

Building space and myth at the edge of empire: Space Syntax analysis of St. Petersburg, 1703-1913¹

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Abstract:

The foundation of St Petersburg in 1703 involves a tension between Scandinavian and Slavic identity. By reviewing grid maps over a period of time, it is possible to create connections of authorial structures and show how they not only come into tension with mythologies being associated with the city but how they also continue to generate a mythos for the city. Drawing on space syntax analysis of five stage of the evolution of the city, I show how the ongoing building of the city cannot be separated from the construction of an evolving mental model of the city. The mythic associations attributed to the city at her foundation stand in stark contrast to the ongoing problems of not only creating an idealized plan but in building a city that was rapidly becoming the major architectural and civil engineering project taking place in the north

Introduction

Approaches to the imperial city founded by Peter the Great on the Gulf of Finland in 1703 have often split the study of the urban plan between the highly developed mythos associated with the city and its actual construction. The repeated reference to the psychological force of the city so evident in work by Pushkin, Gogal, Dostoevsky, to mention only a few, stand in harsh contrast to the technical accounts of canal and bridge building, the city's extension toward the Gulf of Finland, the building of the world's deepest metro system, the industrialization of the city during the Soviet period, and the rebuilding of the city after its destruction in the Second World War. My objective in the following involves a consideration of the relation between the mythos of the city and its construction through the use of tools provided by recent work in space syntax. Although reference will be made to different periods, my primary objective will be to look at the earliest plans for the city and to notice their importance for an emerging mentality of the city.³ A further argument for this study appears in the absence of any detailed analysis of St. Petersburg from the vantage point of space syntax and in the fact that this year marks the 300th anniversary of the founding of St. Petersburg.⁴

Keywords

Constructing the "view" of St. Petersburg, phenomenolog of mental space, Space Syntax and the Tartu School, narrative space, Dostoevsky and urban development

17.1

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1. Early maps of the Neva Basin

Consideration of Petersburg's origins, celebrated in the publication of Russian and European maps at the beginning of the eighteenth century, must begin with a reminder that Neva delta was inhabited well before the proclaimed founding of the city.⁵ A Swedish fortress (Nyenskans) had been built on the Neva River in the seventeenth century and a Finnish-Swedish landing existed at the entrance to Lake Ladoga (Nöteborg). The presence of both place names on seventeenth-century maps shows that they were used to mark a line of demarcation between Greater Sweden and Russian territory. Swedish claims and even a Swedish affinity to the Neva delta is hardly surprising when we remember references in sagas to the river passage from the Gulf of Finland to Lake Ladoga. Viking connections to trading posts at Saryia Ladoga, Saryia Rusa, and, of course, Novgorod remind us even more of the ways in which the Neva delta would have worked as membrane permitting exchange between multiple cultures.⁶ The detailed Swedish maps of Nyenskans, that include references to a German church, suggest that while the town was surely a military outpost on the eastern frontier, like Vyborg and Kexholm, it was also regarded as sovereign Swedish territory. From the vantage point of one thousand years of cultural interaction, the Neva delta may be viewed as a crucial site or even cultural laboratory for the creation of a confederation of Swedish or Russian interests.⁷ (Figure 1) The struggle to give a specific cultural identity to such a trading confederation may even remind us of comparable sites in the eastern Mediterranean. A sign that a single location such as Petersburg could have imperial associations appears in records that describe flags flying from Peter Paul Fortress as coming from strategic points on Russian's southern borders (Massie, 1981: 369). In effect, Petersburg quickly becomes a symbol of a Russian frontier that extends from the Finnish Gulf to the Black Sea.

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Figure 1: Swedish map by Carl Eldbergh (1701) of Neva delta from B. Jangfeld, 1998, *Svenska vägar till St Petersburg*, Wahlström & Widstrand: 32

In a similar manner to the way Nyenskans controlled the edge of the Swedish territory near the mouth of the Neva River, Petersburg is built to mark the boundary or the edge of Russian territory. The strategic, cultural missions of the two installations are significantly different, however. Whereas Nyenskans marks a movement inland toward traditional trade routes into the Volga River system, Petersburg is not interested in facilitating internal traffic for other nations but in controlling its own access to the sea. Petersburg quite simply demarcates a border post on the inner sides of the islands or the sides facing away from the Finnish Gulf. As we will see further on, as Petersburg develops the integration core – the binomial Fort/Admiralty — crosses the river without following the river. Hence, the city is built as an elevation or as a façade rather than as an alley or street. The integration core emerges in the vicinity of the Admiralty and stretches inland through three boulevards, and eventually across one bridge. It never follows an embankment for a very long distance. The elaborated embankments cluster around three islands without suggesting

continuity up the river. In this respect, St. Petersburg may indeed be compared to Venice or Constantinople, when viewed from the sea, rather than Amsterdam, Hamburg or New Orleans. From its very origins, Petersburg is *not* a common delta city, but a military post.

The Swedish losses during the Great “Northern Wars” offer a background for the refiguration of the Neva delta. When Peter takes Nyenskans, the Swedish settlement on the banks of the Neva, in May 1703, he conquers not simply a military stockade but the mentality of Swedish military plans for the ongoing integration of the frontier. Maps from the late seventeenth century show that the territory both north and south of the delta was being divided as if it were part of the Swedish crown’s provincial system. While Peter’s decision to abandon Nyenskans and build a Russian fortress further down river on Hare Island, the present site of the Peter Paul Fortress, should be first and foremost viewed as a strategic decision because of the vistas it commanded of the different arms of the river. It also provided a visual invitation to link the outer island with the mainland. (Figure 2) It is not a coincidence that the cartouche of the new Russian fortress inset in the 1717 map with flag flying is placed at the approximate point of the former Swedish fort. The decision to build a fortified shipyard across from the Peter Paul Fortress marks the beginning of an evolving set of events that lead to the development of a larger community. After initially building a naval yard on Lake Ladoga, Peter discovered that transport would be easier if the yard were relocated on the bank opposite the fortress. It is this decision in 1709 – really a decision that may be linked to the Russian victory at Poltava – that leads to a clear decision to draw plans for a more developed community.

Plans for an expanded town developed especially after 1709. Domenico Trezzini had arrived in 1703 and began work on the fortress proper. It is not the development of individual structures that should be emphasized but the extraordinary engineering project that the city represents. In order to build the city, people ordered estates across the empire to provide workers for the project. In order to assure the creation of a permanent city, Peter ordered buildings to be made of brick and stone wherever possible. Carrying out such an order in a swampy delta without stone or brick was an enormous feat! Building in Moscow was ordered to cease and to insure that it did cease Peter ordered all the masons from Moscow to move to Petersburg. Far beyond simply increasing taxes in order to pay for the project, Peter ordered everyone coming to the city on penalty of severe fines to carry stones or bricks with them. Knowing that it would be difficult to attract a population to the new town in a short period of time, Peter ordered a migration of aristocratic pioneers. In 1714 Peter ordered military officers to move to the new town. In 1716 the Moscow nobility were ordered to follow. The massive building offered a strange site. One account

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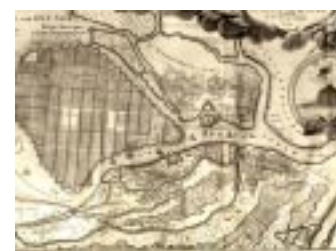


Figure 2: The 1717's plan of St. Petersburg from *Ocherki Istorii Leningrada*, Volume 1 1955, Volume 1, Moscow, Akademii Nauk, tipped in between 128-29

describes, “A Heap of Villages linked together, like some Plantation in the West Indies.” (Hughes, 1988: 216) As a civil engineering project the enterprise of creating such a “heap” was enormous. Research estimates that in the period 1703-25 between 10,000 and 30,000 persons worked in Petersburg each year (Marshall, 1996: 76). In Peter’s day it was estimated that 100,000 people had died (Massie, 1981: 373). It is no exaggeration to think of the construction of Petersburg in the first five decades of the eighteenth century as comprising the single major engineering project of that century. The city continually confronts one with a wilful Edenic vision that must be juxtaposed with extraordinary suffering.⁸ The project, on the scale of such mythic projects of the Tower of Babel, would continue to evoke lasting narratives.

Jean-Baptiste Le Blond arrived in 1716, together with the migration of nobility, and received primary responsibility for the layout of the city that emphasized the development of Vasilyevsky Island. It is possible to see Peter’s plans influenced by his trips to Europe. His trip to Holland and England (1696-97) contributed to his interest in creating rows of merchant houses on Vasilyevsky Island connected by an elaborate grid-work of canals. Hughes cites an anecdote telling of Peter’s disappointment on returning from France in 1717 only to see that the grid-plan streets and canals on the island were of narrow proportions, only about half as wide as those in Amsterdam, which he regarded as a model (Hughes, 1998: 217). But his disappointment in the Vasilyevsky works, was also complemented by a renewed sense of the opportunity he had to create panoramic vistas. In effect, the special emphasis given to Nevsky Prospekt comes as a consequence of his trip to Paris in 1716-1717. The Holstein envoy reported that “[d]espite the fact that the trees planted on both sides in rows of three or four are still small, the street is unusually fine and with its great length and the clean state in which it is kept.... It makes a splendid sight such as I have encountered nowhere else.” (Hughes, 1998: 221) By 1724 the whole of Nevsky prospect had been paved and 600 street lamps fired with hempseed oil had been installed (Marshall, 1996: 79) The importance of Nevsky Prospekt as actor in the ongoing development of the city will become even more apparent as we look at the space syntax analysis of early Petersburg maps.

2. Space Syntax of St Petersburg prior to the Russian Revolution

The analysis of Petersburg maps from 1717, 1737, 1792, 1834, 1913 shows the strong integration of space around major streets on the primary islands.⁹ It is not, however, the spatial integration of individual islands that is most significant but the evolving integration of the islands themselves. Before turning to the several comments on the spatial forces that lead to the nineteenth-century bridge construction, I want to turn specifically to the street grids represented on the three islands.

2.1 1717 Plan of St Petersburg

The 1717 map records Peter's effort to make Vasilyevsky Island the centre of the city. As the 1717 maps shows, St. Petersburg was spread on the mainland on the left bank of Neva, and the two major islands of Vasilyevsky and Petrogradskaya Strana. Because there are no bridges at this time, we have analysed the grid system of each island separately. Axial analysis of the 1717 plan shows that on Vasilyevsky Island, two parallel streets comprise the integration core (Figure 3). These streets mark out Peter's projection of modelling the island on the residential areas he had seen in Amsterdam at the end of the seventeenth century. As we will see in subsequent plans, the extraordinary expense of building canals resulted in the construction of a large avenue, Bolshoi Prospekt that draws together the two sides of the island. On Petrogradskaya Island the core is made of two streets (currently Maksim Prospekt and Dobrolyubova Prospekt) that wrap the open space across the canal from the Peter and Paul Fortress. On the mainland, the major contemporary thoroughfares of Nevsky Prospekt and Moskovsky Prospekt, only represented by dotted lines in the map of 1717 already begin to establish an integration core, which springs in a radial manner from the Admiralty. These two streets extend from the main square before the Admiralty without regard to the topography, crossing over canals and marshes. The rest of the grid, on the mainland, forms clusters aligned to the bank of the river Neva, to some of the crescent canals, and to the two main radial streets already mentioned. The most segregated areas appear across the canals (Bolshaya Morskaya and the Fontanka)

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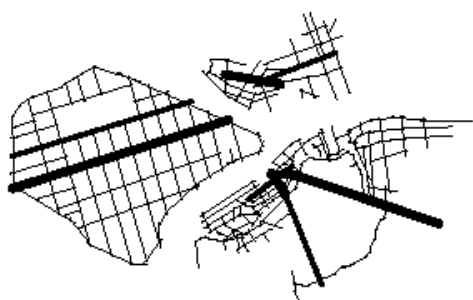


Figure 3: Axial analysis of the 1717's Petersburg plan based on the map from *Ocherki Istorii Leningrada*, Volume 1 1955, Volume 1, Moscow, Akademii Nauk, tipped in between 128-29

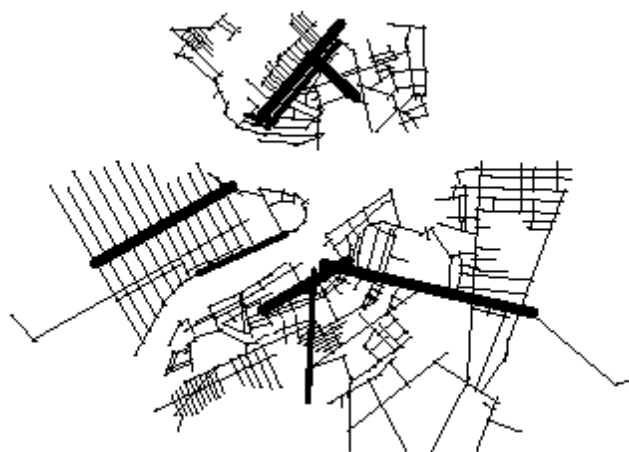


Figure 4: Axial analysis of the 1737's Petersburg plan based on *Ocherki Istorii Leningrada*, Volume 1 1955, Volume 1, Moscow, Akademii Nauk, tipped in between 96-97

2.2 1737 Plan of St Petersburg

An almost identical structure of integration to 1717 is preserved for the mainland in 1737 (Figure 4). The stark contrast between the integrated core around the emerging thoroughfares and the segregated surroundings has become even more evident. (By 1737 Nevsky Prospekt had been completed paved and lighted.) In Petrogradskaya,

the core moves slightly away from the open space opposite the Peter and Paul Fortress along the long boulevard of Bolshoi Prospekt. Still, the crescent of Prospekt, near the Peter and Paul Fortress, remains quite integrated in geometrical and syntactic symmetry to the Admiralty across the Neva. This symmetry is further reinforced by the detachment of the Admiralty from Dvorstovaya Place by means of a canal to replicate the natural island of the Peter and Paul Fortress. The Admiralty may be thought of as a smaller naval fortification. Just before the Neva's arms open around the two sides of Vasilyevsky, the city shows two of its main military institutions, the Fortress and the Admiralty shielding the two main integration cores of the city located just behind them. On Vasilyevsky Island the integration core has shifted to the Bolshoi Prospekt, now complete not as a canal but as a large avenue crossing the island and the embankment facing the Admiralty.

17.6

The spatial configuration of the 1734 plan shows not only the spatial integration of the individual islands but displays the powerful relationship between the spatial components themselves. The spaces, marked by important structures, establish a spatial connection between them and affirm a spatial nucleus for the city that might be described as the Petersburg “experience” or “view.” The Peter and Paul Fortress, the Admiralty and the Winter Place (strongly marked by the grand prospect of Nevsky), and the Academy of Sciences and Menshikov Palace – all view each other and establish the river as a phenomenal integration core. It is important to emphasize that it is the river itself and especially the broad basin between the three islands that creates this core not the shore of the Finnish Gulf. Visitors as early as the eighteenth century were surprised by the city that opened before them as they came on the land-route from Moscow or through the port facilities at Kronstadt. The harsh landscape of the gulf suddenly gives itself over to the discovery of a grand vista that in one sweeping glance integrates the spatial nodes of the islands. I emphasize this view because it is hardly a nineteenth-century invention. Already by the middle of the eighteenth century, the integrating “view” becomes symbolic of the new Russia. For example, publications of the new Academy of Science celebrate the view through detailed engravings and remind us that the Petersburg “view” was given mobility through printing technologies. It is the virtual experience of Petersburg that stands behind Voltaire’s extraordinary praise for the city.

2.3 1792 Plan of St Petersburg

The map of 1792 reveals the continuing integration on the separate islands and provides strong evidence of the spatial cohesion of the islands themselves (Figure 5). The construction of three bridges, one joining Vasilyevsky Island near the University and others joining the Vasilyevsky with Petrogradsky, and the “Finnish” side with the mainland. By far the strongest integration occurs through the bridge linking

the Admiralty side with the Academy. The bridge not only links the imposing facades along the river – further strengthening the panorama of the city – but powerfully draws the perspective of Nevsky and Moskovsky Prospekt to the Admiralty embankment and then the Academy Embankment. The streets on Vasilyevsky also significantly change their orientation away from the Peter and Paul fortress toward the Academy Embankment and the Admiralty. By shifting the core to the mainland, the fortress becomes physically more segregated at the same time that it continues to participate in and probably dominate the visual perspective. The mainland not only keeps its original structure of integration with two main boulevards and the linking streets, but also reinforces its strength by coming to govern the evolving structure of the whole city. A convenient way of understanding the 1792 map appears when we recognize that the map complements the placement of the Falconet statue of Peter in 1782. Located on the embankment near the Admiralty, the celebrated international statue (commented on by Diderot and many others) becomes an ideological expression of Russian accomplishment and participates as marking the symbolic core of the city.



Figure 5: Axial analysis of the 1792's Petersburg plan based on *Ocherki Istorii Leningrada*, Volume 1 1955, Volume 1, Moscow, Akademii Nauk, tipped in between 320-21



Figure 6: Axial analysis of the 1834's Petersburg plan based on map from Branch, M., 1997 [1978], *An Atlas of Rare City Maps: Comparative Urban Design, 1830-1842*, New York, Princeton Architectural. Press, pp. 87

2.4 1834 Plan of St Petersburg

The 1834 plan of the city shows the consequences of a growing population in the city (396,000). While the core is still based on the prospects drawn into the Admiralty embankment (Nevsky, Voznesenky, Gorokovaya), the 1834 plan reveals growth toward the Finnish Gulf that continues through the rest of the century. (Figure 6) Here development takes place primarily as the outer islands (Kameny and Krestovsky Islands) become summer residences and recreation areas for the aristocracy. On the mainland, the map indicates that Nevsky Prospekt has created an even more power-

ful core of integration. Such strength is not only marked by the clustering of palaces and gardens within the crescent of the Fontanka Canal, but by the grid of residential blocks that appear beyond the Fontanka. What we see is that the powerful integration core of the city also generates economic demarcation. Here it is important to see that such demarcation is represented not only in the workers neighbourhoods beyond the Fontanka but also in the movement of the aristocracy itself to the outer islands.

Nevsky Prospekt offers a particular strong example of the ways that spatial integration may conceal at the same time that it reveals. Nevsky not only links seats of authority (Admiralty and Monastery) and creates a power-grid through the city but creates space that invites citizens at the same time as it divides them into classes. The 1834 plan gives us a powerful means to consider the spatial development of the city and at the same time functions as grid for the orientation of characters from Pushkin, Gogol or Dostoevsky. In essence, Nevsky functions as a spatial medium for the physical definition of the city at the same time that it provides an avenue to enter the layers of Russian culture. Although I have no time to show the multiple ways in which Nevsky's space provides a point of entry into an anthropology of urban space, I want to briefly outline a point of departure. At the same time that the prospect functions to economically integrate the commercial development of the city, it works to display and even flaunt those to whom such integration applies. At the same time that Nevsky can display authority it can render a citizen invisible. References to such distinctions in poetry, novels, operas, paintings abound. For example, the architectural facades of Nevsky (as well as the facades on the embankment) have often been regarded as a stage backdrop that essentially confirms the ways that the prospect itself has been experienced as a stage.¹⁰ Beyond the psychological exploration that has taken place on the stage, the street, as the city, is repeatedly described as a stage of historic events like the Russian Revolution. Lest we think that this is only an invention of Eisenstein, whose architectonic cinema repeatedly draws on the city, we should recall that from its origins the city was historically staged. The statue of Peter points toward Sweden, as the statue of Charles XII in Stockholm points toward St. Petersburg. It is less frequently noticed that the orientation of Nevsky Prospekt marks a point of orientation from Pulkova observatory to Peter's military island at Kronstadt and by extension to Sweden. The geometric link between Pulkova and Nevsky was demonstrated repeatedly by German artillery during the siege of Leningrad. The orientation is important. Just as Nevsky draws the monastery to the seat of naval technology, just as it comes to integrate the commercial development of the city and affirm the Czar's role in economic development, it attests geometrically and cartographically to the national identity of the city and its orientation to Europe. It is of interest to notice that three main integrated

thoroughfares that start from the Admiralty - Nevsky, Gorokhovaya and Voznesenky - coincide with significant directions in the map of Russia and other neighbouring countries. After calculating the position of cities using latitudes and longitudes we discover that with small deviations, the direction of Nevsky leads to the fort of Kronstadt in the Baltic, Gorokhovaya to Novgorod, and Voznesenky to Istanbul, (Figure 7) Such orientation is hardly coincidental and affirms what Sidney Monas has called the “geopoetics” of the Russian historical experience. (R. Milner-Gulland, 221). “Despite Peter’s no-nonsense image and secularising intentions, his city remains a great symbolic landscape with iconic as well, perhaps, as ‘anti-iconic’ resonances.” (Milner-Gulland, 221).

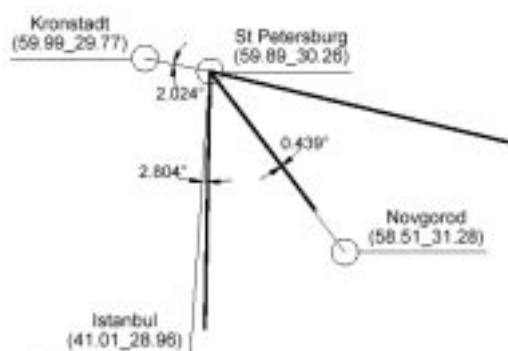


Figure 7: Correlation of street and compass orientation



Figure 8: The 1913's Panorama of St. Petersburg (personal collection)

17.9

2.5 1913 Panorama of St Petersburg

The dramatic panorama of St. Petersburg (probably a version of an earlier panorama from 1913) that appeared for sale in St Petersburg shortly after the renaming of the city in 1991 provides an opportunity to review what we have learned from the earlier plans. The plan is important both for what it reveals and conceals. In my previous paragraphs, I have argued that throughout the development of the city, we have noticed a spatial integration of individual islands occurring at the same time there is an ongoing integration of the islands themselves. In particular we have noticed a unifying core established by the visual clustering of the embankments. We have seen that what I have called the Petersburg “view” was strongly reinforced by the radiating prospects leading from the Admiralty. Such features of the earlier maps are portrayed strikingly by the panoramic map. (Figure 8) It is hardly a coincidence that our viewpoint toward the Admiralty gives a perfect display of the spatial integration core and the complete view over the three main thoroughfares. Once again the Admiralty becomes the focal point of the plan. In addition, however, the driving force of the axial movement toward the Admiralty and the University

Embankment is complemented by the extension of the street (Kamenostrovsky Prospekt) across the Troitsky Bridge. Overall, the 1913 plan calls attention to the momentum that we have noticed since the initial plan of 1717.

The 1913 plan also contains omissions that are remarkable and that help reinforce the emerging spatial ideology of the city. While we look down and outward toward the Finnish Gulf, our viewpoint does not take in the gulf itself. Instead, we are shown a city situated on the inner islands of a broad delta. The absence of the street names reminds us that rather than a planning or street map, we are looking at a map of sites useful for the tourist. But the monumental significance of the map also calls attention to the absence of any reference to the hundreds of factories that had grown up beyond the Fontanka and along the river. The clarity of the map is striking precisely for conveying the ideological clarity of the Czar's vision of the city as a garden spot. As our eyes explore the panorama we are repeatedly led to the parks and open spaces that work in extraordinary counter-distinction to the psychological space of a Dostoevsky, Bloch, Mandelstam, Akhmatova, or Brodsky. Finally, I want to think of the utopian panorama as a challenge to an ongoing elaboration of the space of St Petersburg in subsequent studies of Soviet and Post-Soviet Petersburg. With such ongoing projects in mind, I want to turn my attention to several comments on the relation between the architectural space explored by space syntax and the narrative space navigated through cultural mythology.

3. The Space syntax of Architecture and Narrative Space

The body of work known as space syntax should not be separated from the critical structuralism theory with which it has such affinity. Although the use of computational methods to approach urban plans is an appropriate part of space syntax, we must be careful to see that such analysis is also related to formalist linguistics and to extensive work in cultural semiotics. At a time when cultural studies have become so loosely defined, it is important to recognize the valuable links between the formalist analysis of architectural space and what I will refer to as narrative space. In the previous section, I have outlined some of the ways in which space syntax allows us to access the evolution of St Petersburg. In what follows, I am going to suggest that the spatial analysis can be reinforced through further consideration of the "spatial" information manifest in a range of cultural texts. An especially strong integration of the cognitive space of architecture and the cognitive space of literature is provided by Russian literature. Above all, the work of Usspensky and Lotman show the detailed way in which a semiotic analysis of space contributes to Russian analysis of culture.

If Uspensky provides a microanalysis of space through his semiotic study of space in Russian icons, Lotman provides a macro analysis of cultural space that includes cities. In part this recognizes a strong correlation between written space and actual space. It reminds us that the creation of space – the evolution of space – may be said to emerge through a continuous interaction between actual and imagined space. I noticed earlier that the city is often compared to a stage-set on which historical and psychological transformation are enacted. Here I would like to notice how appropriate it is to compare what is a theory of spatial blanks in architecture, with a theory of blanks in literature. In both it is the phenomenological experience of the participant – the observer or the reader – that promotes an act of filling in the blanks in order to create a continuous experience. In the case of the reader, “filling in the blanks” becomes essential as a process of using syntactical and linguistic cues to create a narrative. In the case of architecture, it is a matter of the observer or participant creating a continuous experience. While it may be possible to argue that such continuous experience can be synonymous with narrative continuity, I think it is important to understand the ways in which the phenomenological experience of space may function cognitively in ways that should not immediately be assumed to be the same as narrative experience. Space syntax, as I think of it, should be closely linked to distributed cognition.¹¹ Space syntax in effect provides access to the codes with which we think. From the vantage point of architecture, distributed cognition reminds us that architectural space cannot be approached through aesthetic filters alone but must also be regarded as a coding system that promotes particular cognitive responses in observer/participants.

17.11

Lotman has argued that there are two ways in which a city may be demarcated in relation to its surrounding space: it may be isomorphous with the state or be an antithesis to the surrounding world.¹² In the first mode the city might be thought of as being like a church as an idealized model of the universe situated at the centre of the earth. As such the city, like Jerusalem, may be regarded as the centre no matter where it is actually located. In the second mode the city can be regarded as eccentric in relation to the perception of cultural boundaries. By being situated at the edge of a seashore or river, the eccentric city may define itself as antithetical to nature to such a degree that its creation becomes understood as a supernatural act that must struggle against eschatological prophecies of its annihilation. St Petersburg is inseparable from such mythology. What we must see, however, is the way in which the configuration of the city – the integration core of the islands as well as the integration of the islands themselves – embodies such mythology.

If I am correct, the actual space of Petersburg has provoked from its inception a continuous dialogue that repeatedly draws attention to the tensions of connections. While the actual space syntax shows the powerful axis at work within the city, the narrative syntax shows the importance of peripheral spaces or the nodes where linkages take place. Gogol, Pushkin, Dostoevsky, to once again only refer to major figures well-known in Europe, are virtually synonymous with the creation of psychological characters that move within the evolving urban space of Petersburg. Dostoyevsky's character in *Notes from the Underground* called the city, "the most abstract and contrived city in the whole round world."¹³ In his novel *Petersburg*, Andrei Bely saw the city as a circle, or even more precisely as the edge of the circle, or with even more exactitude, a zero!¹⁴ What is important, however, is not simply the characters but our recognition that their emergence is dependent on their being situated in an architecturally recognizable space. The connection of imagined characters with space is recognized by the common Russian practice in St Petersburg of identifying sites associated not only with writers but their characters. It is now even possible to discover metonymic representations of characters – Gogol's nose — literally concealed on the side of a canal or hidden in an alleyway. What is so important here is not an idiosyncratic Russian practice but the fusion of architectural space with an imaginary space that could migrate from one urban setting to another through the minds of readers. Earlier, I noticed that Petersburg was remarkable because of the way that it was repeatedly made present virtually throughout Europe and North America. Of course, another example of such virtual practice occurs in the "spatial" experience that Peter carries with him when he returns to Russia from his trips to Europe. Such virtuality, so evident already in the eighteenth century, becomes reinforced by the creation of a psychological space that becomes widely disseminated through poetry and novels. It is hardly a coincidence that repeated accounts of the development of the urban psychological novel (Joyce) emphasize the importance of St Petersburg. Such commentary need not stop with the analysis of literature but reminds us that literature too contains extensive spatial cues that can be useful for a space syntax grounded in architecture.

Notes

¹ I owe my thanks to many libraries for archival and cartographic material: the Russian National Library in St. Petersburg, the Academy of Sciences Library in St. Petersburg, Carolina Library at the University of Uppsala, The Newberry Library in Chicago, and the Regenstein Library at the University of Chicago. For my work in St Petersburg, I am indebted to Professors Daniel Alexandrov and Yuri Tretykov. For help in Sweden, I would like to thank Ulla Birkegård. At the Newberry Library, I would acknowledge the help of Paul Gehl, and at the University of Chicago, Professor Michael Murrin. For the analysis of specific maps and the digital rendering of the space-syntactical analysis, I am indebted to Ermal Shpuza of the Architectural Ph.D. program at Georgia Tech. Finally, I want to thank my friend and colleague John Peponis for counsel on this project and for the pleasure of working together.

² Although, I am also collecting cartographic and archival material on the Soviet and Post-Soviet period, I have limited this paper to the early plans of Petersburg.

⁴ The expansion of Petersburg's population (as well as the tragic loss during the siege) stands out dramatically when assembled over a three-hundred and year period: 40,000 (1725); 300,000 (1796) (395,000 (1834); 635,780 (1882); 873,043 (1897); 2,510,100 (1906); 500,000 (1944); 4.5 million (1975); 5.5 million (2000).

⁵ For an important account of Neva delta as territory in the Swedish sphere of influence see Bengt Jangfeldt, 1998. For a definitive study of Russian cartography see L. Bagrow, 2 vols. 1975.

⁶ See P. Bodin, 2000, 1993; S. Oredsson, 1998; For recent collection of historiographic texts in Russian see *Slavyane e rys: problemi e idei*, 1999.

⁷ For an account of the seventeenth and eighteenth century historiographic debates see my forthcoming article "The Edge of Empire: Olof Rudbeck and Mikael Lomonosov and the Historiography of Northern Europe" *In Search of an Order: Mutual Representations of Scandinavia and Russia during the Early Age of Reason* Uppsala: Lundequista, 2003; see also J. L. Black, 1986; R. Daniels, 1973; and V. N. Tatishchev, 1962.

⁸ "Peter was no Classical scholar, but from the beginning he strove to re-create his patch of swampy wasteland after the model, albeit dimly perceived, of the "pleasant place" (*locus amoenus*) associated in Ovid's *Metamorphoses* with the Classical imagery of paradise, of which springs, pleasant streams, trees, gardens, flowers, and birds' voices were staple ingredients. The city's watery location, of course, had contemporary and personal heavenly resonances. The new-founded city of St Peter was the successor to earlier Russian versions of the New Constantinople, New Rome, and New Zion. Parallels were drawn by contemporaries between Peter, the creator of a new city, and God, the creator of Eden." Hughes, 212.

⁹ I have selected maps of Petersburg (1717, 1737, 1792) from *Ocherki Istorii Leningrada*, vol. 1 1955. The 1834 map is from M. Branch, 1997; the 1913 panoramic map is from own collection.

¹⁰ "Another feature of Petersburg space is its theatricality. The architecture of the city, unique in the consistency of the huge ensembles which cannot be divided up into buildings of different periods, as is the case in cities with long histories, gives the feeling of a stage set... The marquis de Custine remarked on it: 'At each step I was amazed seeing the endless mixture of two such different arts: architecture and stage decoration: Peter the Great and his successors looked on their capital as a theatre.'" (Lotman, 197)

¹¹ E. Hutchins 1996; see also M. Turner, 2001. I would replace Turner's concept of "conceptual blending," which reinforces the phenomenological experience of the individual with "spatial blending" especially in settings where we explore a shared experience of space.

¹² See "The Symbolism of St Petersburg" in Y. M. Lotman, 1990, pp. 191-202

¹³ Cited in Robin Milner-Gulland, 221.

¹⁴ "However that may be, Petersburg not only appears to us, but actually does appear—on maps: in the form of two small circles, one set inside the other, with a black dot in the centre; and from precisely this mathematical point, which has no dimension, it proclaims forcefully that it exists: from here, from this very point surges and swarms the printed book; from this invisible point speeds the official circular." A. Bely, 1978 (1916) pp. 2

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