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San Juan City: Traces and Imprints in its Beginnings
Application of Territorial Analysis Axes
to the City Foundational Moment

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Summary
This paper presents the application of theoretical and methodological criteria for territorial analysis, interpretation and understanding. The work will be developed using three territorial analysis axes as a way to describe and explain territory. Together with other TAG Team researches this work aims to build a useful territorial analysis method for sustainable territorial transformations.

Resumen
El trabajo presenta los resultados de la aplicación de criterios teórico-metodológicos para el análisis y entendimiento territorial. Se desarrolla a través del uso de tres ejes de análisis territorial como forma de describir y explicar el territorio.

Junto a otras investigaciones del equipo TAG, este trabajo pretende aportar a la construcción de un modelo de análisis territorial que permita proponer transformaciones territoriales más sustentables.

Key Words
Territorial analysis – Analysis axes – Territorial diagnosis – Historic processes

Palabras Clave
Análisis territorial – Ejes de análisis – Diagnóstico territorial – Procesos Históricos
San Juan City: Traces and Imprints in its Beginnings 
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I. Introduction
This paper constitutes the main theoretical and methodological part of Mastery in Urban Development Environmental Management thesis (Córdoba National University - Argentine). It also involves one of the research axes of the TAG Team, foundational core of the Possible Territories Latin-American Net.
The thesis work “Territorial Organization Process in San Juan City: 1562 – 2009. Foundational Pact, Traces and Imprints” is intended to understand San Juan City territorial organization process, from its foundation in 1562 up to the present. It will be developed applying theoretical and methodological criteria for territorial analysis, interpretation and understanding, over the basis of Milton Santos’ concepts from his space criticism social theory (Santos, 1996, 2000) and their application in Bozzano (2000, 2009).
The aim of this paper is to define and show theoretical and methodological criteria for territorial analysis, interpretation and understanding. Territorial organization is understood as a social process of space appropriation in time. At every given moment, territory expresses the way in which social conflicts are solved. In this way, territory is just a moment in a historic process so it can be understood through the knowledge of the processes that generated it. The application of the proposed theoretical and methodological criteria to analyze territory in each significant time cut of its territorial history may become a contribution to territorial diagnosis since it allows holistic territory understanding. Together with other TAG Team researches (Bozzano, Morales, Alva, Ghetti), this work proposes to build a useful territorial method for sustainable territorial transformations.

II. Territorial Analysis Axes
Territorial analysis axes are a theoretical and methodological contribution to territorial understanding. Bozzano (2005, 2009) proposes five analysis axes as a way to describe and explain territory. The axes are: time, space, events; object systems, action systems; geographical environment, Nature-techniques; actors, and local-mezzo-global scale. All of them are part of every territory explanation but, depending on the nature of the explanation, they are present in different degrees.
The thesis work is being developed over the basis of three of these axes. Due to the territorial organization concept used here, there were selected two main axes (time, space, events and object systems, action systems) and a secondary axe (geographical environment, Nature-techniques).
Through the axe time, space, events, territorial appropriation is understood as a historic process. This axe also allows the understanding of the different events velocities. In the case of San Juan, including the different speeds of events is considered extremely important. This concept allows analyzing different times overlapping: the selected territory inner time and the outer time that impacts on it.
The axe object systems, action systems is useful to analyze the way that space has been occupied and appropriated, that is to say traces (object systems of the past) and imprints (action systems of the past). Thus, this axe allows understanding territorial organization in a given temporal cut.
The axe geographical environment, natural-artificial will is used as a secondary analysis axe to understand territorial appropriation in relation to productive system. Since the permanence in oases depends on artificial techniques, this axe is essential in the comprehension of San Juan territorial organization. Hostile environments, just as oases, require constant human work for their development.
This paper will present the application of the two main axes in the analysis of the foundational moment of San Juan City (Argentine). It will be described object systems and action systems of the foundational moment related to the Spanish foundational process.
For the present analysis it was selected the foundational moment of the city because it is considered a determinant event of all the subsequent spatial organization process up to nowadays. The current territorial configuration is a consequence of the overlapping of two different territorial occupation and appropriation ways: Huarpe (original San Juan people) and Spanish patterns.
It is considered here that the merge of these patterns allowed at the beginnings city surviving in such a hostile environment.
The following table shows the selected elements in every axe for the two periods related to the present analysis.
### Analysis Axes

<table>
<thead>
<tr>
<th>Period</th>
<th>Events in Time-Space</th>
<th>Object Systems</th>
<th>Action Systems</th>
<th>Natural-Artificial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huarpe Period (1200 up to 1562)</td>
<td>- Original territory appropriation way (defines guidelines for future territory occupation) - Territory occupation in agreement with oasis characteristics</td>
<td>Object Systems: - River - Irrigation ditches - Roads</td>
<td>Action Systems: - Irrigation channelling - Settlement in functional units</td>
<td>- Minimum transformation of oasis natural conditions</td>
</tr>
<tr>
<td>Colonial Period (in dependence on Chile Captaincy)</td>
<td>- First Foundation (1562)</td>
<td>Space Usurpation Foundational reason: obtaining docile native labour</td>
<td>Object Systems: - City grid - The first 25 blocks: current spatial configuration origin - Artificial irrigation system - Roads and streets: space organizers</td>
<td>Action Systems: - Imposition of an urban model growth - Water handling - Residence and production: inseparable land uses</td>
</tr>
</tbody>
</table>

### III. San Juan City: Its Spanish Foundation

San Juan City is located in Tulum Valley, which constitutes the second Argentinean oasis, after Uco Valley (location of Mendoza City). Nowadays, it concentrates 421,640 inhabitants of the 620,023 provincial totals. The city is located in one of the few valleys of the province, at the bottom of Los Andes, an arid mountainous environment. It is the second regional centre in Cuyo; core of the main economic, industrial, commercial, and public and private activities of the province.

The present cities of Mendoza, San Luis and San Juan constituted the ancient Province of Cuyo. Cuyo was the Chilean territory located at the east side of the Andes Mountains up to 1776. These three cities were founded by the west colonizing current came from the Kingdom of Chile. Besides the general causes of the American conquest, colonizing the Province of Cuyo had particular motives: obtaining docile native labour to work for the Chilean settlement consolidation (Michieli, 1994).

The Kingdom of Chile was founded in the year 1541. The founder Pedro de Valdivia began the new settlement, named Santiago del Nuevo Extremo, with very few men due to the lack of valuable metals in the area: “… (esto) motivó que Valdivia fundara la importancia de la empresa conquistadora en la ocupación y explotación de tierras feraces, para lo cual necesitaba mano de obra indígena que no podía conseguir en esas tierras debido a la rebeldía constante de los indios chilenos, a quienes era necesario contener permanentemente con los pocos españoles que lo acompañaban” (Ib. Id.: 16). Cuyo was discovered in 1551 by Francisco de Villagrá when he was coming back from Peru to Chile across Argentinean territory. When Cuyo was discovered it was also discovered an important group of docile natives accustomed to do mine and land work. This motivated the later foundation of Mendoza and San Juan cities.

When Villagrá became Governor of Chile Captaincy, he in self ordered the settlement of the territory. The commissioned man was Captain Juan Jufré, in the charge of Lieutenant Governor and Field Marshal in the Province of Cuyo.

San Juan was founded on June 13th 1562. It was located at the south side of San Juan River, the only river across Tulum Valley.

Although the valley was inhabited, the specific place of city location was unoccupied. There are arguments to affirm it:
- Huarpe people were not hostile so it is able to think that Spanish men were careful in determining the city site. Otherwise, Indian Laws provided the use of vacant lands for new towns location, which could be occupied with Indian consent (Law I. Roitman, 1986: 20).
- It is supposed that huarpe people knew the river behaviour cycle. According to this, they did not occupy flooding risk areas. Considering natural features “lo más factible es que la población habitara en sitios menos expuestos a las contingencias propias de un régimen fluvial irregular como es el de un río alimentado por deshielos cordilleranos” (Fanchín, 2007: 4).

According to Michieli (Op. Cit.), Indian settlement was a determinant factor for the first city location. San Juan was located at an unoccupied place inside an intensively occupied territory. This situation allowed food provision, water supply making use of pre-existing hydraulic infrastructure and the availability of native labour (Ib. Id.: 46).

Although it seemed an ideal location, Spanish people ignored river flood periodicity. So, 32 years after its foundation the city must be removed to a safer place.

IV. 1594: City Removal

In 1593 the city was destroyed because of a flood caused by San Juan River. Then it was decided to remove it to protect it from flood risk. The city was finally removed in 1594. It was placed 25 blocks towards south with the same urban plan to the present location.

The removal implied a larger distance between the river and the city so some changes were needed to get the water from a minor but nearer riverbed: Zonda estuary. Huarpe people knew how to handle the water: they had an important irrigation ditch net to convey and distribute it. Spanish people made use of this net to solve their own problem. They used the Zonda ditch to get water to the town and the crop area. Thus, a new system of major channel and minor ditches was created to provide the region with water. Minor ditches were organized in comb shape across the middle of each block, including the major square, in west-east direction according to the ground sloping. The direction of the irrigation ditches defined the shape of the central city plan: “de acuerdo al curso de aguas de esas acequias regadoras, tomó una forma apaisada, primera precursora de lo que más adelante constituyó y aún se conoce como el casco urbano de la ciudad” (Roitman, Op. Cit.: 36).

In San Juan, the possibility of water conveying was a determinant factor in its settlement. Water handling had a double aim in relation to people survival (Ballent, 2004): on one hand, flooding control and, on the other hand, crop area irrigation and general water supply. Water handling became the main factor in future configuration of the city and its region.

This was the moment of the patterns merge. City surviving needed of the overlapping the Huarpe irrigation system to the Spanish grid.

It is considered that this is the first significant step to construct the oasis culture that allowed city permanence in a barren environment. This step can be explained in terms of the proposed analysis axes: two object systems (irrigation net and urban grid) had to be merged to allow city adaptation. This merge took shape through and action system: water handling. These object systems and action systems, that constituted the trace and imprint of San Juan City, occurred as a part of the Spanish settlement consolidation process.

Conclusions

In the American territory domination process, city foundations allowed territorial conquest and organization. Thus, city foundations concreted Spanish presence in American land. Spanish domain can be seen in the imposition of economic, political and social models. It is especially important to this work the imposed urban model: the grid as a theoretical space appropriation model.

For Spanish settlement process, grid constituted the main territorial domination factor. Grid was born as a unified space occupation model for all Latin America. Nevertheless, it had some modifications in practical application. In the specific case of San Juan, city survival implied the incorporation of water in the urban grid.

Irrigation methods and ditches systems were borrowed from Huarpe people and they were overlapped to the Spanish grid. This territorial action modified the urban grid and it gave to the city the identity features that characterize it up to the present.

San Juan city was shaped in the conjunction of two elements referred both to object and action systems. On one hand, the urban area in terms of city plan refers to an object system; in terms of way of life refers to an action system. They both constitute an outer element: they are a result of decisions made in Europe and they are imposed over American territory. On the other hand, oasis culture constitutes at first an action system but in its process of development it shapes its characteristic object systems. This is an inner element and Spanish people appropriated it to survive in an oasis environment. In that object and action systems it can be founded the explanation to the town survival and permanence.

Traces and imprints of a territory are defined inside a major process that contains them. In the case of San Juan, the first Spanish territorial actions defined the occupation and appropriation territorial pattern up to current days.
This merge moment shaped the city: original grid was its trace and oasis culture was its imprint.

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