

GALÓPOLIS AND FORQUETA: VISIONS OF A REGIONAL LANDSCAPE

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ABSTRACT:

The socio-cultural context, by which the manifestations of urbanism and regional architecture occurred, in the beginning of the twentieth century, gave support to a creation possibly characterized by the attribute of "diversity" - value that builds up a system of individual significance.

It will be necessary to approach this material representations and its system's values through that which can be observed in the small, ancient laboring village of Galópolis, and furthermore in the rural Forqueta's district, nowadays a prosperous neighborhood of the city of Caxias do Sul in the state of Rio Grande do Sul in Brazil.

The work is seeking to identify a matrix by looking at the system's noticeable parts, starting from the comparison of analogous relations and through the assessment of the regional, the national, and the universal manifestations. In the case of the local landscape, as an unusual answer to the universal one, where fragments of the whole constitute the geographical units studied here.

In the typological analysis, the urban landscape's aesthetic and stylistic qualities are relevant and can be found in usage and common habits, enduring marks of a private eclecticism in Brazil, and as universal values to be preserved.

KEYWORDS: landscape, culture, local identity, industrial heritage, regional urbanism.

1 THE ARCHITECTURAL CONTEXT IN THE REGIONAL URBAN LANDSCAPE

In the beginning of the twentieth century, the socio-cultural context, originator of the manifestations of urbanism and regional architecture, gave support to a creation that may be characterized by the attribute of "diversity" as the structural value of a system of unique significance. Starting from the regional concept proposed by Pozenato (1974) and the notion of "root" by him indicated, we beggins by exploring the local, the national and other non-Brazilian's physical manifestations, and also by looking for a corresponding association in the recognition of a matrix that has meaning, and consequently, value.

In this sense, it is important to consider the notions of the universal versus the particular. To allow the discussion over regional values on a compatible scale with the complex dimension of the schemes of several domains of the knowledge, proposed by many authors in the analysis of the contemporary thought, basis for the methodology of the image's interpretation, which is also, the physically constructed universe.

As stated by Pozenato, all representations are the representation of the uniqueness. For the internal dialectics of the work: "[...] it is at the starting point that the uniqueness reaches the universality, attribute of the literary works that accomplish the objectives of the art"¹

The unique statute of a work could be defined, in stylistic terms, by a metonymic process where a part represents the whole. It seems, in effect, to be that the fundamental purpose of the work of art and also its function: "[...] to express, metonymically, the extension of the universe of the human significances."²

It would be possible to propose, therefore, that in the universe of the regional Architecture, as indicated by

¹ Pozenato, José Clemente. O regional e o universal na Literatura Gaúcha. Porto Alegre: Movimento, Instituto Estadual do Livro, 1974, p. 17.

² Idem.

Pozenato (1974), in the literary and the art's fields, such cultural manifestations are determined by an universal matrix of values. A root that appear localized as: "[...] a chosen reality, (according to ideological presumptions) and in agreement with certain conventions, (chosen according to aesthetic or stylistic assumptions)." ³

Acknowledging that premise, to the understanding of what can be read in reference to the ancient laborer village of Galópolis, nowadays a prosperous district of Caxias do Sul, it will be necessary here to approach the physical representations of this system of values and to explore their aesthetic and stylistic presuppositions starting from a relevant typological analysis.

It is understandable that *style* is a condition that works as the creative principle of different manifestations. As a form that, although passive of interpretations and variations, still follows a rule, a composition's law that is constant because, style" [...] funded on habit and conventions, [...] act as a qualifying instrument that makes the visible world legible [...]"⁴, and structures the form of realization of new formal units and of different objects.

Therefore, the objective is to identify a matrix, starting from the comparison of analog relationships, capable to associate the manifestations of the regional and the national, toward the universal. To understand the apparent part of the system, in this case the local landscape, as the unique response of an universality whilst image fragmented of the whole which configures the approached unit.

Let us proceed initially to evaluate the local case through the architectural manifestations of the historical inner space of Caxias do Sul, the city central square, as an exposed space and superior representative of values of the epoch of establishment of the village of Galópolis.

Comparing said structures it is possible to observe how it manifests, on analog ways, the presence of elements of its composition, such as the church and the central square that organize, in a similar way, the spatial relationships of those open central areas, still perceived even in more recent periods.



Figure 1 Galópolis Main Square – early XX century
Source: Casa Paroquial Galópolis



Figure 2 Dante Alighieri Square – 1957
Source: Guia Didático da Arquitetura de Caxias do Sul

³ Ibidem, p.15.

⁴ Mahfuz, Edson da Cunha. Ensaio sobre a razão compositiva: uma investigação sobre a natureza das relações entre as partes e o todo na composição arquitetônica. Viçosa: UFV; Impr. Univ.; Belo Horizonte: AP Cultural, 1995, p.77.

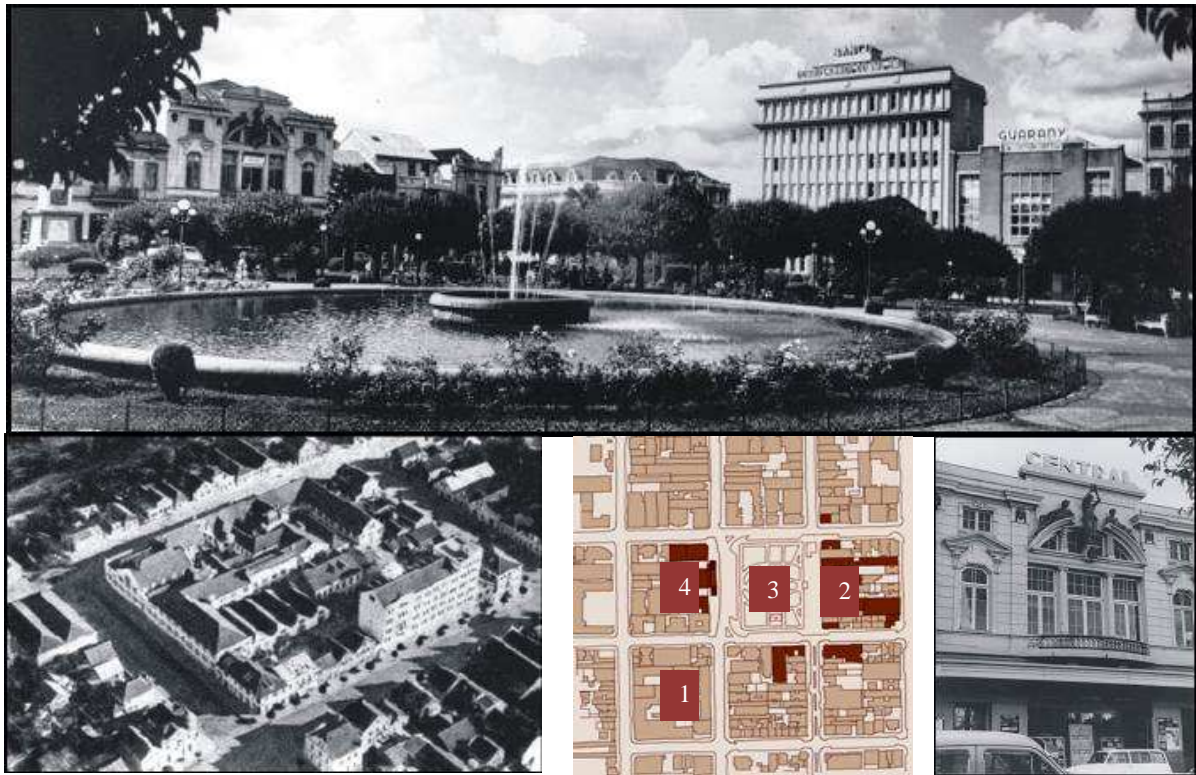


Figure 3 Location marks: 1- Industrial complex of Eberle Manufacturer; 2. Cine Central; 3 - Square Dante Alighieri 1950 decade; 4 - Cathedral and Parochial House.

Source: *Guia Didático da Arquitetura de Caxias do Sul*, p.47,74 - Evaldo Luiz Schumacher et al
Data manipulated by the author

Some characters of that locale already emerge as true representatives of universal realities, such as the buildings that encompass movies theaters, like the Central Cinema, launched in 1920's decade, and is described under the same focus even in recent bibliography. That demonstrates the formal central offices there referred as cathedral and Roman thermals, arches and vestibule of the towns palaces, imaginative copies to the molds of the Baroque renaissance, and still evoking the regional context when he refers that "[...] work also associates to the exuberant eclectic positivism expressed by Wiederspahn in the first decades of the XX century, in Porto Alegre."⁵

Such scenery reveals the universal sense of that style, the Eclectic, that aimed to establish a relationship with an international urbanism, where advances in technology and communications allowed to be reached, in a facilitated way, the same level of comforts of the industrial era, in different places and at the same time.

The collection of institutional and commercial buildings of that context coexisted in the presence of industrial buildings, that although less exuberant, defined grand structures built on high expressionism, like that of the Eberle Metallurgic complex. It disputed with the cathedral, the domain of the symbolic space of prominence and power, and contributed to the consolidation of the profile of the local identity.

The existence of the metallurgical industry, settle on the city's innermost site, equal to what happened in Galópolis, the old "Deep Valley", where the presence of the textile industry, the building of the movies theatre and the compound of workers houses, which configured on a contemporary form the remarkable industrial orientation of that community.

On second thought, referring to the character of the architecture of the second half of the XIX century in Brazil, it becomes clear that an universal reaction was evident and would come in response to the longings for

⁵ Schumacher, Evaldo L. et al. *Guia Didático da Arquitetura de Caxias do Sul*. Caxias d do Sul, RS: EducS, 2006, p.47.

social changes and, at the same time, to promote such transformations, as per Reis Filho:

[...] the social agents of those transformations, members of the urban social ranks in ascension, would act under the influence of the positivism and of the architectural eclecticism. [...] Those ranks would build and employ an updated and technically elaborated architecture, without the aid of slave work."⁶

In the progressive analysis of the town of Galópolis, such condition is verified starting from the development promoted by the transformation of the manual labor grant by the establishment and effectiveness of the European immigration in the region, by the improvement of the construction's work, and by the advent of cooperatives. Likewise, by the presence of the Saint Peter's Wool Factory⁷ in the village which affected that area on a definite manner.

In reference to the national picture, the advent of a new architectural ideal that intended to set free from the settlement's condition of the previous period brought for the signs of modernism. Expressed by the construction of large offices, linked by the support of the Professional School and the Builders of Sao Paulo, such as that of Ramos de Azevedo, Dominiciano Rossi, Ricardo Severo and Arnaldo Vilarés⁸ which in turn related also to manifestations of the regional origin of the founders of the village in Italy, generating point of the new idealism:

[...] Precursor of the "illuminated bourgeois" generation that replicate what was already published in Europe, with Alessandro Rossi, in Schio (and what would be, years later, the Jorge Street, in São Paulo), Antonio Alvares Penteadó projected the urbanization and the embellishment of Bras, funded in part with dividends earned by his own enterprises. He commissioned also the construction of worker's villages for the employess of Saint Ana's Juta Factory, modeled on the "New Quartier Alessandro Rossi" (1872), in Schio, and the workers town "Maria Zelia" (1912), in Sao Paulo. At "Boa Vista Street", he bespoke the built of the "Apolo Theater" and, later on another, larger and more luxurious on the "24 de Maio" street. It is interesting to notice here the similarity of procedures adopted by the entrepreneurs of that time. In Schio, during the year of 1868, the "Theater Jacquard" was built in front of the factory called "Alta", property of the "Lanificio Rossi SpA."⁹

Noticeably, such productions correspond to the urban and socio-cultural expectations of the second half of the century XIX. It also outline the preponderance of social agents, modifiers of the intellectual and artistic activities of that time, linked to the republican and democratic ideals in Brazil. It represented its industrial bourgeoisie and acted as propagators of the positivism, orientation of that moment.

According to Reis Filho (1976), such agents contributed not only for "[...] the formation of groups enthusiastic of the European industrial and scientific development. [...]"¹⁰, but, especially, for the formation of new towns and popular neighborhoods requested by a growing industrialization, in the formal plan. [...] the Eclecticism was the solution applied at the service of these architectural objectives."¹¹

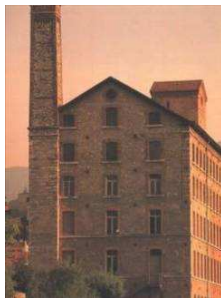


Figure 4 High Factory- Schio/Italy
Source:<http://www.dse.unive.it/storia/LANIFICIO.htm>



Figure 5 Galópolis Village
Source: Fernanda Poloni personal archive-
Curso de Arquitetura e Urbanismo UCS.
2008.

The technical quality attained in the formal resolution of such collection can be well noticed throughout

⁶ Reis Filho, Nestor Goulart. *Quadro da Arquitetura no Brasil*. São Paulo: Editora Perspectiva, 1976. p. 145.

⁷ Barella, Sandra M.F. Galópolis: visões de um ecletismo regional. In: Tregansin, Terezinha, I.R.Org.. *Galópolis - El profundo vale verde: história, arte e memória*. Caxias do Sul, RS: Lorigraf, 2009.

⁸ Apud Reis Filho, op.cit., p.149.

⁹ Della Monica, Aldo. *O Brás dos Italianos*. Available in <http://www.dellamonica.com.br/brasdositalianos.htm>

¹⁰ Apud Reis Filho, p.150.

¹¹ *Ibidem.*, p. 154.

the attached worker's houses, built of exposed bricks masonry which can be seen in the residential central area of neighboring Galópolis.¹² In addition, from the practical point of view, through the prevalence of the sanitation facilities close to the main residential building, features that were still relegated to the far end of the residential parcel according to other architectural manifestations of previous time.

From the formal and compositional point of view, Reis Filho (1976) still accentuate that “[...] the eclecticism proposing a conciliation among the styles was an efficient and aesthetic medium for the assimilation of important technological innovations[...]”¹³, verifiable fact in which the constant presence of industrial constructions in the urban central areas of our region stands out.



Figure 6 High Factory - Schio/Italia – Source: <http://www.schioindustrialheritage.it/it/index.html>



Figure 7 Galópolis Village houses - Source: Fernanda Poloni personal archive / Architecture and Urbanism Course. UCS. 2008

To reach a last comparative level, it will be necessary to consider the signs of the role and influence of the great manufacturers, as the constructive element of a new urbanization, in other parts of the world. Especially to reflect on how it occurred at the point of origin of the first textile artisans that settled in the laboring village of Galópolis in the south of Brazil by origin and acquired expertise in Schio,¹⁴ in Italy.

¹² Architecture and Urbanism Course, Caxias do Sul University, 2008/02. Técnicas Retrospectivas Disciplina, Renata Brustolin Academic Presentation, VI Seminário Estadual de Arquitetura Eclética, Jaguarão, RS, Novembro, 2008.

¹³ Apud Reis Filho, op.cit., p.169.

¹⁴ The Lanificio Rossi “High Factory” is the first symbol of the Italian industrialization. 80 meters in length, 13,90 of width and six floors and attic, with great rooms divided in three spaces of 125 columns in melted iron, illuminated for 330 windows and 52 in the roof it was built in 1862 by Alessandro Rossi. Each walk sheltered different phases of the treatment. The project, elaborated in 1861 by the Belgian Auguste Vivroux foresaw an identical building in the opposite side of the tribunal, group downright to "Francisco Rossi", the creation of four floors built in 1849 with a neoclassical facade decorated with reasons to remember trade houses and wool processing. In 1866-68, instead of one second great building, was meantime accomplished a more modern spinning-weaving in shed large tent, although short term to the side south was built in 1864-65 a building of three floors for the preparation of the wool, the lamination and the wash. Available in http://www.comune.schio.vi.it/a_215_IT_13015_3.html



Figure 8. Rossi Wool Factory –Schio City –Italy.
Source: <http://www.dse.unive.it/storia/LANIFICIO.htm>



Figure 9 Panoramic view of Galópolis taken from the Sao Pedro Wool Factory. Source: Mario Moschen personal archive– Galópolis - RS

2 THE ARCHITECTURAL CONTEXT IN THE REGIONAL RURAL LANDSCAPE

The study of the territorial occupation of the nucleus of Forqueta, was created with the objective of delimiting periods considered chronological syntheses of economic-cultural cycles linked to the space formation, and, to the process of occupation of territory places in the Caxias do Sul rural area, in the south of Brazil.

The periodical morphology and typology of the settlement process, there implemented and relevant to the plan's discussions over the decisions of urban models, until the closing time of its cycles, and the consecutive characterization of new patterns of physical forms analyze the visualization of space starting from geographical and architectural concepts.

In the morphological analysis, as indicated by Whitehand (2001), the tripartite division of the urban landscape is adopted, as proposed by Conzen, by introducing, in first place the city plan (composed by streets, lots, and blocks of flat buildings). Secondly, by the constructed canvas, and third, by the land's occupation and its constructions, "[...] However, it were the concepts related to the process of urban development that did more to stimulate the creation of a school of thought based on his work."¹⁵

The configuration given by the Forqueta village's layout along those periods, describes the system of streets, lots, and constructed buildings. The second part of the morphological structure explore the evolution of the constructed canvas, radically altered by the localization of the Forqueta's Train Station platform, and by the positioning of the railroad line at the innermost space of the village. Definitely, the natural logic for the land's occupancy changed by the introduction of a new axis of access and connectivity, here considered as a track model of transversal orientation to the formal, modifying the initial morphological pattern.

The third element of the study relates the two previous topics to the different forms of management of the land and its constructions. The typology of the agricultural units, at the starting point of the land's occupation, that demarcated on the maps as being the 1st league, or Forqueta Baixa, changes, from a character remarkably rural from the time of establishment of the original rural lots, to became the progressive headquarters of settlements, at the village's center as it occurs in the 2nd League, by the assemblage of the

¹⁵ Whitehand, J.W.R. British urban morphology: the Conzenian tradition. Available in <http://urbanmorphology.org/pdf/whitch522001.pdf>, p.103.

primitive and insufficient public-institutional spaces at the inner centers.



Figure 10 Forqueta rural nucleus - Source: Author personal archive – 2008

The early rural system progressed toward the uses linked to an evident industrialization process, result of the creation of large commercial and industrial structures associated to the industrial model implemented in the region, circa 1890, during the period characterized as the spirit of the time: " [...] the second half of the XIX century, more precisely between 1870 and 1895", which "define the second Industrial Revolution (Benevolo, 1994, p.371)"¹⁶

Said uses were not only influenced by the experiences of the industrialization process initiated in England, in the half of the XIX century, definers of the town planning's paradigm of the modernity¹⁷, as well as of a special *eclecticism* implemented in the settlers area of immigration and strongly influenced by the region's geographical diversity.

According to Costa (2001), it is important to mention that the study of the construction of industrial buildings in Rio Grande do Sul, in the area of immigration, presents spatial disparity among the areas that correspond to the distinct phases of the land's occupancy. This reinforces the notion, here developed, that the local process during this period can be associated further towards the aspects of the human geography, that gave them origin, than to the access and application of new construction's technologies given by the progress between wars, as it is observed in the study of other areas of the estate.

The proposed and implemented system of colonies was geographically established in the region by the division of large areas of the territory into leagues. Smaller parcels denominated and numbered according to an order corresponding to the consecutive chronological time of their creation, and related to the best conditions of accessibility to the dense forest native to the region, particularly that of the araucarias.

The leagues, in turn, were subdivided into lines, as being portions of land still smaller, usually subdivided into lots of similar dimensions, with a minimum measurement of 25 hectares per unit, with approximately 250 meters of front and 1,000 meters of length. Becoming the territorial measurement for the commercialization and appropriated by the Italian immigrants settled in the region.

To emphasize that, contrary to other colonization and urbanization plans put into action, at the same time, in the American territory¹⁸, the absence of delimited areas of large public spaces to be occupied collectively by the communities.

In order to achieve that character of public or semi-public space, those areas were placed in the lot near to

¹⁶ Costa, Ana Elísia da. A Evolução do Edifício Industrial de Caxias do Sul. Dissertação de Mestrado Programa PROPARG/UFRGS, 2001, p.42.

¹⁷ Ibidem, p. 91. Costa (2001) considers that, on this differentiated process it is possible to affirm that: "[...] On a special way it is observed a different production among the area of Italian colonization, mainly the Mountain gaucho, and the remaining of the state. Due to the abundance of wood in the area and of the geographical isolation, in his/her majority, the industrial buildings of the Northeast will present an aspect rustic, simple, without any stylistic manifestation, being attentive just functional demands, as they attest the commemorative publications of the Fiftieth anniversary of the Italian Colonization in the state.."

¹⁸ Apud. Whitehand, J.W.R.

the smaller fronts that delimited the lots, around the traverses , facing the access roads. (Fig.11)



Figure 11 Rural main trail in Forqueta Chapels nucleus
Source: Author personal archive – 2008

In a social context, those communities were recognized as geographical reference points as people would concentrated, sporadically, in places designated for religious, leisure, and political meetings, thus it acted as small community centers.

Those delimitations, depending on its capacity of integration among the agricultural units, would link areas essentially isolated from the ample connector system composed by crossings or access trails, corresponding to the notion of path matrix, acknowledge here as the structural force of the current landscape of the area in study, as demonstrated below (Fig. 12).



Figure 12 Rural main trail in Forqueta -
Source: Author personal archive – 2008

The inner site of Forqueta, in general terms, represents until today an area of urban character equivalent to the majority of the colonies, where "signs" or reference points provided by the buildings of superior local influence, especially the Railroad Station and the Forqueta Winery Cooperative (Fig.13), shared alongside with the Church, the arrangement of the urban marks on the central nucleus.



Figure 13 Main street in Forqueta central nucleus -
Source: Author personal archive – 2008

It is necessary to mention also, the diverse architectural types representing the different evolutionary periods by comparing the isolated buildings versus the residential configurations of the inner sites.

It seems to replicate volumetric variations of the original rural type by the constant presence of

basements, though no longer used for the production of wine, as well as in the design of the main house of a rectangular base, almost always enhanced by small additions intended to give support to core functions, like the lateral terraces, the attached quarters to the kitchens, and the sanitary facilities. The buildings were always finished with an attic covered by two or more rooftops.

The physical attributes found in the marginal bands to the inner sites may be described as in the model developed by Conzen as: in the first track, denominated as the gateway to the area's core, the one with greater range, may have changed its original profile by many uses, several times institutional, like the large buildings of wine production, as "landmarks buildings", and even as headquarter's building for the rural lots during the different periods of development considered of outstanding architecture.

The outstanding buildings of the first period of Forqueta, the isolated large wood houses with limestone basements, the ones of a subsequent period, wealthier and sophisticated, that show the main building in masonry and with remarkable eclectic characteristics of the greatest economic development period of the area from 1910 to 1930. The most recent ones, of the Art Deco, from 1950 to 1964, until the ones of "modernist" style, from the period of 1960 to 1980, and finally the ones that mix the different regional models that search for a connection with larger centers of high-rise buildings, like Caxias do Sul and Farroupilha. (Fig.14)



Figure 14 Forqueta central nucleus; modernist main house in rural landscape; vertical building in RS 122 Road. Source: Author personal archive – 2008

3 CONCLUSION

From the wide potential investigation of the theory proposed by Conzen, three sources are here explored: first, the micro morphology, secondly, the relationships between the morphologic periods and the topological processes, and third, the relationship between the decision-making and the urban form.

The first approach considers how the transformations verified in the residential buildings tend to influence the adjacent areas by the denominated neighborhood effect. This relationship is directly associated to the proximity between neighbors.

In the second approach we discuss the morphological and architectural types in different stages of evolution, for example, analyzing the contrast between the types known by-law terrace houses, or houses on tape standard, and the semi-detached houses, or that is, duplex houses, of which, as observed in the local case in study, some characteristics are associated with a kind of architectural transition, probably due to geographical differences or even a time delay of absorption in less accessible areas. It is also noted the relationship of this approach with the well known "typological process of the Caniggian school of the Italians," that is, as pointed out by Withehand "[...] where new types of construction are seen as a product of the learning process from earlier adaptations of constructed types."¹⁹

The third aspect, in general terms, demonstrates the way on how different decisions could create "regulations on the land". This notion comes from the own work of Conzen that intends, in Whitehand words, in the same text: "[...] to evaluate the people's role in the creation of the urban landscapes" and, more, "[...] in this sense, the relapse attention of the settlers role and that of the decision makers." The author recalls that, in the same sense, Conzen introduced the concept of marginal lanes, those that can appear

¹⁹ Apud. Whitehand, J.W.R., p.107.

to originate from different processes of decision making, and results in products of a great number of “different decisions on individual locations.”

From the planning point of view, the author also ponder that, rarely have been deliberated decisions for preservation or conservation of these lanes as identifiers. Public policies have been favoring the preservation of marginal lanes by the representation of their individual components. When defined as lane, the conservation of a special kind of open space is considered as areas of ecological interest: “[...] some places and buildings in the marginal lanes are recognized for their historical and architectural meaning and legal protection warranties are given to them.”²⁰

According to the international organizations for the preservation of the industrial patrimony, like The International Committee of Conservation of Industrial Heritage (TICCIH), it is worth mentioning that the town of Galópolis could well be considered in this patrimonial context, since it maintains an absolute architectural and landscape collection which are perfectly visible as an historical and cultural expansion that correspond to the universal criteria for preservation, such as indicated:

[...] Values of the Industrial Patrimony

I - The industrial patrimony is the evidence of activities that had and continue to have profound historical consequences. The reasons for protection of the industrial patrimony are based on the universal value of this evidence, instead of in the singularity of unique places.

II. The industrial patrimony is the sum of the social value as part of the record of regular men and women’s lives, and how each individual convey an important sense of identity. Is the technological and scientific value in the history of manufacturing, engineering, and construction and can have considerable aesthetic value for the architecture, design and planning.

III. These values are intrinsic to its own places, its factories, components, machinery and places in the industrial landscape, in the written documentation, and in the intangible registration contained in the memory and human industrial habits.

IV. Unusual, in the survival terms of particular processes, typology sites and landscapes, it add special significance and will be carefully accessed. Primitive and pioneering examples have a special value.²¹

On the typological analysis of Galópolis and Forqueta here discussed, remain emphasized the aesthetic and stylistic qualities of its urban landscape, founded in habits and practices manifested by the remaining marks of a particular eclecticism as values to preserve.

REFERENCES

- [1] Barella, Sandra M.F. Galópolis: visões de um ecletismo regional. In: Tragansin, Terezinha I. R. Org. Galópolis - El pofondo vale verde: história, arte e memória. Caxias do Sul, RS: Lorigraf, 2009.
- [2] Costa, Ana Elísia da. A Evolução do Edifício Industrial de Caxias do Sul. Dissertação de Mestrado Programa PROPARG/UFRGS, 2001.
- [3] Della Monica, Aldo. O Brás dos Italianos. Avaliable in <http://www.dellamonica.com.br/brasdositalianos.htm>
- [4] Pozenato, José Clemente. O regional e o universal na Literatura Gaúcha. Porto Alegre, RS: Movimento, Instituto Estadual do Livro, 1974.
- [5] Reis Filho, Nestor Goulart. Quadro da Arquitetura no Brasil. 1976. São Paulo: Editora Perspectiva, 1976.
- [6] Schumacher, Evaldo L. et al. Guia didático da Arquitetura de Caxias do Sul. Caxias do Sul, RS: Educus, 2006.
- [7] Whitehand, J.W.R. British urban morphology: the Conzenian tradition. Avaliable in <http://urbanmorphology.org/pdf/whitch522001.pdf>.

²⁰ Ibidem, p.108.

²¹ Available in http://www.mnactec.cat/ticcih/industrial_heritage.htm