (1882) with the future location of “La Fabril” factory (in red) within AMGR; top right: old town scheme; bottom: map of the City of Resistencia (1978) and its conurbation of nearby locations [6]: it is obvious the huge growth of the city and the persistence of the regular planning scheme.

The Immigration and Colonization Law of 1876 favoured the entry of various contingents of immigrants, one of which consisted of about 60 families from Udine (Italy). They landed in the port of San Fernando, above

the Rio Negro, in 1878, intending to settle in the Colony of Resistencia. Afterwards, the city expansion was stimulated by the railways’ construction and by initial industrialization financed by foreign capital, mostly from Eu-

rope. The original area, built up in square blocks within an orthogonal map of 400 ha of gross surface and 256 ha of the net land surface, soon began to grow: The rigorous and geometric layout of the city began to be altered by more disorganized and less organic forms.

Fig. 4 shows the map of Resistencia as it was in around 1882 in comparison with the city expansion in the conurbation area updated to 1978. The area occupied by La Fabril Financiera is also outlined in red. Its location on one of the city’s main roads (Av. 9 de Julio) is of particular interest, as it strongly links the city of Resistencia with other towns in the Metropolitan Area such as Barranqueras and Puerto Videlas. This road also connects Resistencia to the neighbouring capital of the Province of Corrientes. The area’s strategic location generates high speculation about the destination and use of the nearby allotments.

Considering the whole AMGR area, population growth has been constant since its foundation, as can be seen in the following data:

census	1895	1914	1947	1960	1970	1980	1991	2001	2010
population	2,187	8,387	64,700	108,287	142,848	220,104	292,287	359,590	385,726

**Resistencia today**

According to the 2010 socio-economic census, the city of Resistencia now has 290,723 residents within a province of 1.06 million inhabitants. In the last 40 years, the city has undergone dizzying population growth, tripling the number of people and requiring considerable urban expansion. This has been facilitated by the reticular orthogonal grid. The original blocks measuring 100×100 metres (which are part of a modular progression of 1000 × 1000 metres) have been extended into the surrounding rural areas. This implicitly suggested the continuation of the chessboard and has given rise to a sort of an “automatic” and unaware form of territorial planning that has tidily self-modulated the natural growth of the city. The only exception has been the progressively included lagoon areas, which still breaking away from the regular mesh of the city [5].

Currently, the urban area is divided between 55% residential and 30% public space (streets, squares, etc.),

while industrial activities occupy less than 10% of the urban area, the bulk of manufacturing companies being located in the outlying areas of AMGR. The service industry (administrative and financial offices etc.) is located in the centre, occupying 2.74% of the territory, with commerce occupying around 1.65% and public gardens and green areas around 1.1% [19].

**4. PROJECTS FOR “LA FABRIL” AND THE PRESENT SITUATION**

When La Fabril ceased production, the whole complex underwent a period of abandonment and degradation. The four hectares of land are located in a central part of the metropolitan area, at number 2800 Av. 9 de Julio with buildings occupying a total of 10,000 square metres.

In 1974, Galdeano, Cayré, Salas, Escobar Pazos de Salas and Viain architects proposed one of the first plans to reuse the existing buildings for various purposes (residential, leisure and commercial) and the construction of new homes, all through a company named *Sucesión de Arturo Inocente*.

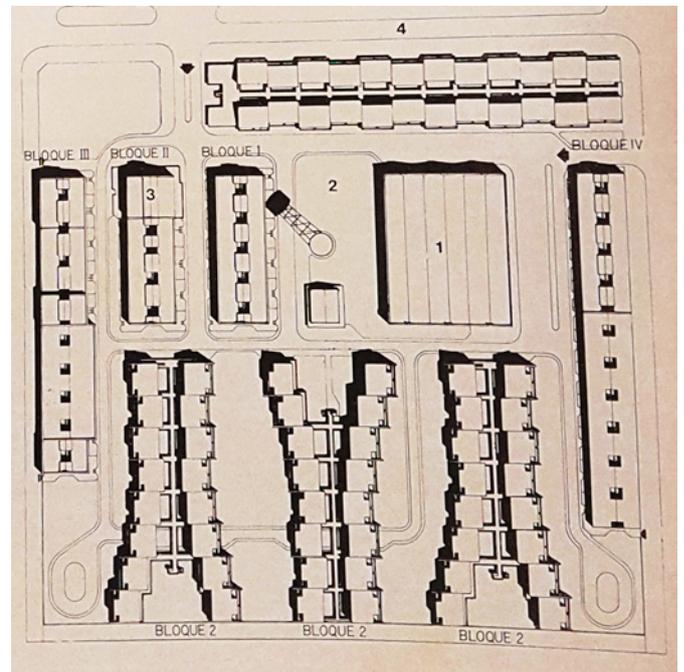


Fig. 5. Galdeano, Cayré, Salas, Escobar Pazos de Salas and Viain architects: Masterplan (1974). The project contemplated the remodelling of four existing blocks for residential purposes. Part of Block II, originally used as a machine room, was allotted to a micro-cinema, a choperia, a restaurant with expansions and terraces, and entertainment venues.

According to the authors' descriptive report "in an area of almost four hectares occupied by constructions once destined for industrial use, this housing complex is under construction. In addition to proposing new blocks of housing, it refurbishes part of the obsolete, semi-destroyed constructions, making the most of their possibilities, with the consequent economy. In this way, structures that were considered abandoned are revitalized and formally and functionally recovered" [9]. This project included 306 homes (based on the refurbishment of existing buildings and the construction of new ones), 14 commercial premises, a supply centre, children's playgrounds and service equipment. The design responds to respect for the built heritage and the proposal of a singular way of life, with internal semi-public streets strengthening the community idea of having their own place to live (Fig. 5).

The project contemplated the remodelling of four existing blocks for residential purposes. Part of Block II, originally used as a machine room, was allotted to a micro-cinema, a *choperia*, a restaurant with expansions and terraces, and entertainment venues. Unfortunately, this project never went ahead.

A supermarket (with warehouse and parking) was proposed for another of the existing warehouses, and

the buildings located on Av. 9 de Julio were proposed for mixed-use: the ground floor for shops, chemist's, post-office, bank, office premises etc., with duplex housing on the first and second floors.

Other kinds of housing were proposed to the rear. They formally and functionally reinterpreted the existing typologies. They added innovative elements for public, semi-public and private use, with footbridges on the first floor [9], proposing the interesting idea of vehicle traffic with some *cul-de-sacs* and some passages under the buildings.

The remodelled houses were to be built in the existing blocks of the old factory, adapting smoothly to the variable modulation of the existing buildings. Access to the duplex homes was through their own garden, with the living room, dining room and kitchen on the lower floor. The upper floor housed the bedrooms and bathroom and a service patio favouring cross ventilation, beneficial in the hot-humid climate of the region (Fig. 6 and Fig. 9). The project was intended to integrate perfectly into the existing structure (the warehouse and shed walls are 45 and 60 cm thick), respecting the original openings. The only additional elements were wooden balconies on the upper floor [9].



Fig. 6. Apartments integrated into the original factory (photo at the end of the works). All the openings have been respected; only wooden balconies have been added; in front of each entrance a small private garden enhances the sense of privacy.



Fig. 7. "La Fabril" Headquarters building (2018). Many buildings are in poor condition, as the main office building; they still keep in place original building details of great interest.

Unfortunately, only a small part of the proposed renovations was built, due to uncertainties on the building site. The project was way ahead of its time in terms of the revaluation of industrial heritage, economic aspects, blended uses and the fair graduation between public, semi-public and private spaces. At the beginning of 2009, the competent urban bodies decided to demolish the existing buildings to build a residential neighbourhood. Faced with the imminent destruction of an important testimony of the city's historical and architectural industrial heritage, the people took action, demanding the conservation of the buildings. This social and cultural dynamic forced the Authorities to review the situation.

The events of La Fabril industrial site were studied by the Provincial Heritage Commission, which quickly acknowledged the complex as being "of significant historical and socio-economic value for the Chaco region". Following these determinations, the Chaco province promulgated the Provincial Law no. 6422/2009, declaring the former oil mill "Historical Cultural Heritage". This also fulfilled an old request from the "Barrio La Fabril Commission" which, back in 1998, had asked the Chaco Province Heritage Commission to preserve the architectural space full of historical and social significance.

Today, some of the sheds once used for processing inorganic products have been converted to residential use, flanked by craft activities, warehouses and commercial spaces (e.g. gyms). Those who live there have devel-

oped an idea of "belonging" to the site which forms a semi-public space due to its plant layout, with circulation routes all included within the limits of the neighbourhood and, consequently, with very limited traffic. The vestiges of its industrial past remain in the form of numerous sheds, now used mainly as warehouses. The place is full of historical significance and the unique characteristics: however, as can be seen in Fig. 7, many buildings of great architectural interest are still in poor condition.

Many pavilions have now been demolished, and others are in ruins. The railways' tracks are in the immediate vicinity of the La Fabril district, with other remains of old factories, military land and a lagoon area. However, what really characterizes the neighbourhood today and has changed its face is the residential settlement (Fig. 8). On the one hand, two pavilions of the old factory have been renovated and turned into homes and, on the other, new houses have been built in the southern part of the site, while Fig. 9 shows the renovation project to transform a disused shed into residences. From the 1974 project, the refurbishing of the old factory with transformation into housing (block I and part of block II) was carried out without the leisure activities proposed in the former machine room.

The 96 new houses built in 2015 do not respect the original idea, which was intended to give a unique and special character to the urban intervention. The project implemented by the Institute of Urban Development and Housing (IPDUV) in agreement with the mutual UCP



Fig. 8. Housings in the old factory, present state (2018). The sense of individual membership and ownership is clear by the different façade colours, while the new buildings for social housings (see Fig. 10 bottom right) show no sign of individuality.

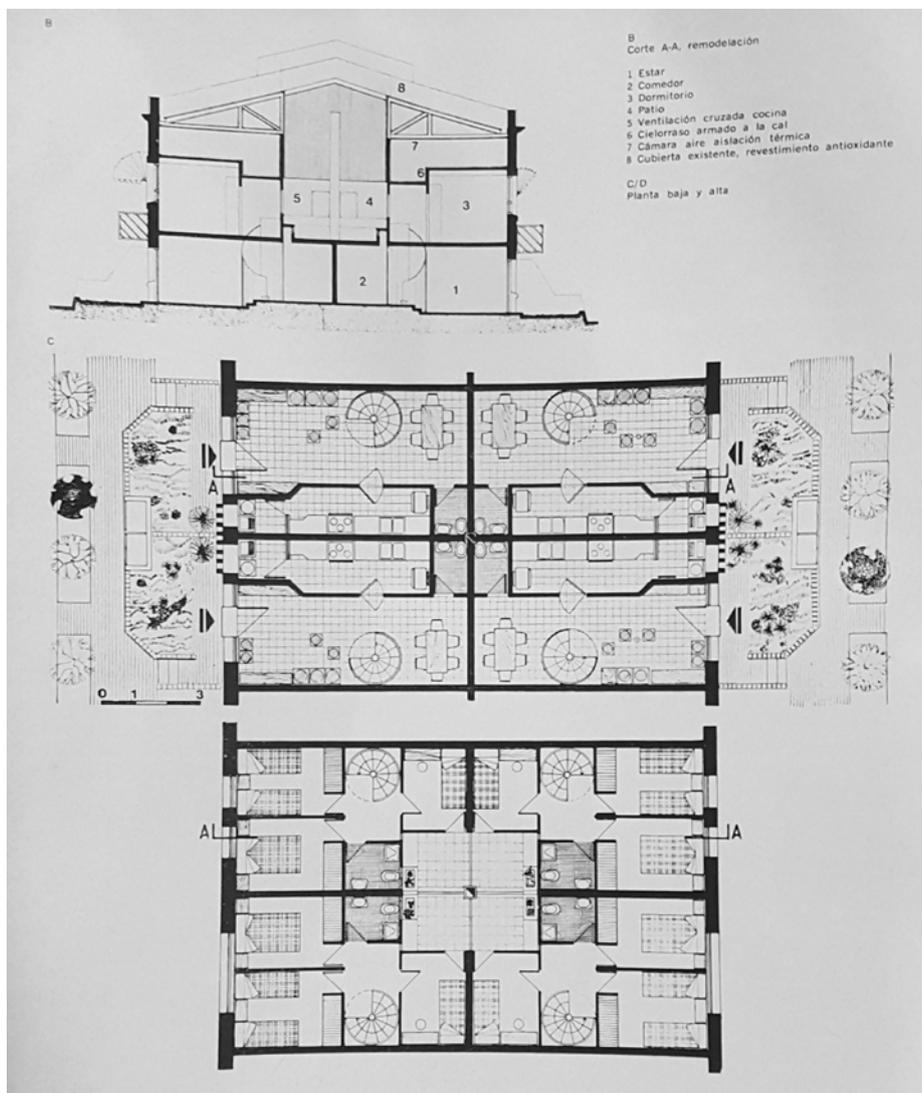


Fig. 9. Plan for residential units in the old factory buildings (1974): cross-section, ground fl. and 1<sup>st</sup> fl. Plans. The project by Galdeano, Cayré, Salas, Escobar Pazos de Salas and Viain architects divided each module of the old factory into four duplex apartments with an upper patio for cross ventilation.



Fig. 10. Left: aerial view of "la Fabril" district; top right: old factory building converted to apartments (present situation); bottom right: standardized social housings (built 2015). The social housings replicated the typology designed by IPDUV & UPCP for the Chaco Province: unfortunately, the 1974 project was abandoned.

(Personal Union of the Province) replicates the typology of social housing similar to other neighbourhoods in the city and province (Fig. 10). In this way, the opportunity to reinforce the idea of La Fabril as a unique and charming building complex in the city was missed.

Transforming a factory into a housing unit is a huge challenge, which arises from the typological differences between the two objects. However, as is usual for old industrial plants within the fabric of a city, it is one of the most attractive and necessary goals. The former suburbs are becoming the centre, and the industrial sites are currently fetching very high prices, due partly to their location on the main exit roads (Aguilar, 1998).

**5. CONCLUSIONS: RE-FUNCTIONALIZE, OPPORTUNITY OR REALITY?**

“Industrial architecture constitutes a wide field of knowledge and experience that can be viewed from a triple perspective. Firstly, as living architectural pieces that are subject to constant remodelling and reuse; secondly, as

active agents of urban transformation and, thirdly, as a historical heritage in need of cataloguing, analysis and dissemination” [20].

The destruction of a large number of industrial buildings after the Second World War led to the emergence of movements to revalue industrial heritage [1].

La Fabril is a piece of Industrial Heritage in the city of Resistencia, thanks to which the idea of “place” as the context and population identity has been formed. As Montaner states [16] “[...] a place is defined by the qualities of things, elements, by historical, symbolic and environmental values”. Individual experience is as important as a collective experience, and a “place” is more than a geographical location, more than just space, it is the tangible manifestation of human habitation [17]. Industrial archaeology aims to study material culture and the architectural, technical, social and anthropological aspects of activities related to the production, distribution and consumption of goods, the transformations of these activities over time and in socio-economic processes. The transition from the academic sphere to a broader one

with strong social implications was accompanied by the increasingly widespread concept of industrial heritage [2], going so far as to directly involve the population, as the recent history of “La Fabril” has demonstrated.

As well as having an ethical and aesthetic dimension, the recovery of the industrial building heritage is an opportunity to apply a perspective of the circular economy [14] of matter and energy. This paradigm is based on environmental principles and savings (on the consumption of matter and energy and in terms of waste generation), which is of special interest to Argentina as it continues to experience an extensive and long-lasting economic crisis. Of undoubted interest is the revaluation of the passive energy of thick walls (45 and 60 cm), avoiding the generation of excessive demolition and construction waste (DCR) by reusing everything possible [10].

The reuse and recovery of historical industrial heritage is a proactive activity with a view to enhancing the history of a local area. It is currently desirable to reuse existing structures not only for reasons of environmental and social sustainability but also for economic issues, especially in contexts of particular socio-economic fragility, such as the city of Resistencia in Chaco. All these options are characteristic of the La Fabril site: a re-functionalization respectful of the characteristics of the buildings, with adequate conservation and restoration criteria, seems an excellent opportunity to highlight this “place” as evidence of a recent past that strengthens the historical identity of the city of Resistencia. Managing industrial heritage is a challenge that involves a complex network of technical, legal, cultural, architectural and social issues. This is why it is necessary to promote social support for this type of intervention, with the participation and involvement of local residents. In the absence of effective tools for this heritage rise and preservation, and clear guidelines for reuse and recovery, important evidence of the industrial past and identity of the place risk being erased.

## 6. REFERENCES

- [1] Aguilar Civera I (1998) *Arquitectura Industrial: concepto, método y fuentes*. Museu d’Etnologia, Valencia
- [2] Álvarez-Areces MA (2008) *Patrimonio industrial, un futuro para el pasado desde la visión europea*. Apuntes 21(1): 6–25
- [3] Pérez-Beveraggi R (2016) *Las fábricas de aceites del Gran Resistencia*. Diario Primera Línea 4738: 14
- [4] Pérez-Beveraggi R (2018) *Aquellas Fábricas del Gran Resistencia*. Diario Norte, suplemento Chaqueña 2/9/2018: 7
- [5] Borges JC, Scornik C (2001) *Conflictos entre circulaciones y desarrollo potencial de la circulación peatonal en la Ciudad de Resistencia*. UNNE Secretaría General de Ciencia y Técnica, Corrientes
- [6] Bruniard E (1978) *El Gran Chaco Argentino (ensayo de interpretación geográfica)*. Geografica 4
- [7] Bruniard E (1979) *El proceso histórico y los caracteres demográficos y socioeconómicos de la Ciudad de Resistencia*. Folia Histórica del Nordeste 4
- [8] Diario Chaco (2015) *Capitanich entregó 24 departamentos en la ex Fabril*. <http://www.diariochaco.com/noticia/capitanich-entregó-24-departamentos-en-la-ex-fabril>. Accessed 21 May 2020
- [9] Galdeano E, Cayré A, Salas A, Escobar Pazos de Salas M, Viain V (1977) *Primer Complejo Habitacional de Resistencia Chaco*. Summa 114: 48–50
- [10] Glinka M, Pilar C, Vedoya D (2013) *Reducción del impacto ambiental a partir de estrategias de reciclaje y reutilización de residuos sólidos*. Ediciones del ITDAH, Corrientes
- [11] Gutiérrez R (1983) *El patrimonio Arquitectónico de los Argentinos, vol. 2: Nordeste, Corrientes, Misiones, Chaco, Formosa*. Sociedad Central de Arquitectos and Instituto Argentino de Investigaciones en Historia de la Arquitectura y el Urbanismo, Buenos Aires
- [12] Maskuppers (2015) *La fabril - Resistencia (Chaco)*. <https://youtu.be/Wqushvm8kKM>. Accessed May 21st 2020
- [13] Instituto de Cultura (2018) *Patrimonio Material Chaco: los tesoros del Chaco*. Gobierno del Pueblo, Resistencia
- [14] Kirchherr J, Reike D, Hekkert M (2017) *Conceptualizing the circular economy*. Resources, Conservation & Recycling 127: 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>
- [15] Mariño MP (2019) *Patrimonio industrial y memoria histórica como herramientas de reconversión urbana. Integración de la memoria en la planificación territorial de Fontana (Chaco)*. Paper presented at XXIII Congress ARQUISUR, Belo Horizonte, 2–4 august 2019
- [16] Montaner JM (2002) *Las Formas del Siglo XX*. Gustavo Gili, Barcelona
- [17] Norberg Schulz C (1979) *Genius Loci: towards a Phenomenology of Architecture*. Rizzoli International Publications, New York
- [18] Rugier M, Sosa MJ, Balbiano RA (2019) *Historia de la industria en la Provincia del Chaco 1884-2015*. Hesquela de Gobierno de la Provincia del Chaco, Resistencia
- [19] Scornik C (1998) *Diagnóstico Urbano Expositivo del Área Metropolitana del Gran Resistencia*. SUPCE-SUCCE, Resistencia
- [20] Sobrino Simal J (2010) *Ver y hacer ver: modernidad y arquitectura industrial en España*. Areas 29: 31–37
- [21] Tartarini J (2014) *Sobre el patrimonio industrial y otras cuestiones: escritos breves*. Lazos de Agua Ediciones, Buenos Aires