

# International Conurbations along Brazil- Uruguay Border Ref 022

## How Ambiguity Drives Spatial Patterns and Social Exchange

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### **Abstract**

*This paper target is to discuss issues of accessibility, centrality, movement and co-presence using Space Syntax methodology and tools in a peculiar situation: a conurbation formed by two cities that are located in different national territories. Through that, establish the role spatial configuration structures social life in this peculiar case.*

*The case study proposed is that of the conurbation formed by the cities: Rivera / Uruguay and Santana do Livramento / Brazil that grew along the border line between the two South American countries, forming a conurbation without physical or geographical barriers between its urban grids. These conurbation peculiarities are marked by high permeability along the whole of the urban grid, where there aren't ostensive checkpoints, allowing intense and fuzzy movement of nationals between the two cities, intensified by the advantages taken by the population, of the wider range of commerce and services and floating of exchange rates.*

*Permeability and continuity of the urban grid contrasts with the awareness of national identities, literally allowing residents of both cities to experience foreignness in its deepest, meaning to be a stranger on daily basis, since shopping and working are activities frequently performed on "the other side of the border".*

*Axial maps of the whole of the conurbation as well as of both its constituent cities were processed in order to obtain syntactic measures of local ( $R5$ ) and global integration ( $Rn$ ), integibility and synergy and integration core as valuable tools to describe spatial patterns for urban spread, growth and governance that are peculiar to both national societies: Brazilian and Uruguayan identifying important, although subtle, distinctions in national social codes in producing urban environment.*

*Axial and land use maps of the study case were gathered on a GIS database, along with the available socioeconomic statistical data, providing enough evidence of the peculiarities and ambiguities that allow us to characterize social life of an urban type found along the Brazilian Southern border.*

*The issue in stake is to investigate the peculiarities of the spatial configuration as a whole and as independent cities, and analyze if the peculiarities observed might constitute a singular typology for spatial and social life.*

## 1. Foreword: Wars, Establishing National Borders and Cultural Empathy

The conurbation studied in this paper sits on a vast prairie region called pampa which covers the Southwest half of Rio Grande do Sul / Brasil, Uruguay and Northeast of Argentina. Constituted by low lands and plains, the occasional hills (coxilhas) that punctuate the landscape are no more than 400m high, providing smooth geographic barriers. Nowadays, the border line between Brazil and Uruguay is placed along the hills chain and the rivers which form the Plata basin (Figure 1).

The region was known during South American Colonial period as Oriental Side referring Eastern part of the Plata Basin, a strategic and sensitive node of trade routes inland which has been disputed with great ferocity along centuries by Portuguese and Spanish and later, by Brazilian, Argentineans and Uruguayans, although it has been traditionally an agricultural and cattle-raising area sparsely populated.



**Figure 1**

*Localization city map of Santana do Livramento / Brazil and Rivera / Uruguay*

As a consequence of its privileged geographical position and the nomadic, floating population of cattle breeders, frontiers and borders were always either disputed by modern Nations, either ignored by locals that established an authentic transnational “way of life” through business, smuggler, seasonal work and social networks.

The actual borders were set only during the 19th century, after several wars, revolutions and rebellions. Uruguay has been recognized as an independent nation in 1848, but it is only after 1862 that urbanization reaches the Northern part of the country, which was rural and disputed by Argentineans and Brazilians. Meanwhile, along the Brazilian side, the network of towns and cities were, at least, 40

years (1820) older and functioned as military camps, stock exchange centers for imported products arriving from Montevideo (Uruguay capital and an strategic port on the Plata) and weapons, leather, meat and other agricultural goods. It is important to remark that the region was insulated from Brazilian most important towns and the easier communication with Montevideo and the Plata, as well as the attraction exerted by its cosmopolitanism always marked the character of border locals denoting a stronger empathy towards the Plata culture. This fact was emphasized by a Uruguayan railroad system (1892) earlier than the Brazilian, connecting the border area to Montevideo.

The area has been rural until circa 1910 when the installation of slaughter and dry meat plants brought up some progress and urged the growth of towns and the installation of infrastructure and connection with the most important cities in Rio Grande do Sul. Nevertheless, the example remained Montevideo and Buenos Aires and modernization followed Latin patterns more than Brazilian ones. Revolutions and rebellions were often until 1920 and Brazilian population living in cities along the border usually fled to Uruguay and Argentina, coming back as soon as things calmed down and vice-versa. It is quite ordinary to find big cattle farms that spreads from one country to another and towns, even when separated by rivers maintain geographical proximity and seldom, a mirror like placement of most important civilian and governmental buildings location.

After achieving its economical summit as provision supplier during both World Wars, which included the installation of Swift-Armour (USA) slaughter plants, the region and especially our study case, suffered a considerable economical decay and stagnation due to primary goods (agricultural) collapse of prices at international market. There has been a population fled to more promising towns and those who remained, were impoverished and with few prospects. Even so, population grew by means of internal migrations (from rural area to cities). The once cosmopolitan towns with theaters, cinemas, sophisticated stores, coffee shops and art deco mansions slid back into being a provincial and obscure shelter for unemployed farm laborers and outcasts from the surroundings.

Situation improved by the end of the 1980s when Rivera was declared a Tax Free zone for imported goods and investments were placed in order to built a “dry port” and improve terrestrial cargo transport between both countries.

These international conurbations are also privileged places for activities such as cleaning money obtained in illegal economic circles; smuggler has always been a must (historically weapons, food, cattle and financial assets, and more recently drugs, gems wildlife specimens and wood). Even though, the illegal movement of people, capital, merchandise and information exist since ever. The conurbation represented by Santana do Livramento – Rivera has also been a preferential place for cleaning money through real estate transactions, and for this reason rentals are over rated on the central Uruguayan side of the conurbation while on the Brazilian side new suburbs spread around urbanized area, even if barely occupied. Nowadays, advantages on exchange rates called attention of middle class Brazilians to those tax free “cities” along the border and the new economical development alternative for these conurbations seems to relay on services (hotels, restaurants, tourist services) and diverse commercial business focused not only in imported products (Rivera’s free shop that attracts Brazilian middle class) but also supplies, supermarkets and service stations (attractors for Uruguayans shoppers).

## **2. Being a Stranger on Daily Basis: How an International Conurbation Was Formed**

Rio Grande do Sul State has been described by historians and geographers as an isolated area inside Brazilian National State territory. Researches has insisted in the idea of Rio Grande do Sul being a frontier territory, functioning as a borderline generator, and as such, is a “peculiar social space” NEVES (1990).

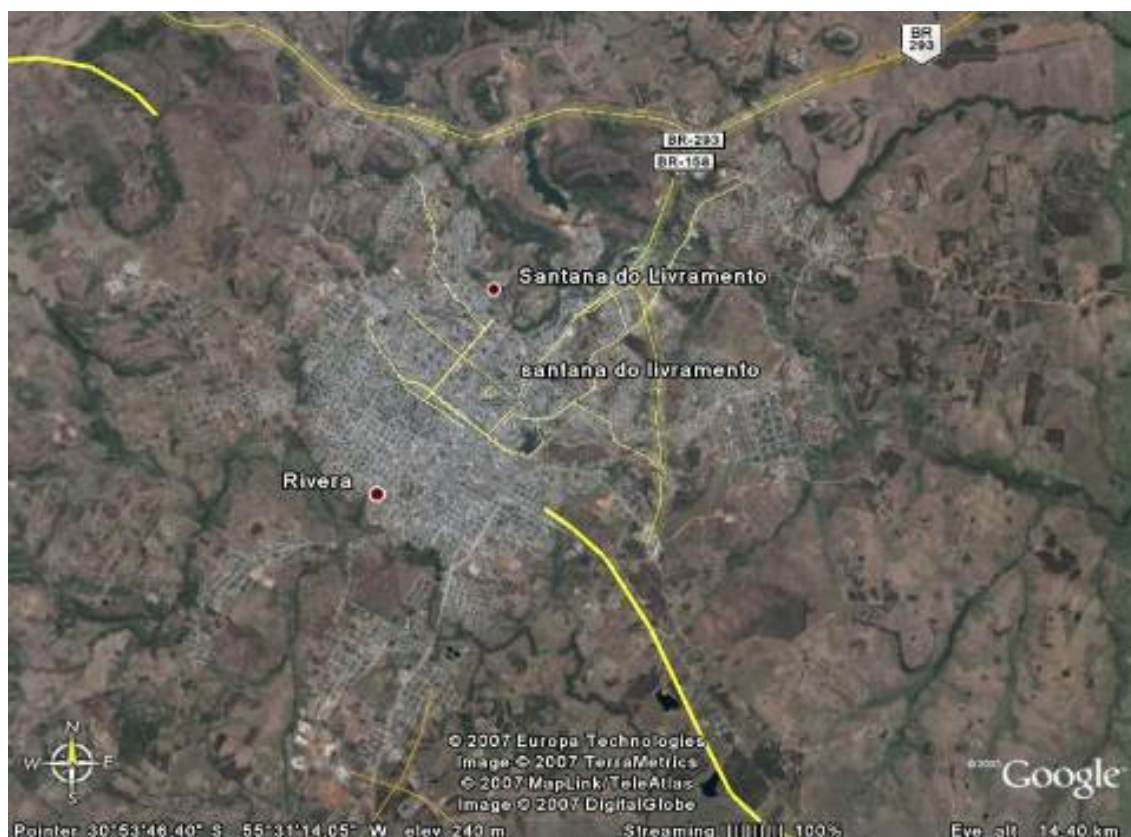
The first urban network built in Rio Grande do Sul area, the Missiones (1610), has been described as a borderline / frontier between two crowns: Portuguese and Spanish, and therefore a limiting element for their expansions. The destruction of the Missiones (1750) induced the building of a

coastal urban network to support Portuguese expansion to the South and as a byproduct, generated a marginal mob: the gauchos, cattle catchers and cowboys that wandered about the empty inland, forming a peculiar social group.

Later, in the middle of 19th century, when Brazil was already an Empire, a complementary urban network was created along de inland border, which remained permeable and vulnerable. These settlements guaranteed the right to territorial claims or, at least, symbolic argument for diplomatic negotiations. Brazilian settlements motivated the foundation of other urban core across the border line, as pointed by NEVES (1990), induced by a symbolic need for symmetry of power. According to this author, these frontier settlements converged to a special kind of conurbation which is exemplary and distinguishes Rio Grande do Sul among Brazilian urban net, referring to the symbolic and social dynamics of those transfrontier communities.

The case studied here is an international conurbation composed by two cities: Santana do Livramento / Brazil (1823) which is today a medium size settlement for Brazilian standards with 98,681 (2007) inhabitants and 6950 sq. km; and Rivera / Uruguay (1862) which is the 5th Uruguayan city in population with 64,426 (2004) and has about 9,370 sq. km. The conurbation of over 150,000 inhabitants is a strong indicator that urbanization is a consequence of significant transformations suffered by national economies and social expectations in both countries.

They constitute a “dry border”, meaning that by the time the cities were founded there was a stretch of “no man’s land” separating both settlements, which in time became a neutral gathering field for both communities where games (horse ones mostly) were held. Belle époque and eagerness for cosmopolitanism spirit drove both communities to invest in building a linear park / promenade along the border area that quickly became the centre of social mingling. Nowadays, two parallel avenues run along the borderline and this “International Park” was extended through an international non aedificandi domain stretch of land that follows the limits of the urbanized area (Figure 2)



**Figure 2**

*Santana do Livramento / Brazil and Rivera / Uruguay*

What is most interesting about the sample is that, even in those cases where the conurbation has no geographical barrier, resembling one whole city, they are still treated (in political and urban planning) as two isolated urban spaces, and social and cultural parameters of each national identity is easily perceived on the urban configuration.

Since 1990, after the creation of Mercosur commonwealth, the conurbation was named "The peaceful frontier" and joint efforts were made to develop common projects on Safety, urban planning and social welfare.

But what happens to co presence, movement, and social appropriation of space in such situations, where international and transnational exchange in all levels is routine and Uruguayans and Brazilians play foreigners / strangers on their daily movements, and more than often nationals from one side live across the border and work in a foreign country territory?

The reproduction of economic and social patterns of dependent capitalism which marks Latin America and Brazil, is followed by social segregation within the conurbation, and real estate speculation acquires different characters on each side of the border. Peculiarities of national cultures show on the way the urban grid spreads and peripheries are formed. These issues will be explored more closely on the next topic.

The frontier social pattern is marked by a pretense invisibility or unawareness of the stranger (here mentioned as in HILLIER & HANSON, 1984) as a way of coexistence. Despite cherished statement of national identities and territories, everyday life functions on the assumption that local is everyone: Brazilians and Uruguayans, no matter on which side of the border they are moving about (Figure 3).



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**Figure 03**

*aerial view of Rivera (left) / Santana do Livramento (right) urban border line*

Ambiguity marks spatial and transpatial relations and the way urban space is produced and managed according to specific national and cultural parameters. But more important, ambiguity generated a hierarchy and complementarities of land uses between the two cities of the conurbation.

Cultural and social practices acquire mixed national standards; the most notorious is the spoken language: portunhol. On the other hand, resistance against acculturation and assimilation has the same strength, shown through symbols dear to both national cultures like soccer games and the devaluation of the gaucho figure by Uruguayans which is a strong symbol of Rio Grande do Sul

heritage (Figure 4). The disposition to live altogether in harmony between both nationalities definitely doesn't imply in a shared identity. (CHASTEEN, 2003).



**Figure 4**  
*horsemen "gauchos" / palestinians moving about Santana do Livramento / Brazil*

Inside this melting pot, the gap between Brazilian social classes and failure of public community services are evident in contrast with a more homogeneous social and cultural Uruguayan background which also has a better structured public educational and health systems. Nevertheless, poverty and low educational levels reflect on both cities economy, being notable facts that seasonal work, unemployment and lack of perspective are found easily among the largest social groups on both sides of the border, a mob of countryside peasants, which moved to cities after the decay of agricultural business. Most of the richer moved away to more cosmopolitan cities like Porto Alegre (Rio Grande do Sul Capital city) and Montevideo (Uruguay Capital city).

SANTOS (1979), reminds us that the area of influence of urban economy lower level is continuous, that is, for the poorest and less privileged classes of individuals, spatial continuity is still a very important factor for their daily survival strategies, while for upper classes and elites, transpatial solidarity nets and spatial discontinuity are favorable for reproducing and accumulating capital. Those frontier conurbations provide a good environment for both groups: for the first one, there is always the possibility for seasonal work and smuggler "across the street" and shopping according to exchange rates; for the richer, a handy option to safeguard investments and profit from international financial floats. This has been a reality since the 19th century, long before the spread of technology allowed money and goods to materialize any place across global frontiers by a "mouse click".

Therefore, we can think about these conurbations as a spatial display of multiple social territories hence, a place marked by more than one border or frontier: they might be either, social, cultural, symbolic or economical and established according to the strategies required by historical switches.

The conurbation also displays a phenomenon of solidarity networks involving immigrants and migrants, either Brazilian or Uruguayan ones, who claim a cultural transposition beyond national frontiers and all sort of commercial, and financial deals historically existent along permeable borders (HAESBAERT, 2005). The phenomenon is so widely spread and culturally interlocked that

frontiers have been historically absorbing legal and illegal immigrants and refugees, and in those small towns along Brazil borderline with Uruguay, Argentina and Paraguay, there are flourishing communities of Orientals (Chinese and Korean – Paraguay) and Palestinians (specially on the case studied).

The Palestinian community, the most outstanding socio cultural minority group found in Rivera / Santana do Livramento conurbation brought to a stagnated local economy their commercial knowledge and inserted the Brazil- Uruguay border amidst the largest international refugee's network. Their symbols and cultural features now punctuate the conurbation landscape, although they seldom mingle with locals. They spread new patterns of occupation within central emptied areas at Livramento, resembling Middle Eastern commercial streets. Old mansions were bought and subdivided allocating extended families. At Rivera, they bought several traditional tax free stores, although most of their social life lays in Livramento, due to lower rental and displacement of locals to new suburbs. First regarded by locals as an exotic group, while they simply occupied the business Brazilians had no interest in, now, as they grew in number and their cultural symbols are publicly displayed, locals start to react against their economic power.

Geographers, anthropologists, historians and other social sciences experts have been exhausted the issues discussed above and the reason they were brought up here is to give a general view of the social context found on the study case and from that, investigate how these variety of social interfaces are inscribed on the spatial configuration and why we, from now on, can think about a certain group of conurbations that share some intrinsic character that allow the co presence of such different identities avoiding open conflict.

### **3. Ambiguity of a Common Centrality: Spatial Configuration and Landuse Distribution**

The issue here is to discuss the consolidation of an international conurbation, using Space Syntax theory and methodological tools to evidence its peculiarities and highlight the differences, dominances and ambiguity resulting from the consolidation of a single urban grid generated by two national societies. By decomposing the urban grid into axial maps, as proposed by HILLIER & HANSON (1984), and after that, processing the obtained graphs using MindWalk® (FIGUEIREDO, 2002) set of tools, we selected some measures and correlations that seem to better describe how social and cultural grid morphology differences enhance the diverse patterns of co presence required for distinctive national cultures coexistence and social exchange in this peculiar case.

By means of a spatial description of accessibility hierarchy, and analyzing how grid deformation produce different patterns of permeability which enhance cultural and national issues on defining sociability territories, we propose a discussion of patterns of co presence between locals and strangers (HILLIER and HANSON, 1984), potential of pedestrian movement (HILLIER et al, 1993) and consolidation of centralities as well as land use labels concentration / dispersion.

Both urban grids will be described separately and then as a conurbation. Discussion will focus on the last case, pondering the contribution parts play in this new configuration and the transformations / differences of spatial patterns aroused by the conurbation process.

The measures used to describe and compare these configurations / systems are Global (Rn), Local (R3) and Radius Radius (RR) Integration. Correlations and interdependence between the variables obtained by processing the axial maps such as integibility (correlation between global integration and connectivity) and synergy (degree of coherence between global and local integration) as well as choice (most frequently used nodes in journeys from / to all spaces in the system) proposed by HILLIER et al (1987) allowed identifying important, although subtle, distinctions in national social codes and consolidation of centralities. Patterns of accessibility are evaluated and cultural differences in producing territories of social interaction analyzed. Differences of urban spread, growth and governance that are peculiar to both national societies are pointed out and compared with worldwide sample results obtained by research on urban types (MEDEIROS & HOLANDA, 2007).

### 3.1 Santana do Livramento / Brazil: configurational description

Santana do Livramento is a small system (Figure 5) in number of lines (TABLE 01). The Global Integration (Rn) map displays a quilt of grid patterns separated by voids and connected by a ring like macro system of longer lines which consists of main roads linking the city to Rio Grande do Sul Capital (Porto Alegre), other western towns along the border line with Uruguay and Argentina, and the dry port area (along the main road to Montevideo port). This ring concentrates the most globally integrated lines (red and oranges on the Rn map) which are coherent to the linkage of the urban system with Brazilian national territory.



**Figure 5**

*Santana do Livramento / Brazil Syntactic measures*

What seems like urban voids are mostly hills, military headquarters and old abandoned slaughter plants. Around them, and linked by the ring road system (deformed wheel), the city spreads as a tree like urban structure forming isolated clusters displaying high depths (patchwork of dark green / blue grids), connected to the main roads system. This configuration shows a profound coherence between Global Integration gradients and the national patterns and processes of urban growth and suburbanization of population into richer and poor residential clusters (RIGATTI, 2003). The great importance granted to motor vehicles transportation and connectivity to national territories induced a displacement and scattering of centrality along the most integrated axes (national roads), peripheral to the old centre. The spread of discontinuous, enclosed and highly



segregated plots of urban grid follows real estate and property development speculation logic, which is also responsible for forcing the increase of urbanized perimeter with very low density rates and individual land plots.

Town planning policies only became compulsory for small towns since 2000 and until then, Santana do Livramento suffered the effects of most shared trends that characterize Brazilian quick growth of cities from 1970 on: vertical densification on city centers, displacement of residential land use to peripheral areas, transport system based on private vehicles and spread of centralities anchored by big scale commercial plots (supermarkets, malls, etc.) following homogeneity of land uses zoning.

The exception is one line placed amidst the old core orthogonal grid which represents the road that linked both symbolic and commercial original city centers and that remain the busiest commercial street of the town. The small surface covered by an orthogonal grid (displaying more integrated lines (light green / yellow) in the middle of the system on its Southern limit corresponds to the city centre (and original urban core) that reaches the border line. This area displays high accessibility and, on Space Syntax terms, is a shallow part of the system, of low hierarchy and control levels and, therefore, able to provide good navigation conditions indistinctively, and therefore a potential for an even spread of movement and co presence for locals or strangers as well as provide equity to allocation of main land uses.



**Figure 06**

*Rivera / Uruguay Syntactic measures*

Nevertheless, it lost most part of its inhabitants to new suburbs, which are more locally controlled spaces, favorable for residential use, especially amidst the uneven social and economical Brazilian structure, which claims for security and safety tops social expectations and induce social and spatial segregation (tending to insulation). Even small communities like this, reproduce this behavior patterns and apply them on producing urban space.

Being the opposite of that, centre was emptied of its previous animation and dwellings remained sub occupied or empty and decadent. Analyzing Local Integration (R3) map (Figure 5) we can perceive clearly the unevenness of integration distribution on the urban grid. The core constituted by the old town, actual city center, shows as the more integrated and shallow part of the system in local terms. This might be reason enough for concentrating a significant amount of street shops, which commercialize popular and cheap products for local consumption. This day by day kind of commerce is managed mostly by members of the Palestinian community, who also rent dwellings downtown for their extended families and newly arrived émigrés. They take advantage of facilities provided by easiness of social appropriation of the orthogonal grid plot and the “invisibility” stranger are granted in such environment where their movement and co presence follows less controlled patterns (Figure 6).

As for the RR Integration graph we can conclude that they strengthen and clarifies the role of the orthogonal grid towards the constitution of centralities based on natural movement equity potential and inductor of diversified co presence, which are both required for commercial activities and circulation of foreigners on the system. The “X” shape axes starting on the border line and enclosing clusters within them and that are potentially more integrated than in local and global graphs represents the oldest suburbs where slaughter and dried meat plants were placed and that concentrated the most part of job offers until 1960. As workers were indistinctively Brazilians and Uruguayans, their accessibility amidst the system were required as well as a shallower configuration that could provide coexistence of social, cultural and national diversity of workers.

Choice map (Figure 5) displays the importance of ring roads system to regional and international transit inside and through the city. It means that accessibility is concentrated on these axes and there are few options to cross settlement using less integrated axes or more local axes.

Economy of lines, patchwork resemblance grid, low integibility and synergy measures and mean depth of the system is high, consistent with MEDEIROS & HOLANDA (2007) typification of a Brazilian large sample of cities from various sizes (in number of lines). It is to say that even small towns reproduce complexity; fragmentation and clustering that reflect weak city governance parameters, always subject to market laws, discontinuity of urban planning public policies and the Brazilian laissez – faire character towards public property.

The analyses also reflect that if social investments target segregation, urban spread patterns deconstructs the once accessible grid structure by means of investing in a morphology that captures movement in and out the city (ring roads with higher Global Integration levels) and favors new kinds of centrality that are intrinsically linked to transportation, which is, more or less what happens in every Brazilian city nowadays.

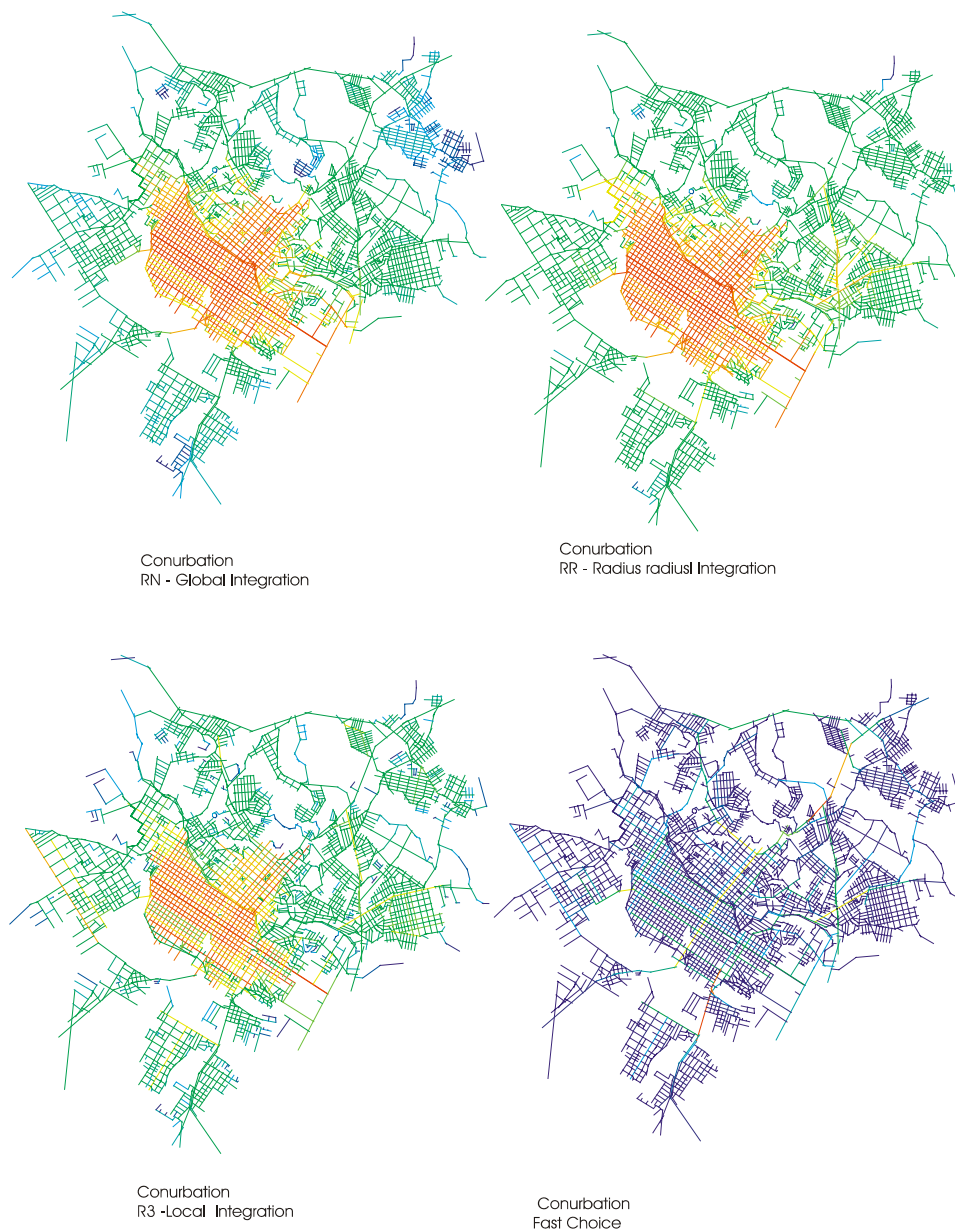
### **3.2 Rivera / Uruguay: configurational description**

Rivera is a smaller system (Figure 6) in number of lines (Table 1) than Santana do Livramento, although urban area spreads on a larger surface and lines are longer. What calls immediately our attention when we observe The Global Integration (Rn), Local Integration (R3) and Radius Radius (RR) Integration graphs (Figure 7) is the similarity of Integration and, therefore, accessibility levels on both local and global scales of the system. The phenomenon is due to the topological weight of orthogonal grid pattern on the whole of the system. As said before, the orthogonal grid enhances high permeability levels resulting in shallow configurations which privilege co presence between locals and strangers (HILLIER & HANSON, 1984) and indistinctive allocation patterns due to its non-hierarchical character (FIGUEIREDO & AMORIM, 2007), and therefore a theoretical pulverization of centrality along the largest part of the system.

Rivera urban spread / growth was based on the repetition of orthogonal grid pattern by means of extending longer lines parallel to the border line and inserting regular blocks along those. Geographical and topographical incidents were disregarded, and structure was strengthened. The orthogonal grid represents the oldest, most consolidated and larger part of the system, since the city growth has been under stagnation until the end of 1980. New clusters tree like shape are low income dwelling clusters placed along the roads that connect the frontier settlement to Montevideo

(Uruguay Capital city) and to Argentina and are recent and insulated from city by a river (Cunapiru), military facilities and wildlife conservation areas.

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**Figure 07**

*International conurbation Rivera / Uruguay – Santana do Livramento / Brazil Syntactic measures*

Distinctions seen in Global (Rn) and Local (R3) Integration values are credited to longer lines in the system which also functions as connectors between the urban area and regional / national road network. Those longer lines function as centrality generators that assume a linear shape along the streets and operate basically in two levels: a Global one, where Rivera system connects to Livramento where axes are continuous to the ones across the border line. This is the oldest centrality pole and concentrates the most part of tax free shops, banks and symbolic buildings. The other centrality pole, where even displaying a mix of land uses commercial land use overcomes dwellings is the longest line of the system, which represents a local centrality and commercial pole to suburban population.

Choice map (Figure 7) highlights these centrality axes, along with the most important connection between Livramento “dry port” and Montevideo (in red) the most important Uruguayan road.

	Number of axial lines	RN max	RN min	R3 max	R3 min	RR max	RR min	INTEGIBILTY	SINERGY	Average Depth
SANTANA DO LIVRAMENTO	1128	1,1491	0,4268	3,9906	0,3333	1,6626	0,316	0,3932141	0,615717914	7,58
RIVERA	742	1,75	0,47	4,4617	0,3333	3,0475	0,349	0,636039032	0,837509419	4,977119785
CONURBATION	1889	1,31	0,4473	4,29	0,3333	2,153	0,3284	0,479229242	0,665000991	7,334920635

**Table 1**  
*comparative Space Syntax measures and correlations*

The orthogonal grid area retains richer dwellings and sophisticated commercial activities and operates as a large center full of activity, movement and core of the city social life. It is important to remember that Uruguayan society is much more homogeneous than Brazilian and the distributiveness of accessibility provided by orthogonal grid fulfill their social expectations of co presence and social exchange. Segregated dwelling areas have been recently incorporated to their governance system as a way to absorb traditionally rural population into urban areas. The social differentiation comes from the opposition rural / urban recent background more than from economical classes. Cultural and educational differences are the first reason for spatial segregation.

Rivera shows a more economic grid than Santana do Livramento. Higher integibility and synergy measures and mean depth of the system is lower, consistent with MEDEIROS & HOLANDA (2007) typification of Latin America sample of cities which is, according to the authors restrict and exceptional. Even though we can consider that patterns of co presence and movement favors interchange between locals and strangers and weak hierarchy. We can also say that spatial patterns dating from Colonial times are still reproduced nowadays denoting the maintenance of social and cultural expectations. Urban planning focuses mostly in the improvement and qualification of public places within the orthogonal grid and even distribution of infrastructure systems among new governmental housing expansions. Unlike the Brazilian case, city centre was not emptied or degraded, on the contrary, land plots and dwellings are more valuable than ever on the city core and the mix of land uses is real and evenly scattered.

#### **4. Conclusions: Are the Conurbation Spatial Patterns a Symbiotic Byproduct of Both National Cultures?**

The differences between Brazilian and Uruguayan social and spatial dynamics became evident through environmental and social and spatial lives found in both cities centralities. Rivera centre is a consolidated place which maintains its symbolism while update the uses and activities that apply both for locals as for foreigners.

Santana do Livramento centre has been emptied of its symbolic significance and centralities shifted according to cultural and social expectations based on more excluding co presence patterns, therefore leaving the shallower old centre spaces for local interfaces mostly empty. As a consequence, newcomers find in this emptied portion of the city good conditions to settle down without calling too much attention to their foreigner's condition.

If we look at Figure 8, in which the graphs of the whole of the conurbation appear we notice at once that the resulting configuration is not a sum of both previous configurations, but instead a whole new system in which the orthogonal grid captivates integration, and therefore centrality,

which structure pattern provide necessary elements for a shared field extremely propitious for diverse co presence and distributive movement that constitutes a single centre at the same time local and global.

Global Integration (Figure 7) highest values for the conurbation are concentrated mostly along the orthogonal grid. The most important data brought up by the analyses of this map is that the street system that runs along the borderline is included in the set of most integrated lines. This is very interesting, if we assume that a border is supposedly a barrier between two different systems. In this case, symbiosis and systems co dependence is even strengthened by this subversion. If we go back to Figure 8 once more, we will find out that Local Integration (R3) remains amongst the orthogonal grid, but values are weakened and the main axes connecting suburban clusters are added to the system. Mean Integration (RR) reinforces the importance global integration to typify the conurbation spatial structure.

Most striking is Choice map: It captures preexistent ringness of Livramento Choice Map, but selects from Rivera urban grid only the most integrated axe which is composed by main commercial streets of both cities, exactly the one which functions as a modern promenade, where movement reaches its peaks and co presence is extremely diversified. Luckily, free shop zone is concentrated along it. Social expectations of co presence are projected on foreign patterns which is a cultural trace of Brazilian upper classes: the valorization of the other / stranger as someone better than himself while not having to give up their patterns of local (and space based) social and spatial segregation.

If we look again at Table 1 we find out that measures of integration, integibility, synergy and mean depth of the conurbation are contaminated by the syntactic measures of Santana do Livramento, reducing the values for the entire conurbation.

This symbiotic behavior of the conurbation spatial structure provide opportunities for Brazilian profit from well known more sophisticated and cosmopolitan Uruguayan cultural heritage as they are able to appropriate themselves of Rivera city centre as their own: the orthogonal grid is easily used by foreigners and places Livramento decadent centre as a extension of a single centrality. As a way to close this discussion we might say that this international conurbation placed in Brazil – Uruguay frontier remains ambiguous in the sense that most outstanding Space Syntax measures indicate that conurbation type follows Brazilian patterns of space production but centrality core lays within the orthogonal grids which characterizes Latin American cities morphology.

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