

Möbius Geographies

A Topological Reading of the City and a New Take on Koolhaas' "Atlanta" Essay

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This paper serves as counterpart to an essay published in the first edition of this journal (1). Both efforts strive to critically reassess Rem Koolhaas' writings during one of his most productive and transcending periods, most of which are recapitulated in his 1995 publication; *S,M,L,XL*.

When Rem Koolhaas wrote his essay on Atlanta - a clear extension to his thesis developed in the "Generic City" (1995) - a shift on his stance on discourse occurred. Koolhaas' moved away from his reappraisal of Modernism's banalities to what we would later come to know as post-criticism (in great manner inspired by his concept of "Manhattanism", developed in his book *Delirious New York*, where he praised the capacity of architecture to be informed by new technologies such as the elevator and described the divorce between its performance and appearance). Koolhaas became interested in the city as it happened, not on what it could become, and was convinced that new formal possibilities could arise from an understanding of these complex dynamics. A "projective" outlook rather than a critical one, and a passive rather than a confrontational stance.

The contemporary city had greatly shifted from traditional paradigms of composition, geometry and place making to a vast network of infrastructural connections that adhere to principles of formlessness and expansion. Its outcome was not intentional, but rather a byproduct of an ever expanding territory which had as its underpinnings market forces of economic profitability and speculation. This form of urbanity not only rejected conventional planning wisdom and predispositions, but rather it strived on its complete opposite of uncontrolled, ad-hoc and punctual growth patterns. It is the concept that during the 1990's Rem Koolhaas coined "disurbanism", particularly for its dismissal of urbanity and for its unpremeditated aim at dissolving the city. Yet, like in most of his writings, Rem Koolhaas in his "Atlanta" (1995) essay never assumes a critical stance for that which he is scrutinizing. On the contrary, he sees a possible paradigm in the logics and fluctuations of the market and its spatial repercussions. Like he states, "sometimes it is important to find out what the city is - instead of what it was, or what it should be" (2). Koolhaas merely serves as screenwriter to a script that already has a finale, in this case, the city itself.

However, it is common knowledge today to conclude that capital in itself cannot be the sole driver for urbanity. Architects and urbanists can no longer merely serve as interpreters to market forces. City design has to begin to provide models for resistance and socio-political transformations. In order to achieve an alternate theoretical framework of analysis - and at the same time proposition - a new metaphorical model for the city must be put into play. Just as previous allegorical paradigms have utilized nature, the body or the machine as interpretative form givers to the city, a fresh proactive yet at the same time retroactive metaphorical system must be developed in order to understand the environments which we are working with. That is why this model should incorporate the abstract notions and processes that are so strongly active in the contemporary built environment, but more importantly, learn to reconfigure and question them. It should also be able to shift between the real and the imaginative easily so as to facilitate a reading of the ever changing and volatile urbanity which is taking place. To attain this, the concept of topology will be utilized to reframe the concepts and observations described by Koolhaas in his essay on Atlanta - which are also clearly innate to most of today's cityscapes - in order to reformulate current urban strategies and their relationship to these complex environs.

Topology is a very abstract branch of geometry that describes complex surfaces and the relationship of points along such surfaces (3). Topology is not so much normal Euclidian geometry as it is qualitative geometry. It is a term used to refer to the continuity of space and spatial properties, such as connectivity, that are unchanged after distortions are applied. Problems of inside and outside are the essence of topology which ultimately vanquishes any attempt to demarcate either a station point or origin. In addition, topology occurs in an imagined realm; most of the exercises it seeks to resolve cannot be applied in reality. More so, topological

exercises are boundary-less and capable of infinite extension without self-intersection. Topology is scale-less and does not differentiate elements or objects so easily, on the contrary, for topology a basketball is the same as a ping-pong ball or the same as the earth's globe. All these qualities, of how topology is actually a process and not so much a predetermined form, like Euclidean geometry, are symptomatic to the way contemporary urbanity operates.

Today's cities are more interested in resolving connections and by doing so replicating themselves infinitely (just as Fractal geometry) than actually achieving a recognizable, controlled and predetermined environment. Its accomplices are infrastructure elements like the highway, water sewer and electric lines which help connect independent and isolated points along the built (or unbuilt) landscape. It has no center; hence it has no periphery, hence it has no limits. It instead operates as a network not a tissue, and it is not a reflection of ideologies, but a mirroring and byproduct of market forces (an abstract realm) which strives on capital gain. Architecture has attempted to employ the concept of topology as potential form giver before (4), yet the nature of this work strives on utilizing topology as a theoretical metaphor to understand the contemporary city, not re-build or re-envision it; but instead to develop a retroactive understanding that could serve us as a framework for readjusting, retrofitting and mending our built environment.

Topology as Process and Simulacra

The key to understanding topology is to remember that it is a theoretical exercise; a process and not a product. This is important in understanding the workings of our built environment. An example of one of these exercises is the *Klein bottle* envisioned by Albert Tucker. Nobody will ever see an object of this kind because it exists only in the topologist's imagination. A true *Klein bottle* passes through itself without creating a hole; a physical impossibility (5).

Efficiency of means is another key notion in understanding the processes that take place in a topological exercise. A true topological speculation will try to resolve or achieve an action employing the least amount of material, distance or effort. For example, if two points are given, the most efficient way to connect these two would be with a straight line. Is not this the same methods employed in connecting points or isolated places (enclosed office parks, private shopping malls and gated suburbs) in the contemporary city? An efficiency of means would declare that the way to connect to this other point would be through a line (a highway most certainly) and not a continuation of the tissue, hence, scale or distance is not a problem since "disurbanism" does not employ spatial qualifications, it only adheres to temporal ones. It is not the experience of getting there, but getting there as an end in itself.

We must note as well that both topology and architecture employ the use of graphs and diagrams to resolve the pertinent issues related to the city. Rudimentary topology employs the use of lines, segments and regions in the creation of these drawings. Graphs indicate the possibility of communication, the possibility of going from one space to another, it creates relationships between points (6). Urban form strives today on the concept of the diagram; it is the simplest way of resolving an architectural problem without the unnecessary need of applying ideologies or social-spatial concerns (and one must not forget that contemporary architects too, mostly influenced by Koolhaas himself, utilize and abuse the diagram as a form giver to architecture today).

This is the diagram at its most basic, banal and relentless. One of our tragedies as architects is that we are unable to deal with and find interest in this domain. Somehow, our intelligence is insulted both by the incredible limitations of architectural imagination that the diagram represents, and, in a more anxious way, by the fact that we ourselves have no alternative to provide to it (7).

From the highway to the shopping mall, the spaces of the contemporary city employ the diagram tirelessly as an urbanizing tool; employing repetition, economy of means and temporal instead of spatial qualifications. It could even be associated with real estate

speculation and development. Being in proximity to a highway exit (a line) or a good neighborhood (a point) provides the perfect scenario for a new development to occur.

Sometimes an area becomes suddenly popular. Attractors appear: it might be the proximity of a new, or even a rumored highway, beautiful nature, or comfortable neighborhoods. Attraction is translated in building (8).

In topology every point of an open graph, which is not linked by a segment to the virtual point, represents a space without any communication with the exterior space (9). Hence, an isolated point cannot take part of a topological graph exercise much in the same way that an un-communicated patch of the city cannot take part of the city's network or its real estate speculative process.

Topology, as well, does not employ in the creation of these graphs geographic origins, it is instead space-less and imagined. Contemporary tools for the planning and understanding of the actual city also employ these non-geographical devices. Demographic information, personal income and other informational tools are utilized in the new mappings of cities. Like Koolhaas suggests; "Nolli wouldn't even know where to begin."

Instead, the manifestation of the powers that configure the city has shifted from the outwardly visible to the invisible - that is, the city is not rendered through composition, gravity, form, or material, as much as it is through demographics and economic performance. Indeed, the idea of what constitutes a cartography of the late twentieth-century city has changed so fundamentally as to require a drastic evolutionary leap in the way the city is imagined: this is why the computer-based Geographic Information Systems (GIS) is so rapidly becoming the standard by which the city is spatially understood. The repercussions of this technology are simply this: no longer is the city visualized or composed as much as it is empirically computed (10).

The lines and contours of the new representational apparatuses of the city are dissociated to their former meanings in topography. These lines now represent market income and spending levels of the population. A topological reading of

the city instead of a topographical one. In Geographic Information Systems (GIS) the term topology is even used to refer to the continuity of space and the spatial properties associated to it, such as connectivity. It is the way in which geographical elements are linked together. This proves useful in GIS because some spatial modeling operations do not require coordinates, only (as the program refers to it) topological information.

Just as relevant is the fact that urban form is sustained by processes of legislation, production and finance. The autonomy of buildings and urban patches today are a clear reflection of the autonomy itself of financial and material processes that are all products of a competitive market and a neo-liberal political system. "Urban form is a phenomenal comprehension, one produced by dominant techniques of capital, production, material, and commodity practices as well as a new means of communication" (11). This understanding of built form equated to market forces steers the built environment from a former stable and ideologically propelled medium into a product, and in the end, a byproduct of the same financial system which supports it (and which can also easily disregard it). This turns urbanity into a system or a network, which as topology, strives on the economy of means and on abstract processes of relations, and not on formal or dimensional attitudes.

Atlanta is a creative experiment, but it is not intellectual or critical; it has taken place without argument. It represents current conditions without any imposition of program, manifesto, ideology (12).

The architecture of the contemporary city strives instead on the processes of what Jean Baudrillard coined the "procession of simulacra", the generation by models of a real without origin or reality, a hyper-real. This society of consumption is also a society of spectacle which feeds off of historicism and the simulacra of tradition. This artificial realm becomes the escape from the latter, of the expanded territory of economic and efficient means, a sort of fantastic realm in the spirit of Coney Island or Las Vegas; the market dictating our sense of belonging.

The contemporary city is in constant use and dependence of superlatives, symbolic forms and criteria which utilize the figurative in order to acquire market uniqueness and global recognition. Yet, in

the end it employs and survives on urban discontinuity and segregation in order to maintain the financial exclusivity and value of its parts; a true product of the market economy. Projects are advertised as cities within a city, a micro mimicking exercise that aspires to recreate that which is lost under the process of generating these projects themselves; a self-oriented contradictory model in which the city is shrank in scale, (or made scale-less like in topology), and then injected with urban predictability and impersonation. In the end, all these examples of architecture are not the construction of the city in the name of ideology, it is the product of a process, of an exercise in which the simulacra of tradition and figurative superlatives provide for an unquestioning of the process itself in the name of market efficacy.

Topology as Non-place

The centrifugal nature that comes into play when understanding the facilitators of growth and sprawl of the city, which in this case are the infrastructures of transportation or displacement, is not as simple as one might think. A centrifugal force is a reactive force that moves along a straight path as it moves in a circular one. Yet for this to function one needs a nucleus or a center, and yet the logic of the contemporary city is one of multiple centers, a sort of disappearance of a clear hierarchy and the dissolution of the center-periphery notion.

No city illustrates this shift, its reasons and its potentials, better than Atlanta. In fact, Atlanta shifted so quickly and so completely that the center/edge opposition is no longer the point. There is no center, therefore no periphery. Atlanta is now a centerless city, or a city with an infinite number of centers (13).

So in the end, growth occurs haphazardly under processes of economies and market speculation. Highways provide for the "leaping" of growth patterns, un-continuous and disconnected patches of tissue; a result of cheaper land values or the availability of land. This increase in the access to new technologies of transportation has created a decline of the traditional notion of the public realm. Hence, we are left with remnant spaces that are byproducts of mono-functional infrastructures that serve only the supposed needs for access and

communication. This is truly the process of a topological problem; resolving from point A to point B. The art historian George Kubler in *The Shape of Time* defines this actuality as "the space between events" and as the "interchronic pause when nothing is happening" a shapeless duration (14). This temporal rather than spatial reading of these areas is key to understanding the "in between" nature of transportation lines and their conception as distances and not places. Yet, this model also applies to the transient condensers of our city, the spaces where you wait to get to another place (the airport and the train station for example). The concept of "non-places" first employed by Marc Augé defined these spaces as ones formed in relation to certain means (transport, transit, commerce, leisure) and the relations that individuals have with these spaces. What reigns in them is actuality; the urgency of the present moment.

Atlanta has an airport; actually it has 40 airports. One of them is the biggest airport in the world. Not that everybody wants to be there; it's a hub, a spoke, an airport for connections. It could be anywhere (15).

Since non-places are only there to be passed through, they are measured in units of time. The term is applied in much the same way to an area, a distance between two things or points (much like in topology). It is thus eminently abstract (16).

Topology as Limitlessness and Formlessness

As mentioned before, the contemporary city cancels the center-periphery relationship. The death of the first implies the evaporation of the second. "Now everything is city, a new pervasiveness that includes landscape, park, industry, rust belt, parking lot, housing tract, single family house, desert, airport, even downtown" (17). In Koolhaas' essay on Atlanta he describes this city as a realm with multiple downtowns with respective buildings that compete with themselves as patches of autonomies, in practice with the market that bred them and to which they serve.

Atlanta was the launching pad of the distributed downtown; downtown had exploded. Once atomized, its autonomous particles could go anywhere; they gravitated opportunistically toward points of freedom,

cheapness, easy access, diminished contextual nuisance. Millions of fragments landed in primeval forests sometimes connected to highways, sometimes to nothing at all (18).

This new urbanity, exemplified by Atlanta yet not limited to it solely, is a vast expanse of continuous urbanity which meets with the recurrent open green areas of supposedly "remnant" spaces; a fractal repetition of a small enclosed model which is propagated throughout the built environment, turning urbanity from a city into an infinite landscape.

Atlanta does not have the classical symptoms of the city; it is not dense; it is a sparse, thin carpet of habitation, a kind of supremacist composition of little fields. Its strongest contextual givens are vegetal and infrastructural: forest and roads. Atlanta is not a city; it is a landscape (19).

Urban growth that would have until recently taken centuries, now grows instantaneously thanks to the logic of capital, production and building which strive on inexpensive land, access and dispersal. In topological terms this issue is associated with its preoccupation in attending problems of inside and outside. Topology, in its nature, sees inside and outside as the same thing. In an exercise it might try to turn inside-out a bicycle tire through topological means. For topology, as well, a sphere and a torus are the same object, only that the latter has been generated by revolving a circle about an axis coplanar with itself, and the sphere is a special case of the torus obtained when the axis of rotation is a diameter of the circle (20). Hence, this differentiation between inside and outside, except to resolve interactions between both, yet still understanding it as a whole, is similar to the contemporary city's abolition of the dichotomy between center and periphery; the inside is now the outside and vice versa. Topology, in its core considers a segment without a terminating point as one not being able to cease and one that reaches all the way to infinity. Yet, this comparison is not limited to the city itself, but also related to the abstract relationship of the flow of capitals and information between cities and countries. It is an infinite global network connected by intangible segments of flows under a globalized set of intertwined urban zones with infinite interconnections and shifting centers. So in the end, and going back to

