Constellations of the In-between: Topological Diagrams of Urban Interstices

"The middle is by no means an average; on the contrary, it is where things pick up speed. *Between* things does not designate a localizable relation going from one thing to the other and back again, but a perpendicular direction, a transversal moment that sweeps one *and* the other away, a stream without beginning or end that undermines its banks and picks up speed in the middle."

LŐRINC VASS

University of British Columbia

LOOKING FOR THE CITY: FOUR SCENES FROM METRO VANCOUVER

- 1. Kitsilano Indian Reserve No. 6, Vancouver. The former site of an ancient aboriginal village, and a portion of a larger, long-contested and dispossessed reserve. A misshapen parcel, the land is owned by the Squamish First Nation, but it is also traversed by a municipal bridge. Adjacent to the southbound lanes of the bridge, a pair of three-by-ten-metre digital bill-boards display advertisements in ten-second intervals in the midst of traffic. Elevated eighteen metres from the ground, the billboards operate outside municipal bylaws, both providing economic revenue and marking the site's re-occupation by the Squamish people.
- 2. Highway to Heaven, Richmond. A three-kilometre stretch along the hard edge between urbanized territory and agricultural land, unexpectedly populated by iconic religious buildings. Located within a special zoning created for religious assembly on the edge of a protected greenbelt, the area is home to over twenty institutions of every major religion. The zoning requires each landowner-congregation to maintain agricultural activity on two-thirds of their parcel. This stipulation is only half-heartedly fulfilled, as evidenced by the ambivalent land uses found in the backlands, such as picturesque gardens and grassy playing fields, halfway within and outside the code.
- 3. East Clayton, Surrey. A recently built townhouse subdivision backs onto a linear stretch of grassy meadow, separated by a low fence but accessible through one of several wooden gates. Concealing a natural gas transmission line, the corridor constitutes an eighteen-metre right-of-way, which diagonally cuts through private property. A non-buildable zone, it is all overgrown grass and a site of natural succession, the plant growth only interrupted by periodic mow-downs by the utility company, or by adjacent residents who might claim a small expanse for setting out a couple of camping chairs.
- 4. Still Creek Drive, Burnaby. A vestigial forest around a natural creek, surrounded by office parks, big box stores, industrial grounds, and condominium towers, and home to British Columbia's largest roost of northwestern crows during the fall and winter months. During this period, at dawn the birds spread out in the city in all directions, and return only shortly



before nightfall, following a commute of 30-45 minutes both ways. In flocks of dozens and hundreds, they occupy street trees, rooftops, and power lines. This territory is a precarious choreography of an ever-encroaching urban development and the presence and absence of the crows, who constantly adapt to the changing landscape.

LOOKING FOR AGENCY

The debate between autonomy and contingency—the broad context for this discussion—can be understood in terms of the tenuous relationship between architecture and the city. As Mark Wigley contends, the city is not a physical object with clearly delineated limits, but a complex bundle of material and immaterial, spatial and non-spatial phenomena, which present many different kinds of limit. Architecture, in turn, is a response to the threat posed by the formlessness of the city, a form of resistance through the imposition of order, the delineation of boundaries, the definition of limits. According to the argument, this antagonistic disposition is to be defended not challenged, for embracing indeterminacy and contingency would amount to the dissolution of the specific expertise and autonomy of the architect.²

Suspect of both the suggested antagonism and the human-centred role it implies for architecture, this paper explores the ways one might draw on "the flows, the energies, the rhythms established by the passing of time and the loss of limits." As well, it considers the ways in which this process of drawing on contingent forces can constitute a renewed form of agency, and a new means of conceptualizing the object(ive) of architecture. These concerns, to be sure, are not without precedent in contemporary discourse. For Lola Sheppard, in order to "engage the spatial and operational complexities of urbanism, infrastructure, landscape, ecology, among others ... [a]rchitecture must envision spatial formats and processes capable of relinquishing control and responding to their wider environment." For Keller Easterling, while "buildings, landscapes, or volumes are usually treated as objects or compositions with appearance, geometrical profiles, or visual patterns," they are also actors with agency, immanent to their arrangement and relationalities. And for Simone Brott, following Deleuze and Guattari, subjectivity is not the exclusive attribute of human beings, but "proceeds from purely immanent material forces" and is located "in the entire

Figure 1: Kitsilano Indian Reserve no. 6, Vancouver. View of digital billboards adjacent to the Burrard Bridge. Credit: Author.



field of subject-production including registers as diverse as architectural, social, cinematic, physical, perceptual, and political."⁶ In this process of subjectivization, architecture becomes an image pure detachment or anonymity, before the separation of subject and object, an architecture no longer seen as an external object: "To de-individualize the architectural object therefore means to open up one's own non-specificity as immanent subject to that very impersonality that permits one to enter into relations with other things."⁷

Such considerations of an expanded territory, action-forms, or the process of subjectivization arguably converge in the conceptual field concerned with a 're-distribution' of agency, away from subject-object binaries and towards an immanent ecology of material and immaterial forces and effects that unfold in an ever-becoming environment. Architectural agency, then, should not be sought merely in the creation of autonomous objects, by and for discrete subjects, but in the production of impersonal effects and more-than-human encounters.

INTERSTICES, AT LARGE

Drawing on these ideas, the paper focuses on urban conditions of interstitiality. Synonymous with 'interval,' the word interstice has two distinguished meanings: an 'intervening space' and an 'intervening space of time.' Rather than treating these spatial and temporal connotations as discrete, the potential of interstitiality is found precisely in their simultaneity. More than an urban morphology, an interstice is an urban event, "the outcome of a composition of interactions and affectations among a multiplicity of actors that coexist within a given spatial situation." Characterized by its particular relationality with adjacent territorial productions, the interstitial condition is arguably 'at large' in the contemporary metropolis: it can be found or located both in the gaps between "weak or heterogeneous territorial programmes" and in the openings between "strong territorial strategies." And although related to the notions of border, boundary, edge and limit, an interstice does not necessarily constitute a clearly delineated line or space, neither it is simply an average between adjacencies, but instead implies their transformation into something else. In other words, interstitiality encompasses opposing conditions, such as the negativity of a void

Figure 2: Highway to Heaven,
Richmond. Pear tree orchard in the
backlands of the Linyeng Mountain
Temple. Credit: Author.

against the positivity of an *opening*, and the connectivity of a *bridge* against the disjunctivity of a *break*.¹⁰ It is what Deleuze and Guattari describe as the 'middle' (*milieu*): "not a localizable relation going from one thing to the other and back again, but a perpendicular direction" where things pick up speed—not a location but a set of relationships, often in flux.¹¹

Located in Metropolitan Vancouver, Canada, the four territories introduced above can all be understood as interstitial constellations. They are spatio-temporal assemblages where boundaries, associated with different and sometimes incompatible frameworks, do not match up, or are indeterminate. Spatially fixed jurisdictions are challenged by temporal occupations, flows, and cross-scalar relations. Objects with clearly delineated *topographies* of contours and forms also constitute virtual and material *topologies* of continuities and transformations. While the complex relationships of these territories simultaneously present a challenge to representation, dissolving the formerly coherent, if imagined, representations of the city as a political-aesthetic object, 12 they also offer a productively uncertain ground for rethinking agency.

TOPOLOGICAL DIAGRAMS

A branch of mathematics, but increasingly incorporated into other disciplines, such as philosophy, geography or social theory, topology deals with the spatial properties of objects (referred to as manifolds) undergoing continuous deformations such as folding, stretching or squeezing, without the occurrence of breaks, cuts or ruptures. As opposed to metric geometry, based on the measurement of location, distance or area in reference to fixed spatial coordinates, topology is concerned with the preservation of connectivity and relationships through processes of distortion, rather than the preservation of form. Some topologies can be visually represented with relative ease in two or three-dimensions, while others can only be described through language or mathematical notation but cannot be constructed. In extending the topological approach to the city, the geometrical space of the 'near and far' and the linear time of 'now and then' is replaced by a topological field of "fluids and flows, actant networks, performances and practices." Likewise, a so-called 'cultural topology' enables "mapping the dynamics of time as well as space, allowing the rigorous description of events, situations, changing cultural formations and social spatializations."

Despite this potential, in the field of architecture and landscape architecture topology has been somewhat mistakenly tied to computation or remote-sensing technologies. In the first case, topological shapes are literally translated into building forms, with the flexibility and connectivity of parts remaining constrained to the computational process of design, and resulting in iconic and rigid object-forms. In the second case, such as the topology proposed by Christophe Girot for landscape architecture, three-dimensional point-cloud modelling is used for the real-time simulation of terrain, in place of traditional mapping overlay techniques that parcel landscapes into abstract categories.¹⁷ While this latter method claims to incorporate physical, cultural and temporal realities into its process, its understanding of topology largely remains predicated on, and captured by, a digital but nonetheless representational regime.

Such capture may be avoided in a so-called diagrammatic approach to topology. For Deleuze, the diagram is an abstract machine, "a snapshot of a multiplicity in a constant state of flux." The function of the diagram, then, is operative, simultaneously translating abstract relations between different systems and displaying this transformation: "To display is to show by un-folding. The diagram folds together abstract relations of forces, and then unfolds them in another system." As opposed to the logic of representation, with meaning always tied to an origin, topological relations are arguably based the logic of the diagram, "a field of relationships awaiting a scale and a materiality." The diagram are arguably based the logic of the diagram, and the logic of relationships awaiting a scale and a materiality.

Such a diagrammatic logic characterizes the catalogue of topological archetypes by the mathematician René Thom, who describes a series of morphologies that might occur as a



result of the interaction of basic spatial topologies.²¹ Constituting simple verbs such as *to be, to finish, to change, to shake, to reject, to begin, to give, to take, to cut off,* etc., the archetypes are represented using simple two-dimensional graphs consisting of points and lines. Subsequently, they become the building blocks of more complex topological operators, such as the *Bridge,* "a path that connects two banks, making a discontinuity continuous," or the *Well,* "a hole in space, which can disconnect a trajectory that passes through and simultaneously connects piled spatial varieties and produces a new trajectory—the fall."²² While originally conceived for describing the morphological structures of language, these topologies can also be applied to urban environments as "narrative spatial operators," in order to qualitatively yet precisely describe urban morphology and historic development.²³

Another deployment of topological diagrams is found in the "after-sprawl" strategies of Xaveer de Geyter Architects, conceived as a series of operations on the fragmented land-scape of the Flemish Diamond, utilizing the generative potential of non-built negative space. Nine interventions are proposed on different scales, each named after the operation undertaken: *Shift, Overlay, Insert, Hide, Frame, Found, Connect, Array* and *Add*. While each intervention "stems for the specific condition of a particular place (...) the project is not necessarily the most ideal or only possible intervention at that place. In other words, the projects illustrate an intervention that transcends the specificity of the location."²⁴ They also demonstrate that topological diagrams can both reveal the spatial and temporal processes and relationships at work in a territory, and allow for their critical manipulation and generative redeployment.

INTERSTITIAL CONSTELLATIONS

Part of a broader project of design research that seeks to unfold and *re-draw* the forms of virtual and material agency found in the interstitial constellations introduced at the beginning of the paper, the following section revisits them in the form of concise topological diagrams. While in many ways geographically and culturally specific to their location in the Lower Mainland of British Columbia, Canada, the five territories also constitute a broad sampling of interstitial conditions that may be found in any city. More than a discernible location, each territory is a multi-dimensional manifold of spatial complexity and temporal

Figure 3: East Clayton, Surrey. Camping chairs set out on a natural gas pipeline right-of-way at a recent townhouse development. Credit: Author.



change, including territorial displacement, land use assemblage, infrastructure overlay, and mutable habitat. The topological relations present in these territories is unfolded through text, images and diagrams.

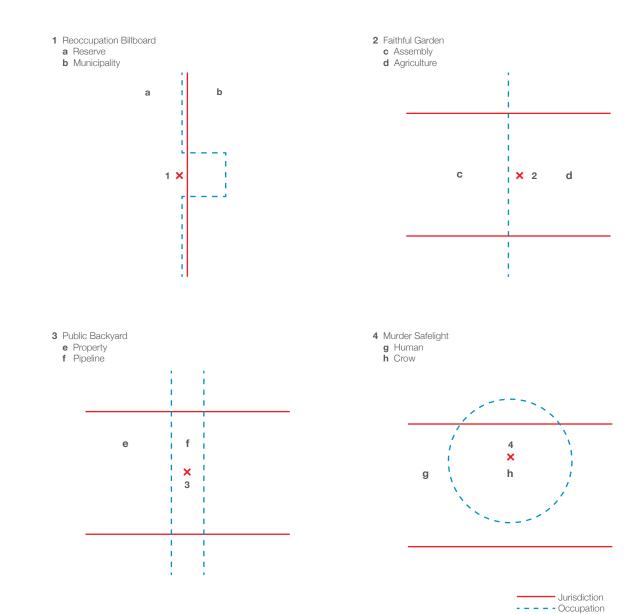
In this process, constellation becomes both a subject and a method. An idea traced through the work of Benjamin, Adorno and Deleuze, constellation "offers multiple, seemingly unconnected perspectives or viewpoints, as from multiple starts in the night sky. But constellation involves both the idea of looking at the stars—multiple disconnected and randomly placed points—and the idea of looking from many different stars."²⁵ This marks the collapse of the subject-object dichotomy discussed above, in favour of the immanent coincidence of the two, and allows for an ethico-aesthetic paradigm not paralyzed by an externality to its object.²⁶ Consequentially, the process of unfolding and re-drawing of interstitial constellations constitutes a form of agency, co-present in the topological relationships and in the act of mapping them. This agency may then be mobilized as a generative critique of architecture's disposition towards each examined territory, and towards the rest of the city.

1. DISPLACED TERRITORY: Reoccupation billboard

The Kitsilano Indian Reserve No. 6 is the site of the ancient aboriginal village of Senakw and located within the unceded territory of three First Nations. The land today is a vestige of the original reserve granted in 1869, parcelled up, expropriated and sold off through the course of the late nineteenth and twentieth centuries, and only returned to the Squamish Nation in 2002. The history of the territory can be drawn as a complex topology of jurisdictional displacement, in which parcels of immobile land 'migrate' between aboriginal, federal, provincial, municipal and private control, each move resulting in specific consequences for the built environment. A product of this process of perpetual displacement, the reserve today is simultaneously inside and outside the city: an enclave of higher (federal) jurisdiction, but surrounded by municipally and privately owned land, and also bifurcated by the city-owned bridge. The digital billboards on the reserve land take advantage of this jurisdictional state of exception, including from the municipal bylaws that regulate the location and size of signage in the city. The billboards both capture the advertisement potential of the traffic on the bridge and serve as the symbolic markers of reoccupation (Figure 1). Against

Figure 4: Still Creek Drive, Burnaby.

Northwest crows perched on the rooftop of a car dealership near their roosting area. Credit: Author.



the historic backdrop of contestation and its current relative invisibility, the impending development of the parcel carries the possibility of an 'exceptional' spatial production, independent of the municipal planning regime, and oblique to the normative views of, and from, the surrounding city.

2. ASSEMBLAGE AGRICULTURE: Faithful garden

Built on fertile alluvial sediments at the delta of the Fraser River, over one-third of the City of Richmond's territory constitutes farmland protected under the British Columbia Agricultural Land Reserve (ALR), established in 1973. The discussed cluster of religious institutions on the 'Highway to Heaven' is a result of a special zoning of the ALR land for religious assembly, created during the wave of immigration to Richmond in the 1990s, with the intention to provide assembly space for the new communities while preserving ALR land elsewhere. The area constitutes a topological fold, a *Doppelkante* ('doubled edge')28 between urbanized and cultivated territory, caught between local food production and the ongoing global migration of diverse religions and ethnicities to Richmond, and materialized in the somewhat paradoxical assemblage of religious centres on the urban edge. The continuing growth in the number and size of congregation buildings, however, has exceeded planning

Figure 5: Topological diagrams mapping jurisdiction and occupation in the four territories. Credit: Author.

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expectations and resulted in conflicts over the loss of cultivated land. The proposed expansion of some of the congregation spaces at unexpected scales, along with the undeveloped parcels in the vicinity, have been subject to much public controversy. Within this contradictory zone, smaller folds have also sprung up, stretching the internal zoning boundaries within property lots into veritable 'faithful gardens,' such as a tree orchard integrating a meandering path to a prayer pavilion, a geometrical flower garden concealing greenhouses, or a grassy soccer field and playground adjacent to vegetable plots (Figure 3). The apparent focus of the debate on a singular zoning boundary overlooks these ambiguous middle grounds, laden with possibility for rethinking worship and cultivation as intertwined temporalities.

3. SUCCESSION INFRASTRUCTURE: Public backyard

As the region's second most populous municipality, the suburban edge of Surrey is a locus of ongoing urban expansion, with townhouse subdivisions rapidly replacing formerly 'one-acre residential' landscapes. Crisscrossing this transforming fabric, in defiance of both the arterial grid and the cul-de-sac, are infrastructural corridors of electric transmission lines and natural gas pipelines, each establishing a right-of-way of differential land use and access. In the case of underground gas pipelines, the right-of-way is an eighteen-metres wide cut through private lots. This movement-space presents a topology of multiple scales and temporalities. On the one hand, in order to connect distant endpoints, the corridor indifferently passes through other spaces, regulating them only to maintain a uniform level of safety and accessibility. On the other hand, the selective permission of certain land uses and activities manifests in locally specific conditions, such as restrictions on the footprints of adjacent buildings, as well as particular types of vegetation (Figure 4). And although the right-of-way is a permanent site of movement, it is simultaneously static, both demarcating an interior limit to the city and being engulfed by its shifting boundaries propelled by urbanization. Paradoxically then, the instrumentally surveyed corridor is one of the few places in the expanding urban landscape where a lack of instrumentality, an uncertainty of natural succession and a vaguely defined public intimacy, has the possibility of persisting. Zoned to be integrated into a growing municipal network of greenways and multi-use paths, this space of strangeness is under threat of being eroded into a more defined and sterile landscape, not unlike the pipelines buried underground.

4. MUTABLE HABITAT: Murder Safelight

Ever since in the early 1970s Metro Vancouver's murder of crows relocated its winter roosting ground to the Still Creek area in central Burnaby from various locations on the urban outskirts, the birds have continued to adapt to urban transformations, in particular, the reduction in tree coverage. Their continued preference for the area is a matrix of factors, including the central location within the region, the warmth provided by the city, and the mixture of greenery and hardscape. The latter is important in terms of artificial light, which allows for an avoidance of predators, such as owls, who see much better in the dark than crows.²⁹ As a consequence, the street lights of the area, as well as the various night lights on buildings, take on the additional role of safelight for the crows occupation of space, which characterized by a sophisticated socio-spatial hierarchy (Figure 5). As opposed to their nighttime presence, the crows' daytime absence is manifest in a constantly changing location and extent within the city, a kind of 'mutable mobility' defined by the fluidity of simultaneous movement and transformation.³⁰ On the other hand, the roosting ground is characterized by a topology of 'mutable immobility,' which does not shift in position but rather 'flickers' between different occupations and concurrent meanings, over the course of each day, week, and month.31 And while the crows have shown considerable adaptability to the human alterations of their territory, their presence remains a precarious one, received by tolerance at best, and by animosity at worst. Yet far from asking to be humanized, they instead warrant a becoming-animal, a veritable multiplicity, a city differently shared.

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BEGINNING IN THE MIDDLE

Nearly half a century ago, Henri Lefebvre described an 'urban revolution,' the complete urbanization of society, as a virtual condition to be actualized in the future.³² This prediction has become the reality of our metropolitan century, in all three senses of urbanization: demographic, economic, and socio-cultural. City-regions now encompass over half of humanity; an urban-centred global capitalist economy has reorganized networks of production and consumption; and participation in urban ways of life extends in both physical and cyberspace.³³ Yet importantly, beyond these aspects Lefebvre's urban revolution also embodies a notion of critique, through "radical temporality of the city in which cities are always emerging and claiming the present, and can, through critique, grasp a future horizon."³⁴

Embodying the condition of the middle—"a perpendicular direction, a transversal moment that sweeps one *and* the other away"³⁵—urban interstices are open to both co-optation and subversion, and can constitute spaces of critique. The four constellations from Metropolitan Vancouver described here are offered both towards a critique of this particular place, and towards thinking critically about urbanity elsewhere. They reveal alternative vantage points on the city, seen through its interstices—by no means definitive views, yet ones laden with possibility. Individually and together, their topological arrangements could productively inform their near and more distant futures, along with the future trajectories of other urban territories. Far from being empty, they are full of untapped potential, inaccessible to the normative logic of urban development, whether manifest as an invisible jurisdictional line projected on the ground, or as a conceptual binary between subject and object, human and environment, architecture and city.

Instead of resisting the indeterminacy of the city, architecture may find new forms of agency by relinquishing control and moving laterally, along with its currents. Defined not by their extents or limits but by their continuities and relations, interstitial topologies necessitate beginning in the middle: "one never commences; one never has a tabula rasa, one slips in, enters in the middle." Immanent to such disposition towards the city's in-between constellations, is a renewed agency for architecture.