VISUALIZ-ING THE INVISIBLE

towards an urban space

Editors Stephen Read and Camilo Pinilla

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towards an urban space

To all the students – whose contributions in energy and creativity made this book possible:

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Edited by Stephen Read and Camilo Pinilla

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Contents

Stephen Read
Towards an Urban Space 6

Patrick Healy
Pollachos Polis Legetai (There are many ways to say polis); or:
Community and the Visible of the City 20

Deborah Hauptmann
Problematizing the Virtual: on Lefebvre and the Urban Problematic 32

Gerhard Bruyns and Stephen Read
The Urban Machine 52

Stephen Read
A Brief History of Flights to the Periphery and Other Movement Matters 68

John Law
Networks, Relations, Cyborgs: on the Social Study of Technology 84

Gerhard Bruyns
Ubuntu: Post-Colonial Urban Tribe Space 98

Juanita Fonseca
Urban Re-vision: The Market Supply Facility of Bogotá 108

Marta Mendonça
In-Between Spaces 118

Camilo Pinilla
Exchange Request: Urban Interactions at Los Héroes Junction, Bogotá 126

Nicola Boritska
Hafencity Hamburg: Constructing an Active Waterfront 136

Guillermo Vidal
Edge in Transition 144

Gonzalo Lacurcia
Urban Compressor: Urban Transformation Plan for Plaza Venezuela Area, Caracas 152

Smàri Johnsen
Re-Thinking the Border: Between Reykjavik City Centre and Harbor 160

Xiaoyang Zhou
Living Fossils: The Integrative Re-habitation of the Qianhai Area, Shichahai, Beijing 168

Changwoo Lee
Spaces in Transition: Renewal Strategy for a 'Mega-structure' in Seoul 176

Alexander Vollebregt
Hidden Places, Hidden Powers 184

... we see social forms being changed today in new modes of communication, inter-subjectivity and social identification. It is not our intention in this book to deny the distance between our lives today and those of the past, nor to propose a return to a community locked into local place; but we *do* wish to begin an exploration into the ways a concrete and connective urban environment can support lives and livelihoods sustained in webs of inter-subjectivity and inter-identification. We wish to explore the way lives in local place depend *also* on a connective engagement with the world – and its conflicts and differences – for their viability and for conditions of enablement and even justice.

Towards an Urban Space
Stephen Read

The Spacelab Series

This book is the first in a series which aims to present two related aspects of recent work of Spacelab: on the one hand some of our thinking on the urban as a contemporary condition – here paying particular attention to the formational of the urban and a formational, generative urban space – and on the other, design projects which have been developed in the context of, and influenced by, such thinking. It is not in the nature of the subject to provide a definitive closure in one book, and the point here is to raise questions and suggest directions as much as to provide answers. We see each of the series therefore as being part of a continued engagement with emergent themes and directions in the work of the laboratory, and conclusions as provisional. The series will try to approach the study of the city from a perspective which is different to the normative and reformative one which has dominated planning since its beginnings. It will concern itself less with the question of what the Good City *should* be and more with the one of what the city *is*. It will be less concerned with normative prescriptions for the city as an organizational support for assumed and 'already assembled' societies and economies, and more with the 'city itself', as a movement and as a form – and, it must be emphasized here, as a 'virtuality', or a possible outcome, or set of possible outcomes, to processes of urban becoming. It will try to see the city as fully imbricated with the socialities that enliven its spaces, trying perhaps to see it as another being, innocent of cities and societies and of our investment of ideas in them, might see it if they were to encounter it for the first time.

The position we begin to develop in this publication, and will try to develop further in publications to come, is related strongly to our interest in the local – and related to the urgent need we see, to develop an effective conceptualization of the local in a powerfully globalizing world. To this end we must, we feel, deal with an urban space which is global in its scope. The object is *not* to develop a dichotomy between the global and the local – which seems in fact to be the dominant position today – but rather to develop a view on how the local is *constructed* or *assembled* in this global-in-scope space. The local, in the view we begin to develop, is not a given, it is an *effect* – and one that we as urban designers have it in our power to influence: to construct, deconstruct and reconstruct through the manipulation of a global-in-scope field. Because we are urban designers, we try also to construct diagrammatic reductions of this space in order to understand how we may manipulate it. We look for instruments which help us trace the drifts, shifts and tendencies generated out of the fluid processes of a global-in-scope urban – equivalent, though opposite in effect of course, to diagrammatic instruments used in the past to freeze our built environment into a static anti-urban order in the names of 'neighborhood' and 'community'. We seek *our* neighborhood and community not in a partitioning of the urban landscape, but rather in the way places are constructed as meaningful and social through the way they figure in, *and coordinate*, the performance of multiple worlds lived within multiple scales, networks and horizons in urban space. The local becomes in fact something other than purely singular or purely multiple. It becomes one of those *fractional* realities – more than one and less than many – introduced here in chapter 6.

Seeing the urban; seeing *in* the urban

> [David Hume] constituted a multifarious world of experience based upon the principle of the exteriority of relations. We start with atomic parts, but these atomic parts have transitions, passages, 'tendencies', which circulate from one to another. These tendencies give rise to *habits*. Isn't this the answer to the question "what are we?" We are habits, nothing but habits – the habit of saying "I". Perhaps there is no more striking answer to the problem of the Self.
> Gilles Deleuze (1989)[1]

It sometimes seems to us that it is not so much our cities that are in crisis as our images and imaginaries of the urban. At a very instrumental level things go on: the technicalities and politics of city building are carried out, cities are being built at often explosive rates all over the world – but we clearly have difficulties seeing clearly and *recognizing* the products of all this widely distributed effort. And it's not as if we don't *have* an image of the city; in fact, the image of the city we carry with us can be strikingly clear, as if burnt into some kind of vague but insistent collective longing or disposition – only it's an image of a city that isn't clearly ours! This image can be precise about how the city should be and what we expect it to do, but this precision doesn't translate in any clear way into strategies for *making* it that way – in fact those strategies which claim to deliver our desire for community and a public of belonging usually end up producing grotesque parodies of these qualities, in manipulative commercial stagings, or by way of a gross and cynically expedient exclusion.

Meanwhile city-building goes on at pace, without a widespread critical reflection on what it is we are building. This is not helped by the fact that a critical discussion is not in general promoted; city-building is prone to high-powered and self-congratulatory declamations of its own successes, tied as it is to a politics that has to assemble resources and popular and commercial endorsement, and tied as it too often is to the service of political ambition. Projects beget projects in rounds of competitive global positioning in which architectural branding and glossy accounts of success underwrite escalations in image-wars of boosterism. Grandiose projects establish spectacles on a global level in the name of urban renewal, without achieving the long-term local spin-off the hype always promises. We can, it seems, orchestrate and manage huge urban statements and stagings, tied to national imaging programs and global events, but we find it difficult to sustain a continuous production of ordinary urban places that settle into and enrich the lives and doings of ordinary people. We find it difficult to produce an *ordinary* urbanism, capable of supporting ordinary everyday lives as well as engendering new life patterns and livelihoods in the ways urban environments did at many points in our past.

In fact it sometimes seems we have given up on this hope, distaining a vision of a sustaining and negotiated social place as romantic in these fast and connected times, and rubbishing as naive and mystical, a faith in the creative and sustaining power of overlaid webs of co-present sociality and an urban of co-presence and co-visibility. The bureaucratic and 'practical' alternative to this vision of a distributed negotiated sociality in the everyday is a regime of atomization, regulation, rationalization and control, which assumes middle-class sensibilities and powers and into which the bulk of the world's population is unable to be, and resists being, shoehorned.[2] One could certainly make a case that this regime, in its attempt to gather everything under its universalizing vision, to some extent *creates* the climate of 'risk' we live under today.[3] This regime clearly fails to adequately account for and recognize either the marginal or the novel, and is itself today under pressure from the energies

and forces of an increasingly complex and dynamic world. Nor does it recognize the *corporeal* of the social (political) body or its need for visibility and an image of itself.

Attempts to think a more open and negotiable and responsive frame for social urban living can quite clearly never ignore the changes brought to contemporary societies by modernity, but we would argue that real places and spaces have always had a capacity for openness, presentation and responsiveness, and have always been capable of accommodating and even generating a certain 'excess' of marginality and novelty. We would argue that this capacity and 'excess' can be seen as a possible character of the local in its relation to a wider world and that *the urban* becomes a frame which needs to be explored further for the way it may engender a place that is connected and accommodating at one and the same time, and grounding of the social body. This would be a place that is what we would describe as social, that is also political in the way Aristotle uses the term,[4] and inserted into the real urban spaces of today and tomorrow. Our ultimate goal must be an emplacement of a politic of the human community in the connective spaces of our contemporary world. The urban is today often characterized as a place of disintegration, segregation and violence – but it is also built according to a technocratic rationality which divides in order to control. Meanwhile, some of the best places of our cities are also characterized by a diversity, connectedness and openness which generates enlivening spaces and socially lubricating juxtapositions of dissimilars. These spaces are often a source of novelty and stimulation, challenging fixities of ideas and disposition, and providing an anchor for alternative performances of lives, livelihoods and identities. It is yet possible, we feel, that an *urban* situation, embedded in dynamic contemporary processes, may signal pathways to sustaining and sustainable and open social futures.

If we look back at the origins of many of our social and political institutions, these are inseparable from a life assembled in urban settings – these settings themselves clearly so much more than neutral backdrops to forms of social and political being. And we cannot claim that this was true only at the point of origin of these institutions, which are now fixed and immutable; we see social forms being changed today in new modes of communication, inter-subjectivity and social identification. It is not our intention in this book to deny the distance between our lives today and those of the past, nor to propose a return to a community locked into local place; but we *do* wish to begin an exploration into the ways a concrete and connective urban environment can support lives and livelihoods sustained in webs of inter-subjectivity and inter-identification. We wish to explore the way lives in local place depend *also* on a connective engagement with the world – and its conflicts and differences – for their viability and for conditions of enablement and even justice. As I write this in the autumn of 2005, the suburbs of Paris and Lille and Lyon are burning. Everyone knows that the anger spilling out into the streets of these mean and isolated social holding enclosures have to do with issues of opportunity and its denial. Everyone knows that the important choices to be made are political and legislative and to do with changing a regime of access and enablement in a society which has neglected to notice the way conduits of access have failed to be extended beyond established networks of privilege and power. But there is also another kind of politics involved: the issue is as much about the way lives are recognized and represented – honored and presented in positive and affirming ways – in the spaces of our societies and cities.

It is perhaps therefore not just a matter of the realization and enactment of opportunity and of just access to the benefits of society, though this is rightly the first concern; it is also about the way peoples are recognized and represented in the spaces of that society. It is perhaps not an accident

that the city that has most escaped the current round of anger and violence is Marseilles – also the major French city where ethnic minorities and their cultures are most positively visible.[5]

From the Agora to the contemporary urban

Patrick Healy takes us back to the assembly of a politics of our being together, and of our talking (of it), in the ancient Agora. He shows us that the Agora is an improvised place where "one could be *agorazonta*; at the site of flows, of people, commodities and information." The city becomes "a place of chatter" and "an imbroglio in the rhetoric of its own name and naming." In contradiction to Mumford, here is no system with internal coherence, "nor is it a social spatial conglomerate with its own internal coherence; embodied, it is everybody's business; *to koinon*, or, *Res Publica*."

The concept '*koinonia'* ('society' or 'community') is used to denote any form of association; of human beings, the crew of a ship, a band of soldiers, an association of tradesmen, and stresses people and a government of the *demos* above territory. In fact community is a result of talking before it is any belonging to deme or clan, certainly before any blood-bond to territory, and the Agora is the "place of recognition" where the terms of such belonging are constructed and negotiated and where the presence of strangers salt the fellowship of community. All *koinonias* are subject to the all comprehensive *politike koinonia*, which is the *polis*. The concept of community is therefore one of the most significant connotations of *polis* and Healy begins to show how *to koinon* and *polis* are manifested in a space of presentation and representation, and how space can be a primary diagnostic for the social.

Healy poses the possibility of a material 'physiology' of the city in *agorazonta*; in an ecology of presence, in the presence of others and in exchange of ideas, desires and things. The city is a thing of circulation and communication whose tendencies give rise to habits. We need, he suggests, to consider carefully what the '*res*' of *Res Publica* means: the problem of the thingness of *res* makes of the city a false object, things thrown together rather than understood as the gathering and scattering interactivities of dynamic and kaleidoscopic processes. The objectness of the city needs to be dissolved, opening up an understanding of the way affects and intensities are mediated by the imaginative: "Within the view of the assembly or assemblage, the issue of effect/affect, intensities and movement is crucial, and the role of mediatizing becomes of enormous consequence."

Deborah Hauptmann goes back to one of one of our primary inspirations, minutely interrogating the Lefebvre of *Urban Revolution* on the nature of urban space and *'the urban'*. The city, according to Lefebvre, is no longer recognizable as a totality or singular entity. Urban reality manifests as fragmentary, shapeless, and the 'urban phenomenon' locates itself at a *point of articulation* of widely, even globally, dispersed processes. 'City' becomes 'the urban' he says – we have left behind, or are in the process of leaving, a city we can clearly delineate in relation to its surroundings and its functions, in favor of 'the urban', a condition, global in reach, which subsumes all lives. "Society has been completely urbanized." He uses the concept of 'rupture' to emphasize the discontinuity of 'the urban' with what before was understood as city, adding that this rupture "simultaneously introduces and grounds a *form* of knowledge, a field… similar to logical form and almost as abstract and active as that logical form which is associated with language…".

It is a 'form without content' he says – the city creates nothing; rather the city "centralizes creation" in that it affords the form, or we would say, the *situation*, for exchange and proximity to take place. The urban "is a place of encounter, assembly, simultaneity"; but, this form has no specific content

for it accumulates all content; it is an abstraction, "but unlike a metaphysical entity, the urban is a concrete abstraction… it is pure-form." At the same time, Lefebvre tells us, we act and react 'blind' in the face of this new urban phenomenon. We 'see' the new phenomena of the urban between processes of thinking and urban happening, and what we see is an "effect of process". We construct "verbal layers [which are] unable to attach themselves to a 'philosophical subject' or a 'privileged object' or a 'historical totalization'." Urban theories and practice continue to utilize the tools and language of a past period and as such must be understood as "*reductive* of the emerging reality." Whether this reduction is in terms of the medieval or the industrial or any other kind of city of the past, it is *form* today, Lefebvre is saying – and we agree – which works on the creation of urban realities.

Hauptmann expands on this notion of form by drawing on Foucault's idea of the Panopticon and the way the diagram of the prison becomes extended to schools, factories, etc., which then supports the end functions 'education', 'production' etc. The distributedness of power relations and their availability for multiple final functions appears to be part of the power of form to generate new realities. Power relations move; they shift from one point to another, and "their medium is the field of all forces (pure force)." In Deleuzian terms, they constitute 'strategies' which are anonymous, blind and mute since they "evade all stable forms of the visible and articulable." Power relations, and their affects, are actualized and stabilized through their integration into formalized structures. The 'institution' which results is understood not as an entity but as a practice, not as productive but as reproductive of the very relations which it presupposes. But "[t]he city and its subjects not only act, they are acted upon," Hauptmann concludes, "and this ceaseless push and pull, this folding of forces, must be comprehended; understood epistemologically and situated ontologically if the architect, the sociologist, the practitioners of socio-spatial practices are to 'act' as opposed to continually 'reacting' to the multiplicity of forces at play."

In a new wave of spatial thinking we are becoming aware that the powers of agents and sites lies in their very particularity and *situation* – we are becoming aware of the methodological impasses inherent in the placeless generalizations we have constructed and applied as normative recipes for urban problems and in thinking of urban development processes. In fact, one could say it is this methodological problem, and the problem of the waning power of our normative instruments, which motivates the search for another conception of urban space and society in our work. In a different space (of particulars and situations) a different logic operates. Equilibria and symmetries can be captured only as temporary conditions. We render snapshot views of *particular action* in its *particular medium* in the structure of a spatial analytic. We are finding similar insights through the notions of 'hybridity' and the 'actor-network'[6] but Hauptmann shows us that these insights were always there for us in Lefebvre's work.

Lefebvre's legacy is settling – we find we understand him better from a broadening base of spatial thinking, and alongside the thinkers like Foucault, Deleuze and Bergson, Hauptmann uses to expose the delineations of his thinking – thinkers he was already familiar with of course, but still relatively new to us in the English-speaking world. The once powerful ideological bracketing of these different thinkers seem somewhat overstated and doctrinaire today, and it is the complimentarity of their thinking that Hauptmann employs to help us open Lefebvre's thought.

A machine of visibilization

Lefebvre's thinking helps us begin to understand why our familiar urban surroundings never cease to surprise us – why they can seem known and unknown at the same time, and why we sometimes feel we are encountering the city as something radically new and not quite 'of us'. The city seems to show no end to its ability to transform in ways which leave us without a clear view of what it is or where it came from or where indeed it is going to – and the papers authored by Gerhard Bruyns and myself begin an attempt to diagram a space of *the urban* as opposed to a space of the city of our preconceptions.

This distance of the contemporary urban from the city of our (mainly industrial city and medieval city) preconceptions, doesn't only generate confusion, it generates also much of the edginess and unpredictability we perceive in contemporary and especially global cities – their alien and over-scaled, bigger than, *other* than human qualities. It's an urban edginess which stimulates and excites – and has spawned movie and literature genres – but it seems also to pose questions about *our* place, and the place of our subjectivities and societies, in this urban world. What we miss or misunderstand about the city has perhaps to do with problems of perspective, and of seeing too clearly what we project on the city while not seeing what the urban imposes on us. It comes from seeing the city as perhaps rather *too* human, *too* social, *too* much our own – object of our own construction and reflection of our rationalizations of our collective being – rather than a product of a thoroughly spatial dynamic; concrescence and becoming and 'body' in its own right. We try to begin to reverse certain assumptions about our built environment, which see the city as constructed *by* us in a form *reflecting* us and in our human measure. Our concern becomes the city as 'given' and not necessarily 'ours'; how it comes to be the form it is, through a dynamic which *imposes* itself on us – as certain forms in nature may impose themselves on us – and only *then* how it comes to be ordered and intelligible *for* us. We will eventually try to make this link back to the human through 'perception as form' because we take from Merleau-Ponty that our perception may be a necessary corollary of this urban 'form for itself' in its process of becoming.[7]

We take urban form and order therefore to be a product of a generative, *spatial* dynamic, and will try to understand the form and becoming of the urban so that we can use this knowledge to help us eventually deal better with the form and transformation of the human and social city. We will attempt to deal with forces and intensities and *tendencies* so that we can eventually deal better with the city of our social and architectural concern.

It is one of the most remarkable facts about the city that it is so well-known to us as we traverse and use it in everyday life, while it seems to be so little known on its own terms. Another question of perspective, and of visibility/invisibility, seems to us to lie at the root of this puzzle. When we consider the city from the perspective of the subject, mapping his or her movements and perceptions, what we map is a personal space, a space of everyday habits, routines and distractions, but it is a space which also crosses with the spaces of others, finding those crossings in urban space as already there and given. Are not these crossings, more than personal spaces, what locate the subject in the socialities of urban life? We can't however easily see how and by what processes those cross-links between subjective perspectives are established and we need to create an *extra*-subjective perspective in order to do this. We leave the perspective of the subject, looking for a view which will reveal an order in another dimension, an order to which the subject is subject – and enter of course realms dense with folded layers of rather hidden power.

These are layers of power affecting the role of the planner in modernity and that of the processes of consumption and of spectacle in post-modernity, and we need to be aware and beware of this, but there is still, it seems to us, a strange gap in this story of spaces when it comes to how we eventually distribute the active principle in it all. What and who pushes who and what around in the city? Are the powers of space, and the spaces of power, to be attributed to vital agencies (what do we call them? – social? economic? or just plain repressive?) which mould passive material, including the human material of the city? Or can urban material have agency of its own? – a 'delegated agency' as Latour might say, or even agency which it generates entirely on its own account? Can things, also the thing of the city, also exert a force which moulds subjects? And what about the socialities of subjects as they are subjected to this molding? Could the agencies of objects indeed, as Bruno Latour suggests, be *constitutive* of our socialities, of our subjectivities? Could objects comprise, as he asks, the "missing mass" of our societies?[8] And further: are there *other* spaces even; those *of* the 'things themselves', spaces *of* objects and 'bodies', and especially objects and 'bodies' in a dynamic process of formation or becoming, which attest to the vital power of their *own* agency? The question we pose therefore is whether there is not also *another* space, that is a space *of* the 'city itself', or the urban, in its becoming. This space may also be one of *our* action and engagement in the world, because the force of these, seen from afar so to speak, and at the level of involved and busy populations, may also turn out to be part of what the city *is*. The concern of Bruyns and myself therefore is to try to begin to outline and diagram a space of becoming of the urban, a space of *urbanization* which may eventually be shown to have complex links to spaces of our perception and socialization and tie us into a circle of immersion of us in the urban and the urban in us.[9]

In fact, our conventional conceptions of space and form are far too narrow and geometric. A form is at its simplest level an intelligible something, but when we interrogate our own experience of the city, as users rather than as planners, we have to recognize that the experience of *architectural* form (or urban form seen as architecture) comes rather low down in our everyday priorities as engaged people just getting on with our lives. When people go to work or to their shopping street they don't go to a configuration of buildings and street furniture; they engage in movement with a particular configuration and intensity of activities. And this is something that is perfectly intelligible; it is a form. This form is tied very directly to the lives of the human subjects immersed within it – and it makes those lives intelligible as Merleau-Ponty has pointed out – but the existence of the form (or a good part of it) also precedes in a very obvious way the experience of our subject. It is not simply that the subject *creates* the form as a 'mental map' or representation. The form as perceived is a consequence of his or her activity (as a subject) but this perceived form may also be a product of another organization or 'gathering' which precedes it (as a production of the generative space we try to begin to outline).

There is clearly a different point of view at work here; this is not Kantian. As Whitehead said: "For Kant, the world emerges from the subject; for the philosophy of organism, the subject emerges from the world – a 'superject' rather than a 'subject'."[10] It seems to us that to take on a world which is by its nature dynamic and transformative – which is also to say generative – is to commit to another viewpoint; a viewpoint which values things differently because these things may also impose their own 'emergent' values on us, a viewpoint which is fundamentally historical, attentive to the evolutionary becomings of things over time, and to the (relatively durable) 'events' or forms emergent from these historical processes of assembly. This other space we are thinking about, a space of the 'city itself', would be a space of evolution and of *in*volution, of history and of generation, rather than an arrangement; it would be *organi*zation rather than a composition. It would be an *epigenetic* space

of the urban as a form and as a 'body'. In this time of forceful and barely contained change, could it not perhaps be this evolutionary-involutionary and generative space we will need to understand if we are to fathom the potentials for both oppression and liberation our cities offer?

It is to the spaces of the planner, and to those of modern and post-modern consumption and spectacle that we have customarily looked to understand the dimensions of power. What sorts of power do we think of when we talk of spaces of becoming? Perhaps we talk less here of power to begin with, and more of 'forces' seen from a (perhaps too neutralizing and abstracting) distance, and of vectors and tendencies driven in time – though of course only the most naive would forget in all this the power of dominant viewpoints to bend forces and tendencies to their own ends, and even to drive them. Christine Boyer rereads Foucault's 'Of Other Spaces' and finds the most compelling image drawn by Foucault here to be not the 'heterotopia' but the 'mirror'.[11] Boyer reads the reflection-projection in the mirror as being all about subjectivity, and proposes that this subjectivity is "imaginary, a fantasy construction or idealization." But we need to take care; Foucault's mirror delivers more than a reflection or an image composed in the imagination, and more than a pure subjectivity. The mirror is, according to Foucault, utopia, place without a place, as well as heterotopia, a place outside all places that is nevertheless localizable. Before it is an image it is a *space* which doubles visibilities, locating and emplacing subjectivity, allowing us to see ourselves (or something else presumably), past a point of virtuality, from a perspective that defines who we are in relation to a vision of *where* we are. Foucault says of the mirror: "In it, I see myself where I am not, in an unreal space that opens up potentially beyond its surface; there I am down there where I am not, a sort of shadow that makes my appearance visible to myself ... The mirror ... has a kind of come-back effect on the place that I occupy: ... I turn back on myself, beginning to turn my eyes on myself and reconstitute myself where I am in reality."[12] The mirror is testimony to the ambiguity and ambidexterity of space, simultaneously objective and subjective, of the world and of our projections onto world. It attests to the circle of awareness created of self in place by virtue of being there – it attests to the fact that we are embodied in a material and resistant world and not angels, and that being there is a condition of any knowledge at all in the first place.

The city reflects back to us who we are, what we are – but not as a simple reflective surface. Foucault's self-visibility is tightly constrained, the surfaces of the city are absorbed into a larger machine, more occupied volume, more immersion and labyrinth than surface – and this machine is not just a collection of images, to be variously assembled, constructed, reconstructed, interpreted, misinterpreted to multiple perspectives; it is itself a knowing (knowing-through-our-knowing, knowing-through-our-moving) couple with, constructor of, our dispositions and habits and inclinations; manipulator and locator of our life patterns and the images (and virtual viewpoints) which go with them. There is a 'knowing' here that locates us before representation. The spaces of our dispositions, and the images these spaces project in sequential arrays and coordinated with our movements, reinforce each other and locate us, *constructing* subjectivities: "under the surface of images, one invests bodies in depth; behind the great abstraction of exchange, there continues the meticulous concrete training of useful forces; the circuits of communication are the supports of an accumulation and a centralization of knowledge; the play of signs defines the anchorages of power; it is not that the beautiful totality of the individual is amputated, repressed, altered by our social order, it is rather that the individual is carefully fabricated in it, according to a whole technique of forces and bodies. We are much less Greeks than we believe. We are neither in the amphitheatre or on the stage, but in the panoptic machine."[13]

The city is constructive of subjectivities – but it is prison as well. This is as true today as it has ever been – and it is still a question of what is visible through the mirror, and to who. It is about a distribution of a power of 'knowing in place' and of seeing for different people, differently able to inhabit the machine profitably and to their own ends. The malls, airport departure lounges, supervised enclaves, and centers, are variably available, accessible – but also variably reflective and supportive of the subjectivities they locate. The same localities may enable some and open them to a world of possibilities, while they trap others in dreary and dispiriting routines, depending on the variable personal spaces they inform. They mean different things and are differently *situated* in the labyrinth-mirror-machine for the temp-work cleaner in the airport departure lounge than they are for the business-class traveler. What we seek are the means to spaces that open the possibilities of the constitutive world; which facilitate the performance of lives and identities in place that open the subject to a dynamic engagement with the forces of its own constitution.

Knowledge and projection in a 'hybrid world'

Shifting our attention from the subject to the generative object – concentrating on habit, on form, on vectors and tendencies, on a dynamic *momentum* – does in fact two related things. It shifts profoundly, in the first place, the terms of our understanding of issues of subjectivity and locality, and of the visibilities and situationalities which underpin these. These terms take on a new meaning in a framework in which "the subject emerges from the world"; they become events, or located conditions, which emerge from an underlying turbulent world, rather than being pegs which fix the turbulence and hold it, or attempt to hold it, in a frame centered on ourselves and on a place we can regard as given. The city in which we see our lives reflected, is no longer a simple mirror; this self itself is as much mirror to a world which shifts as we move through it. It becomes of course also a world which adjusts to force and dominant movements; to certain tendencies more than to others, accommodating to certain lives more than others. It is here that we again talk about power, at the point where spaces serve subjects or subjects serve spaces.

And these differences may emerge without us being able to attribute them to a central power; power is distributed, naturalized though a machine as much organism and growth directed by its own vectors and momentums as it is a straightforwardly human or social construction. There are clearly agents in all of this which exert power over others but it would be a mistake to attribute the distribution of power in the city to some grand Manichean system. "Foucault shows that power ... is less a property than a strategy, and its effects cannot be attributed to an appropriation 'but to dispositions, maneuvers, tactics, techniques, functionings'; ' it is exercised rather than possessed; it is not the privilege acquired or preserved of the dominant class, but the overall effect of its strategic positions.' ... In brief, power is not homogeneous but can be defined only by the particular points through which it passes."[14] The fact that power is distributed also means that battle can be engaged on multiple fronts, and as I have already pointed out elsewhere in talking about Amsterdam, there are multiple points, in the real world of particular places, where the play of power can be negotiated, and where the lives of ordinary people can be situated in enriching and enabling ways.[15]

The second thing the shift from the subject to the generative object does is open up a treasure trove (or can of worms for some) of a 'hybrid' world, where our naturalized divisions between what is social and what is natural, between subjective and objective, between the technological and the biological, between human and machine, become less certain, more open;[16] where questions of value and of meaning can be negotiated and renegotiated, and where we can rediscover some of the extraordinary openness and availability to invention and intervention which is still a character of

particular places of our world. There are dangers as well as opportunities in this of course, and questions of value become more rather than less critical; we see this already everywhere today, as the realm of science and of facts, previously understood as pure and objective, crosses increasingly with the political and with the ethical. But – and this has everything to do with perspective and ways of seeing – a hybrid world also offers a fresh perspective on change and is capable of orienting us more positively and experimentally to a future which is *not* already determined, which is in fact much more open to alternative performances of our realities than we seem most of the time to imagine. The breach of the boundaries doesn't mean the dissolution of a self that is in any event dependent on crossings for its constitution – and it also throws up a proliferation of unexpected associations and contaminations, opening up, if we are willing to take up the challenge of considering them, fresh and liberating opportunities for human and social expression and identification.

A notion of the 'agency' of matter and the breach of the boundaries between the natural and the social; a loss of certainty in a singular set of *true* ideas as the structure of reality: these signal a different kind of relational, associative, spatiality of an immersive, fluid and mutual existence of us and our ideas, objects and worlds. A hugely interesting study and literature has emerged on our relationship with technology and the influence of *media*tion itself – of the way communication in its broadest sense constructs worlds. "Atomic parts", as Deleuze says, "have transitions, passages, 'tendencies', which *circulate* from one to another ... [and] give rise to habits." This understanding of a world made of 'habits' constituted in circulations and communications and transitions has provoked a trans-disciplinary discussion about the way our knowledges, subjectivities and socialities are constructed and reconstructed in communicative and technologically mediated milieus. John Law introduces us to a spatiality of a world of circulations without foundations, to a vision of 'systems' and 'networks' nothing like the functionalist and technocratic versions of these ideas which were current in the fifties and sixties, and still are in the engineering and management sciences today.

He talks of the breakdown of the clear distinction between the human and the non-human in an erosion of fixity already explored, albeit in other terms, in the work of Karl Marx (with his 'solid' melting into air) and Michel Foucault (in his explorations of the modern episteme). The 'actor-network theory' he describes is a method (or sensibility) that explores relations and relationality, and where all entities achieve their significance by being in relation to other entities. Nothing that enters into relations has fixed significance or attributes in and of itself, instead, the attributes of any particular element in the system, or node in the network, are defined only in relation to other elements or nodes. It is then the analyst's job to explore how those relations, and the entities they constitute, are brought into being. We arrive at a logic which dissolves fixed categories; humans and non-humans, technical and social, content and context, macro and micro – all tend to dissolve in the logic of the system or the 'actor-network'. "If differences exist it is because they are generated in the relations that produce them. Not because they exist, as it were, in the order of things."

But how should we react to the dissolution of fixed categories? In the logic of the sociotechnical, the distinction between the human and the non-human gets eroded to the point where they are rendered into functional and practical matters rather than resting in morality, politics, ethics or theology. Law confronts the ethics of the dissolution of 'the human' as a foundational category, and argues that our challenge today is not to wish away a condition of fluidity, uncertainty and 'risk', but to imagine 'humane', progressive and creative forms of politics, ethics, aesthetics and enchantments that do not rest on essential distinctions between the human and the non human but are instead

relational. He warns of the tendency of systems and networks to reproduce the ways in which the current orderings of the world like to represent themselves, and poses the question of social criticism in a world without foundation – a point also taken up in a very public way recently by Bruno Latour.[17] Might we not, through networks, end up representing the world in a way that is not simply uncritical, but even colludes and helps to reproduce the way in which the world is already being made? Might we not end up adding plausibility and power to instrumental, functionalist and managerial assumptions about the way the world works? When we describe the world we tend also to help perform it as we are describing it, so that no description is ever innocent. Analyses of how things are put together strategically reproduce that functionalism and perform it into being. "Every description is ... performative. Every description, however subtly, tends to help bring into being what it describes."

Law argues though that the non-foundational logics of semiotic analysis do not have to hitch their wagons to functionalism. It is possible to imagine relational orderings which perform other logics, logics which produce different kinds of politics, and different kinds of persons – persons that are not subjugated to logics of means and ends, projects and goals, which come to us from an instrumental and strategic network relationality. He cites the cyborg of Donna Haraway, a technological-biological hybrid that performs a feminist, non-racist, and non-violent technoscience into being. It is a hybrid which lies between science fact and science fiction that is not to do with drawing things together and ordering them into a single vision, but rather imagines the performance of technologies, of worlds and of persons where vision is heterogeneous and multiple.

What we are looking for is a non-foundational but material relationality that is not functionalist – that connects the political and the technical, and that opens up possibilities for thinking about and performing alternative realities, alternative versions of the good. We are looking for a relationality that is sensitive to the possibilities of a world which is not rigidly consistent or centered, but that enables fractional and shifting coherences. "[T]he failure of an entity (a person, a technical arrangement, a set of rules) to cohere in a single and functional manner is neither treated nor experienced as a failure but, instead, as an analytical and experiential reality – and one with possibly liberatory consequences." A commitment to relationality is not necessarily a commitment to functionalism. We can work projectively and experimentally, imagining different versions of the world which are also different versions of the good, bringing together, and making explicit, political and technical choices. " If we can separate the dissolution of all that is solid from the singular logic of functionalism, a new version of analysis and politics opens before us. One that accepts responsibility for its participation in and performances of the world."

Our city becomes a hybridizing apparatus or machine, a distributor of visibilities and an active manipulator of perspectives (often blind to its own manipulations) rather than a passive focus of multiple viewpoints. What about the tendencies to which it doesn't adjust, the viewpoints it doesn't allow? Does it become the producer of docile bodies as with that other manipulator of visibilities, the Panopticon. In many cases we will have to admit that the answer is 'yes', but in taking on this space of the urban we attempt to understand also the *liberating* potentials of the machine; the potentials for enablement in contemporary spaces – including those we call 'virtual'; the potentials for alternative performances of community and subjectivity. The machine can be more or less enabling, more or less liberating, more or less grounding of the human spirit – in the end the fact of us being prisoners of this machine reflects only that we are not angels, that we are by necessity part of and immersed in a material, and today *urban*, world. We participate in this world through our

performances and projective imaginings, and the city becomes a stage for enactments of the social politic, for whose outcomes we are always responsible. We join with a contemporary discourse on the potentials for enablement in contemporary space, but we will try to do this through understanding these potentials *within* a moving equilibrium of the machine and its processes. We follow Gregory Bateson in believing that a consequence of living in a forceful and dynamic and *real* world is that "freedom comes from recognizing what is necessarily so. After that is recognized, comes a knowledge of how to act."[18]

[1] Gilles Deleuze (1989), *Empiricism and Subjectivity: An Essay on Hume's Theory of Human Nature*, trans. Constantin V. Boundas, Columbia University Press, New York.

[2] The proportion of taxpayers in the adult population of Indonesia remains well below 10%.

[3] See: Ulrich Beck (1992), *Risk Society: Towards a New Modernity*, Sage, London.

[4] See Patrick Healy's paper in this publication.

[5] Marseilles' natural borders – steep hills to the north, east and south, with the sea to the west – have forced it to build HLMs, or high-rise council flats, in the city centre. This is in contrast with most French cities, which have housed their poor immigrants in outer-city suburbs – the infamous *banlieues* – physically and psychologically excluding them from the bourgeois city centers. A few minutes' walk from the tourist restaurants around the old port, Marseilles becomes a vibrant and colorful melting pot of cultures, where the sights, sounds and smells of the Maghreb mix with French and other Mediterranean cultures. As other French cities burst into flames, Marseilles stayed calm. At the peak of the riots, about 35 cars were burnt a night in the city, hardly more than the pre-riots average of 5 to 10 a night. *Text from the Financial Times (London) of 12th November 2005.*

[6] See the paper by John Law in this publication.

[7] See: Maurice Merleau-Ponty (1983), *Structure of Behavior*, trans. Alden L. Fisher, Duquesne University Press, Pittsburgh Penn.

[8] See: Bruno Latour (1992), "Where are the missing masses? The sociology of a few mundane artifacts", in: Wiebe Bijker and John Law (eds.), *Shaping Technology/Building Society: Studies in Sociotechnical Change*, MIT Press, Cambridge Mass.

[9] See for example: Murray Bookchin (1992), *From Urbanization to Cities*, Cassell, London. The following quote is taken from pp. 60-61:

"We not only confuse urbanization with citification, but we have literaly dropped the city out of the history of ideas – both in terms of the way it explains the present human condition and the systems of public governance it creates... The elusive citizen who surfaced historically in the assemblies of Greece, in the communes of medieval Europe, in the town meetings of New England, and in the revolutionary sections of Paris must be brought to the foreground... For without his or her presence ... any discussion of the city is likely to become anemically institutional and formal."

[10] A.N. Whitehead (1979), *Process and Reality*, Macmillan, New York, p. 172.

[11] M. Christine Boyer (2005), "The Way Things Work: City Maps and Diagrams", paper presented at the 5th Space Syntax Symposium, Delft University of Technology, Delft.

[12] Michel Foucault (1986), "Other Spaces", in: *Lotus International*, 48/49, Gruppo Electa spa, Milan.

[13] Michel Foucault (1991), *Discipline and Punish,* trans. Alan Sheridan, Penguin Books, London, p. 217.

[14] Gilles Deleuze (1988), *Foucault*, trans. Seán Hand, Athlone Press, London, p. 25.

[15] See: Stephen Read (2005), "Amsterdam – Beyond Inside and Out", in: Read et. al. eds., *Future City*, Spon Press, London.

[16] See: Bruno Latour (1993), *We Have Never Been Modern*, trans. Catherine Porter, Harvard University Press, Cambridge Mass.

[17] See: Bruno Latour (2004), 'Why has critique run out of steam?: From matters of fact to matters of concern', in: *Critical Enquiry* 30,2 (Winter 2004) pp. 225-248.

[18] Gregory Bateson (2002), *Mind and Nature*, Hampton Press, Cresskill NJ. p. 205.

In 5th century BC Athens ... the central significance of communication was such that the political was captured in the place of the Agora, recognition and communication being the chief modes of participation in the life of the citizenry. The original meaning of Agora was closer to the idea of place of assembly and not market place, even in the sense of a public meeting which can take place anywhere ... and Agora stands as much for debate as for place. Then, ... it also becomes used as a marker for time, [and] one could be *agorazonta*, at the site of flows, of people, commodities and information.

Pollachos Polis Legetai (There are many ways to say polis); or: Community and the Visible of the City

Patrick Healy

A place of chatter

In the first paragraph of his *Politics*, Aristotle states that the city is "the highest of all forms of association".[1] Nothing suggests the Greek City more than the word *'agora'*: it passes into colloquial usage as the market place, and holds the meaning of the rough and tumble of barter and exchange, and it is there, in Hannah Arendt's account, one pre-eminently finds the public life of the Greek city, the place of recognition.[2] Before every other loyalty, the citizens gave it to Athena; the *encomium* of Thucydides, the most matter-of-fact of Greek writers, derives from that primary allegiance. When in his 'funeral oration' Pericles speaks over the graves of the Athenian dead, he points out that Athens is no work-a-day city, but an example which is deserving of admiration.

> "We are lovers of beauty without extravagance, and lovers of wisdom without being unmanly. Wealth is not for us a matter of vanity, but a chance to achieve something, we can acknowledge poverty, and think it a disgrace not to overcome it. Our citizens attend to both public and private duty and do not allow absorption in their own various affairs to interfere with their knowledge of the city. We differ from other states in regarding the man who holds aloof from public life not as 'quiet' but as useless; we decide and debate carefully all matter of policy in person, not by thinking that words and deeds go together but that things which go undiscussed are doomed to fail... In a word I hold that our city as a whole is an education to Greece and that her citizens yield to none for independence of spirit, many-sided achievements, and complete self-reliance in limb and brain."[3]

In 5th century BC Athens, which Thucydides would live to see ravaged by plague and collapsed from its power, the central significance of communication was such that the political was captured in the place of the Agora, recognition and communication being the chief modes of participation in the life of the citizenry. The original meaning of Agora was closer to the idea of place of assembly and not market place, even in the sense of a public meeting which can take place anywhere; Odysseus had to settle a question before an *Agora* on board ship, and Agora stands as much for debate as for place. Then, not only does it stand for place it also becomes used as a marker for time, thus *Agoras plethuouses* is the time for lunch break, 'full Agora'. Further the verbal form entails much that we would assign in the realm of the *flâneur*, the meaning of *agorazein*, to loll about, to buy, even to be in good form; one could be *agorazonta*, at the site of flows, of people, commodities and information.

The Agora is also an improvised place, its general plan a rough square; along two sides of it, following Zimmern's description, there are two colonnades, open towards the market place, with brightly colored paintings on their inner walls, depicting some battle scene between the gods and the giants, or between the citizens and the next-door neighbors. On the other two sides are public buildings, a temple and a government building; about half the area of the square is kept free for "the general public, who are already beginning to come together for their morning chatter".[4] During, for example,

a special day such as the Ecclesia, a rope steeped in red dye was put around the market place and gradually drawn in so as to drive everyone lingering there towards the Pynx or Parliament Hill. Such lingering is an important part of the daily life of the citizens, whose days, punctuated by gathering and scattering, were determined by the broad seasonal division of the weather as dry/moist and for whom the outdoors was the most desired habitus, even at temples, lingering in the porch, near to the home of the gods and goddesses.[5]

The Agora is the place of performative improvisation; the stalls, booths, wickerwork shades, and every variety of temporary erection, with goods arranged in rows and circles, accompanied by the ungovernable sounds and cries of the traders. A clerk of the market rings a bell for the opening of the fish market,[6] recently arrived perfumes are hankered after by impatient dandies, there is a naked slave market, and in the far corners, book stalls, and money changers clinking coins on their tables. For Plato in the *Republic* there is much disdain for retail and traders; they are "weakest in bodily strength, and therefore of little use for any other purpose. Their duty is to be in the market place and to give money in exchange of goods, to those who desire to sell, and to take money from those who desire to buy".[7]

A rhetoric of naming

The city is an imbroglio in the rhetoric of its own name and naming. To author itself it must also name its-'self' as Agora. Giving an account of such a process remains complex. The cries of the fishmongers, the exchanges of people is easy to find in the comedies of Aristophanes. Business is a negative condition; it has a privative form, *'ascholia'*, it means an absence of *scholia*, that is to say leisure (*otium*). Leisure belongs with contemplation, musing; and community is as much a result of talking as any belonging to deme, clan, etc. The Agora is the place of recognition, and even in the talk conducted by Socrates, according to Diogenes Laertius, there is much questioning in the market place. A private life is unthinkable, the city is a place of chatter, it is only the philosopher who ends up in a non-porous situation – eventually the Academy will take to gardens outside the city. The footprints of Socrates (with the rare exception of the walk in the countryside with Phaedrus) will be along the lanes and streets of Athens, hanging out by the Stoa. Weather and festivals, preparing for war, mark fundamental rhythms of the year. The presence of strangers (*metics*) salt the fellowship of community. Community networks are improvised, the city does not have a system with internal coherence, nor is it a social spatial conglomerate with internal coherence; embodied, it is everybody's business; *to koinon*, or, *Res Publica*.

With their arrival in Spring for the great assemblies, embassies, the Festivals and the performance of Tragedies, the city adjusted itself to the flux of visitors. The urban context was one of constant adjustment. Here we can find the beginning of the naming of the city, and the development of guidebooks, of *ekphrastic* description, which becomes the imaging of Athens – first through its coinage and the owl. Athens preferred that contributions from allies be paid in attic coin, it was the coinage that Apollo and Athena preferred to see; even the Spartans kept a supply of 'owls nests' though they famously hated Athens. The Athenians said there were things they could admire in the Spartans, and this was to their credit, but the Spartans could find nothing to admire in the Athenians and this was their fatal shortcoming.

The subject is not locked into subjectivity, Socrates is a multiple, stone-mason, sculptor, gadfly, busy body in the Athenian sense of daily engagement with others; constantly shuffling in and out of positions, teacher, philosopher, the great flirt – at least in respect of Alcibiades – loyal citizen, a

soldier; with a hardiness and simplicity that also eventuated in *sophrosyne*, the strong gentleness and tenderness which was a supreme virtue for the Athenians. Plato in the *Republic* would, from the confines of the non-urban Academy, think of a practice of biopolitics, the engineering of bodies and senses to produce governable subjects.

It is here perhaps that we need to ask about the way in which the authoring of the city takes place? Plato will request exclusions; it is the lovers of wisdom who will rule, and he proposes a system which in contemporary terms is found in Iran. But even as he honors Socrates, he deprives him of his enabling ecology. It is however in the *Politics* of Aristotle, that we find a succinct and pointed constellation of terms in which *polis* is defined as *koinonia politon politeias*[8] "*eiper gar esti koinonia tis he polis, esti de koinonia politon 'politeias*'" (...if the *polis* is a community it is a community of citizens with respect to the constitution...). The *polis* can be viewed here as a participatory community. The evidence is decisively complex. Thanks to the research of Mogens Herman Hansen[9] we have a survey of much of the lexical distribution of meanings in classical and post-classical sources, which points up the cluster of terms and their ambiguity – confirming Aristotle's comment in Book 3, Chapter 3; "*Pollachos polis legetai pollachos gar tes poleos legomenes*" (We use many meanings in speaking of *polis*).[10]

It also needs to be borne in mind that the development of concepts by Bodin, Hobbes, Machiavelli with regard to sovereignty, state, city, make it difficult to recover the particular meanings in Aristotle, many of which are peculiar to him among the ancient sources. Some of the senses can be reduced to the following: a topographical sense – that is a referring to a nucleated settlement; a personal sense – that is as a community; as a political structure with a settlement pattern.

And one may add an important source reported from Kleanthes the Stoic, in the anthology of Stobaios[11] "since *polis* is used in three different senses, about the settlement, about the community of people, and thirdly, combined in both senses." 'Community' in this translates *to sustema ton anthropon*, which again involves a local, a personal sense, as a primary meaning of *polis*. Even in a much later source, commented on by Mogens Herman Hansen, the distinction between *polis* as buildings, or a group of people, is emphasized. But, an examination of synonyms for *polis* shows how protean the term could be – one can see this even in a single citation from Thucydides: "...because of the ancient habitation on the Akropolis – it is even to this day called *polis* by the Athenians": and synonyms include; *akropolis*, *emporion*, or, country, territory – *ge*, *chora* – with *anthropoi*, *Andres*, *politai* – people, inhabitants, adult male citizens – with *demos* – the people, the citizen-body, or, popular assembly – *ekklesia*, or, *demos*; and also the more abstract meaning of political community as such, a meaning most in evidence in Aristotle, and in philosophical texts. It is only rarely used synonymously with *ethnos* as a people inhabiting a region.

For Aristotle *koinonia* is the highest form of community and it does not carry the distinction of state and society as in contemporary political usage – where, for example, society, as in 'civil society', is co-extensive with the State – or in Hegel's analysis in the *Grundlinien der Philosophie des Rechts* of 1821 where civil society, *Bürgerliche Gesellschaft*, and, *Staat*, belong together as part of the political order. This conjunction is evinced when the forms of civil society, through economic power, cultural influence, or, political lobbying; exercise pressure on State institutions. This opens up a gap – whilst positing a contiguity between the public and private sphere – that simultaneously undermines the notion of sovereignty for the State, while papering over the cracks with the mantra 'democracy'; an ideological addition as normative, which is capable of blinding us to the performative contradiction

that widens the gap in attempting to contract the norm. The concept *koinonia* stresses that territory is less important than people or government. This is given declamatory resonance in the slogan of Nikias (413 B.C.) "*Andres gar polis, kai ou teiche, oude nees andron kenai*" (A *polis* is made up of men, not of walls nor of empty ships).[12]

Whether community included everyone is not clear, and sometimes the *polis* acts as a government; i.e. it can pass laws, require oaths, sign treaties, found colonies, tax, mint, contract, borrow, organize festivals, consult oracles, shelter the refugee – and even at one point, come close, in Aristotle, to the notion of a juridical person. It is the case that it is *Demokratia* which merits a cult, while there was none for *polis*, since the supreme power was the *demos*, not a sovereign above the law. *Koinonia*: both in *Ethics* and *Politics*, the word is used to denote any form of association; of human beings, the crew of a ship, a band of soldiers, an association of tradesmen, a religious community such as a *thiasos*, or, civic subdivisions such as *demoi* or *phylai* – and all of these *koinonias* are subject to the all comprehensive *politike koinonia*, which is the *polis*. Thus, the concept of community is one of the most significant connotations of *polis* and further belongs essentially to Aristotle's discussion. Turning to other sources the complex of readings around the public/private can be exposed and leads to an argument as to how *to koinon* and *polis* can be manifested – and how space can be a primary diagnostic for the social.

A spatial diagnostic

The evidence from the 'funeral speeches' in Thucydides is complex and points to the relationship between the private and the public for the Athenian *polis*. This is treated as normative: namely, that the public is the domain of the political; the public sphere is the political sphere, and the private sphere is that of the individual – but not in the modern conception of an atomized being with individual rights, rather belonging to societies within societies; that is to say belonging to the *koinonia*, which corresponds roughly to what Graafland has termed the *socius*.[13] It is also important to note that the *polis* sphere is the political sphere. Many of the associations had elements of public and private; one can think of the difference today between membership of a club, a church or a political party where the private and public distinction is often obscured. Whilst cherishing the ideal of saying what one liked, taken as the mark of liberal democracy, there were restrictions: one should not profane the Mysteries, nor form new cults or religious societies. The public sphere was capable of intruding on the private in matters of education and observance of laws: the Assembly was empowered so to do. Here the more significant division is made between that which is *idion*, private (*to idion*) against what is *demosion* (of the people, democratic). Sometimes, especially in Aristotle's *Ethics* and *Politics*, the fundamental contrast is between the private person (*idiotes*) and the politically engaged citizen (*ho politeuomenos*), or between citizens homes and public buildings, etc. The Athenian distinction *to idion* with *to koinon* is not like the contemporary individual/state. For the *koinonia* participation was the prerogative of the citizen and source of privilege.

Further it should be noted that, as demonstrated in Davidson's *Courtesans and Fishcakes*,[14] there is a rich fund of anecdote that points up the complexity of the *oikos*, the private domain, which is also a zone of exclusion; of women, foreigners and slaves. He points to space as one of the most important diagnostics, for example, of adultery according to the Solonic laws. Someone who 'walked in the open' or sat in an *ergasterion* was not available for adultery because such spaces as the streets, agora, sex stalls (*oikemeta*) and shops were contrasted with the private sphere, that is, the *oikos*, which is both home and the people who live there; the other spaces were all zones of commodification, and related to the relationship established between objects, expressed in terms of price. Opposed to this

is the gift, and the *hetaera* (courtesan) moved in the space of gift and avoided any confusion with the exchange of alienable properties in prostitution, be it selling an act, a period of time, a body, or its parts. The image of the *oikos* can be reconfigured by examining the complex position of the *hetaera*. In her dealings she is a world away from those spaces which turn people into products; the Athenian evidence lets us see that while an *ergasterion* or *porneion* (sex shop) turns the erotic into an object for sale, the reverse can also occur, a whore can turn a home into a brothel. In other words, the range of marking spaces is never exhausted. In the speech of Aeschines the charge against Timarchus is that by selling himself from choice, and turning his home into a bordello, he could not have the honorable title of lover. In Aristophanes' *The Wasps*, all bodies are turned into 'goods' being hawked for sale. Different distributions of spatial visibilization were crucial as a marker.

The first question that can be raised is whether an analysis of the city can be systematic – or is it merely symptomatic. In Zimmern's analysis of 5th century Athens, one has the sense that occurs in Geddes and Mumford, who are his contemporaries, that the city has a kind of organic integrity, a sustaining core, which guides it as accretion and assemblage. From the first analysis of circulation and communication the existence of process and potentials make such a reading difficult to sustain. Our current position is signposted by Marc Augé in his *Non-places: Introduction to an Anthropology of Supermodernity*, when he says: "we live in a world that we have not yet learned to look at. We have to relearn to think about space".[15] The problem of the *Res Publica* belongs intimately to how our analysis of the city proceeds, both as to whether there is any paradigm that guides research, and what our ability to think about the '*res*' of *Res Publica* means. The place of technics and things, the problem of the thingness of *res* makes of the city a false 'object', ob-ject against sub-ject, things thrown together, rather than understood as the gathering and scattering interactivities of dynamic and kaleidoscopic processes.

A physiognomy of the city

Benjamin posed the telling question when considering the differences between Moscow and Berlin, even while describing his overriding aim as being "to produce the physiognomy of the city and the new rhythm that permeates the life of the worker and intellectual alike". During his eight weeks in Moscow, when he developed a new optics, and where he realized that film was the prism through which one could view the spaces of the gigantic laboratory for mass psychological experimentation that Russia had become.[16] The question remains: what reality is convergent with the truth? How is it possible to be objective with regard to events? What is the decisive issue? This question also returns in relation to how one approaches the 'physiognomy' of the city, something which Jane Jacobs acknowledged as primary in her analysis. Cities are, according to her "thoroughly physical places".[17] Within the metaphor of the physiognomic, getting a clear view is of paramount importance. However, the image may remain too static as a representation of the force-fields and rapid reconfigurations which the 'city as event' requires in order to be understood. Part of the solution to this 'seeing', which does not fall into the rigidity of a social seen through the Panopticon, has been mooted by Bruno Latour.[18] He sets the idea of the 'oligopticon' against the Panopticon. That is to say, that a dissolution of the objectness of the city is required which opens up a deeper understanding to the affects and intensities as mediated by the imaginative in participant observations. What Latour proposes is best expressed in his own words:

> "So, now the argument I want to make is how do we deal with the visibilization of a city; that is, how can we now build a picture of the city without ever supposing an over-arching city? And one of the ways to do that is to make a little operation which, is what I call 'localizing the global'. The

rule is very simple; every time someone says that there is a macro-micro factor somewhere in the city or that there is an 'overall' element in the society, look for the room in which this huge structural element, is actually made visible. So that's how I build this little book on Paris[19], visiting all the places where the space of Paris 'as a whole' was actually articulated. So, 'localizing the global' means look at the place where you see the whole not as a Panopticon as I will argue in a minute, but as an oligopticon (I will define the point later). So, the operation is very simple; there are centers of command, there are rooms, inside which Paris as a whole is visualized, but it's a local room, it's not a big room. Paris itself is never big, there is no place where Paris 'as a city' exists, it's always localized at some point where some of the engineers or urban planners, or specialists are actually making Paris 'as a whole' visible.

"We can take a very simple example. This is in Rungis which is in the south of Paris with a big market, and here is a man who is in charge of the 'overall' features of a price of, in this case apricots. And the price of apricots is determined by the circulation of one little guy on a bicycle inside the huge market of Rungis, with a little notebook. Then, and that's what I'll try and do by following the actors, he enters into the computer here with a little listing of all the figures he has extracted, elicited, induced from the wholesale grocers and then you get at night, after his work, the listing on a computer, that the wholesalers can look at.

"Now, in this case we have a macro factor at the end of the day. That is we have an element of price which can be said to be determined by the market in Rungis. But if we forget the movement of the inspector from the ministry of agriculture, and if we don't get all the manipulations of registers and inputting in the computer we have a feeling that it's a macro feature, that it's the market actually embedding Paris. But no market embeds Paris; the market itself is produced – at least this part of the market – in this little room inside Rungis through the agencies of an inspector of the ministry of agriculture.

"I think we have insisted too much on the notion of the 'Panopticon' and it's interesting to introduce the notion of 'oligopticon'. Now the oligopticon is another Greek word like Panopticon which means seeing a little, very well, but just a little. And the visibility of a city like the one I've studied here, is made not in a Panopticon, not through this sort of excessive paranoia of complete visual space as demonstrated in the famous example of a prison, where the prisoners are completely visible to the gaze of the surveillance manager.

"The oligopticon actually describes much better the thready character of the whole being built in a city, where you never have actually a whole which is not connected to a small place where the information is gathered.

"I must remind you that information is never actually produced, what we mean by information is always transformation. It's an obvious thing for architects; the map is not the territory, a model is not the house – and whenever we talk about information we forget the price of putting it into form, and the word information we should never forget, means putting something into a form, and the form is very material. When we talk about information, there's an enormous loss when you go from the model to the copy, which is never a mimetic copy. There is also a gain, of course, the gain is that once you have the information, you can code, you can compare it, you can archive it, but this gain is never a compensation for the loss. The word information is always a very dangerous word when we suppose immediate access to something that is accurate and doesn't cost anything. Although we are flooded with double-click information, we should not forget that the information is a highly costly element which needs its material forms in order to exist.

"So if you begin to imagine all the places in a city where the city is made visible through this oligopticon, you start to have a change in the topology of the city; that's what I call the 'flat society argument'.

"You don't have a context that is for instance the map – geographical, geological, meteorological – then you zoom, and then you arrive at the little guys inside the city. You never have that, because that topology is impossible, it's inconsistent. In order to have weather, you need to have another office which is near or next to the other one were the whole of the weather is actually made visible and so on. So you start to get a very different topology of the city where no one has the overall planning of the overarching element except by being in one room, a command room, somewhere in the city. And that's what we have here, a flat book; a book about complete invisibility, myopic. But myopia is actually an important feature of my argument, because we are always too much over-seeing things, and the English have this nice double sense that over-seeing means seeing from over and also forgetting most of the thing [overlooking], and whenever we have an idea of a context in which we can zoom to get at the individual element, we're actually overseeing the machinery and the whole network which make visible inside the city the very few places where the city is made visible 'as a whole'. So, 'meaning as a whole' should not send you to the context argument, but on the contrary to a very specific place. If someone says "...the whole of Paris,' or '... the whole of Rotterdam," ask where the room is in which 'the whole' is visible, and immediately the topology is modified.

"So, now you have understood my argument which is that the conventional elements of the social world, that is, 'the individual' and 'the social' do not at all matter, there is nowhere a space, nowhere an empirically grounded place where you could see something like an individual in a society. The notion of a zooming hierarchy from the macro to the micro is a complete myth. Now, it's an interesting myth because you can also – and I did it in the book on Paris – materialize the place where this myth is taking place. That is, you can also see the local – there are places where the social as a totality is staged. I need to add that to my argument because if I tell you there is nowhere an overarching society, you will ask how come that we constantly imagine the society as a huge pumpkin inside which the individual would be situated?

"Well, its because there are places, specific places, where the whole of the society is actually staged, and that comes back to all these visibilities, scenarios and stagings where the city of Paris itself is being staged for its own contemplation. And, of course, with all these elements which are added to the city of Paris you can imagine that while the city is imagining itself as a whole, it doesn't mean 'a whole', it means 'a panorama'. And the notion of 'panorama', as you know from Benjamin, is a circular room where the staging of the whole takes place. So when we are talking about social theory, social structures, cultures, that sort of thing, in which panorama are we locating our ideas? Even when we talk about the 'whole of society' we are doing nothing more than what this guy is doing – that is, painting the wall inside the room which can be empirically studied. Social theories themselves have to be studied in their own very specific locus and in the same myopic way in which you can imagine a global society."

Later for Latour that panorama is a laboratory where in the metaphysics of science as theory, and technology as practice, we are all experimental subjects involved in endless configuration and re-configuration; the completion of metaphysics as science becoming a 'quintessence' for the known and knowing agents, that at the same time obscures agency.

Ash Amin and Nigel Thrift in their *Cities: Reimagining the Urban*[20], see Latour's approach as one of identifying partial orders and localized totalities. Again, it primarily challenges the problems of perspectivity, and the inter-relational for any empirical research. Within the view of the assembly or assemblage, the issue of effect-affect, intensities and movement is crucial, and the role of mediatizing becomes of enormous consequence. Amin and Thrift summarize many of the consequences for a

'New Urbanism' and some of the ways we can begin to imagine cities differently in order to return us to the possibility of a systemic analysis. Part of the tension of being perspicuous is caught in a piece they cite from a letter of Freud describing the Piazza Colonna in Rome in 1907. This concerns a factor that needs to be emphasized in all analytic thought, namely: 'evenly suspended attention'. What is not included here in their consideration is that this returns us to the question of what Gregory Bateson calls an 'ecology of mind', and what Bruyns and Read in this publication refer to as the '*creatura*' or 'mental space' as the construction of the city – or indeed how observational activity is implicated and interleaved with the process of searching such a space. Such a search requires collapsing the framing of the city to a matter of thinness and thickness of effect-affect, and leaving behind both the center-periphery relation and the concept of pure location.

Searching space: distributions of visibility

This also requires a rethinking of the issue of visibility and its distribution, not neglecting the complex issue of mapping and the creating of a diagram revealing the relative heterogeneity of all visibilities; not forgetting either the politics of such seeing. The configurations of emergent novelty in the urban surface may themselves become as much mappable 'objectivities' as views of objective historical accretions. Clearly research needs also to understand the role of buildings and the accumulation of commodities in the city as bearers of image and cultural meaning; secondly how these are places to deal with the flows of provisional belonging and how this impacts on the distribution of the city through the image; thirdly, this mapping must be more representative of the sensorium of the city, the aspect that in Simmel and Benjamin is most fully captured. This includes the complex intrusion of sounds, sights and smells which effect a metropolitan character and impersonality in the relation to transitions and goods, and the micro-proxemics of experiences at various sites of customized interaction. Research also needs to include a description which looks at distributions in terms of social categories and accessibilities, rich places, no-go areas, special domains such as red-light districts, places of violence, gender specialization, and how in the 'urban machine' these flows and mobilities can be mapped, outside of a frame of technocratic thinking.

Amin and Thrift present the broad terms in which a New Urbanism understands the city; place needs, in a network society, to be understood as the crossing produced in a dynamic of encounter. They try (not entirely successfully) to expand the Deleuzian observation "I don't like points. It is not the line that is between two points, but the point that is at the intersection of two lines." Diagrams indicate the potential of networks to continuously become, not as becoming continuously; the event remains a novelty. The diagram also requires the collapse of the 'humanism' of the subject in the machinic assemblages in which interactivity occurs. Switches of position, twists and fluxes of interactivity constitute a configuration of mobile encounter in which the reality of the virtual concretizes image production, within the anonymous fold of the world. This is the site of the mundane, and the everyday, a process of interleavings.

A new faith in the virtualities of space, freed through 'performance', transforms the mode of 'belonging' of urban actors, highlighting the agency of collision and the contingency of events.[21] The everyday is the ground. A study of proxemics and clustering based on the free association of groups (even specialist *bunds* created through chatter and chat rooms) points to a new informality of urban identities; a practice of the multiple, and part of the complexity of identity that Arie Graafland once gave to the rhizome city of Amsterdam.[22] It points also to the more traditional view that the anonymity of the city allowed for the exploration of 'myself the multiple', or lived lives as the experiment of becoming.

This further involves theorizing what Amin and Thrift call an 'ecology of circumstance', requiring a new spatial conception and vocabulary, which is guided by the understanding of the urban machine. The tension of organism/machine as polar needs to be relaxed; the passions and intensities of affect (broadly speaking, the political) are mediated in the image. Agency and transit are the capacity for power, what a body can do; that is the incorporation of machine, organism, circulation, passion, so that cities are seen as forces and intensities on the move. In a Deleuzian reading an 'evolution' of novelty occurs without reference to genus or species, and against the Darwinian view of the organism as being at hand. In mapping the force fields of intensities and affect, the relation of reason to the irrational remains a crucial aspect of mapping; one must study the affective relationships between heterogeneous bodies, a defining in terms of longitude and latitude, a rediscovery of transformations of speed of functions. Gatens and Lloyd appeal to the 'associative' logic of Spinoza: "The interactions of imagination with the central emotions – desire, joy, sadness – yield systematic variations in intensities of attachments and aversion. These fluctuations are different from the ordered relations between clear ideas of reason; but they nonetheless have an order of their own which lends itself to rational investigation. The rational understanding of this affective logic of the non-rational becomes the core of Spinoza's analysis of the forms of political life – analyses which center on understanding the organization of the passions, rather than the deliberations of a supposedly rational will. Spinoza sees the passions as generated in conjunction with image, around which they are organized; and sees these organized patterns of affect and image as changeable through challenging the appropriateness of the image at their core."[23] The fish consumption of Athenians and the fruit and vegetable market of Paris may well help us in advancing such an understanding.

[1] Aristotle (1962), *The Politics*, trans. T.A. Sinclair, Penguin Classics, London, p. 25.

[2] Hannah Arendt (2002), *Vita Activa oder vom tätigen Leben*, Piper Passim.

[3] See: Alfred Zimmern (1961) *The Greek Commonwealth*, Oxford University Press, Oxford. See especially pp. 59-180 (Quote slightly paraphrased).

[4] Zimmern (1961).

[5] Zimmern (1961); see also Henry Musgrave Wilkins (1870) *Speeches from Thucydides*, Longmans, Green and Co, London. pp. 63-85.

[6] The following is exerpted from James Davidson (1998), *Courtesans and Fishcakes*, Fontana Press, London. It is of enormous interest in exploring sources for a material 'physiology' of the city and draws fruitfully from Simmel's *Philosophy of Money* for its analysis.

> Unlike beef or mutton, fish was not a sacrificial or religious food, and could more be enjoyed for its own qualities. Its consumption became a hallmark of urban sophistication.
>
> There was a banquet and people were talking and, as so often in accounts of banquets at this period, Socrates was there. The topic was language: the origin of words and their true meanings, their relationships with other words. In particular, according to Xenophon, who describes the scene in his Memoirs of Socrates, they were talking about the labels applied to people according to their behaviour. This was not in itself an uninteresting subject, but failed nevertheless to absorb Socrates' complete attention. What distracted him were the table-manners of another guest, a young man who was taking no part in the discussion, too much engrossed in the food in front of him. Something about the way the boy was eating fascinated Socrates. He decided to shift the debate in a new direction: "And can we say, my friends," he began, "for what kind of behaviour a man is called an opsophagos?"
>
> Fish: The Secret of Eternal Life.
>
> No cookery books or treatises on gastronomy survive from Athens, and the Athenians' own contribution to the history of gourmandise was confined to their cakes, but "Attic comedy" , especially the so-called Middle and New Comedy of the fourth and early third centuries, provides plenty of evidence that the preoccupations of the gourmands of Sicily and Southern Italy were fully shared by the citizens of this, the largest and richest classical city. Anyone who picks up a collection of fragments of fourth-century comedy is likely to be struck immediately by the large number of references to the consumption of fish. Characters regularly turn aside to enunciate long and metrically elaborate shopping-lists for fish, menus of fish and recipes for fish-dishes, with the ingredients and method of preparation graphically described...
>
> Outside comedy, references to fish-consumption are somewhat fewer in number, but often present even more direct and striking testimony to the citizens' obsessions. Demosthenes notes in disgust that when Philocrates betrayed his city to the Macedonians for the price of a bribe he spent his ill-gotten gains on whores and fish. Aeschines attacking his opponent Timarchus with the aim of depriving him of his rights as a citizen recalls the many occasions he was seen hanging around the fish-stall with his "friend" Hegesander.
>
> Greeks were not so blinded by love as to ignore the responsibilities of connoisseurship. Within the exalted ranks of the piscifauna, distinct hierarchies were recognised, if not always with universal agreement. The preserved fish or tarichos, for instance, was generally looked down on and the phrase "cheaper than salt-fish" is used by Aristophanes to mean "ten a penny." Certain varieties did have their supporters; tuna bottled at the right season in steaks or chunks received much praise, and Archestratus had some nice things to say about salted mackerel. Euthydemus, a writer on diet of the Hellenistic period, even wrote a treatise on the subject although the encomium of salt-fish, which he ascribed to Hesiod and quoted in support of his cause, was strongly suspected of being a forgery.

[7] Plato (1975), *Republic*, Penguin, London. p. 371.

[8] Aristotle, Pol. 12766.

[9] Mogen Herman Hansen (ed.) (1998), *Polis and City-State. An Ancient Concept and its Modern Equivalent*, Acts of the Copenhagen Polis Center, Copenhagen.

[10] Aristotle, Pol. 1276a 17-

[11] See: M. Schofield (1999), *The Stoic Idea of the City*, University of Chicago Press, Chicago. p. 131.

[12] Thucydides. 7. 77. 7.

[13] See: Arie Graafland (2000), *The Socius of Architecture*, 010 Publishers, Rotterdam.

[14] Davidson (1999), n.5.

[15] Marc Augé (1995), *Non-places: Introduction to an anthropology of supermodernity*, trans. John Howe, Verso, London. p. 35.

[16] For example: Walter Benjamin (2001), *Selected Writings, vol. 2, 1927-1934*, The Belknap Press of Harvard University Press, Cambridge Mass. pp. 3-72.

[17] Jane Jacobs (1961), *The Death and Life of Great American Cities*, Vintage Books, New York. p. 95.

[18] The following excerpta are taken from a transcription of Bruno Latour's lecture, 26 November, 2001, The Berlage Institute, Rotterdam; transcribed by Aksel Çoruh. We include a reasonably faithful verbatim transcription because to our knowledge another outline of the idea of the oligopticon by its author does not exist in the English language. (Editor's note: As this book was going to press Bruno Latour (2005), *Reassembling the Social*, Oxford UP, Oxford, was published with a full account of the oligopticon).

[19] Bruno Latour (1999), *Paris ville invisible (Les empêcheurs de penser en rond/La découverte)*, Institut Synthélabo, Paris. See also: http://www.ensmp.fr/~latour/virtual/#.

[20] Ash Amin and Nigel Thrift (2002), *Cities: Reimagining the Urban*, Polity, London.

[21] See for example: Brian Massumi (2002), "The Political Economy of Belonging" in: Massumi, *Parables for the Virtual*, Duke UP, Durham.

[22] Graafland (2000).

[23] M. Gatens and G. Lloyd (1999), *Collective Imaginings: Spinoza Past and Present*, Routledge, London, p. 26.

Lefebvre writes ... that knowledge [of urban society] is "not necessarily a copy or reflection, a simulacrum or simulation of an object that is *already* real". Nor, he claims, is it necessary for knowledge to 'construct its object' for the sake of a theory. ... Lefebvre does not leave off with merely an 'approach to the object' ... "the object is included in the hypothesis; the hypothesis comprehends the object". ... "Even though this 'object' is located outside any (empirical) fact, it is not fictional. We can assume the existence of a *virtual object*, urban society; that is, a *possible object*, whose growth and development can be analyzed in relation to a process and praxis".

Problematizing the Virtual: on Lefebvre and the Urban Problematic

Deborah Hauptmann

Introduction

This paper is an exploration of the notion of 'the virtual' in relation to the problem of conceiving the city. 'The virtual', as a notion, belongs most properly to the domain of philosophy; however, as a concept, it has become increasingly important to many theory and design discourses, as well as for much of the research and design being carried out in our research laboratory.[1] The problem of conceiving the city refers to the difficulty we recognize today when, whether by analysis or design, we attempt to fix or stabilize our findings and projections onto the (spatial) surface of the city. Yet, even more, the very *way* in which we search for the forces and factors transforming our cities and our societies has little to do with the means of researches of even a decade ago. The traditional 'empirical method' is no longer adequate to the aims of understanding dynamic and emergent processes; we now advance towards much more 'radical' and 'ex-centric' empiricisms, developing our means, and our concepts as we go. No doubt a horrifying thought for many. But, this *freedom to search* does not come free of the responsibility to communicate, to challenge, to discover and define the limits and thresholds within both the theoretical and practical concepts by which we claim to advance knowledge and substantiate actions.

One thing appears certain, over the past few years our research effort has decisively changed; it has moved from working within the domain of known and accepted sets of research, design and theoretical practices towards those of unknown and highly experimental research/theory/design investigations and innovations. Borrowing from Bruno Latour we might simply say that our work has shifted from 'matters of fact' to 'matters of concern'. The theoretical investigations being carried out by many of our researchers (and students) has now transgressed what we before referred to as the 'interdisciplinary' to what we might today understand as the 'transdisciplinary'.[2] To carry this observation further, I will go so far as to suggest that a *divisive* turn is underway; and I use the term divisive not with its pejorative inclination, but to indicate a Nietzschean positivity.

In order to frame the contemporary 'urban problematic' and to found the discussion of the virtual, not in philosophy but, in socio-spatial theory, I found myself beginning with what I had before imagined an unlikely source, the work of Henri Lefebvre. This paper will focus on a small but concentrated work of Lefebvre: *The Urban Revolution* (*La Révolution urbaine*) of 1970.[3] This book is commonly understood as Lefebvre's response to the social uprisings of 1968 as seen from the point of view of what he defines concisely as the '*problématique urbaine*'. However, many of the questions and concerns posed in this work should not be limited by the historical circumstances of the events of 68.[4] I would like to suggest that they belong more broadly to the history of intellectual debate as posited in the 60s and beyond. I am here thinking of other discourses, in which questions of the same nature were and, continue, to be posed. Specifically I will pay particular attention here to the work of Michel Foucault in order to elaborate, through a double reading, a further set of concerns for an analysis and an opening to a process that more closely addresses our current concerns.

Situating this argument with Lefebvre and Foucault, admittedly, opens it to criticism. Some might conclude that Lefebvre's explicit rejection of Foucault prevents combining these two thinkers, much less correlating their theories. A thorough summary of the arguments by which Lefebvre refuted Foucault is beyond the scope of this introduction; suffice to say that in Lefebvre's eyes, Foucault's work on knowledge privileged the theories of knowledge (*savoir*) at the expense of knowledge produced by the subject (*connaissance*), and his work on power privileged analysis over practice and left little room for individual agency as regards the production of the social-spatial.[5] In other words, Foucault was just too 'systematic' and his explanations of history, too conservative. Further, his insistence on the 'text' (or *articulation* as will be discussed below) as the primary locus of knowledge was seen as a denial of the importance of the philosophical concept as a point by which to begin any theory of social signification. In support of Foucault however, one could equally say that his insistence on examining the localizable (the specific over the general or global) allowed him to provide a well defined analysis of the invisible or hidden forces, both determined and determining, which constitute our social, and for Lefebvre, our urban, reality. Of course, resolving these issues is not the problem set forth by this essay. I am not here placing Lefebvre and Foucault in opposition. It is my position that Lefebvre's passion, his vision, and Foucault's precision, his 'historian's gaze', form a powerful alliance, and I will be utilizing aspects of their early work to begin by looking back, in order to open onto a view of the (virtual) problematic as it is encountered in our urban research thinking today.

Finally, a note on the structure of this paper may prove helpful. In using *The Urban Revolution* as the primary source I have decided to follow Lefebvre sequentially through the steps that he takes in structuring his work. By this method I provide what I hope will be understood as a 'subtext' in which, by following Lefebvre, I might illustrate the richness of argument found within his *problématique*.

Identifying the frame

> We can now posit a conceptual difference between the 'limit' and the 'threshold': The limit designates the penultimate marking a necessary re-beginning, and the threshold the ultimate marking an inevitable change.
> Deleuze & Guattari[6]

Lefebvre opens *The Urban Revolution* with the following hypothesis: "Society has been completely urbanized." He then provides the following definition: An 'urban society' is one which "results from a process of complete urbanization. *This urbanization is virtual today, but will become real in the future*" (UR: 1, my emphasis). These first few lines immediately introduce the reader to two key concepts Lefebvre will work with (and fight against) in his book: first, the expression 'urban society' (by which we will look at its qualities and what it signifies, as well as question of what it *does*).[7] And second, the inclusion of the notion of the 'virtual' in the opening sentences of the book must be considered as an *opening* up of the central problematic of this work.

With the above definition of 'urban society', Lefebvre sets out to clarify certain ambiguities that might exist around this term. Ambiguities, he argues, arise when the term is used too generally, in reference to a city or urban agglomeration, for instance. Generalizations cause the social relationships unique to an individual formation, or a specific type of urban production, to go unobserved. In other words, by using the term 'urban society' without understanding that it is characterized by process before product, we are in danger of making comparisons between things, or states, which have nothing in common. In *Right to the City,* Lefebvre expresses these relationships succinctly, he uses

the term 'generalities' to denote a too broad or totalizing view, 'particularities' to denote that which we believe differentiates one entity from others, but he also includes the term 'singularities' to denote "the ways of living of the city, more properly understood as to *inhabit*".[8] This comment, on what might commonly be referred to as the general and the particular, alerts us to a complexity suffused throughout the book and we will quickly introduce it before following Lefebvre further.

Even within the brief scope of this paper, commenting on only a few sections of Lefebvre's *The Urban Revolution*, we will find him asserting theories of the global while equally insisting on a focus that is local. He will claim, for instance, that the '*problématique urbaine*' must be understood as a (virtual) object, global in reach, while simultaneously reminding us that it is necessary for any methodological study to look carefully at the specificities of the object at hand.[9] Now, although these, as well as other, terminological distinctions often seem to conflict, Lefebvre has little trouble in reconciling them. These reconciliations however will not derive from precise or exclusionary definitions, but will be situated squarely within his theoretical approach to concepts.[10]

As a result of ignoring the specificities of urban societies, Lefebvre suggests that the following ideologies emerge: 'organicism', 'continuism', and 'evolutionism'; the first being characterized by its belief in an organic 'whole', the second by that of historical 'continuity' and the third by different periods whereby the social relations, during their transformations, actually disappear (UR: 1-2). Extending the definition of the term 'urban society', Lefebvre writes: it is "that which results from industrialization as a process of domination that absorbs agricultural production". And further: "this urban society cannot take shape conceptually until the end of a process during which the old urban forms, the end result of a series of *discontinuous* transformations, burst apart" (UR: 2). Thus far it all seems very concise: A process which absorbs product is something other than 'evolutionism' which leaves one product behind by *selecting* another, and the emphasis on the discontinuous within the transformative rejects the ideology of 'continuism'. On the ideology of 'organicism' however, the rebuttal is not direct, but diffuse. Suffice to say that the very notion of an 'organic whole', which can be seen in its entirety and thus studied as a model, is contrary to the notion of the virtual, or the 'possible object', which is understood as a central thesis in his work.

Movements and orientations

Lefebvre argues that the term 'urban society' should be understood in place of the more common designation of 'post-industrial society'. Although he accepts that there is both "empirical and conceptual truth" (as well as "exaggeration and extrapolation") in many of the designations applied to what is commonly understood as the *post*-industrial era (i.e. technological, consumer or leisure society), he believes that with the term 'urban society' he can *open* understanding of the contemporary urban condition to its "tendencies, orientations, and virtualities" (UR: 2). He posits this idea against one that urban society might be understood as being composed of any existing or pregiven reality.

Why though is it necessary for Lefebvre to give a new name to this period, this condition? Does he believe that 'urban society', given his original hypothesis, offers simply a more accurate description of this "society which cannot take shape conceptually until the old urban forms break apart"? Brian Massumi, in discussing the concept of the 'singular expression' in Deleuze and Guattari, refers to the propositional model of language as characterized by what they have referred to as "a three-sleeved strait-jacket on expression's movement: designation, manifestation, and signification; the particular, the personal, and the general".[11] In Deleuze and Guattari we find the argument that the moment an individual movement (personal or collective expression) has been articulated as such then it is

vulnerable to absorption or capture by structured ideologies, regulating bodies or hegemonic powers.[12] In other words, the fluid, the emergent, becomes quickly stratified; to put it rather brutally, that which is named is easily commodified.[13] However, Massumi offers a further consideration: if the expression can resist appropriation by an established power, "insisting on defining its own traits, in a self-capture… they will retain a shade of the unclassifiable and a margin of unpredictability", the expression will appear as what it is: "a multiplicity in flux, an expressive 'movement' or 'orientation' still under formation".[14] Actually, Lefebvre does give a small explanation to the questions posed above. The purpose, not the meaning, of using a term such as 'urban society' is to provide for the formulation of theoretical hypotheses, which are used then as a starting point for more extensive research. He likens such procedures to those found in the sciences such as sociology, history, politics, economy, and human geography. We will respond further to this function of naming in due course. But for now we will follow Lefebvre in the direction of epistemology so as to offer a more inclusive response.

Theorizing knowledge: the problem of the real

Lefebvre writes that his hypothesis (involving the social sciences) is based on both an epistemological and methodological approach.[15] Here he states that knowledge is "not necessarily a copy or reflection, a simulacrum or simulation of an object that is *already* real". Nor, he claims, is it necessary for knowledge to 'construct its object' for the sake of a theory – what he refers to as "a theory of the object or its models". Nevertheless, Lefebvre does not leave off with merely an 'approach to the object' but now provides a theoretical hypothesis; as he succinctly puts it: "the object is included in the hypothesis; the hypothesis comprehends the object". And, as we are about to see, it is by the use of this theoretic that Lefebvre reconciles many, otherwise inconstant, terminologies and claims. Qualifying the terms of the hypothesis: "Even though this 'object' is located outside any (empirical) fact, it is not fictional. We can assume the existence of a *virtual object,* urban society; that is, a *possible object*, whose growth and development can be analyzed in relation to a process and praxis" (UR: 3).

Lefebvre is here setting up a position by which he wishes to claim that the future as such; the virtual, of urban society does not preclude an epistemological account. However, Lefebvre's claim alone is not adequate to address an epistemology of the *not yet real*. It is clear that theories of knowledge can be complex, and we will turn to Foucault in order to address the issue further.[16] In Foucault's work on the subject of knowledge we are reminded that *nothing* exists prior to knowledge. He employs the term '*épistème'* to denote an intellectual era and the prevailing epistemology by which any such era is given systematic formulation.[17] But in a more familiar parlance he also refers to 'an age' in order to point to a particular period as identified by a set of historically determined conditions; these can be understood as 'historical strata', and the *knowledge* that constitutes a given age necessarily pre-exists its enunciation. To state it otherwise: an age cannot exist before the statements and visibilities that determine its discourse. He claims that our very facility to see (visualize) or to speak (articulate) is contained in our ability to know of those things which are seeable and sayable. Deleuze argues that with Foucault, knowledge is defined by 'the combinations of visible and articulable that are unique to each historical formulation'; and as such, "knowledge is a *practical assemblage*, a *mechanism* of statements and visibilities".[18] With this the distance between Lefebvre and Foucault appears irreconcilable. For how, if nothing exists prior to knowledge, can knowledge in its turn be other than a copy of that which is already 'real'? However, and importantly, Foucault further provides that in their turn, non-discursive (vision) and discursive (speech) practices also inform, and thus *transform*, the forms of expression and the images by which we advance towards a future. For there is always a flowing, a folding of one form into another, a crossing and passing of statements and visibilities,

which spontaneously cease to exist at the very moment they come into being. In other words, knowledge exists, though it is by virtue of this existence neither necessarily nor always real(ized).

Provisionally accepting Lefebvre's position towards knowledge we might understand this as an epistemology which accepts of the futurity of this 'not yet real' (or this 'not yet arrived') of 'urban society'. But how exactly are we to understand 'growth' and 'development' as not belonging to the 'ideology of organicism' warned against earlier? He does place these unities in (analytical) relation to process, but we should question whether this is sufficient to reconcile these otherwise incongruent terms to the futurity of the virtual/possible object, contained in a "non-fictional yet non factual" empiricism. Lefebvre is here attempting to explain his theoretic (to my mind speculative, to his methodological) with an epistemological approach, while the 'empirical' by definition is precluded, or, at least, deferred, and understood, as he will express shortly, as that which "*flees before our grasp*".

We will get back to these difficulties later with a discussion of the possible and the real. For now it will suffice to say that it appears that Lefebvre is attempting to address the non-predictability of the current situation, without giving up claims to the possibility of analytic precision.[19] We might suggest that the distance between what 'exists' and what is 'real' is precisely the distance which separates what can be *known* from what *is*, in other words we might imagine that Lefebvre, while making theoretical claims to epistemology, is, in fact, opening up an urban *ontology*.[20]

Problematizing the virtual object

Referring to what he will later describe as the 'theory of complexification' – whereby social phenomena have progressively acquired greater complexity – he discusses the problem of the theory/praxis axis. Arguing that the expression 'urban society' should not be understood as merely a pedagogical or rhetorical device, but one which, as we have already shown, decisively compels, as he puts it, 'its own theoretical position'. However, he goes on to suggest that this theoretic must also move toward the 'concrete', leading to a properly 'urban practice'. Simply put, Lefebvre's 'concrete' must here be understood *as* 'social practice'.[21] Nevertheless, in order to enter this domain of the concrete we must recall that here we will not find a precise, or empirically supportable, set of conditions or facts by which we can derive what he refers to as this new 'urban reality', or 'product', so to speak.[22] The development of such a theory, he argues, asks for "research into the *virtual object*", and understanding (and defining) this object must be seen as part of a "continuous project" (UR: 4). We will have reason to return several times to this idea of the *possible*, the futurity held within, if not yet projected by, this new urban reality as such. But for now we should simply recognize that it is within this process of asserting the theoretical necessity which the 'urban society' itself compels, that we are now addressing not only the meaning or the signification of this term – the *what it is* – but more importantly we are beginning to reveal its function – the *how it acts* – within this discourse on 'urban revolution'.

To further support his theoretical hypothesis Lefebvre draws on a concept referred to as 'transduction', perfectly delineated as "an intellectual approach toward a possible object…" (UR: 5). In *Right to the City*, Lefebvre argues that transduction "… elaborates and constructs a theoretical object, a *possible* object from information related to reality… [it] assumes an incessant feedback between conceptual, the framework used, and empirical observations." Here we might recall Massumi's formulation: "insisting on defining its own traits, in a self-capture". Continuing with Lefebvre: "Its theory... gives shape to certain spontaneous mental operations of the planner, the architect, the sociologist, the politician and the philosopher" (WC: 151). Lefebvre outlines an example with the expression 'urban revolution'; explaining that the term refers to processes of transformation. Transformations, he

suggests, are sometimes abrupt and at other times gradual, planned and determined; the term does not necessarily refer to transitions that are violent; however, nor is violence necessarily excluded.[23] He questions: "but how do we discriminate between the outcome of violent action and the product of rational action before their occurrence? Isn't thought characterized by the effort to reduce violence, beginning with the effort to destroy the chains that bind our thoughts?" (UR: 5-6). Foucault does not vacillate on this point, as he writes: "Humanity does not gradually progress from combat to combat until it arrives at universal reciprocity, where the rule of law finally replaces warfare; humanity installs each of its violences in a system of rules and thus proceeds from domination to domination".[24]

In sketching the history of development 'From the City to Urban Society' (the title of the first chapter), Lefebvre suggests that what we see when attempting to identify urban society is the "effect of process", hereby equated to urban reality itself. Subsequently he situates this as the new and pressing *'problématique urbaine',* positing "if an urban reality manifests itself and becomes dominant, it does so only through the urban problematic". We should examine the significance of the term 'problematic' as it is used here to import a critical position.[25] The term here provides for a double inference; first, the 'problematic' provides for *a set of questions* to which the theory must address answers, and secondly, it acts as *the conceptual frame* by which the questions derive their significance.[26] Foucault too recognized the importance of 'problematizations', linking them to "...the development of a domain of acts, practices and thoughts..."[27] And Lefebvre precisely follows on this point by articulating a series of questions culminating in one of particular bearing here; he asks: "can we achieve significant progress in theory and practice so that our consciousness can comprehend a reality that overflows it and a possible that flees before its grasp?" (UR: 15). With this question we are led back to the problem of the *possible* and its relation to the *actual*, or, as he characterizes it the 'real'. Suggesting that we should not forget that even at its inception urban society and its modalities and processes retained characteristics already determined under the rubrics of industrialization; but furthermore, even with the term 'industrialization' we must recognize multiple and different modes of processes and practices as they are associated with conditions which emerge and become part of the problematic of the urban phenomenon. And with this we see the appearance of a new and, as Lefebvre refers to it, abbreviated form of 'urban society', with his second appellation: 'the urban' (UR: 16).

Other designations: problematizing the urban

'The urban' was already utilized as a signifying (as opposed to descriptive) term in *Right to the City*; where Lefebvre used the term primarily in italics. In *The Urban Revolution* he has now (with few exceptions) removed this emphasis, indicating that the function of the term has shifted in relation to the problematic as posed in each of these texts. But this brings us back to the strategy of naming and gives us opportunity to now discuss both its significance and purpose. With the addition of a definite article, he converts an adjective – 'urban' (society) – into a noun – 'the urban' – providing for a rotation from the descriptive to a substantive. Clearly the noun 'urbanity' was not adequate to his aim. This is certainly something other than a philological slight of hand; and, as he argued already with the use of the term 'urban society', it is much more than a mere "pedagogical device". We noted earlier that he applied the term 'urban society' to the current state of affairs (global in reach), in place of the more commonly used term 'post-industrial society'; he also suggested that this term should be used in place of other designations such as 'the technological society', 'the society of abundance', 'the leisure society', 'the consumer society', etcetera. Of course in its most simple formulation 'the urban' only further replaces these other significations; however, could he have not stayed with the means already expressed with the use of 'urban society' and 'urban reality'? But, this is not the case and it

should be clear by now that there is nothing arbitrary about this renaming; we should now understand it as a reframing of the problematic itself.

With the articulation of 'the urban', Lefebvre not only replaces, or excludes, these previous terms, he includes all things within the complex of 'urban society' itself. In this sense he enfolds the multiplicity[28] of conditions (both process and product) by which we can identify a particular period by sets of dominating socio-economic activities or socio-political structures – i.e. at the level of specific associations with technology (Virilio), spectacle (Debord) or information (Castells); or at the level of general associations with globalization (Sassen), high capitalism (Jameson), or postmodernity (Lyotard, Harvey et al). In other words, *the urban* acts synechistically; it gathers within its designation, perhaps by the very lack of its referential claim to activities and structures, the very possibilities that he associates with the virtual object. Lefebvre elaborates with the example of the noun 'city', writing that the term 'urban' is preferable to 'city' as the latter seems to designate a clearly defined object, "… a scientific object and the immediate goal of action, whereas the theoretical approach requires a critique of the 'object' and a more complex notion of the virtual or possible object." (UR: 16).

Henri Bergson, in referring to the problem of the *real*, of a movement which is of and within life, offers another point related to linguistic formulations such as these. He argues that the mind has a way of stabilizing movement that is represented in the form of a 'motionless design' in three ways: as qualities, forms of essences and acts. He offers a correspondence to these classifications in the form of adjectives, substantives and verbs respectively. The first two he suggests symbolize states; while the last is related to movement, "the verb itself, if we keep to the clear part of the idea it calls up, hardly expresses anything else".[29] What Lefebvre is missing, it might be argued – what his rotations in terminologies predicated (if they were to perform in correspondence to his requirements for non-limited or open systems as opposed limited or closed systems) – was that he pose a term for the urban in the form, not of the noun, but of the verb. Giving action, not merely description or definition, to the 'there is' of urban.[30] Foucault also acknowledged the dynamic importance of the spontaneity or the 'there is' of language. It should be clear here that our concern is with the condition of the new and the emergent, those *actualizations* which evade *realization,* even if momentarily, in what we may think of as the interstices of thought (within thinking) itself.

Conceptualizing the virtual as the possible real

'The urban', used as an enunciation, identifies (perhaps it even captures) the nature of Lefebvre's *problématique urbaine.* Further, and importantly, he continues with the idea of the virtual claiming that the urban cannot be understood as an "accomplished reality, *situated behind the actual in time",* but, on the contrary "as an *horizon*, an *illuminating virtuality"* (my emphasis). He then returns us to a recurring question; asking whether theoretical knowledge can treat this virtual object as an abstraction? And clearly affirms that it cannot. Exactly as we would expect from Lefebvre (and perhaps what we have not yet fully learned from him), he writes: "theoretical knowledge can and must reveal the terrain, the foundation on which it resides: an ongoing social practice, an urban practice in the process of formation" (UR:16-17). Referring to what Deleuze calls a 'virtual visibility' or a 'visibility outside the gaze', we would like to provide a further condition: that which is revealed in forms of visibilities must not be reduced to object, to a perceptible thing or quality, as such, to merely a physical environment to which it aspires, or in which it transpires.

In Lefebvre, the 'virtual object' thus described is inscribed in what is commonly understood as a space-time axis. And it is with this that we open onto what might be considered the weakness of his

doctrine. For, as such, it can be seen as a possible futurity, based on its historical determinations, however complex. In short, this is understood as historical time.[31] Yet, to equate the virtual with the concept of a future – placed on the (linear) temporal axis of past/present/future – points precisely to that which "pre-exists its object", a condition, we will recall, Lefebvre insightfully argues against. It is, however, clear that Lefebvre is aware that this 'virtual object' cannot be fixed, for it is that which he places over and against the false problem posed in conceiving "the *urban* as an already accomplished reality." The danger remains, that in reading his space-time axis as one that follows the historically determined (and determining) 'arrow of time' we run the risk of subverting the creative and *spontaneous* to the teleological. Lefebvre waivers here, and he does so for good reason.[32] On one side he knows that urban reality is made up of a plurality of urban practices; these practices being concrete (material) and not abstract; on the other side he believes that the virtual (object) stands "outside the global... crisis of reality and thought" (UR: 17).

Continuing further on this decisive point; in the chapter entitled 'Blind Field' Lefebvre continues to advance his theory of the virtual by addressing the space-time axis. He argues that "with the arrival of history, our awareness is able to grasp two opposing movements", described as either: "*regressive* (from the virtual to the actual, the actual to the past) and *progressive* (from the obsolete and completed to the movement that anticipates that completeness, that presages and brings into something new)" (UR: 24). Although it could be argued that Lefebvre's very reliance on this trajectory, past-actual-virtual (past-present-future), aligns his own theories with the reactionary (regressive), as opposed to visionary (progressive), approach. In short, it appears as if Lefebvre uses the terms 'possible', 'virtual' and 'future' synonymously; this conflation of these, arguably distinct designations provides for an elementary limitation in his argument. For if we understand the *urban problematic* to be one which addresses merely the 'possible' then we are doing little more than arguing that the once "deterministically related" and "empirically observable", conditions of *modernity's urbanism* (this term is used to indicate the idea of a totalizing view, a top-down belief that design intention could control outcome) are no longer predictable as such. Whereby, due to the rising level of 'complexification', of the influences acting upon and emanating from the city itself, we can no longer calculate the outcome of forces (again acting and being acted upon as regards the futurity of the city, or urban society). With this, the possible indicates not only the 'not yet known'/'not yet real', but the 'will be'/'already determined' of the *urban*. In other words, in the same way as we challenged above the implied unity or 'organicism' of his framing terminologies on knowledge, we might now suggest that his axis of time offers little more than a reiteration of what he already rejected as the 'ideology of continuism'. Let us repeat his above definition: "this urban society cannot take shape conceptually until the end of a process during which the old urban forms, the end result of a series of *discontinuous* transformations, burst apart." Perhaps this appears as merely a semantic rebuttal, however we hope to show this is not the case. To be fair, let us give back to Lefebvre his original formulation and question how the 'discontinuous' might further be posed.[33]

The argument we are making suggests that Lefebvre's formulation constructs the possible as a discrete (as opposed to continuous) multiplicity, which, can only be grasped once it has become real (or *realized*). Bergson suggests that possibility does not precede reality; only when a reality has appeared can we then look back and find what we believed to be the inevitable futurity held within the past.[34] Further, in positing the virtual in opposition to the real we have not yet accepted the *real of the virtual*. In other words, the virtual as it is involved in the process of open actualities (not *the* actual) should be understood as much more inventive (spontaneous) than the possible, which is given only in realization. Simply stated, we must distinguish between the realization of a possible and the

actualization of the virtual. Further, understanding with this that the virtual *acts*, and it does so by its engagement in a continuous process of differentiation – here we are also speaking of the continuous versus the discrete as mentioned above with regard to the creativity of language – it simultaneously ceases to be itself while retaining something of itself. This ceaseless folding and unfolding of the virtual (not the possible) is precisely what defines the very mode of its activity, the 'what is' of the virtual itself. The virtual, as such, can be seen as in a process of continuous differentiation, but the key to understanding this is to recognize that in this process, and within the movement of its actualization, the virtual differentiates not in matters of degree, but in relation to matters of kind.[35] And returning to the distinction made above regarding that which exists and that which is real, we can add that although the virtual *is* real it does not predicate this real on that which can be said to exist. The tendency to stabilize these notions to set them into a precise relationship of before and after belongs more to the structure of analysis, and is useful as such. However, if, with Lefebvre, we wish to open up a revolutionary critique of the virtual object we will have to find another, more supple discourse by which to advance, not only our knowledge, but our understanding and our actions as well.

The urban not-seen: the presence of absence

In the 'Blind Field' chapter, we find further articulation on this topic of presence/absence. Lefebvre writes that as "the future illuminates the past, the virtual (possible) allows us to examine and *situate the realized"* (UR: 23, my emphasis and parenthetic inclusion). He further argues that the concept (also the phenomenon) of a blind field necessarily entails dark moments; events and forces which slip through our intellectual and perceptual grasp like the blind-spot in vision – and not merely a dark region but the very negation of vision, accounting for painful transitions in any 'critical phase' of socio-spatial evolution that, though present and active, go unnoticed due to embedded ideological assumptions. They produce what he refers to as 'floating signifiers' to the signified of the sign. We can understand this, he argues, as "verbal layers… unable to attach themselves to a 'philosophical subject' or a 'privileged object' or a 'historical totalization'" (UR: 29). Blindness therefore: we are operating without sight, and additionally, we are unable to speak. In developing his metaphor of blind fields, Lefebvre perfectly argues that urban practice and theories continue to utilize the tools and language of a past period (the industrial) and as such must be understood as "*reductive* of the emerging reality".[36] Similarly, in its most reductive formulation, Foucault's 'archaeology' (as a study of stratifications) works to discover the form of expression proper to each discourse, or each episteme. Yet, as Deleuze phrases it: "… the task of archaeology is double: it must *open up* words, phrases and propositions, *open up* qualities, things and objects. It must extract from words and language the statements corresponding to each stratum and its thresholds, but equally extract from things and sight the visibilities and 'self-evidences' unique to each stratum" (F: 53).

Keeping with this problem of that which operates outside of sight, outside of speech, Lefebvre utilizes linguistic references in order to further his argument. In his chapter entitled 'The Urban Phenomenon', referencing the philological model of 'speech acts', discourse (parole), semantics, and 'intelligibility' of Saussure and Chomsky, Lefebvre draws out the condition referred to as '*presence-absence'*.[37] Here he points out that speakers who know their language have no need of linguistic rules in order to employ language. In fact, he suggests that the very efficiency of speech relies upon the "*absence* of system at the level of effects, acts, and events, even though its *presence* is manifest to varying degrees" (UR: 51). He includes a stipulation that while the underlying system is necessarily hidden from immediate awareness, its concealment "cannot be absolute" as, he argues, understanding inevitably reveals it, bringing it out into the open. Returning again to Deleuze: he too writes that within a given

age "nothing is ever totally hidden; neither is it immediately revealed." For through 'dispersion' and 'dissemination' stratifications emerge and, as quickly, they disappear (F: 60). The disposition of this argument should by now be familiar; it is included here to reiterate the point of the open machine versus the closed system. Lefebvre here formulates another question with which to further the problematic, asking if the urban might be conceived along these same lines; considered as a virtuality, a presence-absence? (UR: 52)[38]

With Lefebvre the example is made in relation to linguistic tropes. However, in order to get at the relevance of this discourse to architects and urbanists it will prove useful here to discuss the distinction, which Foucault draws out, between statements (belonging to speech), and visibilities (belonging to light or luminosities). Visibilities are not merely what we may commonly conceive them, they are not limited to perceptible objects, qualities, or things. For Foucault, visibilities are forms of 'luminosity', they are created by light and they allow a thing or object to exist as "a flash, sparkle or shimmer."[39] With Deleuze we find a correlation to the statement cited just above in Lefebvre, "... visibilities are *never hidden*, they are none the less not immediately seen or visible. They are even invisible so long as we consider only objects, things or perceptible qualities, and not the conditions which open them up" (F: 57). An example of architecture is also provided whereby visibilities are not defined by virtue of the quantitative (enumerating) aspects typically attributed to form (buildings as objects); but, "first and foremost forms of light (qualities) that distribute light and dark, opaque and transparent, seen and non-seen, etc." (F: 57) To further elaborate the example in relation to architecture it is sufficient to recall Foucault's well known example of the Panopticon. But it is important to include a caveat; there is a danger in citing this example because it can be read metaphorically when in fact we should understand it quite literally.[40] The description should not be generalized but should remain where it is, as a point of articulation illuminating a particular structural relationship and not as a formal description of an aspect that can be applied to buildings in general, the aspect of 'light' as it is commonly understood.

In his *Discipline and Punish*, Foucault describes the Panopticon in terms of luminosity; where it is light which makes possible that the prisoner is in view of the guard while the guard (who is held in shadow) is prevented from being viewed by the prisoner – thus constructing what in Deleuze is termed the 'machine of the prison'. Here we must understand that visibilities are inseparable from the machines that produce them (as the statement is inseparable from the system in which it is produced). This can be understood as a doubling of light and luminosity, where in the first instance light *opens up things* and brings them into visibilities, and in the next instant, these things which now *are,* by virtue of their capture, are contained within the second movement. Having passed into perception (Lefebvre's 'real'), the flash becomes a product that is something other than its process. We will see shortly that Lefebvre too constructs a similar doubling, discussed in terms of the 'two-fold' Reiterating this in terms of historical formations or stratifications, conditions are provided for visibilities (just as they are provided for statements). To be precise: although light can contain objects, it cannot contain visibilities; and similarly, although language can contain words it cannot contain statements.

The will to pure form: function and force

In the chapter, 'Urban Form', Lefebvre attempts to delimit terms such as 'form', 'content', 'substance' and 'function'.[41] Although a precise definition of these terms cannot here be provided, suffice to say that in this chapter, each term is utilized to denote the distinction between what once was the 'city' (artisanal, manufacturing, industrial, etc.) with what is now 'the urban'. Lefebvre had earlier described

an historical process by which he concluded that the city, as such, is no longer recognizable as a totality or singular entity. The 'urban reality' (not to be confused with the urban form) has thus shifted to fragmentary, shapeless disjunctions. Functions, including such categories as administrative, productive, commercial, he argues, are no longer clearly delineated or structured. They have a 'twofold character', on one side the urban administers, dominates, and quite literally covers, territory; on the other side this territory is itself administrating and dominating ("to the extent that it is and because it is dominating"). He argues here that the urban phenomenon itself is located at the "juncture of these twofold functions, their point of *articulation"* (UR: 115, my emphasis). To get at this point we will here develop further the two characteristics, first identifying the possible site of this 'juncture' and secondly the conditions of its 'articulations'. In order to do this we will have to discuss the nature of power both by virtue of its 'presence' as well as its 'absence'. For if we are to understand the relationship between power and knowledge as dynamic and emergent we cannot stop at the point where speech or sight generate 'things' as forms and power generates 'probabilities' as force.

Power relations between dominating and dominated structures alternate continuously. In *Right to the City* Lefebvre puts it simply: "a form which has become function enters into new structures." He describes two such structures: the morphological and the sociological, the former denoting sites, buildings, streets, squares etc., and the latter being understood as distributions of population, age, sex, etc. whether active or passive, socio-professional categories, managers and the managed.[42] And, he adds, just as in the case of the functions, so do the structures of this phenomenon operate in a twofold relation.[43] Seeking to imagine where the forces of this 'new urban' reveals itself – *the urban* as spectacle, consolidating and expanding (contracting and dilating) before the eyes of the spectator – he provisionally and provocatively uses the term *'elsewhere'*.[44] With this we understand that forces do not simply reveal themselves (or their structures) in cleanly delineated forms; there is no transparency, no precise correlation between the two. Deleuze is very direct on this point: "an exercise of power shows up as an affect, since force defines itself by its very power to affect other forces... and to be affected by other forces" (F: 71)..Forces are spontaneous and receptive (as with speech and visibilities) and they simultaneously hold the power to affect and be affected. Continuing on this point, again with Deleuze: "The power to be affected is like a *matter* of force, and the power to affect is like a *function* of force… But, it is a *pure function*, that is to say a non-formalized function, independent of the concrete forms it assumes, the aims it serves and the means it employs…" (F: 71-72). Any equilibrium that the forces can claim (or symmetry that we wish to assign to them) can be captured only as a temporary condition. To which we will find applied our ability to form the snapshot view utilized in the structure of an analytic. Categories of power should be understood as determinations unique to the *particular action* and its *particular medium*. 'Pure form' can here be thought further as 'pure function': function not meaning what it possesses, or what it is, but more importantly, how it acts. Lefebvre's 'juncture' gives way to what he later describes as 'rupture'.

There is not...

In addressing the problem of 'content', Lefebvre asks: What does the city create? To this question he responds that it creates nothing. Because, he argues, the city "centralizes creation" in that it affords the form, the *situation*, for exchange and proximity to take place; in short, it provides for relationships of difference to be established.[45] The urban, he concludes, "is a place of encounter, assembly, simultaneity"; but, this form, he adds has no specific content for it accumulates all content; it is an abstraction, "but unlike a metaphysical entity, the urban is a concrete abstraction… it is pure-form; it also precludes defining it as an object (substance) or subject (consciousness)" (UR: 118-119). In *Right to the City*, Lefebvre formulates it in this way: "Form detaches itself from content… Thus freed, it

emerges pure and transparent: intelligible." Even more, as the form is detached from content it becomes all the more 'pure' and equally, it loses its relationship to the 'concrete'. And thus he reveals a paradox: "As such, in its purity, it has no existence. It is not real, it is not" (WC: 134). It is worth noting the shift in Lefebvre's delivery on the concept of 'pure form'; in *Right to the City* the term 'pure' needs no qualifiers, for such is the nature, the extent of this purity that it does not even exist. A person might occupy, for hours if not a lifetime, the space of the metaphysical abstraction that Lefebvre creates with the final three words in the statement "It is not real, *it is not…*" Yet, in *The Urban Revolution*, published just two years later, Lefebvre is searching for something more tangible; the *abstraction* here becomes qualified by the term 'concrete'. However, by tangible, we should not understand something which has conventional material substance or form, for, as with the term concrete, we understand this to mean 'social practices'.

In Foucault we do not see the importance of the term 'pure form' but instead that of 'pure function'.[46] Returning to the example of the Panopticon we will clarify some aspects of this terminology. The Panopticon is understood as a 'pure function' in that it imposes particular requirements on a multiplicity of particular individuals. However, allowing for the possibility that neither the form (prison) nor the function (discipline) will remain constant, we may witness the emergence of what Foucault calls the 'diagram'. For example, by extending the categories of defined activity in the form, function, substance relationship: the form 'prison' extends to 'school', 'factory', which in turn supports the end function 'discipline' as it shifts to 'education', 'production'; and the substance 'inmates', is exchanged with 'students', 'workers' etcetera. Further, and remaining with the case of the prison, in addition to the disciplinary function, another function emerges; that of administrative control. Lefebvre uses the term 'technological' to denote legislative or administrative practices. Deleuze specifies two pure functions: 'anatomo-politics' and 'bio-politics', and their 'bare matter' are, respectively, a *particular* body and a *particular* population. The *politics of the body* here become more urgent than the *social body of the urban*.[47]

To the point of articulation

We will again return to Foucault on the point of 'articulation' of the twofold relation mentioned above, where we approach the difficult and enigmatic relation (or non-relation) between the articulable and the visible (between strata of knowledge functioning in relations of power). Deleuze puts it simply: there is no isomorphism between statements and visibilities.[48] Although we speak of what we see and see that of which we speak in a simultaneous movement, their structures remain distinct and irreducible. Yet the two comprise the stratum, and from one stratum to the next, they are transformed at the same time (although not according to the same rules). "Between the visible and the articulable we must maintain all the following aspects at the same time: the heterogeneity of the two forms, their difference in nature or anamorphism: a mutual presupposition between the two, a mutual grappling and capture…" (F: 67-68).

Lefebvre's 'point of articulation', located at the juncture of the dominating and dominated, seeks to make use of similar terms in understanding that there is no absolute 'balance of powers', but instead a continual shifting between varying types of forces. Power relations are highly dynamic, "simultaneously local, unstable and diffuse." Power relations do not emanate from a distinct or central point, they move; they shift from one point to another with facility and ease. Their medium is the field of all forces (pure force), they are capable of marking inflections, resistances, twists and turns when one changes direction or retraces its steps. This is why although they are 'particular' they are not 'localized' at any given instant. In Deleuzian terms, they constitute 'strategies' which are

"anonymous", and almost "blind and mute" since they "evade all stable forms of the visible and articulable" (F: 73). Lefebvre too understood this notion of the strategic, discussing the urban as sometimes productive and sometimes that which is produced by forces too complex to analyze without developing a new theoretic.[49] He further brings in the concept of 'rupture' (disjunction), understood as the discontinuity of the urban with what before was understood as city, adding that this rupture "simultaneously introduces and grounds a form of knowledge, a field… similar to logical form and *almost as abstract and active* as that logical form which is associated with language…" (UR: 119-122). For, as stated above, if we are to comprehend the dynamic relationship between power and knowledge we must search beyond the point where "speech or sight generate things as forms and power generates probabilities as force."[50] On this issue we might further extend the qualification which Deleuze makes in arguing that relationships between forces remain "transitive, unstable, faint, almost virtual, at all events unknown, unless they are carried out by the formed or stratified relations which make up forms of knowledge" (F: 74). Power relations, and their affects, can be seen as being actualized (thus stabilized and stratified) through their integration into formalized structures. This, as mentioned above, is provided for in the operation by which we construct an analysis, whereby we temporarily homogenize particularities and read them as general lines of force. This is, of course, an operation that is carried out in all practices, whether social, political, economic or spatial. And, importantly, it is for this reason that the various forms of institutions (urban policy makers in governmentally sanctioned administrations for instance) have the ability to integrate the fluid and transgressive power-relations by constituting them (bringing them into sight and speech, and making of them visibilities and statements which can be manipulated and distributed) as forms of knowledge. Citing Lefebvre from his chapter 'Levels and Dimensions': "simultaneously social (political) and mental (logical), this level projects itself into part of the built domain… it is the level associated with what I refer to as *institutional space…* this assumes, if not a system or systems of explicit action, at least some form of systematized action…" (UR: 79, my parenthetic inclusions). Or, the institution is understood not as an entity but as a practice, not as productive but as reproductive of the very relations which it presupposes. In Foucault, it is the institution (state, family, market, culture) that is made by these so-called integrating factors or, as Deleuze refers to them, 'agents of stratification'. The 'twofold', which we saw above with Lefebvre, approximates this aspect of integration.

The double movement of analysis

> By detaching itself from its content, form detaches itself from the concrete. The summit, the crest of the real, the key to the real (of its *penetration by knowledge* and the action which changes it), it places itself *outside the real*. Philosophers have tried to understand for two thousand years.
> Nonetheless, philosophy brings the theoretical elements to this knowledge. The approach is in several stages and has a *strategic* objective. That is to grasp through the movement of reflection which purifies forms and its own form, and which codifies and formalizes the inherent and hidden movement of the relation between form and content. There is no form without content. No content without form. What offers itself to analysis is always a unity of form and content. Analysis breaks this unity. It allows purity of form to appear, and form refers back to content. Yet, this indissoluble unity, broken by analysis, is conflictual (dialectic). By turns thought goes from transparent form to the opacity of contents, of the substantiality of these contents to the inexistence of 'pure' form, in a ceaseless if not momentary movement. (WC: 134-135)

It should be clear by now that no matter how hard we work to distinguish between the static and the dynamic (the *stratified* and the *strategic*), that, by its very nature, to think these things, to inscribe

them in the lines of this, or any text, is also to capture and thus stabilize them. To reiterate: in Foucauldian terms, visibilities expose formed substance; statements reveal formalized or finalized functions. Knowledge thus gives rise to formal categories such as 'discipline', 'educate', 'administer', etc. Power, on the other hand, is force, possessing affective categories such as 'incite', 'provoke', 'pacify', etc. As mentioned, power forces pass through vision and sight, speaking and seeing, in order to be actualized. We must then ask, in Lefebvre's terms perhaps: does force become form (*the urban* as 'pure form')? The short answer is, 'yes'. However, this is a fleeting affirmation, for it excludes any possibility of coincidence. For actualizations form integrations, but only by also creating a system of formal differentiation, and by so doing they remain multiple, both local and partial, exhibiting affinities with, or tendencies towards, other particular points in this field of forces.

Lefebvre goes on later in *The Urban Revolution* to suggest that reflection extends the problematic and can elaborate a 'scheme of forms' – what he refers to as an 'analytic grid' (provisional and modifiable) – which can "decipher the relations between the real and thought", and which "can move from the most abstract to the most concrete" (UR: 135). Form, *pure form*, is not, it is absence; and simultaneously it makes all things into presence. But, these *things,* and *non-things* can only be seen and spoken about by virtue of analysis and of thought (speech) alone. This problematic is not new to philosophy, whether one wishes to employ the terms of 'substance and form', of 'the material and the ideal', 'body and mind (spirit)', 'the visible and the invisible'. In Bergson, for instance, the life of the *real* belongs properly to theories of time, which, therefore cannot be thought, for thought is a spatializing, thus hypostatizing, practice resulting in what he refers to as 'discrete' as opposed to 'continuous' multiplicities.[51] However, when it comes to the city as a concrete entity, as well as the urban when understood as a series of concrete practices, this problematic becomes pressing. For the city and its subjects not only act, but they are acted upon, and this ceaseless push and pull, this folding of forces, must be comprehended; understood epistemologically and situated ontologically if the architect, the sociologist, the practitioners of socio-spatial practices are to 'act' as opposed to continually 'reacting' to the multiplicity of forces at play.

To do justice to the above passage it would be necessary to begin this paper again, returning to the concepts introduced in terms of the notion of the virtual. In further elaborating the qualities that distinguish the virtual from the actual, among them their attributes of differentiation over that of similitude, we would have to question the very nature of creative problematizing and the notion of the *new.* For in *The Urban Revolution,* it was possible for Lefebvre to write: "*creation comes to a halt to create again*." Yet, it becomes increasingly difficult today to identify the pause between the continuous and the discontinuous that allows us to imagine life's arrest, and the capture of this thing that *flees before our grasp*. However, we might well argue that it is precisely in this knowing, in seeking the stutters and starts of the virtual real that our analysis continues to become more rigorous and enriched, and our actions more consequent as well as free.

[1] Several of the projects in this publication deal with what we might call the 'problematics of emergence', working, to varying degrees, with a notion of the virtual in order to extend an ability to suspend the hypostatizing process of design and to intensify intuition as well as imagination.

[2] See: Brian Massumi (2002), *Parables For the Virtual: Movement, Affect, Sensation,* Duke Univ. Press, Durham NC, p. 207:
"Just as the body lives between dimensions, designing for it requires operating between logics... A translogic is different from a metalogic. It doesn't stand back and describe the way multiple logics and the operative levels they model hold together. It *enters* the relations and tweaks as many as it can to get a sense of what may come."

[3] Henri Lefebvre (2003), *The Urban Revolution*, trans. Robert Bononno, University of Minnesota Press, Minneapolis. (Originally published as *Le Révolution urbaine,* Editions Gallimard, 1970). Hereafter referred to as UR.

[4] Definitive replies to this work, framed in the Neo-Marxist and post 68 problematic, were most notably provided by: Manuel Castells in his *La Question urbaine* of 1972 (*The Urban Question* (1977), MIT Press, Cambridge Mass.) and David Harvey in his *Social Justice and the City* (1973), E. Arnold, London.

[5] For a brief account of Lefebvre's position towards Foucault see the introduction 'Lost in Transposition', by E. Kofman and E. Lebas, in: Henri Lefebvre (1996), *Writings on Cities,* Blackwell, Oxford.

[6] Gilles Deleuze and Felix Guattari (1987), *A Thousand Plateaus*, trans. Brian Massumi, University of Minnesota Press, Minneapolis. p. 438.

[7] Similarly, Deleuze has reminded us that in thinking with Foucault we must not ask the question of what power is, or, from where does it emanate; but we must ask the much more precise question of how power is practiced.

[8] Henri Lefebvre (1996), *Writings on Cities,* Blackwell, Oxford, p 109. Hereafter referred to as WC.

[9] The question of appropriate philosophical or analytical method is continually referred to in Lefebvre's work. In his last book for instance, *Rhythmanalysis,* (Continuum, 2004; orig. *Éléments de rythmanalyse*, 1992), he opens his argument by drawing the distinction between speculative philosophy (moving from abstract concepts to concrete evidence) and analytic philosophy (starting with the particular in order to derive general conclusions); proposing that the study of rhythm follow the path of the former,. Nevertheless, the theoretical lines of these ways of working are never as clearly followed in Lefebvre as they are distinguished in his stated claims, and a careful reading and analysis of what we may understand as Lefebvre's philosophical method is much needed in further scholarship on Lefebvre.

[10] Although many may find it difficult to reconcile the work of Lefebvre and Deleuze, I find it possible here to think of them together in relation to the following alignment towards the concept: the concept, as such, should not be thought in terms of generalities such as Truth, Universality or other globalizing notions; but, in terms of the situated, the specific and contingent, that have efficacy in relation to a particular set of actualizations and concerns.

[11] Brian Massumi (2002), 'Like a Thought', in B. Massumi (ed.), *A Shock to Thought,* Routledge, London, p. xxvii.

[12] This problem of appropriation is well known in discourses such as post-colonialism, feminism, and queer studies. Writers such as Edward Said, bell hooks and Gayatri Spivak come to mind.

[13] Although in other circumstances, the assigning of a name is also an act which delivers agency to a person or a body. Put simply, in the bringing forth of a thing, its agency and right is endowed. However, this does not preclude its immediate appropriation by another body or thing.

[14] Massumi (2002), p. xxviii. The full extent of this notion of 'capture' cannot be enumerated in this essay; suffice to say that the problem to be addressed is how an expression can not only resist (for it cannot indefinitely defer capture) these forces of stratification, but how processes can continue to cross the gaps and transform themselves in the passing. Further, questioning how the 'intermediate' state between 'states of things' can be sustained.

[15] Lefebvre here includes the term 'methodological' as he will later relate his method to other 'scientific' procedures. But we will forego an extended explanation of Lefebvre's formulations on this account. Reading chapter one,

'From the City to Urban Society', will quickly illuminate this point for the reader. For the purpose of our argument however we will focus on his claims to 'epistemology'.

[16] It should be noted that we are not discounting the provisions made in the introduction noting the distinction made between theories of knowledge understood as *savoir* and as *connaissance.*

[17] Lefebvre's '*episteme*' also has affinities to Kuhn's application of the term 'paradigm' used to designate scientific or theoretical models shared by an intellectual (scientific) community.

[18] Gilles Deleuze (1998), *Foucault,* trans. Seán Hand, University of Minnesota Press, Minneapolis. (Originally published as *Foucault,* Les Éditions de Minuit, 1986). Hereafter cited as: F.

[19] In our own research we too work with the seeming distance between a traditional view of analytic precision (as a statement of what is) and the requirement to open our view to the future (as a virtual real of what may or may not actuate itself as the realized). On this point it is fruitful to think through Lefebvre's concept of 'transduction'.

[20] We might even be tempted to think Lefebvre in relation to Kant's questioning of whether there might be *a priori* or synthetic knowledge, but knowledge which is conditional on the comprehensibility of experience (one which thus exists but is not necessarily yet real if reality is determined by experience). But we do not here understand Lefebvre to be dancing between rationalism and empiricism (or even idealism and realism), for it is clear he stands decidedly with the empirical. However, it is unimaginable that he is actually suggesting an epistemology of that which 'is not'; thus, we offer the idea of an ontology (of becoming over being) to allow for the openness, the futurity, to which he alludes.

[21] To my mind, too much attention has been paid to Lefebvre's tri-partite scheme of what is commonly referred to as the spaces of the 'conceived, perceived and lived' without also properly including his framework of 'abstract, absolute and concrete' space. This seems to be a great oversight in Lefebvrean scholarship that remains in need of correction. Stuart Eldon's introduction to *Rhythmanalysis* (p. ix) makes accurate comment on this point in distinguishing the conceptual from the historical aspects within Lefebvre's work. It is also perhaps appropriate to note that in the current essay much attention will be made to this latter aspect of Lefebvre's discourse.

[22] Although he also adds pejoratively that this is what we "expect from 'urbanism' and what 'urbanists' so often promise." Those familiar with Lefebvre will understand that his discontent with architects seems to come mostly from his experience with bureaucrats and planners. It is his often stated contention that architects operate not in the realm of the 'lived' but in that of the 'conceived' and therefore, that their two-dimensional conception of the world and social relations is predicated on their planar and plannerly views. Ed Soja, like Lefebvre, also criticizes architects, urbanists and so called 'spatial practitioners' and never tires of reminding us that we just really do not quite yet 'get' what *space* actually is.

[23] Lefebvre developed early in his work what he termed a 'theory of moments', in which he proposed, as Eldon writes, "moments are significant times when existing orthodoxies are open to challenge, when things have the potential to be overturned or radically altered..." (*Rhythmanalysis,* p. x) This is interesting here for two reasons: first, in reference to Foucault's theory of knowledge and its relation to power and secondly; as this paper draws on Bergson in its critique of the 'possible and the real', it is worth noting that it is with his 'theory of moments' that Lefebvre attempts to offer a counter position to Bergson's notion of '*durée*', taken as the dominant discourse on time taken up within French philosophy around the turn of the 20th century.

[24] Michel Foucault (1980), *Language, Counter-memory, Practice*, Donald F. Bouchard (ed.), Cornell University Press, New York, p. 151.

[25] Although the term 'problematic' has a general meaning, used to indicate a set of problems or to reveal things which are otherwise questionable, such as in the use of the verb 'to problematize', the term is here employed in an Althusserian sense. Indicating a set of inter-related conditions that are at once facilitating and limiting. In his *For Marx,* Althusser describes the term as designating "the particular unity of a theoretical formation".

[26] We have already seen an example of this in the opening pages of the text; recall the second definition of urban society, first offers an answer to the question of 'what it is', or 'how it came to be', as "that which results from industrialization as a process of domination that absorbs agricultural production." And in order to set the

conceptual frame he further suggests that: "this urban society cannot take shape conceptually until the end of a process during which the old urban forms, the end result of a series of discontinuous transformations, burst apart."

[27] See: Michel Foucault (1994), 'Ethics: Subjectivity and Truth', in, Paul Rabinow (ed.), *Essential works of Foucault, Volume One*, Penguin, New York, pp 114-119. Here Foucault connects problematizations to the history of thought itself (not to be confused with the history of ideas or the history of mentalities). This is highly relevant in the context presented here with Lefebvre as 'thought' is given a mode of 'freedom', yielding the ability to stand outside actions and reactions in order to reflect on conditions given or predetermined within an existing system. Thus, we might think in terms where *savoir* opens to *connaissance.*

[28] Although it is beyond the scope of this paper to elaborate on the meaning of the term 'multiplicity', it is worth mentioning that Bergson has offered two types of multiplicities: one being the actual, discontinuous or discrete, the other being the virtual, the continuous or qualitative. And it should be clear it is in this paper that the tendencies within our own discourse seek to discover the latter, in Lefebvre we find an ideological leaning which forces him to align with the former. Nevertheless, it would take a much more discriminate reading of Lefebvre before we could determine fairly if this difference denotes a 'limit' or a 'threshold' between his discourse and our own.

[29] Bergson (1998), p. 303-304. See also: Ansell Pearson, who formulates this idea eloquently: in referring to the verb and its relation to movement he writes: "...and it expresses something we find hard to think (life *qua* the virtual or the infinitive)", in: *Philosophy and the Adventure of the Virtual: Bergson and the time of life,* (London, Routledge, 2002, p. 50).

[30] We might provisionally think this in terms of 'becoming' vs. 'being'.

[31] This idea of 'historical time' is clearly Marxian in influence, although it is clear that Lefebvre wishes to escape the determinism of time put forward by the doctrine of historical determinism in favour of a more positive critique of space. On this point, see Lefebvre's *Rhythmanalysis*, chapter one.

[32] This essay, as argued in the introduction, sets out to follow Lefebvre on the notion of the virtual as it appears in his *The Urban Revolution,* and thus, the discussion on the directionality of the 'arrow of time' is warranted. However, it is also proper here to make note of the fact that in most of his other writings, Lefebvre develops a notion of time that follows from a Nietzschean influence whereby the nature of time regarding 'change' is understood as cyclic as opposed to linear. Lefebvre, one might argue, carried out this line of thinking precisely in an attempt to avoid the teleological conclusions of Hegel and Marx. However, a critique as to the success or failure of this thinking is beyond the scope of the current paper.

[33] Although it may appear that I am relying on contemporary discourse to refute Lefebvre's texts of 1968 & 1970, this is decidedly not the case. My view here tracks Bergson and Deleuze who had already discussed these points (in the case of the former with texts going back to the 1880's and with the latter with writings contemporary with Lefebvre and preceding his use of 'the virtual' by several years). Lefebvre no doubt knew these works but for reasons related to what we can safely call 'ideological positioning'. they were either directly ignored, or indirectly contained in the form of a counter positioning. Of course Lefebvre was under no obligation to take these theories into account; however, I would suggest that to ignore them today, at least when calling upon the virtual as a critical term by which a problematic is situated, would be unusual.

[34] I am here recalling another formulation of 'the possible and the real', as taken from a chapter by the same name in Bergson's *The Creative Mind: An Introduction to Metaphysics*, (Carol Group Edition, 1992; orig. *La Pensée et le Mouvant,* 1941).

[35] This distinction is discussed in very precise terms in both Bergson and Deleuze. It is often discussed when distinguishing the properties of multiplicities. The argument is diffused within the body of both their works; however obvious sources for an extended reading on this subject are Bergson's *Time and Free Will*, (orig. *Essai sur les données immédiates de la conscience,* 1889) and Deleuze's *Difference and Repetition,* (orig., *Différence et Repetition,* 1968).

[36] A common example he utilizes to further bring the image before our eyes (as all good metaphors must do) is the 'black-box'. Suggesting that theorists and practitioners watch what goes in the box, they can name and identify its contents – or so they believe – they can further watch, witness, describe and categorize what emerges from this black-box; what they cannot do however, what they cannot begin to grasp, is what goes on inside this box.

[37] The importance of this can be seen in a book which he later writes by the same title, *La Présence et l'absence* (Casterman, 1980).

[38] At this point in the book Lefebvre goes on to discuss his notion of a '*differential field*' in regards to space-time. Readers interested in this argument might wish to consult chapter 6 of Lefebvre's *The Production of Space* (orig., *Production de l'espace,* 1986) and chapter 3 of *The Urban Revolution*.

[39] Foucault develops this theory of visibility in his work *Death and the Labyrinth: The World of Raymond Roussel,* (University of California Press, 1986; orig. *Raymond Roussel,* 1963) in discussing what he refers to as the 'scene' by which Roussel's 'descriptions' take on form and force. He gives his well known example of the lightning flash which he will later discuss in relation to his concept of 'transgression', as that which by its nature illuminates the form onto which it flashes, making present not itself, the lightning per se, but that which it illuminates, the sky for instance. One thing is made visible by the presencing of the other, not by the making present of itself. For further reference see: Foucault's essay 'A preface to Transgression' in *Language, Counter-memory, Practice,* Cornell University Press, 1977.

[40] I am not using these terms 'metaphoric' and 'literal' in their common sense; but, in what I consider a more accurate way of applying them within a transdisciplinary reading. Specifically, we should use 'metaphor' to describe a correspondence that acts as linguistic trope; in other words, when we use a description of one thing to extend definitions or illuminate qualities possessed by another. The word 'literal' is reserved for structural as opposed to formal correspondences, whereby the mechanism by which a thing acts is extracted and applied to another. Manuel DeLanda works to clarity this point in his *Intensive Science & Virtual Philosophy,* (Continuum, 2002).

[41] Lefebvre also admits of both the ambiguities and the plurality of meanings surrounding such terms. For further discussion on this see: *Writings on Cities,* in the chapter also entitled 'Urban Form'.

[42] He had earlier provided for another function, the 'technological' denoting practices such as architecture, sociology, and economics; however at this point in his text the technological has been replaced by the sociological.

[43] The form (as understood conventionally), for Lefebvre, exhibits this twofold 'folding' of the plastic; in one sense traditionally formal, and in the other dynamic in respect to the necessity of circulation; in other words, to the geometric we must add movement. And with this I should comment that the way of seeing movement as something which is in addition to form also provides a dangerous interpretation when thinking the problem of the virtual. As with the virtual, one should not include anything that is not, by its very definition, ceaselessly in motion.

[44] Yet, in *Right to the City* we are reminded that "destructurations and restructurations are followed in time and space, always translated on the ground, inscribed in the practico-material, written in the urban text, but coming from elsewhere: from history and becoming."

[45] The idea of 'difference' is, of course, quite contentious when comparing Lefebvre to thinkers such as Foucault or Deleuze. With the former, differences relate to the sociological and socio-political; whereas with the latter we are speaking about a process of differentiation belonging more to the psychological and physiological.

[46] We see the use of this word 'pure' in Lefebvre, Deleuze and Bergson among many others. It often seems to complicate matters as one thinks the 'pure' first as that which is opposed to the 'adulterated'. It would be even more dangerous to think the pure as some form of 'absolute' or 'ideal'; it contains not an 'essentialist' claim, neither should it be understood necessarily as an appeal towards the 'transcendent'. It is not that which has a form that is already existent, but it is that in which form holds its potential.

[47] I have included this point to indicate that the problematic of the urban, though the critical concern for Lefebvre, may be thought further today by further extending our understanding not only of the imminent social but the imminent political in terms of 'another site'; that of the 'body' upon which the multiplicity of forces (both actual and virtual) are simultaneously affected and affective. See also: F: 72.

[48] In Deleuzian terms we can say simply that there is not 'isomorphism or conformity' between a statement of knowledge and the object of which it speaks, "there is neither causality from the one to the other nor symbolization between the two" (F: 61).

[49] I should qualify this 'agreement', as the term 'strategy' is one which Lefebvre gives negative connotations; he relates it to common usage of the term whereby he distinguishes it from the 'tactical' and reserves for both terms a sense of the intentional manipulation of knowledge and power in relation to the administering and designing of cities. In his chapter titled 'Urban Form' he comes closer to this Deleuzian use of the term, although he does not name it as such.

[50] Although Lefebvre is here referring to 'knowledge' and not necessarily 'power', it should be noted that the strong distinction between these terms, and their subsequent meanings as attributed to them in this paper, follow from Foucault as opposed to Lefebvre. In an extended version of this paper I have delineated these two forms in terms of the 'striated' vs. the 'strategic'; however, in this paper the two forms often merge. This does not effect the formulation of the questions that Lefebvre raises; it does however impact on the clarity of the answers which we would like to give.

[51] The relationship between 'thinking and thought' is one which I am currently addressing in a forthcoming work provisionally entitled: *Architecture and the Time of Space: Bergson's Double Progression.* Frédéric Worms has discussed this as "the double movement between thinking and thought… the inseparability of Logos & Intuition (Pure Space & Pure Time)" in Bergson's philosophy. Worms is Professor of the History of Modern and Contemporary Philosophy, Université de Lille III; Directeur du Centre International d'Etudes de la Philosophie Française Contemporaine á L' Ecole Normale Supérieure, Paris, and author of numerous books on Bergson.

... the diffuse placelessness we experience today is a consequence of the loss not of the simple geographical locatedness of place, but rather of the loss of a network place-generating *effect* which was a characteristic product of a 19th century urbanization pattern. ... [I]t is not, as is often assumed, a question of there being two categories; of the dynamic on the one hand and the static on the other; ... (or of 'spaces of flows' and 'spaces of places'). Rather it is one of the successive *grounding* of the effects of scaled movement and connective networks in other networks and the construction thereby – through an increasingly thick layering of networks and their effects onto one another, down to the most local – of local place.

The Urban Machine

Gerhard Bruyns and Stephen Read

A crisis of our thinking

> The world of supermodernity does not exactly match the one in which we believe we live, for we live in a world that we have not yet learned to look at. We have to relearn to think about space.
> Marc Augé[1]

> The first rule of method:
> We will enter facts and machines while they are in the making; we will carry with us no preconceptions of what constitutes knowledge; we will watch the closure of the black boxes and be careful to distinguish between two contradictory explanations of this closure, one uttered when it is finished, the other while it is being attempted. This will constitute our first rule of method and will make our voyage possible.
> Bruno Latour[2]

This paper attempts to construct a different primary 'fact' about the city, and to replace an old one: it attempts to show how 'city' or 'urban center' or 'urban site' in general may be *not* an entity identified by being 'not-countryside' or 'not-periphery', but rather an everywhere *local effect* emergent within an ultimately *global* extension of sorted and stratified movement and communication.

There have been a number of developments in science and philosophy over the past hundred years or so that have made us think again about the self-evidence of a frame through which we look at the world around us.[3] All is not as it seems, we have discovered and been told; the world as it is resolved within a set of presuppositions we have inherited from the 17th and 18th centuries, may be not the unproblematic, self-evident and singular objective reality we take it for. It is perhaps not surprising that, in spite of knowing that all may not be quite as it seems, we go on with our everyday lives as if all is indeed exactly as it seems. We don't feel the need to question the everyday appearances of this world before us at every turn, if what appears before us serves us in our dealings with it and with each other. The trouble starts when we extend this practical acceptance of the world as it seems beyond the point where common-sense presuppositions and approximations are capable of resolving the things we are looking at. We live in a world which is changing, and some of the propositional approximations we take for granted and have absorbed into the background framework of our common knowledge and culture, are showing their age. It is in the nature of these things, that we resist changes to these approximations; in their totality they form a dense highly interlinked and interdependent web of 'facts' and rules of thumb that constitute our 'grip' on the world and our place in it, and on what we like to think of as a singular objective reality. We tend instead to hold fast to these approximations and ascribe multiplying anomalies to processes of disorder, to chaos and to degeneration. Things seem never what they used to – or aught to – be. 'Objective' reality, insofar as

we can talk about such a thing, is probably largely immune to our own formulations of order or disorder – these are states we impose on material relations, fluxes, intensities and forces, through our understanding, or misunderstanding, of them.

When it comes to matters of our built environment, the evident concreteness and apparent stability of our surroundings blinds us to its complex nature as effect and as *environment* – as a world that is not only the only world we are immersed in and can know, *but also the very condition for that knowing*. We continue seeing urban space as a neutral availability; we see the form of our city as a process and a construction only in the sense that we build the thing. We have constructed an urban practice which sees urban elements as fixed things, and which sees the city itself as a fixed and finished and self-evident thing and as something apart from us.

But at the same time some rather puzzling and anomalous factors have begun to affect our everyday urban lives, profoundly changing their existential and social characters and qualities. Many urban and cultural commentators link these changes to spatial matters; a well-known thesis tells us that the world is speeding up and our social relations are becoming more attenuated. The built environment is in the process being divided up into enclaves, archipelagos and capsules of controlled, regulated space, in a wider sea of disorder and chaos. The capsules and enclaves are understood as the moments of repose, safety and order in an otherwise disorienting whirl of movement and disintegration.[4] The position we will propose though, is that the disorder we face is in the first place a failure of our *understanding* of the urban world, and that the strategies we use to control 'chaos' may be misplaced if that 'chaos' is a factor of our presuppositions rather than one we can simply ascribe to the objective world.

The perhaps rather counter-intuitive idea that we will begin to outline here is that urban space and the sense of a located place has *always* been a matter of movement, that it is possible to propose an alternative urban spatial order *founded* in movement, and that the reassuring solidity and stability of the place experience is not a primary given, but rather in the first place, an *effect* of movement. It is proposed here that the root of our confusion is our stubborn holding to an idea of the city as object. It is our equally stubborn holding onto an urban space as being some kind of objective reality existing prior to our construction of it. If one conceives the city in terms of things held in a plan-like extension, it becomes self-evident that the development of the city is also a matter of self-evident things and their composition into a plan-form. We too easily act, or attempt to act, like generals and admirals moving troops and ships over a board under overhead lights. Space in such a conception can never be anything other than a neutral surface on which the master-planner shuffles the forces at his disposal. An active space would have to deal with effects rather than things – it would have to see the shapes, characters and orders of the city as an emergent consequence of *dynamically* and 'internally' relational spatial matters.

We have constructed an urbanism in a time of accelerating change that has difficulties understanding its object as a process, and has difficulties dealing with the nature of the city as a dynamic interrelationality. Our urban thinking today is focused on stability and equilibrium and its loss, and our urbanistic strategies have become focused on control and on the securing and defense of places. When we think of flows, we think about securing its products to place, and have difficulties understanding that in a circulation the products of flow *are* place.

What is essential today, we believe, is that in our urbanism we get beyond our naive common-place presuppositions about environmental space in order to develop a spatial view of the city which is functional and operational in the sense that it allows us to theorize and reflect effectively on urban form and change and our responses to it. What is essential today is that we develop a conception of a dynamic urban space of self-formation and transformation (to go alongside the obvious political, administrative and management views founded in a conception of social justice) as a grounding for a practical urbanism; one which is capable of linking the past of the material city with its present, and one which is capable of theorizing and understanding spatial and material tendency and transformation we are experiencing in our cities today.

The emergence of things

Instead of seeing the world as a thing separate from ourselves – and as a closed clockwork universe whose objective truths we might unproblematically and systematically reveal through the procedures of science – we could think of it instead as being in itself radically open, and that it is we ourselves who close it, always provisionally and approximately, through the way we make sense of it with our concepts and propositions.[5] Instead of accounting for shortfalls in the order we detect in the world through an appeal to chaos and degeneration, we could seek instead to build new propositions which account for it better.

We have lost sight, as Gregory Bateson has pointed out to us, of the role of mind in the articulation of our material and objective world.[6] The world as it appears is not simply an independently objective thing – nor are the constituents of the world as they appear singularly and objectively differentiated things. The great advances of thinking in the physical sciences around the turn of the 20th century, and the recognition of the role of language in the construction of our knowledge of the world, have called into question the status of both the subject *and* the object. The world in itself, before our creative shaping of it, is a flux of pure material, of vectors and forces; an as yet unknown arrangement of movements and intensities. We imaginatively make sense of this world, actively perceive and construct 'differences' within it and impose on it our own meanings and values. As part of our process of language (perhaps also of pre-linguistic knowing), we construct distinctions, formalize a system of preferred or significant relations and articulations, and thereby construct a space. The world of *named* and known objects and events is a construction of our individual and collective creative imaginations and is framed in a space which is itself the form of that construction.[7]

We can think of two spheres of explanation in this way of seeing things – one consisting of a world 'in itself' so to speak, (which is perfectly capable by the way of its own problematisation),[8] and one of our own construction of this world. These two spheres need, in order to be useful to us, to have some kind of relations (however sketchy, partial and provisional) with each other. We could speak of isomorphisms,[9] but if we do then we would need to be clear that we speak of *dynamic* isomorphisms and of a '*vector*' of knowledge which in the process of its formation tracks a form (which is itself a process of becoming) in the world. Bateson uses Gnostic terms to distinguish between the two worlds of explanation. What he calls the *pleroma* is that world in which events are caused by material forces and impacts. It knows nothing of essences, ideal forms and categorical distinctions, and contains in itself no ideas.[10] It is a world in which there are no *a priori* thing-like distinctions. The *creatura* on the other hand is what he refers to as "the world seen as mind" – it is that world articulated by the distinctions which we draw over, and attribute to, the *pleroma*.

It is out of the *pleroma* – out of that field of forces and impacts ordered within its own space – that concentrations, intensities and dispersions arise which offer themselves for differentiation and closure. Out of the openness of the world – which is not in itself formless, but is certainly prior to our boundings and articulations – we construct differences, closures and meanings. We establish dynamically, on the go so to speak and by a process of focusing on and tracking movements in the world, relations of correspondence between nameless concentrations and intensities delivered by the *pleroma* and the nameable distinctions or closures in the *creatura*.

It is not so much that the forms of the *pleroma* are indistinct or 'soft', more that the *pleroma* for the most part will tend to be formed by and within a different space – and need to be outlined in a space of our focus and involvement, of our living or thinking or our encounter with the event, in order to become recognizable. At the level of the *pleroma*, the form of a soap-bubble for example emerges out of a state space of free energy differentials which is indifferent to the coordinates of an everyday three-dimensional Cartesian space in which its spherical form is described. This state space is the active space of the bubble's formation, and is radically different to the in general passive space within which we categorize regular and irregular forms. The 'shape' of the *pleroma* has been visualized by Waddington as his so-called 'epigenetic landscape' to explain biological morphogenesis.[11] De Landa uses the mathematics and visualization techniques of Poincaré. The point is that the two spaces are different – the *pleroma* lacking the outlined nameable and categorizable forms of the *creatura*, offering in its place a distributed and variegated field of active relations whose force and energy states can be represented in a space of minima and maxima, and gradients and stability points acting as attractors, which guide processes of formation, rather than being descriptions or categorizations of form.[12] The categorizations resulting from operations of bordering and the tracing of outlines are our own constructive moves and are part of the workings of the *creatura*.[13]

The so-called *emergence* of forms in the immediately perceptible world is therefore about the existence of a space which is other than, and prior to, the one we construct to describe the events we see around us which are the products of this other space. One could say perhaps therefore that the form and emergence problem consists in the seeking out, as Waddington and Poincaré attempted, of the *active* space of that form's becoming; in fact of attempting to establish a serviceable translation between the space of the behavior of phenomena in the world and the space of our approximate understanding and description of that behavior.

Our constructed worlds are practical and approximate closures of an open material world, rather than being mappings of an objective truth,[14] and the frameworks by which we understand our worlds (or rather the spaces which organize these constructed worlds) are constructions of particular historical and geographical moments; provisional 'truths' which have gained acceptance, been absorbed into a culture of knowledge, and proved interesting or useful at particular times and places. As Bruno Latour says: "Simply to 'be there' is not enough for matters of fact to be absorbed, associated, digested, rendered compatible with other conflicting claims: they have to be composed, they have to become instead states of affairs."[15]

These compositions, these 'states of affairs', are though not the only space we have to contend with, and this is where our 'crisis' mentioned at the beginning of this paper comes in; flows and collisions of matter and energy beyond our imaginative cultural constructions conspire to transform the conditions of our worlds behind our backs – or in front of our eyes for that matter – and to our great confusion if we hold onto all our 'truths' as being 'objective'. We individually and collectively

construct our worlds and space to be useful to us, but in projecting these constructions into the future (or even into other places) we can go very wrong indeed. The world has the power to surprise us; the *pleroma* has its own agenda which can escape our propositions about it. Projections into the future of our *creatura* constructions are liable to run up against different linearities or non-linearities in the space of the *pleroma*, The 'poverty of historicism' is about the gap between these two 'worlds of explanation'.

The first space of the city

The most important claim we want to make here is that our primary space of the city, one that we almost by default regard as self-evident and objective, is not objective at all in the sense of corresponding to a closed and 'natural' reality, but is rather a mental space, a space which is the product of our individual and collective creative imaginations. The fact of there being an apparently self-evident 'objective' city that we don't examine further because its objectivity is so obvious, is itself part of our crisis. The intention here is not to make a claim for mysticism or claim that we do not attempt at all to theorize the city as a generative multiplicity, rather it is to critically examine an underlying and taken for granted spatial framing through which we filter all our other ideas of the city, and the nature and the shape of the objective city we are dealing with, and then to offer a new one.

It seems to us that the first space through which we filter all our perceptions and understandings of the city is the one which divides the city from what we see as not-city. This first space is one that can be approximately summed up in the figure-ground of city-countryside, or center-periphery, or the idea that the city has an inside and an outside that is demarcated by objective, even if fuzzy, boundaries.[16] This spatial framing is implicated also in an assumption of place as being self-evident; pure location, given by geodesic coordinates, and delimited by edges or borders, fuzzy though they may be, that divide it from what is not that place. In fact the 'place' of the city we think in (what we will call the 'territorial view') has been problematic (as an explanatory concept anyway) in western cities for two centuries or more,[17] and has long been more connected to our construction of our *own* place, the identities and exclusions we associate with it, and claims we make on territory, than to any place out there in the world. The everyday understanding of the urban center is a product of an historical moment in the development of the field of urban vectors and forces. And we would say that it was clearly not, even then, the only possible construction from this particular configuration of forces, and their resulting concentrations and dispersions. We are, in this time of accumulating urban degeneration and loss (of place, coherence, identity etc.), in search of another space in which to frame the city – one which will account better for the city as it is ordered and organized today. Ideally we are in search of a space which will do this while it also accounts in retrospect for the city of the past. Then we will have a space which not only accounts for the functional order of today's city, but also accounts for the transformations we experience in the city today in relation to that city of the past.

So the first question regards the status of our first, most taken-for-granted assumptions about the space and place of the city. The center-periphery, or city-noncity spatial pattern as applied to the city is a construction, a distinction drawn by us. It has no *a priori* objectivity, and we will attempt to show that we can construct another more efficacious framing which will account for center-periphery *as effect*, rather than as primary reality – as well as potentially for a lot of other things that we at the moment account for as degeneration and disorder.

Our present *creatura*-space organizes the city on the basis of a separation between the 'inside' of the center and the 'outside' of the periphery. The walls of the fortified citadel have come to represent for

us the incontestability of the border as a condition of urban form. The stability of the city as a mental construct – as well as our current confusion at the breakdown of this stability – owe much to this image. As the city escapes its borders, and begins unequivocally to constitute our whole world rather than simply a point of intensity in it, what we seek now is a mental apparatus which frames the dynamic of the changes overtaking us. What we want in fact is a *creatura*-space that is capable of accounting for the whole urban world, *including its borders*, as a changing effect of a space which precedes borders.

This is not the first time this view of the city defined by its borders has been questioned. But, even as their porosity is acknowledged, it is still the border which delivers form.[18] Virilio goes beyond seeing the border as a passive containing element, rather understanding it as an active element shaping the substance of the city. This substance exists, he proposes, in a metastable state, as movement and traffic – the border becoming the device which controls and regulates this movement, defining in the process a privileged inside opposed to the danger of the outside. The border here has become active, but this view is still too closely related to many of our present notions of a city divided into 'ordered' and defensive capsules and archipelagos[19] immersed in a sea of chaotic, disorientating, even violent and uncontrollable movement.

The idea of movement itself being the constitutive substance of the city can be taken further to begin to define another active and formative space: "The town is the correlate of the road. The town exists only as a function of circulation, and of circuits; it is a remarkable point on the circuits that create it, and which it creates. It is defined by entries and exits; something must enter it and exit from it. It imposes a frequency. It effects a polarization of matter, inert, living or human; it causes the *phylum*, the flow, to pass through specific places, along horizontal lines. It is a phenomenon of *transconsistency*, a *network* ..."[20] The urban object has in fact always been founded in its relations with the rest of the world, and grounded by the flows which pass through it.[21] It exists as a 'remarkable point' that is produced by circuits, even as it produces them. As an effect it emerges like the standing wave in a fast-flowing river, dependent on the flow to maintain its shape. As an object it settles out of flows as an efflorescence or concrescence, as a sediment laid down by network flows over time.

We have seen that the border is also a means by which we cut up the flux of *pleroma*-reality, dividing and ordering it into nameable chunks. It seems clear intuitively that the border sits more comfortably with the spatial operation of delimiting, characteristic of the *creatura*, than with the open gradients of the 'epigenetic landscapes' of the *pleroma*. There may also be borders which emerge out of the flux, but these are borders of a different sort; they are more likely to emerge as part of the collection of effects which pop out of the urban surface to surprise us rather than being the spatial operation that we impose on the city to bend it to our knowing and our will. Bordering as an operation has been turned in the real world to the purpose of naming and defending territory – outlining 'neighborhood' and 'our place' – but this is first and foremost an operation of the *creatura* which is imposed *onto* the world. It is an operation of control and of an imposition of fixity, an attempt to control the proliferation of the flux by cutting its vectors with mental outlines made material.

The act of bordering and enclosing in the real world has this character of making our mental constructions actual, of 'realizing abstractions'. It is part of what we as active and creative creatures do with the world, and may be necessary to make the world inhabitable – but it also cuts through lines of force, disintegrating integrating dynamics, deactivating active formative spaces, and replacing them with the passive spaces we use for the description of static forms.

Different spatialities deliver different organizational mechanics. But the network, just like the circumferential segmentation of the center-periphery space, is an abstraction. Networks have no immanent or *forceful* reality in themselves; they become forcefully real to the extent that they are performed. And performed they become pathways traversed by stuff already constituted and meaningful, and in durations and at speeds and frequencies, and not the abstract, instantaneous node and edge relations we often use to represent them. Even instantaneous, or virtually instantaneous, electronic networks deliver content and content implies work, duration, delay, a certain time, rhythm and friction, and an interdependency with other supportive or dependant performed networks which deliver content, and are subject in their turn to other rhythms, durations and frictions. There are in other words institutional rhythms and times which both constrain network dynamics, and perhaps more importantly tie these dynamics into coordinated relations of interdependency with other networks. In the same way, the routing of performed relationships are subject to the constraints of built opportunities for connection – infrastructure seen in its broadest terms. It is along these infrastructural links that the pathways are cut from far to near, from the general to the particular, from the global through to the local and back again. As Latour says: "There are continuous paths that lead from the local to the global, from the circumstantial to the universal, from the contingent to the necessary, only so long as the branch lines are paid for."[22] This is not the network of the well-known 'object-attractor and accessibility' model; rather than the nodes being substantial urban and architectural objects and the edges insubstantial relations of frictionless connection, urban network edges are themselves substantial vectors not only of displacement but also of emplacement. This is a spatial operation we know already – but more from our embodied, embedded experience of these things in context, than from the simplistic reductions of our disciplinary procedures.

The street, the lane, the boulevard and the highway become active as parts of extended and layered networks, and we see the formations which are their results in the centers and high-streets of established villages and towns, in the strips and ribbon developments along car routes, and in the edge-cities and corridors emerging on today's motorway networks.

A new first space of the city

In order to understand our contemporary city – and to understand cities of the past in a different and more interesting and practical way – we need to move away from the obvious, or the seemingly obvious, that has become increasingly a barrier to understanding. Instead of starting from a self-evident local place, conceptually divided from its surroundings, we need to move towards a simple spatial framework which allows the local to emerge out of continuous distributed fields of vectors, forces, intensities and concentrations, with integrating circuits of movement and connection which exist in a state of interdependency with other integrating circuits of movement and connection – and then try to imagine how this could always have been the case.

It is the medieval city which most often shapes our preconceptions of what the city is. With its solid materiality and its walls it captures in a concise image our presuppositions of the urban. But now, instead of using the historical, and specifically the medieval, city as the basis for grounding our view of what the city is and can and should be, we propose that we start from a position much closer to our contemporary urban. There could be no image which contrasts more forcefully with that of the medieval citadel as an image of the city, than that of the contemporary freeway network. It represents pure movement as opposed to solid stasis, a distributed intensity as opposed to a delimited bounded centrality. Yet it is here we will propose that we can find the basis of a simple

The metropolitan grid in the fabric of the contemporary city. This grid 'hits the ground' (of other slower, smaller-scaled grids) usually rather ineffectually, but never without any effect whatsoever.

spatial model on which can found an understanding of the city's formation – even when we are talking about the city at its origins.

It was Jane Jacobs, building speculatively on archaeological research on ancient settlements in Anatolia, who suggested that the first human settlements larger than the camps of hunter-gatherer bands were located at strategic nodes in long-distance trading networks.[23] It was traffic which supported their formation, and it was the movement network, on a sub-continental scale, which was the active space behind their formation. As urban creatures today we inhabit not so much cities as a continuous urbanization. This feels like a new condition to us, but from the first trading settlements Jacobs describes, through the medieval market town with its intimate interrelationships with its agricultural surroundings and with other market and trading towns, through the 18th and 19th century industrializing city, where many sites of industrial development were located in what have been characterized as rural areas, through 20th century cities and their commuter belts, rail and freeway networks and metropolitan regions, to the continuous city of the 21st century exopolis, it has always been a difficult exercise determining a border between what is city and what is not. In spite of this, centers have emerged as strong identifiable places and have had a certain stability and durability about them. What is it that supports this stability and durability in what is after all a movement?

If we are to conceive of the emergence of centralities as effects, we must first necessarily be able to think of an active 'pre-centered' plane or field out of which such centralities could emerge. Fortunately, the almost perfect image of such a thing – the counter-form to the medieval citadel – exists already, and it takes no great effort of abstract reasoning to think it; the freeway network

The emergence of the supergrid in the fabric of 19th Century London. These 'urban high-ways' of the 19th century are 'grounded' along their lengths by their immersion in a finer, slower, local grid.

spreads itself out now web-like and borderless over the whole geographical territory. We have a candidate for the primary 'pre-individuated' centrality – a diffuse intensity which distributes itself over the urbanizing landscape.

If this was all there was to it we would be justified in proposing a completely new diffuse or 'lite' or 'generic' urbanism, an urbanism of flows, fundamentally different to the urbanism of fixed places of the past. However a closer look at a city type of the recent past, the European industrial city of the 19th and early 20th centuries, shows something very interesting. What we see here is not an intensity of centrality graded homogeneously from centre to edge of a fabric, but rather a complex configuration of centers, spread out over and through another web-like network covering the everyday functional extent of the city as it then was.

Urban infrastructure development from the early 19th century was characterized by boulevard and avenue building, creating networks geared to the increasing size of the city and the increasing mobilities of its populations at that time. These primary movement networks constructed in European cities of the 19th century were the 'freeways' of the day, cut to the speeds and mobility ranges of their time, and these longer routes through the dense fabric of the European center reveal themselves as surprisingly coherent grids – we will call them 'supergrids'. It seems we are bound to build the city at a scale which reflects the prevailing scales of life and mobility of the time. Higher speed, and wider-spread networks also began to be built outside of the central urban fabric, and these were later to be superseded by the freeway network as it spread in the 20th century over what in the beginning still appeared to be countryside.

In the late 20th and early 21st century our primary city movement networks are being built at the scale of the metropolis and the mega-city region, because this is the scale and the range at which dominant movement takes place. In the 19th and early 20th centuries, at a time when the bulk of urban movement was captured within the bounds of the city as it was then known and understood, this scale was that of dominant relations of that time. This generalization does not capture the whole of the urban social and economic dynamic of course because relations between cities were as important then as they are now. What it does capture is a logic of urban form, which is a product it seems of *gross* movements of traffic; the city is shaped by the actual mobility dynamic and its bulk intensities, including all those countless anonymous everyday movements that make up the life of the city.

What we are dealing with here then is a *gross* material flow, rather than the movements invoked in the significant transactions studied by sociologists and economists. A flow considered as pure material that produces the urban scene as a dynamic effect – in the same way as the flowing water is a necessary material condition for the production of the standing wave. The next paper in this publication describes urban place as a product of an 'ordinary urban' space mechanics of the 19th century city. It describes also how the diffuse placelessness we experience today is a consequence of the loss not of the simple geographical locatedness of place, but rather of the loss of a network place-generating *effect* which was a characteristic product of a 19th century urbanization pattern.[24] As far as the construction of place is concerned therefore; it is not, as is often assumed, a question of there being two categories; of the dynamic on the one hand and the static on the other; of networks on the one hand and self-evident locations on the other (or of 'spaces of flows' and 'spaces of places'). Rather it is one of the successive *grounding* of the effects of scaled movement and connective networks in other networks and the construction thereby – through an increasingly thick layering of networks and their effects onto one another, down to the most local – of local place.

Urban place and its production has already gone through one change as the scale of urban mobility ballooned in the industrial era, and it is going through a more substantial change right now. The kind of centrality we experience in urban places, centrality *as effect*, is a consequence of the layering of diffuse (pre-individuated) intensities in active network infrastructures of different scales over each other. It is a consequence of the ways overlaid movement grids working at different scales cause their moving materials to interact with each other, bringing different speeds and divergent space-time frames – through the populations inhabiting them – into constructive and mutually interdependent interfaces with each other. These interfaces are part of the patternings of the webs of overlap and interdependency that produce the grounding and the solidity of our everyday social existence.[25]

Our problem today is not a loss of a primary place bound to the geodesic coordinates of location, it is a loss of this place-generating and everyday perceptual-solidity generating network effect in the infrastructures we build today.

Building today's city

Of course the city is not simply a process of emergence – we also build it with architectures and infrastructures. And we tend to build it in the shape of the spatial understandings we carry around with us; as realizations of our ideas about how the city is put together and works. We are to some extent capable of building our present-day 'city seen as mind' – a technocratically ordered distribution of objects and bounded areas linked by infrastructures of pure accessibility. We see the

results of this building all around us, most notably in capsular business and industrial parks, the nodal functional 'attractors' on the so-called 'periphery', and the flat, featureless residential areas, all connected by simple accessibility-providing off-ramps to the freeway network. We make the city in the shape of our ideas, and the city we are making today tends to be one of lifeless bounded areas and object-centralities linked in the most simplistic way possible to the metropolitan-scaled movement grid – and often entirely disconnected from anything else. We are building 'places' in other words tied to just one infrastructural network supporting just one speed and just one quality of space-time – simply eliminating the possibility for a place-constructive, and social solidity generating, mechanics delivered by interfaces between infrastructural networks supporting the other speeds and other space-time qualities we found in previous city forms.

In fact the infrastructure of electronic and personal communication networks does overlap and interface with other networks in the contemporary city – but apparently this interface does not carry with it the power to generate the kinds of places we expect to encounter in the city. There is a lot more that needs to be said about this, and space prohibits this here – but there are signs that changes in our expectations of what places should be, or what they should exhibit in terms of their place qualities, may mean that some of the potentials of this particular set of interfaces are still to be explored.[26]

What is proposed here though relates to a revealing, and an exploration, of the potentials given in the overlaps and interfaces between dynamic populations inhabiting movement and communications infrastructures, and the construction out of these interfaces of a dense, solid and locating sense of being 'in place'. What is proposed as a framework for thinking these potentials is a new primary city-space (*creatura*-space) consisting of infrastructural grids working at different 'speeds' and scales, all supporting their own distributed intensities – all supporting diffuse pre-individuated centralities spread evenly through their grids. These grids, scaled from the metropolitan-regional to the local street grid, may overlap with each other, bringing different movement circuits and speeds and space-time qualities into place-constructive interfaces with each other. Space-time frames and speeds are superimposed – become 'cogredient' in Whitehead's terms – and it is in this superimposition that the 'event' of the place effect is produced.[27] What is proposed therefore is a device, a diagram, or set of diagrams, which are not in themselves the center-object we seek but become rather a surface or an armature (itself material and mappable in the real world) on which centrality effects and place effects may emerge.

The urban machine

What is the status of this layered armature or device? It is not a distribution of simple objects or arrangement of bounded zones, the way centers and places appear in the center-periphery image. It is more a framework for locating the distribution of effects arising out of the superposition of objectively different space-times held in movement grids and produced in movement. It is a framework for very simply diagramming the effects of the superimposition of multiple layers of speeds of movement, multiple continuous and distributed space-times, out of which we may be able to picture the places we know from our experience of the city emerging. It is an emergence framework for the city, a diagrammatic frame for organizing vectors, forces, and their emergent effects. It is a framework for understanding the becoming of centering effects which we would otherwise only be able to see as the being of bounded thing-centers.

If we look to the example of the traditional high-street in a city like London or the boulevard in Paris: we understand it at present as a local intensity which we then immediately and rather

arbitrarily outline and turn into a thing. The high-street is actually an effect of the overlap of two differently scaled and 'speeded' distributed intensities; one carried by the local street grid and the other by the superimposed 'supergrid' of urban distributive routes (the boulevard network in Paris for example) characteristic of 19th century European centers – with metropolitan and global scaled effects thrown in where these are carried by their respective communications infrastructures into the central grid. The local movement circuits of the area around the high-street meet the movement circuits of the network at a scale and speed of movement higher. Our customary outlining of the high-street as thing, incorporates no deep reflection of the formational logic of that thing. In fact the problematic nature of this delimitation is here illustrated perfectly as the limits imposed by the outlining cut up the field which is the very condition of the high-street's becoming.

The important practical advantage of this spatial division of the city is that the analytical knife is wielded horizontally; there are no vertical slices which arbitrarily divide adjacencies from each other. Limits to the horizontal distribution of intensities are imposed by the limits of the respective infrastructures which carry them. At the same time the resolution and penetration of the 'space of flows' idea is improved through a sequential application of the same idea at ever finer grain. Material infrastructures and their effects are analyzed sequentially all the way down to the local, revealing in the process the conduits and the spatial interfaces through which the scales of the urban, the metropolitan and the global invade our local lives. It makes explicit the staging posts in the continuous pathways and the branch lines, the spatial switching-points and transmission stations, which lead us from the local through the urban to the metropolitan and global and conveys the global and metropolitan back to us again.

At the same time it provides a device for diagramming the layers of 'speeds' and movement intensities and their centrality effects in the surface of a complex fabric, rescuing that fabric from its fate, in our present-day understanding of complex fabrics, as a node or distribution of nodes. We have had difficulty understanding the meaning of complexity in relation to the city: De Landa quotes the physicist George Kampis: "...the notion of immensity translates as irreducible variety of the component-types... This kind of immensity is an immediately complexity-related property, for it is about variety and heterogeneity, and not simply as numerousness."[28] What is proposed here is a framework capable of producing immensity in the structured variety of emergent place effects. What this model delivers is a framework capable of producing an endless diversity in terms of the actualization of urban place particulars – all indexed all the while to the framework itself. It is a machine for the becoming of the local urban world in all its structured particularity and specificity. "Consistency necessarily occurs between heterogeneities, not because it is the birth of a differentiation, but because heterogeneities that were formerly content to coexist or succeed one another become bound up with one another through the 'consolidation' of their coexistence or succession... What we term machinic is precisely this synthesis of heterogeneities as such."[29]

Critical attention is given to the zones and points of contact and translation between infrastructures. The technique is one for extending the reach of the network spatiality idea down to the local at the same time as it makes the infrastructural pathways of multiple movement circuits, and the relaying and coordinating functions of the points where different circuits intersect, explicit. The technique is therefore one for dealing with that most fundamental of urbanistic concerns; grounding. It is one which presupposes that grounding is produced in the successive transmission and translation of the effects of higher scaled movement processes, embedded in their infrastructures, into lower scaled infrastructures, to eventually emerge as actualized effects and events in the circuits of the most

local. This cascading effect allows us to see the scales of the global, the metropolitan and the urban as constitutive aspects of local place. The idea of a distributed intensity contained in its own grid infrastructure replaces the notion of propinquity; in fact all points on one of these grids are seen as being close at the general speed and rhythm at which that grid's intensity operates. Classic local propinquity is a product of location on a local walking speed grid. Propinquity in the contemporary city is as layered and as multi-speed are its infrastructural grids.

The urban machine, understood in this account as a characteristically urban organization of moving and potentially social, cultural and economic material, underpins the appearance of place effect 'events', which become the ontological units of our urban world. 'Events' are, as in Whitehead, microcosmic entities which grow, mature and perish in tune with the extensive surface or 'machine' which links them to the world and makes their existence and evolution possible. The machine works by operations of sorting and consolidation; firstly forming relatively even and continuous intensities, filling particular infrastructural networks. Then it generates consolidations; 'syntheses of heterogeneities' out of the diverse material delivered through those networks.[30] The productive points in the machine are the 'interfaces' where the outcome is the 'event' and the 'concrescence'.

The urban machine needs to be understood also as an instrument designed to make visible and researchable a specific problem of the city and our understanding of it; that is its absence as an active constructive force in our current models of urban and social life. The urban machine is designed to make visible and researchable the emergence of formations which are the product of this constructive agent: the city itself as a sorter and consolidator of movement and producer of a 'primitive' and corporeal situated everyday sociality. In particular it has been designed to reveal the operations by which all scales from the local to the global become imbricated in each other in a distinctively urban way, and the ways therefore everyday urban places are simultaneously global, metropolitan, urban and local. It may help us ultimately to understand better how the global and metropolitan permeate all places to differing degrees – and how local action may influence global and metropolitan structures, but not equally from all places. It may help us understand how the city itself and its everyday spatial operations are deeply implicated in the unfolding, articulation and grounding of everyday urban life.

In our dealings with the city today, we more often than not concern ourselves with phantoms, and with fantasies of chaos and disaster. The way to the city of the future is, we believe, to grasp it – to take hold of it first in our imaginations and in new disciplinary preconceptions, and then to find the will and the instruments to intervene in the interests of making sustaining and enabling urban ecologies. We need to begin to understand and to work within the laws of the city's own moving equilibrium and learn to build enriching places in the frame of what, in a complex, forceful and dynamic urban world, is necessarily so. This is as much a political as a technical task of course, but our purpose here has been to outline a technical – in the sense of instrumental and efficacious – starting point for thinking about what is, what is possible, what we may draw from the past, and what we may still have to invent when thinking of the kind of city we want to make for the future.

[1] Marc Augé (1995), *Non-places: Introduction to an anthropology of supermodernity*, trans. John Howe, Verso, London. p. 35.

[2] Bruno Latour (1987), *Science in Action: How to follow scientists and engineers through society*, Harvard University Press, Cambridge Mass. pp. 13-15.

[3] For example: A.N. Whitehead (1926), *Science and the Modern World*, Cambridge University Press, Cambridge; Albert Einstein and Leopold Infeld (1938), *The Evolution of Physics*, Simon and Schuster, New York; Peter Pesic (2003), *Seeing Double*, MIT Press, Cambridge Mass; Marc Lange (2002), *An Introduction to the Philosophy of Physics*, Blackwell, Oxford. The work of innumerable philosophers and scientists has responded to or contributed to a gradual sea-change of Cartesian-Newtonian dualism post-enlightenment (perhaps beginning with Kant!).

[4] See for example: Michael Sorkin (1992), *Variations on a Theme Park*, Hill & Wang, New York; Lieven De Cauter (2001), 'The capsule and the network: Preliminary notes for a general theory', in *OASE 54*, Uitgeverij SUN, Nijmegen.

[5] See for example: Hilary Lawson (2001), *Closure*, Routledge, London.

[6] Gregory Bateson (2002), *Mind and Nature*, Hampton Press, Cresskill NJ. p. 178, p. 102. See also: Bateson (2000), *Steps to an Ecology of Mind*, University of Chicago Press, Chicago; Bateson (1991), *Sacred Unity: Further Steps to an Ecology of Mind*, Harper Collins, New York.

[7] This is an overly sketchy construction intended simply to point to the "simultaneously real and constructed" (in the words of Latour) nature of the world. We draw mostly here on Bateson and Lawson – hopefully without doing either of them too much damage in the compression.

[8] This according to the 'neo-realist' philosophy of Gilles Deleuze and Felix Guattari. See: Deleuze and Guattari (1994), *What is Philosophy?* trans. Graham Burchell and Hugh Tomlinson, Verso, London.

[9] This is a simplification (or distortion), which we use to steer quickly past this point to the focus of the paper, of a position which involves 'folding' in Deleuze. See for example the chapter on folding in: Gilles Deleuze (1988), *Foucault*, trans. Seán Hand, Athlone Press, London. See also the paper by Deborah Hauptmann in this publication.

[10] Bateson (2000), pp. 461-2.

[11] C.H. Waddington (1957), *The Strategy of the Genes*, George Allen and Unwin, London.

[12] It should be clear that the space of the *pleroma*, as it is illustrated here is itself a *creatura* space – that we have no way of looking directly at the *pleroma* – but the point is to try to illustrate how the *pleroma* has its own space which is other than that within which we categorize and attribute meanings and thingness to events and phenomena.

[13] We draw here, again very sketchily, on Manuel De Landa's outline of the thinking of Deleuze: De Landa (2002), *Intensive Science and Virtual Philosophy*, Continuum, London.

[14] See: Manuel De Landa (undated), 'Deleuze and the open-ended becoming of the world', available at: http://www.societyofcontrol.com/library/htm_pdf/delanda_openended.htm.

> "... [T]ruth cannot be a correspondence relation between representations and a static, fixed set of beings, but an open-ended relation of isomorphism between problems as actualized in reality and problems as actualized in our bodies and minds. ... [U]nlike social constructivism, which achieves openness by making the world depend on human interpretation, Deleuze achieves it by making the world into a creative, complexifying and problematizing cauldron of becoming. Because of their anthropocentrism, constructivist philosophies remain prisoners of what Foucault called 'the episteme of man', while Deleuze plunges ahead into a post-humanist future, in which the world has been enriched by a multiplicity of non-human agencies, of which metallic catalysts, and their acts of recognition and intervention, are only one example. And, in contrast with other realist or materialist philosophies of the past (such as Engel's dialectics of nature), the key non-human agency in Deleuzian philosophy has nothing to do with the negative, with oppositions or contradictions, but with pure, productive, positive difference. It is ultimately this positive difference, and its affirmation in thought, that insures the openness of the world."

[15] See: Bruno Latour (2003), 'The promises of constructivism', in: Don Idhe (ed.) *Chasing Technoscience: Matrix of Materiality*, Indiana University Press, Bloomington.

[16] Related to the 'hylomorphic schema' or 'form-matter model'. See; Gilles Deleuze and Felix Guattari (1987), *A Thousand Plateaus*, trans. Brian Massumi, University of Minnesota Press, Minneapolis. p. 407.

[17] See the paper by Stephen Read later in this publication.

[18] See for example: Wim Nijenhuis (1994), 'City frontiers and their disappearance'; in, *Architectural Design*, vol 64, no 3/4, Academy, London.

[19] De Cauter (2001).

[20] Deleuze and Guattari (1987), p. 432.

[21] See the paper by Stephen Read later in this publication.

[22] Bruno Latour (1993), *We Have Never Been Modern*, trans. Catherine Porter, Harvard University Press, Cambridge Mass. p. 117.

[23] Jane Jacobs (1970), *The Economy of Cities*, Vintage Books, New York. See the paper by Stephen Read later in this publication.

[25] These will be treated more fully in a forthcoming publication.

[26] See for example: Maarten Hajer and Arnold Reindorp (2001), *In Search of New Public Domain*, NAi Publishers, Rotterdam.

[27] Whitehead has been an important source of ideas for understanding and constructing an 'extension' or 'surface' which is itself the cause of located 'place-effects'. See for example: A.N. Whitehead, (1919) *An Enquiry Concerning the Principles of Natural Knowledge*, Cambridge University Press, Cambridge, pp. 128-138.
'Cogredience' is the way in which multiple processes flow together to construct a single consistent, coherent, though multifaceted time-space system.

[28] See: Manuel De Landa (undated), 'Deleuze and the open-ended becoming of the world', available at http://www.societyofcontrol.com/library/htm_pdf/delanda_openended.htm.

[29] Deleuze and Guattari (1987). p. 330.

[30] Manuel De Landa (undated), 'Geology of morals', available at http://www.t0.or.at/delanda/

... the network is ... a space which *produces* centers rather than simply linking them. Centrality is in the first place *distributed* rather than centered, and dominant centralities have ... in line with changes in the capacities of humans to mobilize themselves, ... shifted to other distributive grids. What we *think* of as centrality ... is an effect of interface between different and differently scaled grids. ... Places and centers change in direct response to changes in the transports of the grids ... Our analysis [is] simplistically conceived as a node and linkage problem; real centers emerge ... with their qualities and powers, in cascading scaled layers of distributed centrality, producing ... an ecology of present and presencing places, with their own ... 'agency' of their own functioning.

A Brief History of Flights to the Periphery and Other Movement Matters

Stephen Read

Another story of the city

> A sort of freedom comes from recognizing what is necessarily so. After that is recognized, comes a knowledge of how to act. You can ride a bicycle only after your partly unconscious reflexes acknowledge the laws of its moving equilibrium.
> Gregory Bateson[1]

> The unhistorical, Nietzsche says "is like an atmosphere in which alone life can germinate and with the destruction of which it must vanish." It is like a moment of grace; and what "deed would man be capable of if he had not first entered into that vaporous region of the unhistorical?"
> Deleuze & Guattari[2]

We experience ourselves as living in a time beyond history, overwhelmed by the new, surprised at every turn by a world that seems to be spiraling off what we imagine to be its regular and destined course. It is no doubt true that we live in times of unprecedented speed and technologically mediated connection, and that this speed and connection have been disorienting factors in modern lives, but it is also true that this uncertainty about our relationship to the past and the future is to some extent a condition of the present at any time. The stories by which we construct history deceive us into believing there is something linear and even preordained about it all; in fact the linearity belongs to the narrative and its construction rather than being in any necessary way built into the unfolding of life's happening and events.

Our present-day city has escaped the narrative we have constructed for it. Our projections of the city of the past (or sometimes rather what we imagine to have been the city of the past) into our urban present collide with a blunt unknown quantity which is forceful, self-directed and resistant to our efforts to bend it to our presuppositions.

The city has been constructed, according to our conventional view of it, as an accumulation of material, laid down in forms which reflect, or settle out of, the human practices, ideologies and technologies of particular historical times. These accumulations have (we assume because it seems incontrovertible to do so) been built in historically specific layers of buildings both vertically over, and in horizontal expanding concentric rings around the point of historical origination of the settlement – as a concentric agglomeration of settlement. The city is seen as an historically layered construction, driven by, and reflecting the forms of, human action and need; growing outward from a filled center towards an empty periphery. Many of the things we presuppose about the city – often at an unacknowledged background level – have as a context this story of a linear accumulation in a self-evidently centered space. It is a space of concentricity and a linear radial accretion that we take as objective and beyond

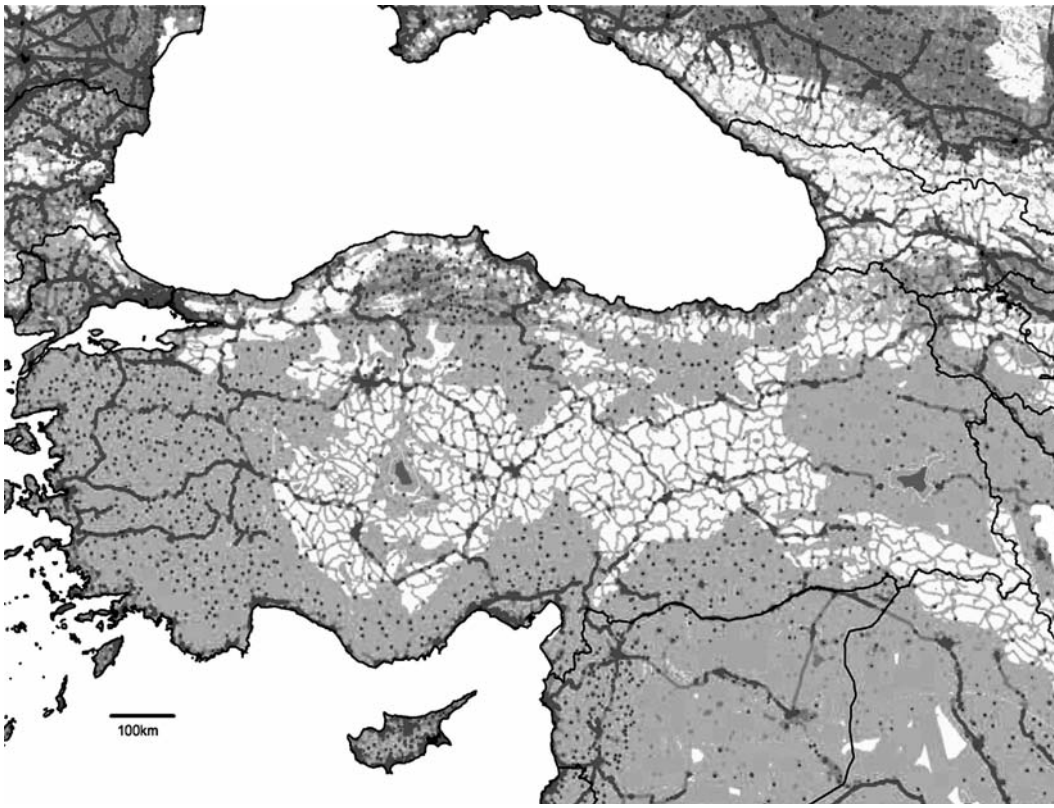
question,[3] when in fact it has always been but one of the possible constructions we could have made of the city's unfolding in time.

In fact there are systematic ways in which non-linearity is built into stories of urban growth and development. It is possible to see these processes proceeding not so much in the manner of an ink-blot, growing steadily outwards from active center to periphery, as if the surface towards which they grow is a neutral availability to unproblematically fill, but rather according to a quite different spatial process, involving a much more extensive active surface 'divided' by our differently scaled and 'horizoned' actions, projections and constructions into it. This process is capable of non-linear leaps, and is one where local particularity and condition emerge out of extended and active non-local – even global – distributed fields.

Urban origins – synekism and the urban grid

Jane Jacobs has postulated, on the basis of archaeological research on ancient settlements in Anatolia, that the first human settlements larger than hunter-gatherer camps were located at strategic nodes in a sub-continental network of trade in strategic materials.[4] The conventional wisdom that the city began in local settlement out of local practices is, according to her account, far too partial a truth and misses the most essential point about urban formation; that the background which was the condition of the first urban settlement's coming into existence was a very large scaled network of pathways which began to criss-cross the surface of the Neolithic world. A field of potentiality – a distributed pre-individuated pre-urban state if you like – was established by traceries of human movement over the earth's surface, and it was then a matter of the urban emerging as an actuality out of this field of what was *already* virtually urban. It has always been therefore the urban *fullness* of the world that cities emerge out of rather than its emptiness that they invade and hold themselves against. The urban center emerged as a point of intensity in the field – as a local concentration of life within the networks. This goes for the ostensibly first city (of 10 000 inhabitants at a time when the size of hunter-gatherer groups rarely crept above 50-100) suspended in the trading networks of Anatolia,[5] for the straight road network of the Roman empire (which generated the first million inhabitant city) though the scales involved in the Roman network economy were complex, layered and certainly not all imperial,[6] for the networks of pastures of Central Africa which sustained a city of 10 000 in a late iron age culture[7]; everywhere we look closely enough we begin to understand that the essential pre-condition for the establishment of urban centrality is the outward cast of a sustaining network.

Rather than being parcels of territory jealously claimed, delimited and closed off against a threatening outside, or threatening others, or against the threat of disorder – rather than establishing a centripetal inward space by means of closure and bounding – urban settlements were driven at their origins by the centrifugal energies of widely extended networks, becoming strategic points in a "world between people" that had as a consequence a new power to gather them together.[8] The town and city from the beginning was not an autonomous interior zone to be guarded against the outside; it "merges with the movement of those who leave their territory en masse... [it] is not one element among others but rather brings together all the elements within a single embrace..."[9] The settlement at the crossroads, the market-town and stop-over for long-distance travelers is an idea we know well of course – a place sustained by centrifugal forces which at the same time contrives to generate a local centripetal space. It is a question of perspective and positionality: we seem instinctively to understand ourselves as 'settlers' within a 'primary' and static local in order to ask questions of the role and function of the city in spaces of extension. I am suggesting that the city

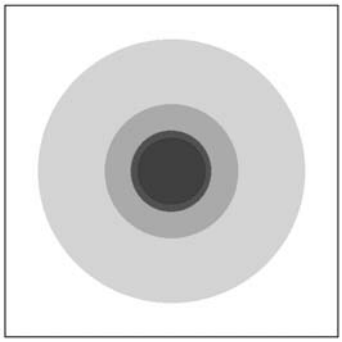


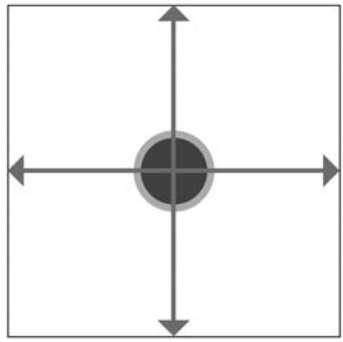
The human footprint of the Anatolian peninsula today.

may be an effect of those spaces of extension and that we actually inhabit the world primarily in movement, as 'nomads'.[10]

It is *the local* that needs to be explained from this perspective; how does it contrive to gather and to hold stuff in place? How is it that everything is not dispersed to the far corners of the earth? If local urban gathering towards a center is a gathering as much of strangers as it is of familiars, without a necessary bounding and exclusion, without the stabilization of containment and the boundary, is it possible to understand local urban life as being *held* in a place which is an effect of circuits? Is it possible to find a way a tension is constructed which is that of the way place works between processes of interdependence, interchange and affinity, and the exchange, friction and through-flow of an extended space of the unfamiliar? Jacobs describes the way a concentration of people, gathered together in the first place to exploit the trade in obsidian, develop new forms of productive work, an expanding division of labor and new forms of economic and social relations. An expansive, creative process is established, under the stimulus of both connection and agglomeration, that Ed Soja, also referring back to Jacobs, has called *synekism*.[11] As I will try to show, this 'agglomeration' needs to be considered dynamically and constructed in dynamics – folded into the ways movements engage with other movements, rather than being simply a factor of the occupation of a common static local space.

But if we do consider simply the local relations for a moment, and ignore non-local relations through non-local networks, the centripetal effect of these local relations can be very simply diagrammed as a set of direct links between members (and objects) of the little community. The urban grid becomes in this set-up the minimum necessary infrastructure for enabling a distribution of moveable and immoveable social and economic material (houses, people, goods, shops, sites for production and





1 2

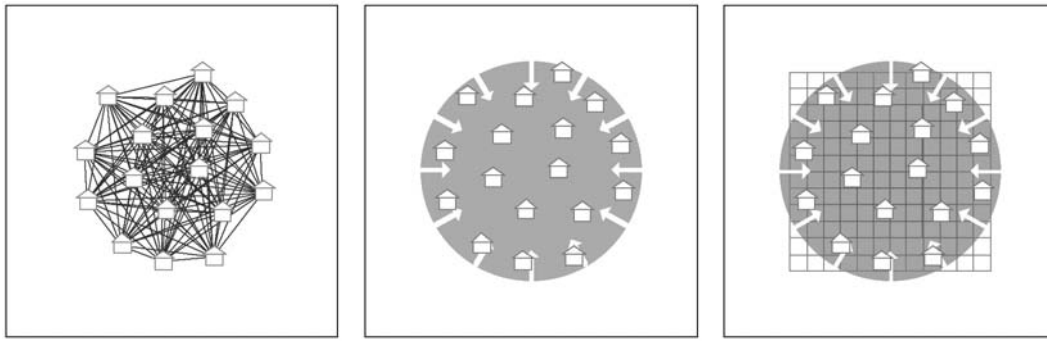
The active element in urban formation is not the boundary, but rather the sustaining distributed network.

social reproduction, markets) and a reasonably unconstrained connection between them all. At the scale of the very beginnings of this settlement-city, one can imagine that a simple concordance between the diagram of social and economic relationships and that of the spatial traces of their enactment (diagrams 3 and 5) would see the shape of the settlement begin to reflect very directly its social and economic logics. Functions central to the local social and economic dynamic, would become centrally placed locally in the settlement itself. A space, consistent with the social and economic workings of the community, would itself be complicit in setting up and supporting the workings of many of these relations, and it is from this scale of the very small settlement or village that many of our presumptions about the 'place' of the local community as an idealized social and economic unit come.

A crucial element in this spatial story of the development of the settlement-city is the emergence of a 'surface', a connective matrix, on which urban contact and life can proliferate. At the scale of the small settlement this contact potential of people and things, and the processes of visibility, sociality and exchange that takes place between them, is a factor of the establishment of a reasonably open connective grid working *at the same scale* as the movement which connects them. This process of grid formation can seem to be automatic, responding quite straightforwardly to a generalized requirement of access. What is clear is that the emergence of this grid, by one means or another, would seem to be a factor by which the urban agglomeration dynamic begins to work. A spatial *grid* of contact between diverse actors and interests would seem to be central to the working of synekism, and we take our presumptions about 'creative' local face-to-face interactions from this model.

However, the original Çatal Hüyük reached a population of 10 000 people – much larger than a small village – and its social life as I have already indicated would have been characterized by a meeting of a space of the town with one massively larger. The village model, focusing on its own internally generated center, is going to be complicated by the fact that it is also a crossroads or otherwise significant point in a much larger network (see diagram 12). The trading place or market, centrally-placed on the high-street or crossing of the settlement, is really the first *urban-social* form of the dynamic multiscalar sort I wan to outline here – constructed on a principle of *interface* between movements scaled to differently scaled grids.

As I will explain later, these crossings of massively differently scaled spaces can often be problematic and though we don't know enough about the plan of Çatal Hüyük to speculate too far, there are suggestions even here that the trading functions were displaced out of the local center proper and took place on a hillside close by.[12] I will be discussing this later in relation to diagram 13.



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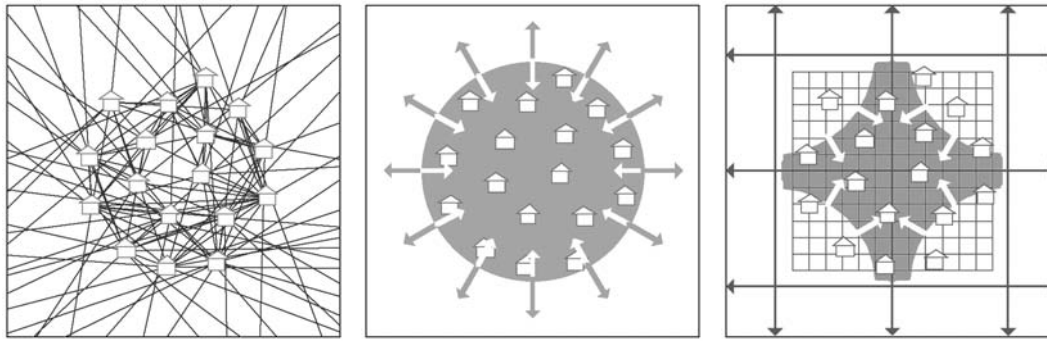
Centripetal (simple) space: correspondence between social space (diagram 3) and village place (diagram 5)



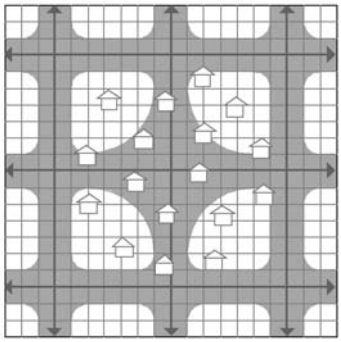
6 7 8

The beginnings of centrifugal space: towards an urban space (diagram 8)

From centripetal village space to urban space in one jump of scale

The step beyond the emergence of this simple proto-urban space is linked directly to scale increase and a grid formation process. In an expanded settlement, or when social or economic relations begin to be distributed over a wider surface, the diagram of relations between people and people and people and things at the local scale loses its exclusively inward and centripetal orientation. What we get now is a mix of relations oriented inward to the concentration of relations the local inhabitant would understand as his or her local 'center', and relations oriented outward to the wider surroundings – setting up simultaneous centripetal and a centrifugal orientations (diagrams 6 and 7). The realization of the 'surface of contact' for the outward orientation – to relations which are outside the original centripetal space and distributed over a wider range than the original notional settlement proposed above – will generate new pathways and a new grid (diagram 8). This grid again will be adjusted to the scale of the movement it is facilitating; to the range of the just above local and to a coarser grain than that of the original settlement. We see these grids everywhere when we look at the historical fabrics of European cities, and pick them up as the streets trafficked more heavily and at a faster speed than the quiet streets abutting them.

In fact the original local grid can continue expanding, taking care all the time of distribution and contact at the very local scale, while at the same time this larger scale grid spreads ahead of it or through it into the surroundings. But now the local grid and its movements orient themselves not any more to the literal center and starting point of the settlement as we saw in diagram 5, but rather towards this new grid (diagrams 8 and 9).



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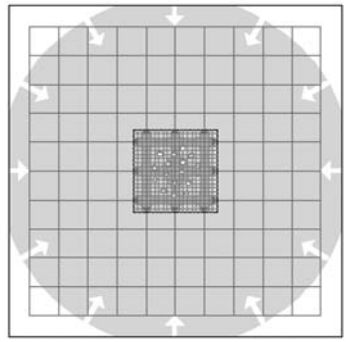

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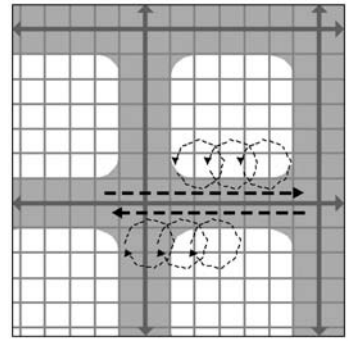


11

Centripedal-centrifugal space: generation of 'ordinary urban' space (diagram 9 and 10)

A profound change of orientation has taken place and urban organization has become dynamic. The new movement grid considered on its own, is in principle no different to, only larger than, the original local grid (which is now embedded at the center of the new diagram – diagram 10). But at the scale of the original local, the effect, once the settlement has reached a size sufficient to make the new edge relatively distant, is one of a dynamic intensity of movement and presence in this larger-scaled grid. What one notices at the local scale is that the principle shifts from one of a local focus towards a (quiet usually) central place, that we saw in diagram 5, to one of local focus towards a space of movement and traffic – and the intensity of the traffic will tend to increase with the expansion of the settlement on the back of this new larger scaled grid network. What we see is a higher-scaled infrastructure carrying high intensities of flow – stimulating centrality effects in relation to the local scaled grid (diagram 11).

Think of the difference between the space of Combray and that of Paris. Where village or market-town life tended to distribute itself in a more or less naturally centered way through its space, establishing a simply centered local at a central street or square, the principle of *urban* space is about an establishment of a structured interface between a grid of the local and a grid of the urban unit above the local scale. Note that the larger-scaled or 'whole' urban is captured in and *presented* in a grid (and distributed through the local of the city by that grid) rather than being captured and represented by any nodal center or bounded area. This is a very important point with massive implications for the relations between scales (local-global for example) which will be developed further in forthcoming publications. We call this above-local scaled grid the 'supergrid' and it is a characteristic, more heavily-trafficked, grid in European central urban fabric. In a small town the proximity of edge to center of this above-local scaled grid can itself be close enough to allow the whole to still be grasped as a unit – think of any number of small historical cores from Amsterdam to Bruges to Canterbury. The more extensive the traditional type urban fabric becomes however, the more local centrality becomes a pure effect of this relation of the local grid with the movement intensity of the grid a scale level above – think of Paris or London. It is this dynamic centrality effect that I will characterize as the 'ordinary urban'. Note that we get with the ordinary urban a shift from a simple located center to a system of centers articulated in the relations between dynamic processes of a local grid and a supergrid and distributed over the supergrid.

Incidentally, the question of legibility and orientation or 'mental mapping' in cities, which has so puzzled so many, is simply answered in this account of ordinary urban space. The problem in fact of how we navigate in a complex urban environment becomes one of negotiating this open relation between the local grid and the larger in movement – with the supergrid becoming the infrastructural

network integrating a set of easily learned identifiable places *on* that grid, the places indexing and *presenting* to the larger city the local neighborhoods they cut through. The problem is simplified many-fold when we realize that we don't navigate from all streets to all streets but from recognizable place to recognizable place on a larger scaled grid that *itself* integrates all these places into a network, creating a distributed and experienced-in-movement more than cognized, *image* of the city. Navigation from the smaller-scaled grid is simply to the larger and therefore the directness of the connections between these two scales of grid is also a factor in legibility and orientation.

The emergence of ordinary urban space was the result therefore firstly of the emergence of a movement network to deal with the scale of the just above local – something that probably happened quite suddenly in the transition from village to small town – and then the progressive increase of the extent of the fabric to the point where it, and the intensities generated on the larger than local grid, would be experienced by the immersed subject as being relatively even and continuous. In fact the emergence of the ordinary urban as a developed type had to wait for the sudden general expansion of European cities in the 18th and 19th centuries.

Centrality emerges therefore, in a developed traditional type urban fabric, out of a relation between *two* distributed infrastructural grids rather than being a simple inverse to the edge condition as it would be in a village. From this point on the active principle becomes a matter not of the focus of one scale of movement or relation towards its own natural center, but rather the focus of one scale of movement or relation *towards another.* The first urban 'revolution' (which is no more than a non-linear *evolution*) therefore in this account, and the shift from a pre-urban to an urban space, is one not of a simple linear increase in scale – not an ink-blot process – but of the addition of another scale of movement and connectivity grid over the first, and a shift in the focus of activity and centrality *towards this new grid*. This means that there are spatial effects which kick in in settlements over the size of very small villages that are distinctively urban, formative of urban place, and which have had a profound formative effect on the character of urban life and on the forms and ecologies of activities that take place there.

The social city

The most interesting thing about this shift is the effect it has on social and economic life. We are still really considering only the internal dynamics of the settlement, without the sustaining impulse and stimulus generated by the wandering traders and adventurers – or by relations with an agricultural hinterland which in Jacobs' account are considered an extension of the urban realm itself.

The shift from a simple centering of one scale on itself to centering as a structured interface between two scales, means a shift from an identification of the social unit and its activities and movements with a static internally centered space, to one which founds social space, or rather the social *effect* of urban space, in a systematic dynamic exchange between local people and activity and people and activity of a wider surroundings. It is a spatiality which orients the social local *towards* a larger social rather than away from the larger scale – establishing in the process an open rather than a closed relationship between the local and larger scales, and a systematically open relation between the social 'part' of the settlement and the social 'whole'. The spatialities concerned account for on the one hand the immersion of the individual in a world of familiarity and local identification, and on the other for his or her exposure to a world where he or she is confronted on a regular basis with the unfamiliar, with people from other neighborhoods and other walks and ways of life.

The ordinary urban spatial pattern also accounts for the familiar occurrence of multiple centers in a continuous urban fabric. It is the structuring principle underlying *ordinary urban-social* 'forms' like the urban neighborhood, the urban high-street etc. It accounts for a regular and structured-in-place contact with a world which opens socially and economically to the wider world, opening opportunities for livelihood and multiple identifications. It works against insularity – offering a possible account of the difference between a village or small-town mental attitude with its insularity and distrust of strangers, and an urban cosmopolitan mental and cultural outlook of acceptance of social diversity, with exposure to social and cultural difference as the foundation of a psychology of urbanity.[13]

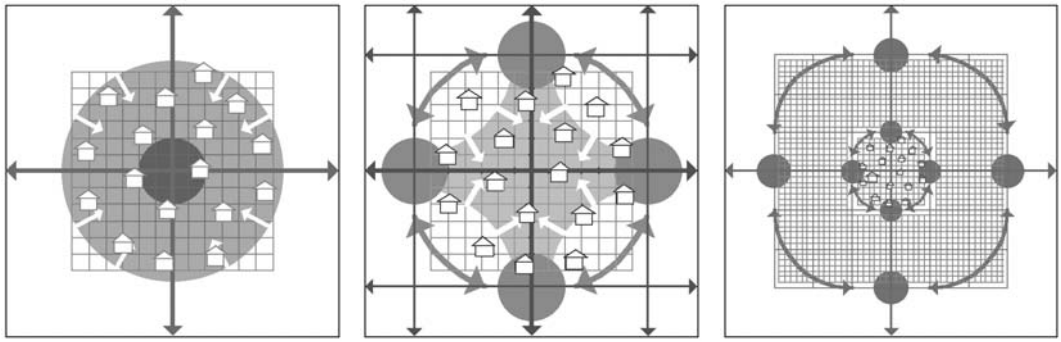
It is suggested therefore here that urban space, rather than being a neutral surface on which the elements of society are distributed, is *itself* an active factor in the production of a distinctly urban scene, and of an urban life and society and its distinctive attributes. Once traditional urban settlements grew to a size beyond that of the village, their spaces become something other than village spaces – they could not be seen as a patchwork of local communities, centered on exclusive 'representative' spaces. The principle became rather one of a structured dynamic *presentation* of a local community space *towards* a wider scaled space of the community of the urban district and the city. The space of the urban becomes a generic machine of differentiated flows and speeds – corresponding with extended grids of different movement scales – establishing dynamic and open social and economic interrelationships between city parts and wholes. Notice that this relation does not depend on a *distance* of the urban part from the center of the urban whole – instead the center of the urban whole is *distributed through* the grid which integrates it into an already multi-place, multinodal entity. It is at the *interfaces* between differently scaled horizontal grids – rather than at any *borders* between outlined areas – that the particularly *urban* mechanics of social situation is set up; one which maintains urban society and economy in a situation of open relation between parts and larger parts or 'wholes'.

The principle itself is capable of generating a great variation in the relation between local and larger scales, the full discussion of which is beyond the scope of the present paper. At a limiting condition, when the relation between the one grid and the other is blocked almost completely, it is capable of limiting the exchange between the local and larger scales to the situation we know well from the cases of the suburb, the gated community, the 'neighborhood unit', the 'urban village' and any number of other forms which have been proposed on the anti-urban assumption that the local is best served by cutting its relation with larger scales to the absolute minimum.

There is of course a great deal more to say about this socially situationally productive 'ordinary urban' machine, including the fact that there is some variety in the basic pattern. We could certainly find a rather particular Venice machine for example, which would be different to the Amsterdam machine and different again to the Paris machine but I will describe these elsewhere.[14]

Flights to the periphery

Ordinary urban space emerges in the overlap of a centripetal orientation at the local level and the centrifugal spread of the new network taking care of movement at the scale of the expanding proto-city. The scale that has thus far not been considered is that of the original network of pathways which pushed the settlement over the threshold from village or camp to proto-city in the first place. When this scale is included it can be seen that the village model as it was represented in diagram 5 was never going to be as simple as that. The settlement in diagram 5 focuses on its own



12 13 14

Adding the largest scale to centripetal (simple) space: displacement of the point of exchange to the periphery in two steps (diagrams 13 and 14)

internally generated center – which all the time is also itself at the crossroads in a much larger network (diagram 12). The trading place or market, centrally-placed on the high-street or crossing of the settlement, is one could say the *first* urban-social form.

Where before however, in talking about ordinary urban space, we had a relation between a scale of the neighborhood and that of the expanding city in which the part was socially as well as spatially embedded, the integration of the local scale with that of the world at large appears to have always been a more problematic exercise. Everywhere we look we see a tendency for this relationship between the emerging city and that of the largest scales to be displaced from the very heart of the settlement. Whether this was a factor of conflict between a rather intimate local urban-social space and the largest scale of urban space – a matter of self-identification and resistance to the dispersive tendencies of space – or of developing institutional measures to do with taxation and duties and the generation of an economic surplus and benefit for the local community out of a certain condition. Whether it came about as a result of an increase of the flows of traffic from the outside over time, and the inability of the original physical network to cope with higher volumes, intensities and speeds – or whether it was a result of combinations of all these factors – the largest scales have tended always to have a very particular effect on the form of the evolving city.

Thinking about it as forces and intensities, or as a material play between networks, one can conceive of the problem as being one of a mismatch of speeds scaled to networks. The quality of the movement[15] on the largest networks is radically different to that on the fine-grained grid, and the problem could be one simply of a fine-grained network, adapted to the speed of the pedestrian, trying to cope with the speeds and intensities of movements generated from outside this grid.

One finds already in medieval Amsterdam the beginnings of a complicated exchange between the local and largest scales, that seems to found its ordering not so much in a set of rules as in a play of tensions set up between the different scales of network and in the ways these networks play off against each other. Markets situated themselves not only at the 'local' (become global by the intrusion of global networks via the harbour) center of Amsterdam but also on market squares at all the gates into the settlement.

It is already apparent, even before the 16th century, that the largest scale of centrality has a tendency to shift to the periphery of the hardly yet urban settlement (diagrams 12 and 13). Concurrent with the establishment of points of exchange between the two scales at the edge of the settlement, there

was the tendency for the setting up of a circumferential ring structure, given impetus no doubt by the edge nodes, but also by the emergence of the larger than local grid mentioned earlier (diagram 8). It is not difficult to imagine how these two effects could support one another – or indeed to imagine how the largest scale could also be implicated in reinforcing the setting up of the larger-than-local grid in diagram 8. History tells us that the edge fringe of early settlements played an important role in the life of those settlements. The edge was *not* only the domain of the sick and the aberrant – of a negative marginality – but was also one of often highly profitable 'dirty' industry, irregular relations and intrigue, and was one of the passing of money, goods and favors between town and the rest of the world. The edge certainly often became a frontier, but a productive frontier rather than a barrier – a line the city grew from rather than one to which it grew.[16]

This edge formation was often something that happened more than once in the history of European cities; old edges were incorporated into the spreading fabric and new edges and new active frontiers were formed (see diagram 14). Active, transactive edge places were swallowed up as well into the fabric, leaving as their relics, significant crossings and spaces which themselves became centers in the larger-than-local infrastructural network.

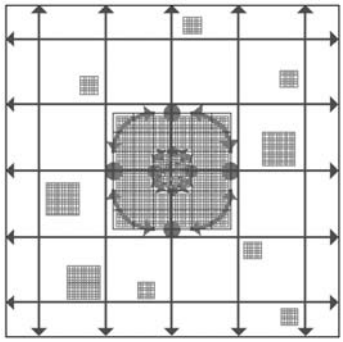
We can begin to see how the growth of the city, far from being a ponderous outwelling, like the diffusion of ink on a blotter, proceeded in a series of jumps or waves in a tense exchange between active local center (and later a fabric of centers) and an active edge, whose positive energy (one should call it centrality) derives from that of the so-called 'peripheral' world 'outside'.

The second (r)evolution

Our contemporary city is not an end to this story but rather a new and rather interesting chapter. There are not even any new fundamental components to the story, only the intensification and regularization into a *grid* in its own right of the largest scaled network we were considering right at the beginning of our story of urban origins.

We need to remember that the full emergence of what we in our presuppositions think of as the urban, was an event of the 19th century. The urban we miss, or imagine we miss (when it is not actually the non-urban inward-looking orientation of the village cut off by accident of geography or history – or in our imaginations by isolationist fantasy – from the rest of the world) is the 'ordinary urban' of the 19th century city. And the 19th century city had as its major structural armature, the larger-than-local or what I will call the 'middle-scaled' or supergrid infrastructural network, towards which the local network was oriented.

In this 'phase' of the urban – from town to extensive 19th century fabric – a whole drama was played out in 'acts' characterized as 'political', 'mercantile' and 'industrial' cities by Lefebvre for example,[17] to which the formalization I am developing here is largely indifferent – though it provided conditions which each of these shorter phases could appropriate and exploit. The periodization of the urban story covered here is in another rhythm (though much accelerated today) attached to technological grids – one which sees its transitions or evolutions up to the 20th century in more straightforwardly material dynamic moves from village to town-city, and from a town-city capable of being seen as a figure against the ground of the countryside to a continuous urbanization. The point is that this longer rhythm captures a moment of transition we are living through *now* which Lefebvre understood as overtaking the 'industrial' city and even 'city' and heralding a new condition of existence of society which he understood as connected to *complete* urbanization. The "implosion-



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Regularization of the largest scale of movement infrastructure into a grid in its own right: the city in the periphery begins to actualize

explosion" of the contemporary city referred to by Lefebvre; "the tremendous concentration (of people, activities, wealth, goods, objects, instruments, means, and thought) of urban reality and the immense explosion, the projection of numerous, disjunct fragments (peripheries, suburbs, vacation homes, satellite towns) into space"[18] cannot be separated from the periodicity Lefebvre uses, but is driven, I would argue, in the intensity of its concentrating and dispersive forces, by this critical moment of transition in this longer phase movement. We are indeed living through a second (r)evolution, a 'phase-change' in the development of the urban, that has to do not with the fact that another larger grid has suddenly came into being (it was in fact always there in at least rudimentary form), but rather with the fact that dominant movements have shifted suddenly 'upwards' *into* this grid in our contemporary condition of complete urbanization.

We may still attempt to orient local networks (in an often mean and rudimentary sort of way) towards the major infrastructural armature of the city. But this major armature – the grid carrying the bulk of everyday moving material today – is no longer the 'middle-scaled' supergrid. It is the regional and metropolitan and global-scaled regularized and intensified grid that has grown up out of the pathways of the traders and itinerants of previous times. It is today not only adventurers and merchants, the Marco Polos of previous times, who connect us to the global. We all begin to do it, on multiple levels: as tourists, consumers and entrepreneurs; as economic migrants and refugees; as distributors and gatherers of messages, goods, people, money and ideas.

The bulk of movement in the metropolitan city is no longer *within* the ordinary urban fabric – today it is more often *between* cities as they were understood in the 19th century, and as we all too often still understand them today. It is bulk movement, as I have already argued,[19] that is the primary determinant of urban form. Our loss therefore is not of a self-evident place pre-given in location, but rather one of place generated as an effect of ordinary urban space. The inner-city machines are still working, producing places which are not identical to those of the past, but are rather contemporary products of the interface between a contemporary enactment of local relations and a contemporary enactment of just-above-local relations. These relations no longer include in general those internal to a strong geographically bound neighborhood community, but still generate nonetheless some very rich and socially and economically viable places.

It is clear that the present-day dispersed mobile city, operating in its bulk movements on the new metropolitan grids, generates its own synekism which we see in the 'edge cities' and in the edge-of-centre developments which are the latest wave of the process highlighted in diagrams 13 and 14, but it is clear also that synekisms generated at lower scale levels are important for our experience of

urban spatial quality. It is increasingly clear also from the work of many economic geographers that these lower scaled synekisms generate added value even at higher economic levels. Saskia Sassen for example has argued persuasively that lower-scaled concentrations of relations and activity and the synekisms active at these lower scales are integral with the operation of the global financial markets, and points to the inner-city business districts of London and New York, for example, to illustrate her point.[20] What we don't do any more is make these lower-scaled places as a regular by-product of our building of the ordinary contemporary city. The machines we build today are of local-scaled object-places, related in a very tenuous way to a much larger-scaled network at the new dominant scale of the city.

Again, the basic spatial pattern or principle can generate a great variety of outcomes, and the metropolitan patterns of the Veneto, the Randstad and the *Ile-de-France* can all be seen as variations on a spatial theme. What this different spatial theme does however is recast the centrality issue in a very different way. Centers and their relations with their surroundings are not extended ink-blot and outgrowth problems; the network *is* a network, a space which *produces* centers rather than simply linking them. Centrality is in the first place *distributed* rather than centered, and dominant centralities have at various times in our histories and in line with changes in the capacities of humans to mobilize themselves, their goods, ideas and money, shifted to other distributive grids. What we *think* of as centrality (and here I mean that hybrid and variegated and layered situation we know so well from our experience of historical cities but don't it seems know how to make) is an effect of *interface* between different and differently scaled grids, and is never simply an historical and geographical given. Places and centers change in direct response to changes in the transports of the grids, and are produced in a complex exchange *between* grids. Our analysis of urban function and place is way too simplistically conceived as a node and linkage problem; real centers emerge (and are sustained) with their qualities and powers, in cascading scaled layers of distributed centrality, producing local and specific sites, an ecology of present and presencing places, with their own open and diagrammatic (in Foucault's sense) 'agency' of their own functioning.

The story of the urban is not over. Rather it has entered a new phase; and one which demands we understand the point we have come to in it all. There is no necessary and inevitable continuation to the story, rather we stand at a crossroads at which a number of choices confront us. We can no longer rely on the qualities we understand as being urban – qualities that have served us as a social and economic species well in the past and continue to serve us in our historical centers – emerging as a matter of course out of our ordinary city-building activity. This process of the 'construction' of the urban (in the sense of the making of an environment imbued with the qualities of urbanity) emerging out of the construction (in the sense of building it) of the city is no longer an automatic one. However, the qualities we are looking for, and the exigencies of contemporary city-building, are not entirely at odds with each other. What is clear is that in order to build cities for the future which are richly and deeply grounded in 'place-qualities' which are also social and economic qualities, we will need to develop strategies which acknowledge the way that positive urban qualities are a product of *open* spatialities (built and regularized into grids and infrastructures), which cross each other productively rather than establishing borders. We need to also be aware of the simple fact that our loss of a certain place quality today is substantially due to the fact we have stopped building a particular scale of grid (the supergrid – a grid which today could intervene and mediate between local and metropolitan scale grids) which carried those qualities in the 19th century city. All this puts the onus on us to simply take a certain responsibility for the shape of the urban environment at *all* scales, from that of the local to the metropolitan and global, and to understand the productive

relationships between these scales. We have to make choices about the ways we wish to build our cities and the qualities we wish them to have, but these are choices which go beyond a simplistic 'economic' or technical viability and they need to include a vision of what life and society in our contemporary urban world entails. We need to understand also and acknowledge the essential role form and urban space plays in establishing the on-the-ground situated conditions for everyday life.

The way to the future from here is not via the 19th century. But we also cannot ignore the way the city of the past has shaped our preconceptions of what urban life and society are about. We cannot ignore the way the city in itself has contributed to the way we live together and relate to each other. We stand at the threshold of the future, at a moment of a momentous change in our urban world, the end of which we have no way of knowing. One of the maps which can help us explore the possibilities of the future, recognize the impossibilities, and invent the outcome within the envelope of what is simultaneously possible, workable and desirable is an understanding of an *evolutionary* history of urban space and the constructive role urban space has historically played in the formation of what we understand as community and society.

[1] Gregory Bateson (2002), *Mind and Nature*, Hampton Press, Cresskill NJ. p. 205.

[2] Gilles Deleuze and Felix Guattari (1994), *What is Philosophy?* trans. Graham Burchell and Hugh Tomlinson, Verso, London. p. 96.

[3] The ideas of the Chicago School for example can be seen in this light.

[4] Jane Jacobs (1970), *The Economy of Cities*, Vintage Books, New York.

5 James Mellaart (1964), 'A Neolithic City in Turkey', in: *Scientific American*, 210-14, pp. 94-104.

[6] Moses Finley (1992), *The Ancient Economy*, Penguin, London.

[7] Peter Garlake (1982), *Great Zimbabwe*, Zimbabwe Publishing House, Harare.

[8] Hannah Arendt (2000), *The Portable Hannah Arendt*, ed. Peter Baehr, Penguin, New York, p. 201.

[9] Gilles Deleuze and Felix Guattari (1994), *What is Philosophy?* trans. Graham Burchell and Hugh Tomlinson, Verso, London. p. 85.

[10] See the paper by Bruyns and Read in this publication.

[11] Edward W. Soja (2000), *Postmetropolis*, Blackwell, Oxford.

[12] M. Balter (1998). 'Why settle down? The mystery of communities'; in, *Science*, vol. 282, no. 5393, p. 1442.

[13] See: Richard Sennett (1992), *The Uses of Disorder*, Norton, New York.

[14] We should qualify this description of 'ordinary urban' space by noting that the Eastern city shows some alternative organizational principles.

[15] One could reduce all this to talking about different space-time conditions of different movements and bring the discussion to a level where we are talking about the crossings of times and their 'concrescence' in 'events' in the spirit of Whitehead. See the discussion in the paper by Bruyns and Read in this publication.

[16] Wim Nijenhuis (1994), 'City frontiers and their disappearance'; in, *Architectural Design*, vol 64, no 3/4, Academy, London.

[17] Henri Lefebvre (2003), The Urban Revolution, trans. Robert Bononno, University of Minnesota Press, Minneapolis.

[18] See: Lefebvre (2003), p. 14.

[19] See the paper by Bruyns and Read in this publication.

[20] Saskia Sassen (1993), *The Global City*, Princeton University Press, Princeton NJ.

So the efforts to understand technologies in their movements, displacements, partial stabilities, their relation to fractured or nomadic identities, knowledges in tension, and instabilities, all of these then, are very variable, very uneven ... But overall, ... the message is that we live in a world that is simultaneously smaller and better linked, and at the same time more fluid, less certain, more risky, less foundational, and more excluding, than may have been the case in the past. ... So what to make of this absence of foundations? Of the fact, as Marx and Engels put it in *The Communist Manifesto*, that "all that is solid melts into air"? And what in particular might we make of technologies and the social in such a mobile and fluid world?

Networks, Relations, Cyborgs: on the Social Study of Technology

John Law

Partial identities and mobilities

How to speak, and speak well, about the sociological study of technology? I find this very difficult. Partly this is because there is not a single sociological study of technology at all. As you appreciate, sociologists work in many ways, reflecting many different approaches, concerns and political commitments. And sociologists who work on technology are no different. In addition, it isn't clear whether the social analysis of technology is distinctively sociological. The field of technology studies, if it is a field, is also interdisciplinary. As it happens I was indeed trained as a sociologist, but I also work with people who started life in psychology, philosophy, feminism, computer science, cultural studies, education, anthropology, and engineering. So I take it – this is received wisdom – that we live in a post-disciplinary era. That whatever the merits of disciplinary training, it is important for social science endeavors to look beyond disciplinary boundaries. The social analysis of technology is no exception.[1]

So we need to ask about the issues and the tools in the social study of technology. But we also need to think about identities: about who we are when we study the technical, where if anywhere we belong, and whether indeed we have or need stable identities. A post-disciplinary answer beckons: it is that we might make ourselves mobile; make heterogeneous alliances; and patch together friendships, projects, and insights, tools for thinking from a variety of changing sources. Such, at any rate, is my own vision. I take it that we live, and should live, in a relational world of displacement and mobility and this can be reflected in our intellectual tasks. We can and should, I take it, be partially mobile. Somewhat nomadic, intellectually.

To talk in this way is pick up a widespread trope in contemporary social theory and practice. There is endless concern with the uncertainties of identity and belonging which crop up in a whole range of academic and non-academic writing, and in a whole range of lived realities.[2] A few more or less random examples: Anthropologist Marilyn Strathern, drawing on Donna Haraway, talks about 'partial connections', about the inability and inappropriateness of trying to pull identities and knowledges together.[3] Then, and somewhat differently, there are libraries of books that talk about global movements of capital and the fluidities, instabilities, and insecurities that these cause.[4] There are further large literatures which tell us that we live in an information era (alternatively a great excitement or a terrible menace) in which people are removed, at least in part, from where their bodies happen to be and inserted into quite other contexts.[5] There is writing on some of the inclusions and exclusions that result: for instance, around issues such as gender.[6] And there is a sadly limited literature – perhaps no more than a small bookcase in a back and underfunded wing of the social science library – on post-colonial inclusions and exclusions.[7]

So the efforts to understand technologies in their movements, displacements, partial stabilities, their relation to fractured or nomadic identities, knowledges in tension, and instabilities, all of these then,

are very variable, very uneven, and there are horrible gaps. But overall, in these and many other ways, the message is that we live in a world that is simultaneously smaller and better linked, and at the same time more fluid, less certain, more risky, less foundational, and more excluding, than may have been the case in the past.

Relationality, or all that is solid ...

So what to make of this absence of foundations? Of the fact, as Marx and Engels put it in *The Communist Manifesto*, that "all that is solid melts into air"?[8] And what in particular might we make of technologies and the social in such a mobile and fluid world? Their dynamics?

My first point is quite simple. It is, as I hope I have implied, that there no single answer, no single grand narrative. For the world is, the worlds we live in are, messier than that. There are many possible narratives. This means that any way of imagining technologies is partial, not simply in a technical sense, (though it is certainly, and also, a technical point) but also politically: we have what Donna Haraway describes as the privilege of partial perspective.[9] This, then, is one of my themes, a *leitmotif*: that there is no single answer, but that, instead, there are partial answers, partial possibilities. Indeed, to pick up a trope developed by STS philosopher Annemarie Mol, there are multiple and partial possibilities.[10] I will return to this point below, but I will start by talking about relations. And in particular, I will talk about systems and networks. Let's bring this down to earth.

As many of you will know, historian Thomas P. Hughes wrote a book called *Networks of Power* which charted the growth and the organization of the electricity industry – its production and the organization of its supply.[11] He attended to the work of entrepreneurs such as Thomas Edison, who electrified New York – and the analogues of Edison in other US and European cities. Hughes referred to these entrepreneurs as system builders. And he attended, in particular, to the ways in which in system-building they patched together not only the technical elements necessary to make a functioning city-wide electricity system, but also a series of equally necessary economic, legal and political components. So the technical was indeed important – the creation, for instance, of the incandescent light bulb, or the calculations necessary to determine the optimal local and later regional voltages for transmitting and distributing electricity. But the technical was always and also juxtaposed – or better, inextricably mixed up – with political deals with city halls (for instance to win battles against gas suppliers), with legal arrangements about the location of supply cables and generating stations, and economic calculations about how far (and at what voltages) it was profitable to transmit power before losses became unsustainable.

Hughes' beautiful historical studies document the work of these system-builders. They also reveal that people like Edison barely distinguished in practice between people, technologies, money, politics, and legal institutions. Hughes is scarcely an admirer of Marx: his quite different view is that capitalism is a creative and innovative system, and that in the absence of excessive state control the great system-builders are special people, heroes indeed, who break down the pre-established distinctions between the technical, the economic and the social, and do so in a way that reveals their creative genius. But for all the differences in their political agendas, Hughes' writing is nevertheless a fine exemplification of Marx' suggestion that in modern times all that is solid (indeed) melts into air.

Lets fix on this for a moment. There is corrosion of that which is, yes, fixed. There is erosion of the idea that there are foundations and distinctions given in the order of things that can be taken for granted. All of which means that, at least in the context of a social analysis of technology, there is also

dissolution, partial or total, happily or unhappily, of the distinction between the human and the non-human. This erosion of fixity is implied in a logic of networks or systems. It is a logic that seems to travel everywhere and infiltrate itself into all the nooks and crannies of the human world – a process explored, albeit in other terms, in the work of Michel Foucault in his explorations of the modern episteme.[12] And again, of course, by Karl Marx.

Another empirical example: if you look at 'defense procurement' – that is, the design and construction of military technologies – it turns out that the notion of the 'weapons system' was widespread at least fifty years ago. In the 1950s defense planners and policymakers were saying that it isn't good enough to buy an aircraft and then to bolt some weapons onto that aircraft as an afterthought. Instead you need to conceive of the whole arrangement as a system – yes, as a weapons system – in which all the different parts interact together to produce something that cannot be reduced to the behavior of its component parts. This means that you can't design the aircraft without at the same time designing its weapons, and trying to understand how they will all interact together. It also means, in another application, that it is not very important to think about the safety of individual aircraft (or pilots) but rather of the overall effectiveness (including cost-effectiveness) of air power as a whole. Individual losses don't matter so much any more. What's important is 'bangs per buck'.

Some comments: first, it tells us many developments in the sociology of technology are not particularly original. I was struck very forcibly by this, when I started to work on military technologies in the 1980s. It was a revelation to discover that my (or our) version of the sociology of technology trailed behind that of the engineers and the system-builders. We were talking of 'heterogeneous engineering' (referring to the idea that when technical systems are constructed they involve the 'engineering' of people too).[13] But our work revealed, in the way that I have just suggested, that the engineers and the system builders (not to mention Karl Marx) already knew about this. They knew that in the face of a systems logic, yes, all that is solid melts into air. Humans and non-humans, technical and social, content and context, macro and micro – all of these were tending to dissolve in the logic of weapons procurement (or capitalist accumulation). Nothing was standing still. Nothing could be counted on as a firm foundation. And in the social study of technology we were often simply rediscovering, or re-articulating, what was already clear in the practice, and not infrequently in the talk, of engineers and systems builders.[14]

Second, it poses a question: what we should make of this similarity? And, as a part of this, how do or should we react to the dissolution of fixed categories? Do we feel comfortable with the idea that in the new logics of the sociotechnical, the distinction between (for instance) the human and the non-human gets dissolved, or at least eroded to the point where they are rendered into functional and practical matters rather than resting in morality, politics, ethics or theology? This, of course, is a big issue, and it is one that also goes to the heart of the social analysis of technology in a variety of ways, but in particular in the debates between the social construction of reality on the one hand, and actor-network theory on the other.

A few words on each: to say it very (indeed far too) quickly, the approach called the social construction of technology (or SCOT) distinguishes in its presuppositions and its metaphysical roots, between people and societies on the one hand, and the world of artifacts (and the natural world too) on the other. In this way of thinking, people don't carry souls, or even necessarily ethics, but they certainly carry language and they carry meanings. This means that the social is distinguishable, in principle, from the technical. We always already know before we start that there is doing to be a division in kind

between the two. So it is necessarily important to distinguish people from artifacts, including even the most intelligent machines, which don't have linguistic abilities, at least not in a human-like form. Instead such objects are understood as being shaped by humans. And in turn they produce a context, a geography or an architecture which enables and/or constrains subsequent human projects. This means that within SCOT people and objects interact and they certainly do so in ways that are complex. But it also means that they are always different, entirely different in kind. Such is the bottom line. All that is solid does not dissolve into air. Humans are humans and non-humans are non-humans, even if they live together and shape one another.[15]

Distinguish this dualism with the approach called actor network theory or ANT (though I think in the present context any comments about this would apply just as well to the feminist technoscience studies of writers such as Donna Haraway). The first thing to say is that ANT is a semiotics. That is, it is a method (or better, a sensibility) that has to do with and explores relations, relationality. In de Saussure's synchronic linguistics (which is where it started) terms achieved their significance in relation to contrasts with other terms: man, women; father, son, daughter, grandparent, and so on. ANT (and other post-structuralist semiotics of materiality such as that developed by Michel Foucault) extends this beyond language to all entities. All entities, it says, achieve their significance by being in relation to other entities. This means that in ANT entities, things, people, are not fixed. Nothing that enters into relations has fixed significance or attributes in and of itself. Instead, the attributes of any particular element in the system, any particular node in the network, are entirely defined in relation to other elements in the system, to other nodes in the network. And it is the analyst's job, at least in part, to explore how those relations – and so the entities that they constitute – are brought into being.[16]

The implication of this apparently simple move, a move to what we might call radical relationality, is that we arrive at a logic which dissolves fixed categories. Elements have no significance except in relation to their neighbors, or the structure of the system as a whole. In this respect, then, ANT is like Hughes' (or any other) system-builders. All that is solid does indeed melt into air. Humans and non-humans, technical and social, all the rest. If differences exist it is because they are generated in the relations that produce them. Not because they exist, as it were, in the order of things.

So there are two positions in the social analysis of technology: a SCOT-like position which proposes and grows out of certain essential distinctions and divisions – for instance between human and non-human. And a semiotic (here ANT-like) position which doesn't start out with those premises but instead starts with a playing field in which all entities are initially (only initially) equal and indeterminate. So what should we make of this difference? – a difference over which so much ink has been spilled.[17]

One response is that the question – or the difference – is straightforwardly metaphysical and so lies beyond debate and discussion, embedded as it is in different and contrasting ethical, spiritual and political commitments. This means that the debates about (say) humans and non-humans mobilize those metaphysical commitments in a more or less technical guise. If we accept this – and it is surely correct – then we have two possibilities. On the one hand we can treat it as an irreducible impasse. Or, on the other, we can explore the empirical and theoretical implications of one or the other position. Which is, indeed, my concern. This is because I am not unduly disturbed by the dissolution of the human as a foundational category. But also because I take it to be a vital challenge to imagine 'humane', progressive and creative forms of politics, ethics, aesthetics and enchantments that do not rest on

essential distinctions between the human and the non human but are instead relational. Though if we are to do this – and this is the task that I set myself – we also need to consider how best we might erode those essential distinctions. And this is what I want to do for (actor) networks. I want to ask: what is wrong, and what is (possibly) right about network understandings of the world.

Hegemony, collusion and functionality

What is right with networks, if one starts from where I start, is that they are indeed a way of talking about and exploring radical relationality. But what is wrong with them? No doubt the answer is: many things.[18] But let me mention three. The first has to do with hegemony – the already mentioned dominance of the network metaphor in contemporary discourse. The second has to do with collusion and performativity – the idea that when we describe networks we also help to bring them into being. And the third brings the first two points together to suggest that the performative character of many but not all network analyses in the social study of technology is not innocent, but contributes to a functional version of the networks (and persons) in technology which is politically difficult if not obnoxious, and would certainly be better avoided. But I start with the argument about hegemony.

Networks as Hegemonic

I've said that in our studies of technology we trail along behind the engineers and the politicians. This suggests, as I've also noted, that we're not particularly original. But, more seriously, it also suggests that we are being caught up in a hegemonic way of representing and (we will shortly need to add) performing the world.

Perhaps the term 'system' has had its day: it sounds 1950ish or 1960ish, something to do with self-regulation, cybernetics and autopoesis. But if people are no longer so keen to talk about systems, then the term 'network' is on everyone's lips. A series of political and business gurus from Al Gore through Bill Gates down to the local computer retailer, tell us that informatics will 'network' us and transform our economic and social relations. A series of academic luminaries – the most recent of whom is Manual Castells – tell us that we live in a 'network society' which is ordered quite differently from its predecessors.[19] In a related way we are repeatedly told that we live in a world in which global flows (I touched on this at the beginning) circulate through new and ever more complex networks.[20] We've reached the point where every man, woman, child and dog seems to be talking of networks.

Much of this talk is notable primarily for its superficiality. Further, superficial or otherwise, much of it isn't radically relational: it works in relatively foundational terms, for instance distinguishing in principle between the economic, the social and the technical, and arguing from premises that turn out to be (for instance) technological determinist. But whatever the differences in the arguments in terms of content and quality, the word 'network' is certainly notable for its ubiquity. And this, or so I suggest, should set the alarm bells ringing. If we too find that we are talking of (systems or) networks, then what are we actually doing? What are we up to? Perhaps there are two possibilities here.

The first is that we are simply discovering something important about the structures of the sociotechnical – even if it is a bit late in the day, and the engineers and the Marxists have been there for quite some time. Such is one possibility, the possibility implied in the work by Hughes and at least some of the ANT authors who were writing in the 1980s and early 1990s. And it is a possibility that is quite comforting. It is that we are simply in the business of discovering the truth about society and its technologies, no more, no less. Our job is to represent the world as it is. End of story.

The second possibility is less comforting. It is that we are in the process of uncritically reproducing some kind of dominant ideology. We are reproducing the ways in which the current orderings of the world like to represent themselves. Which, if it is the case, is certainly a less than appealing thought. And it immediately poses the question: what has happened to social criticism?

Collusion and Performativity

That's the first problem. The second is an extension of the first. If we talk of 'networks' might it not be that we are representing the world in a way that is not simply uncritical, but more strongly, in a way that colludes and helps to reproduce the way in which the world is already being made?

Let me point to some of the issues here by drawing on my own experience. For me the issue of collusion came into focus in the context of the study of military technology that I mentioned above. I was writing about a technological project – in fact an ultimately unsuccessful British attempt to build a nuclear tactical strike and reconnaissance aircraft. I was exploring this aircraft project, its design, its development, and its ultimate failure, as a 'weapons system'. As a part of my study I interviewed various senior people – top members of the British Royal Air Force, successful politicians, high executives and engineers in the aerospace industry, senior civil servants. Most of these people (almost all men) were attractive and thoughtful, and they were all certainly very smart. But as I interviewed them I found that two things were happening. First, they wanted someone to document what had gone so wrong with the project. Second, they hoped that my historical study would be useful in drawing lessons for the future. The idea, of course, was that if we could learn from our mistakes, future projects would be more successful.

Now how to think about this? I can tell you that I began to feel deeply uncomfortable. Perhaps my politics were confused, but one thing was clear: I certainly didn't want to add to the British capacity to build nuclear bombers. As a result I began to understand that what I was at risk of doing was colluding in the process of military procurement in two different ways. First, and straightforwardly, if my study were actually to teach the military anything useful (which was probably unlikely), then it would, presumably, make it easier to build better military aircraft in the future. But, second, there was another more subtle form of collusion involved. This was because the terms used by those working on, in and around the project, were more or less the same that I was using to analyze it. I have already made this point: I was using an actor-network approach to describe something that was typically being imagined by its participants in terms of systems and relations. Both approaches tended (I put it no higher than 'tended' because there are subtleties here) to make similar analytical and lived assumptions about the proper and perhaps the necessary ways of practicing technology. For instance, that the latter is centered, strategically ordered, and more or less controlled in one place. That it is a set of relations between entities which are thereby created and shaped (against various resistances) to contribute towards a single strategic goal. And that there are few important foundational differences between entities – between, for instance, humans and non-humans. It imagines, in short, that the latter are effects produced in project-relevant relations: as network consequences.[21]

There is a lot more that might be said. However, the bottom line is that when we talk about a sociotechnical project, what we are doing can either be understood as a description of the way things are (for instance, that technologies are often organized in terms of projects). Or it can be seen both as presupposing a set of assumptions about how relations are organized and networked and then (and crucially) as adding power, strength, plausibility and luster to those assumptions (including, for instance, the idea – and the reality – that there are no essential differences between humans and non-humans).

This is a point that is both pretty subtle, and pretty devastating. This is because if we're simply describing the world, then our activity is innocent enough. We might be right or we might be wrong in our descriptions, but that is another matter. The world and its relations – its differences, metaphysical or otherwise – is already in being, waiting to be described more or less accurately and workably. If, on the other hand, when we tell stories about the world we also tend to help to perform it as we are describing it, then it follows that no description is ever innocent. Every description is, as the philosophers put it, performative. Every description, however subtly, tends to help bring into being what it describes. So that as we write we are, as Donna Haraway might put it, interfering in one way or another with what we're describing.[22] Tending to bring some relations into being, while pushing others out of being. We are always, then, in the business of making a difference – or, to put it differently and more negatively, we are always at risk of collusion.

Functional Networks

So networks are hegemonic – first point. And when we analyze in terms of networks, we help to perform networks into being – second point. What happens if we bring these two observations together? The answer is that if we write as network analysts what we may be doing, what we're often doing, is buying into and adding strength to a functional version of relationality, one that is, to say it quickly, managerialist.

As I have already indicated, this is the position more or less explicitly adopted by Thomas Hughes (though he is more committed to the hero-entrepreneur than modern bureaucratic versions of technological enterprise). And it is implicit in a great many other studies of business organization – one that comes to mind is Thomas Beniger's *The Control Revolution*.[23] In works like these, all that is solid melts into air – as part of a logic of control, extension across time and space, and capital accumulation. But the same complaint can be leveled – and has indeed been made – against at least some of the studies in actor-network theory. Leigh Star, in her celebrated paper on being allergic to onions, notes that if we are all heterogeneous engineers, then the heterogeneity for a white male manager in a senior position in an organization is unlike that of a working class woman of color.[24] Quite so. She's right. And Donna Haraway is not the only other writer who has made similar suggestions, preferring to talk of the messy activity of making cat's cradles than of the relatively centered networks.[25] And indeed if we look at the actor network studies of the 1980s it isn't always very easy to see the difference between them and the work on large technical systems. These are studies then, which tend to reproduce and help to perform a functional understanding of the relations between entities. And they tend to work out from, and back to, a center, an obligatory point of passage. For an actor is, of course, also a network – and vice versa. That is what the whole thing is about. All that is solid – human and non-human – melts into air in the face of the need to create a coherent, ordering, and functioning heroic or bureaucratic actor.

After networks

Though many of its studies are, indeed, managerialist in tone, the actor-network sensibility is perhaps more open to Otherness than this quick analysis might suggest.[26] For instance, built into its vocabulary is the idea of translation – and the idea that translation (the attempt to render equivalent) is also betrayal. But in the present context I'm not particularly interested in trying to save actor-network theory. It itself is a mobile betrayal, and if we are to respond well to the fluidities and mobilities that I talked about at the beginning, then defending strong points is in any case of little interest. Rather, it is the questions, the issues, the interventions and the politics, that require attention. For instance, the issues to do with collusion and otherwise.

What I have said about actor-network theory and its relatives indicates one of the directions in which we might go if we want to get a grip on this issue. It suggests that if we are thinking about relations, and trying to do so in a manner that is not foundational, we should at the same time try to avoid falling into functionalism. This is because, as I've tried to suggest, studies of technologies which offer analyses of how things are put together in a strategically problem-solving idiom reproduce that functionalism and perform it into being. Every technical system becomes a more or less successful functional arrangement. Every component in that system is understood as a part of that functional arrangement. All that is solid – including human and non-human distinctions – melts into air in a specific way that subjugates that dissolution to a logic of function, and often enough, of capital accumulation. But it does not have to be that way.

It does not have to be that way. Meaning? Meaning that the non-foundational logics of semiotic analysis do not have to hitch their wagons to functionalism. It is possible to imagine relational orderings that perform other logics, logics which produce different kinds of politics, and different kinds of persons. Persons that are no less relational than their functionally-defined relatives. But persons that are not subjugated to those logics of means and ends, projects and goals, which come to us from what one might think of as the first and functional wave of relationality.

The best-known attempt to work within a relationality of semiotics in a mode that refuses functionalism is no doubt that of Donna Haraway. As is again well known, she tells stories about cyborgs. Cyborgs are combinations of the human and the non-human (which therefore in some sense dissolve the boundary between the two). The concept – and the reality – was created originally within the strategic logic of (partially militarized) space travel where it was imagined that altered human bodies would better sustain interplanetary or (in its more ambitious forms) interstellar travel. And this cybernetic reality is one that, God help us, has seized the popular imagination in all sorts of ways that tend to celebrate extreme and gendered forms of violence. Haraway, however, reworks the metaphor to produce a feminist cyborg which is not only a mixture of human and non-human, but is also politically radical. So this new creature is a hybrid in at least three different ways. First it is a fleshy-machinic hybrid. Second, it is also a hybrid, a set of partial connections, between what is real and what might perhaps be performed into being – a feminist, non-racist, and non-violent technoscience. It is, in short, a hybrid which lies between science fact and science fiction. And third, it is a metaphor too, for something quite other to functionalism. This is because it is not primarily to do with drawing things together and ordering them into a single vision, order, or goal-related network. But rather because it imagines the performance of technologies, of worlds, and of persons where vision is split. Where there is heterogeneous but necessary multiplicity. Where, to coin a phrase, there is room for the fractionality of that which is separate but which is also joined.[27] The cyborg, then, in its third manifestation, is more than one but less than many.

The hope is for a non-foundational but material relationality that is not functionalist. That does not distinguish between the political (which is a given defined outside the system) and the technical (contained within it). That does not presuppose a metaphysical distinction between the human and the non-human. But rather one which opens up possibilities for thinking about and performing alternative realities, alternative versions of the good, and alternative sensibilities to Otherness. One that is sensitive, like the cyborg, to the creative possibilities of a world in which what we used to think of as 'systems', or 'networks', or 'projects', or 'people', or 'rules' are not necessarily rigidly consistent, centered, and mono-vocal, but rather perform, reflect and enable fractional and shifting coherences. Such that the failure of an entity (a person, a technical arrangement, a set of rules) to cohere in a single

and functional manner is neither treated nor experienced as a failure but, instead, as an analytical and experiential reality – and one with possibly liberatory consequences. And so it is that everywhere I look, though no doubt I look selectively, I find work on technologies and societies and persons which seeks to articulate these mobilities, fluidities and partialities – partialities which become so intriguing once we remove the requirement for a single form of coherence.

I think, for instance, of the work of Annemarie Mol on bodies. *The Body Multiple*[28] is a book which attends with great rigor to a mundane but serious disease – lower limb arteriosclerosis – and the multiple but interconnected ways in which this seemingly singular object is enacted and performed into being in the different departments of a hospital: the operating room; the pathology laboratory; the radiology department; the consulting room. This, then, becomes a disease that is fractional. Most of the time, whatever the textbooks say, in practice it is not a consistent condition. Rather it is more than one and less than many. This means that it is a disease which is, indeed, relational, but precisely in a cyborg-like manner. A multiple set of performances with their own less-than-centered coherences and interferences. The point, then, is not that the multiplicity of arterioscleroses represents some kind of failure – which is necessarily how would appear in the functional logic of the medical textbook.[29] It is rather that multiplicity – or better fractionality – is how in reality it actually is, how this disease is performed in its different and shifting relations. How, indeed, it is necessarily performed, given the different locations, indications, tools, approaches, and all the rest. All of which means that it, the disease, cannot be understood as an object to be tamed in a simple and straightforwardly functional manner. Which suggests in turn that even if our concerns are primarily functional (in this case to cure, or at least provide palliative care for those suffering from the disease) it is important to find ways of entertaining split vision, the privilege of partial perspectives, the privilege that comes with moving and displacing. The privilege of balancing and relating different visions, different realities, and different versions of the good – all of which intersect but cannot be reduced to one another. Facts and values – or if you prefer, science and politics – are here inextricably intertwined. This is Mol's argument, an argument that is not simply about the complexity of relations, but also about the ways in which these shift between locations – and the necessity of those displacements.

If bodies and their diseases are more than one and less than many, and they need fluid methodologies in order to understand the realities and the goods that they produce, then the same is true for social rules. In this context Anni Dugdale analyses the advice offered to women about the appropriate use of IUDs. And Vicky Singleton explores the rules disseminated in health education campaigns, for instance in advice intended to reduce sudden infant death syndrome, or 'cot death'.[30] In part this advice tells parents that they should put the baby to sleep on its back. But what does this mean in practice? Vicky Singleton shows that something which appears to be a single and unambiguous rule is used and practiced in endless, different and (this is the important move) not necessarily inappropriate ways. A rule and the business of following a rule well is not something that is fixed, she argues. Rather it is, as she puts it, "made on location", in the contexts where it intersects and interferes with other realities: a crying baby; a cold house; previous health-care advice; pressure from a partner. Once again, in practice there are different visions, different realities, different truths, different subjectivities and different versions of the good – and constant displacements between these. All of which suggests that health practices need, somehow or other, to move on from blaming mothers who don't follow prescriptive and context insensitive rules to something closer to an appreciation of mobile and materially-embedded subjectivities, and the ironies embedded in the performance of split vision. Here then, to be 'humane' is not straightforward. To be 'human' is to understand and appreciate the mobilities of split vision.

Diseases, rules, and so it is too, for technologies. Is an aircraft a single thing? Is it some *thing*, a single thing, that can be held together in a network, a system, or a project? Studies of technological projects, as I have tried to argue, have often assumed that this is possible – or if not possible, then at least a good, a goal, and something to be aimed for. But we can also imagine that devices are multiple and partially connected sets of relations. That, cyborg-like, they are not single networks, but rather fractionalities, more than one and less than many. That they too, like diseases and rules, are relationally specific, and relationally mobile. That they embody or are performed in different visions, realities, truths and versions of the good. At which point technological choices are no longer dominated by a single and functional vision which follows a dissolving relational logic to produce a single and inevitable outcome. Rather, they become, yes, precisely arguments about how to articulate the relations between different realities and different versions of the good.

I cannot develop these arguments further here. But what I have tried to do is to explore the character of radical relationality and show how it permeates through our intellectual tasks and tools, our intellectual identities, and, in reactions and resistances to it, in the form of debates in the social analysis of technology. I have tried to show that a metaphysics of radical relationality has often, perhaps usually, been linked to a form of functionalism that is analytically and politically unattractive. And then I have tried to suggest that a commitment to radical relationality, to the idea that all that is fluid melts into air, is not necessarily linked to a commitment to functionalism. That there are alternatives, and that those alternatives can, in some measure, be performed into being if we can avoid a commitment to functionalism.

What might those performances be like? I have explored one kind of response to this question in the last part of this paper.[31] This is a cyborg-like or fractional version of relationality, one that benefits from what Annemarie Mol calls multiplicity, and Donna Haraway the privilege of a cyborg-like split vision. This, then, is a post-human world. There are no essential humans. People-machines, cyborgs, these are produced in the shifts and displacements of relations. But neither is it a world that is inhumane. This is because it is functionalism which makes radical relationality so inhumane. Instead, as we perform different versions of the world which are also different versions of the good, the political and technical choices are brought together and made explicit. This, then, is why it is good to embrace mobilities and displacements. Mobilities and displacements in general, and not simply the disciplinary mobilities with which I started. If we can separate the dissolution of all that is solid from the singular logic of functionalism, a new version of analysis and politics opens before us. One that accepts responsibility for its participation in and performances of the world.

[1] See, for instance: John Urry (2000), 'Mobile Sociology', *British Journal of Sociology*, 51, pp. 185-203.

[2] The references are endless. For two very different examples, see: Donna Haraway (1997), *Modest_Witness@Second_Millenium.Female_Man(c)_Meets_Oncomouse(tm): Feminism and Technoscience*, Routledge, London; David Harvey (1989), *The Condition of Postmodernity: an Enquiry into the Origins of Cultural Change*, Blackwell, Oxford.

[3] See: Marilyn Strathern (1991), *Partial Connections*, Rowman and Littlefield Savage Maryland.

[4] See, for instance: Anthony Giddens (1990), *The Consequences of Modernity*, Polity, Cambridge; Scott Lash and John Urry (1994), *Economies of Signs and Spaces*, Sage, London; Nigel Thrift (1996), *Spatial Formations*, Sage, London.

[5] See: Manuel Castells (1996), *The Rise of the Network Society*, Blackwell, Oxford.

[6] See: Charis Cussins, (1998) 'Ontological Choreography: Agency for Women Patients in an Infertility Clinic', in Marc Berg and Annemarie Mol eds., *Differences in Medicine: Unravelling Practices, Techniques and Bodies*, Duke University Press, Durham NC. pp. 166-201; Charis Cussins (1998), '"Quit Sniveling, Cryo-Baby. We'll Work Out Which One's Your Mama!"', in: Robbie Davis-Floyd and Joseph Dumit eds., *Cyborg Babies: From Techno-Sex to Techno-Tots*, Routledge, London, pp. 40-66; Anni Dugdale (1999), 'Inserting Grafenberg's IUD into the Sex Reform Movement', in: Donald MacKenzie and Judy Wajcman eds., *The Social Shaping of Technology*, Open University Press, Buckingham, pp. 318-324; Anni Dugdale (1999a), 'Materiality: Juggling Sameness and Difference', in: John Law and John Hassard eds, *Actor Network Theory and After*, Blackwell, Oxford, pp. 113-135; Donna Haraway (1989) *Primate Visions: Gender, Race and Nature in the World of Modern Science*, Routledge, London; Donna Haraway (1997), Ingunn Moser (2000) 'Kyborgens Rehabilitering', in: Kristin Asdal, Anne-Jorunn Berg, Brita Brenna, Ingunn Moser, and L. Rustad eds, *Betatt av viten. Bruksanvisninger til Donna Haraway*, Spartacus, Oslo; Vicky Singleton (1996) 'Feminism, Sociology of Scientific Knowledge and Postmodernism: Politics, Theory and Me', *Social Studies of Science*, 26 pp. 445-468; Vicky Singleton (1998) 'Stabilizing Instabilities: the Role of the Laboratory in the United Kingdom Cervical Screening Programme', in; Marc Berg and Annemarie Mol eds, *Differences in Medicine: Unravelling Practices, Techniques and Bodies*, Duke University Press, Durham NC. pp. 86-104; Vicky Singleton and Mike Michael (1993), 'Actor-networks and Ambivalence: General Practitioners in the UK Cervical Screening Programme', *Social Studies of Science*, 23 pp. 227-264; Leigh Star (1991) 'Power, Technologies and the Phenomenology of Conventions: on being Allergic to Onions', in: John Law ed., *A Sociology of Monsters? Essays on Power, Technology and Domination*, Routledge, London, pp. 26-56; Lucy Suchman (2000) 'Located Accountabilities in Technology Production', http://www.lancs.ac.uk/fss/sociology/papers/suchman-located-accountabilities.pdf, Department of Sociology, Lancaster University; Sharon Traweek (1988) *Beamtimes and Lifetimes: the World of High Energy Physics*, Harvard University Press, Cambridge Mass.; Sharon Traweek (1999), 'Pilgrim's Progress: Male Tales Told During a Life in Physics', in: Mario Biagioli ed., *The Science Studies Reader*, Routledge, London, pp. 525-542, and; Marja Vehvilaïnen (1998) 'Silence, Strangeness and Desire in Writing Technology', in: Brita Brenna, John Law and Ingunn Moser eds., *Machines, Agency and Desire*, TMV Oslo University, Oslo.

[7] See, for instance: Claudia Castañeda (1999) 'Toward a Post-colonial Science Studies', http://www.lancs.ac.uk/users/scistud/working_paper4, Science Studies Center, Lancaster University; David Turnbull (1993) *Maps are Territories, Science is an Atlas*, Chicago University Press, Chicago; David Turnbull (1996) 'Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces', *Imago Mundi*, 48 pp. 5-24; David Turnbull (1999), *On the Motley: the Contingent Assemblage of Knowledge Spaces*, Harwood, London; Helen Verran (1998), 'Re-Imagining Land Ownership in Australia', *Postcolonial Studies*, 1 pp. 237-254, and; Helen Verran (1999), 'Staying True to the Laughter in Nigerian Classrooms', in: *Actor Network and After*, Blackwell, Oxford, pp. 136-155.

[8] Karl Marx and Friedrich Engels (1967), *The Communist Manifesto*, Penguin, Harmondsworth.

[9] Donna Haraway (1991), 'A Cyborg Manifesto: Science, Technology and Socialist Feminism in the Late Twentieth Century', in: Donna Haraway ed., *Simians, Cyborgs and Women: the Reinvention of Nature*, Free Association Books, London, pp. 149-181.

[10] Annemarie Mol (2002), *The Body Multiple: Ontology in Medical Practice*, Duke University Press, Durham NC.

[11] Thomas P. Hughes (1983), *Networks of Power: Electrification in Western Society, 1880-1930*, Johns Hopkins University Press, Baltimore.

[12] Michel Foucault (1979), *Discipline and Punish: the Birth of the Prison*, Penguin, Harmondsworth.

[13] John Law (1987), 'Technology and Heterogeneous Engineering: the Case of the Portuguese Expansion', in: Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch eds., *The Social Construction of Technical Systems: New Directions in the Sociology and History of Technology*, MIT Press, Cambridge Mass, pp. 111-134.

[14] John Law (2001), *Aircraft Stories: Decentering the Object in Technoscience*, Duke University Press, Durham NC.

[15] Wiebe Bijker, Thomas P. Hughes and Trevor Pinch (1987), *The Social Construction of Technical Systems: New Directions in the Sociology and History of Technology*, MIT Press, Cambridge Mass.

[16] For an introduction to actor-network theory, see: Bruno Latour (2005), *Reassembling the Social: An Introduction to Actor-Network Theory*, OUP, Oxford; John Law (1992), 'Notes on the Theory of the Actor-Network: Ordering, Strategy and Heterogeneity', *Systems Practice*, 5 pp. 379-393. For examples of the approach at work, see Bruno Latour (1987), *Science in Action: How to Follow Scientists and Engineers Through Society*, Open University Press, Milton Keynes, and; Michel Callon (1986), 'Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of Saint Brieuc Bay', in: John Law ed., *Power, Action and Belief: a new Sociology of Knowledge?* Routledge, London, pp. 196-233.

[17] See, for instance: Harry Collins and Steven Yearley (1992), 'Epistemological Chicken', in: Andrew Pickering ed., *Science as Practice and Culture*, Chicago University Press, Chicago, pp. 301-326, and; Michel Callon and Bruno Latour (1992), 'Don't Throw the Baby Out with the Bath School! A Reply to Collins and Yearley', in: Andrew Pickering ed., *Science as Practice and Culture*, Chicago University Press, Chicago, pp. 343-368.

[18] Marilyn Strathern, though resolutely non-foundationalist, notes that the term 'relation' carries a series of Euro-centric, kinship-related, assumptions that raise serious questions. See: Strathern (1996), 'Cutting the Network', *Journal of the Royal Anthropological Institute*, 2 pp. 517-535.

[19] One example which I have already cited would be Castells (1996). But it is, perhaps, implicit even in a writer like Jean-François Lyotard, See: Lyotard (1984), *The Postmodern Condition: a Report on Knowledge*, Manchester University Press, Manchester.

[20] See: Lash and Urry (1994).

[21] This is developed more extensively in John Law (2001). See also: John Law and Vicky Singleton (2000), 'Performing Technology's Stories', *Technology and Culture*, 41, pp.765-775, also available at http://www.lancs.ac.uk/fss/sociology/papers/law-singleton-performing-technology's-stories.pdf.

[22] See Donna Haraway (1991).

[23] James Beniger(1986), *The Control Revolution: Technological and Economic Origins of the Information Society*, Harvard University Press, Cambridge Mass.

[24] See Leigh Star (1991).

[25] Donna Haraway (1994), 'A Game of Cats Cradle: Science Studies, Feminist Theory, Cultural Studies', *Configurations*, 1 pp. 59-71.

[26] For discussion of the limits of ANT see: Nick Lee and Steve Brown (1994), 'Otherness and the Actor Network: the Undiscovered Continent', *American Behavioral Scientist*, 36 pp. 772-790. But for alternative 'after-ANT' approaches see the papers collected in: John Law and John Hassard eds. (1999), *Actor Network Theory and After*, Blackwell, Oxford.

[27] See Donna Haraway (1991).

[28] See Annemarie Mol (2002), also: Mol (1998), 'Missing Links, Making Links: the Performance of Some Artheroscleroses', in: Mol and Berg eds,, *Differences in Medicine: Unravelling Practices, Techniques and Bodies*, Duke University Press, Durham, NC. pp. 144-165; (1999), 'Cutting surgeons, walking patients: Some complexities involved in comparing', in: John Law and Annemarie Mol eds, *Complexities in Science, Technology and Medicine*, Duke University Press, Durham NC.; (1999), 'Ontological Politics: a Word and Some Questions', in: Law and

Hassard eds., *Actor Network Theory and After*, Blackwell, Oxford, pp. 74-89.; Mol and Bernard Elsman (1996), 'Detecting Disease and Designing Treatment. Duplex and the Diagnosis of Diseased Leg Vessels', *Sociology of Health and Illness*, 18 pp. 609-631.

[29] Sometimes, of course, things do fail to cohere in a way that poses serious practical and political problems. For a case in point, see: John Law and Vicky Singleton (2000), 'This is Not an Object', http://www.lancs.ac.uk/fss/sociology/papers/law-singleton-this-is-not-an-object.pdf, Center for Science Studies, Lancaster University. For a second take on this see: John Law and Vicky Singleton (2003), 'Alegory and Its Others', in: Davide Nicolini, Silvia Gherardi and Dvora Yanow eds., Knowing in Organizations: a Practice Based Approach, M.E. Sharpe, New York. Also available at http://www.lancs.ac.uk/fss/sociology/papers/law-singleton-allegory-and-its-others.pdf

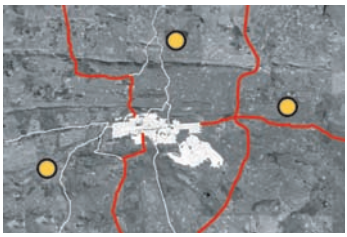
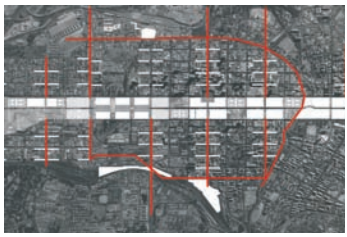
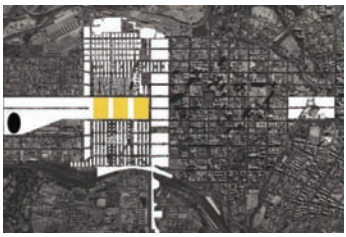
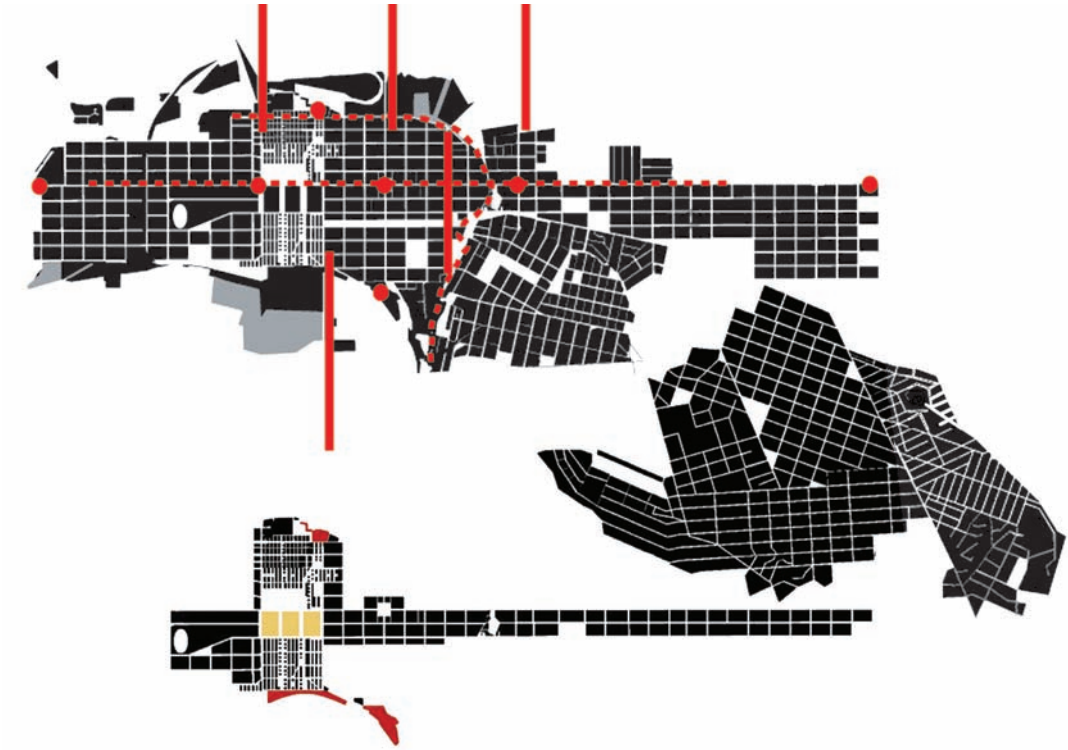
[30] See: Anni Dugdale (1999a), and; Vicky Singleton (2000).

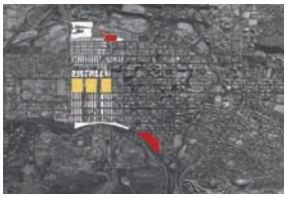
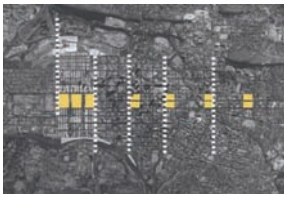
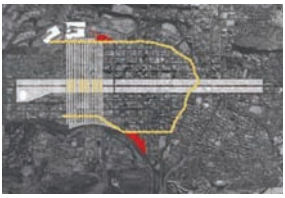
[31] See: John Law (2004), *After Method: Mess in Social Science Research*, Rouledge, London.

This project developed the 'urban machine' idea (see chapter 5); the idea that, in the first place, the constituent substance of the city is *movement* rather than matter, and secondly that we can diagram this substance and its effects by means of a layering of differently-scaled movement and communications *grids* each with a certain integrity and coherence due to the specificity of the times and speeds produced within them. We hypothesize that spatial 'productivity' emerges in the 'interfaces' between movement/ communication spaces held in grids. It is not an accident that this idea emerged in a condition of high control and separation of the spaces of specific populations – a simple 'spatial mechanics' was used here to subvert the mercilessly rational spatial machine left behind by apartheid in South Africa in order to create the possibility of a new open center for Pretoria. The project has rewoven the bifurcated spaces of black and white, applying as clear and rational a logic to provoke the *encounter* of social and economic sectors previously kept rigorously separate.

Ubuntu: Post-Colonial Urban Tribe Space

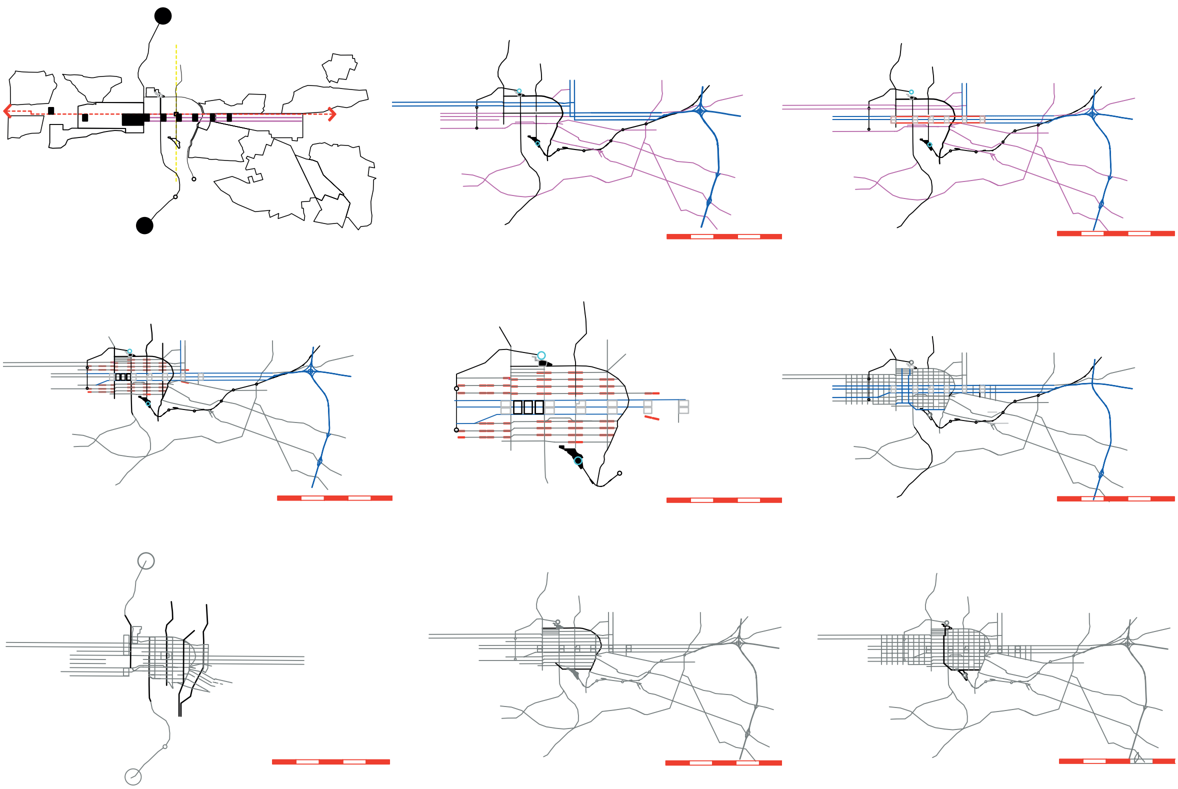
Gerhard Bruyns

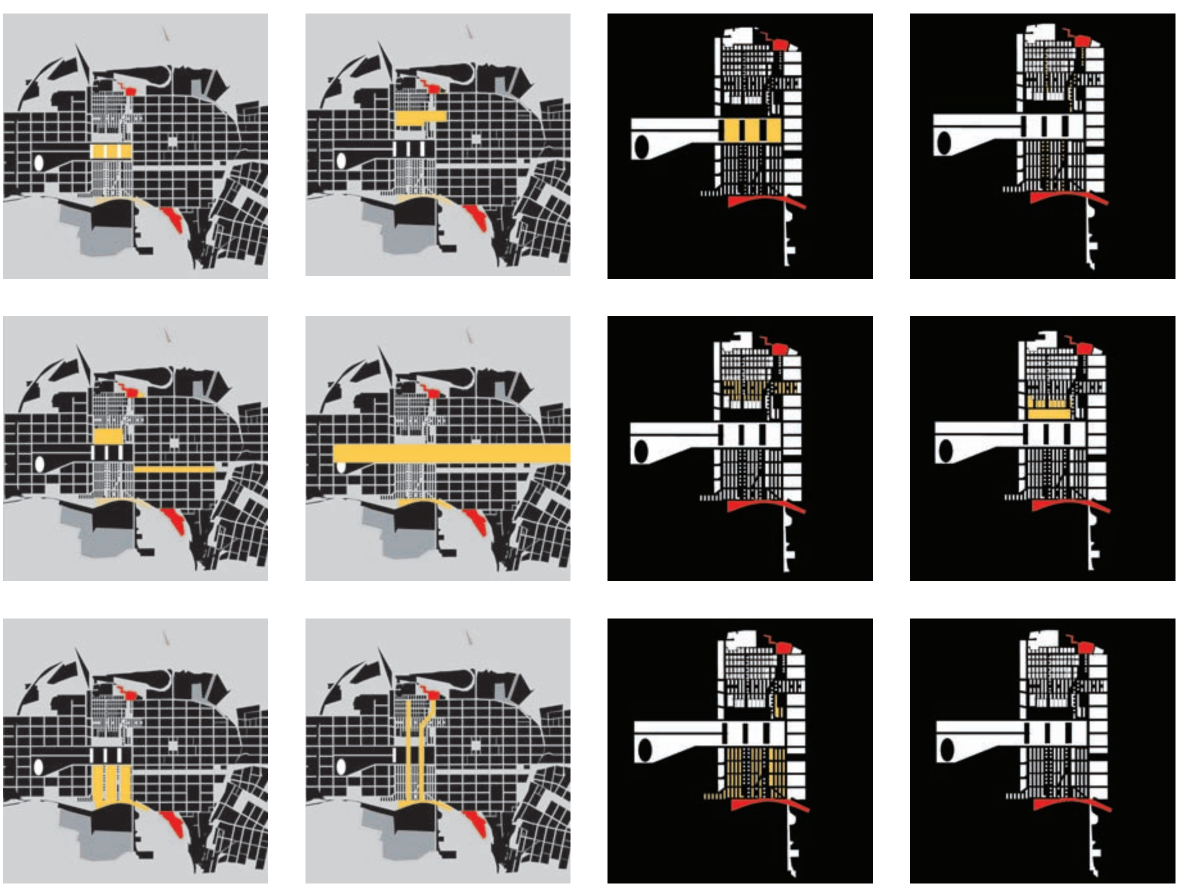





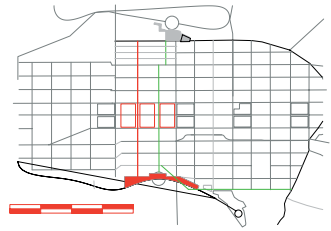




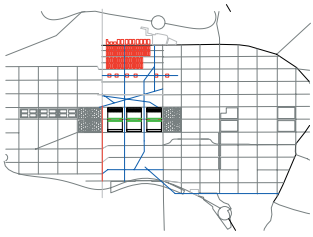
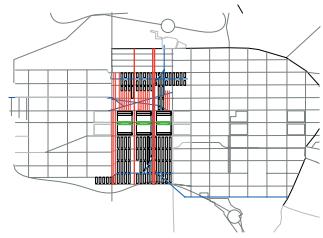
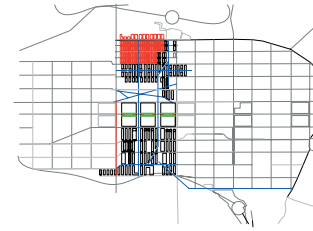
A design impact assessment of the possibility of urban change in the new South African territory; the study focuses on the spatial mechanics of the urban sorting machine of Pretoria, South Africa, and attempts to throw open post-apartheid spatial-political conditions by radically subverting the spatial machine of apartheid.

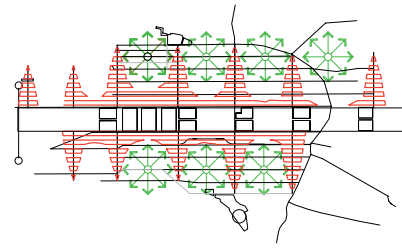
Life exploits the gaps and intervals in the machine. A certain 'fuzziness' appears in the interstices of a uncompromising mechanics of subjugation – that has to do with the tactics of everyday use and appropriation. In this it is sometimes different to the European city; life manifests itself in the borders and margins. How to bring center and margin together by using the resources of the machine of separation? How to subvert a mechanical partition of the privileged and the marginal; to turn the machine back on itself, to make it warp apartheid space into something that sustains the irregular and a creative productive social friction? The point of departure is the logics of transgression, of the

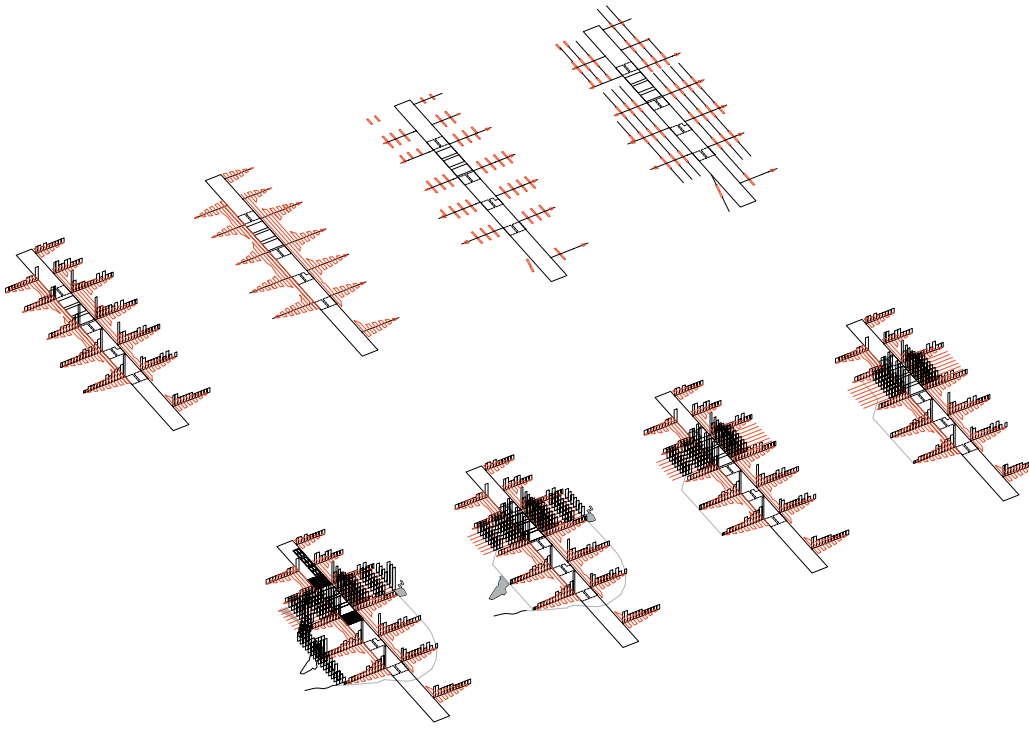


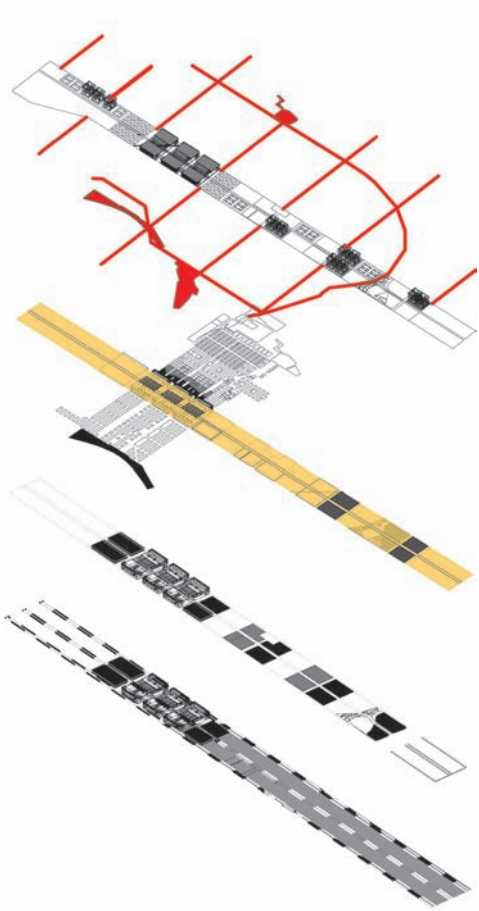


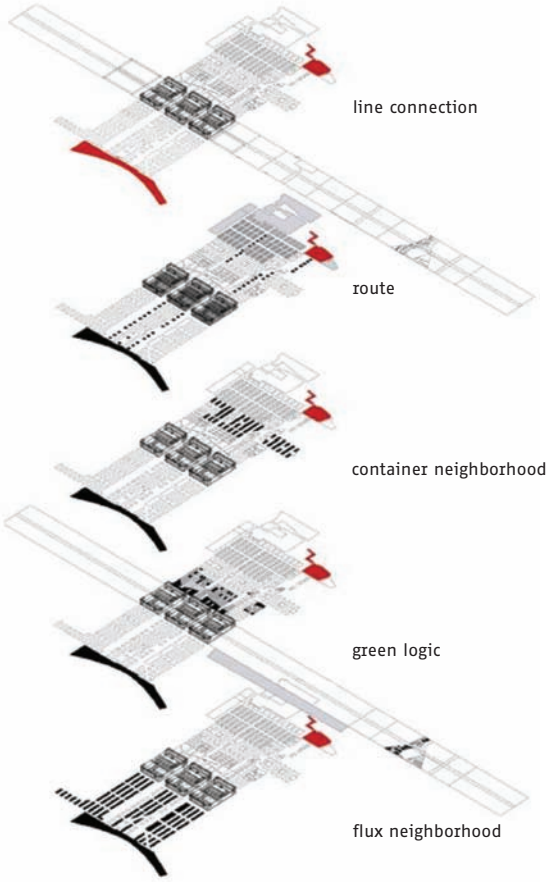





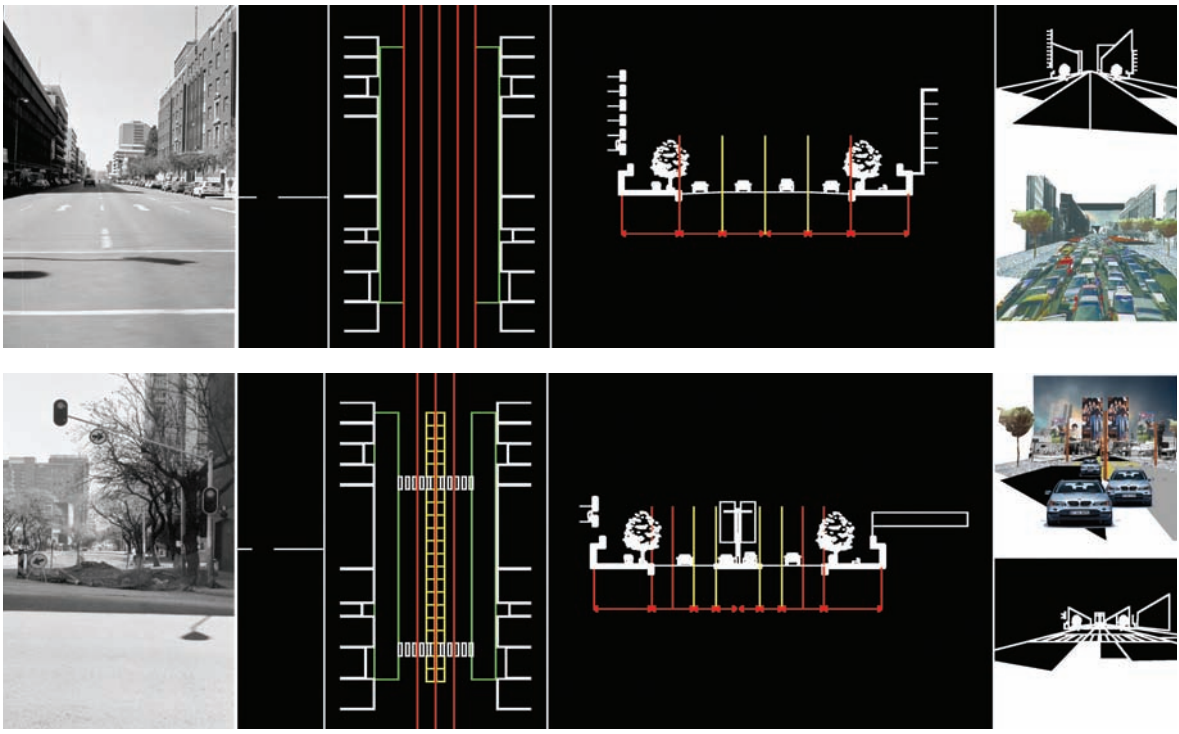




margin, with its tactics of invasion, of exploitation of urban process and flow-through, of continual construction of an everyday cultural cycle of urban opportunism, of the hard-nosed processes of the 'urban trading floors'.

We seek the establishment of a conflictual relationship between black and white urban space and process within the urban grid – questioning the working order of a social sorting instrument by reconstructing its urban syntax. If the grid provides the framework, then the second skin is the melting pot of society. The second skin is the diverse collection of ethnic, socio-economic, urban and cultural domains ordered and segregated within rigid conduits. In what ways may these groups, confined by the diagrammatic workings of the city itself within parallel urban worlds, interact and to what degree? Is the urban framework capable of adaptation to the current political situation? Or stated differently: What subversion of the framework is capable of opening the gap between forcibly separated worlds and triggering an inversion of the order – opening center to parallel center and folding margins back onto the center?

The project was carried out within a two tiered program of execution, based on a theoretical program ('Color-blind') and a practical syntactical investigation ('DFSZ' – Duty Free Shopping Zone). The programs combine in articulating current social and urban organization, becoming the outline of an analysis and later, an intervention:
Color-blind: the instrument for articulation of the city within first, third and fourth world systems of production and relations. It underscored the residual overlapping historically constructed



spaces from pre-colonial tribal space to the post-apartheid South African city, through notions of colonization, segregation and transition;
DFSZ: a design investigation of the relations between zone and place. These parcels of urban regional and continental-global systems (Duty, Free, Shopping and Zone parcels) are diagrammed to determine the existence of critical thresholds within the various systems and in their overlaps. The embedded syntaxes of the relational diagrams are used to articulate the different worlds of the users within a built environment that itself organizes their movements. At given moments, the diagrammatic body of knowledge was tied back into the theoretical stream, whilst during the design phase itself, theory and syntax became a single body of action, enabling intervention with accuracy and precision.

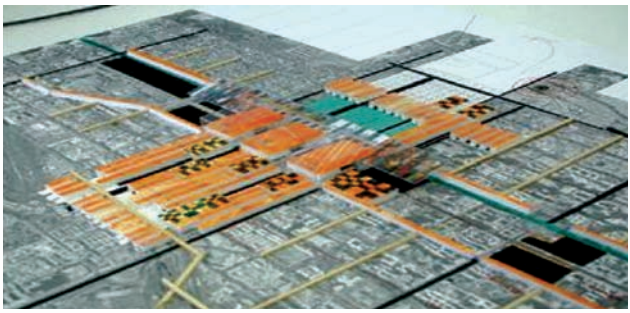
Social space was classified and broken down into it's various components through a waterfall chart. This table consisted of a classification of the mechanisms and spaces involved in the African spatial syntax, and were incorporated into the design. These mechanisms included: mobility webs – scaled space-time frame armatures considered in layers; machines – the socially productive overlaps between these layers; filters and interfaces – crossing zones between the old black and white spaces of the apartheid city. Diagrammatic mappings were also made of various significant zone spaces, vicinity spaces, intermediate spaces, camp logics, curb logics and the whole was completed as an urban scene with cut and paste architectures.

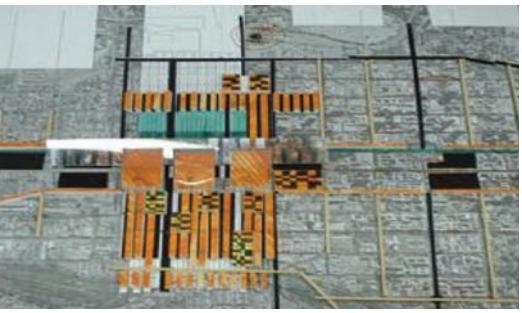
The design was a spatial diagram that is the catalyst for new patterns of appropriation, invasion and social interface, termed the AUM – African Urban Machine. The existing urban center was used to enact a crossing of black and white spaces held separate by the apartheid machine; the 'black' grid was suspended, like the charge between two terminals, between two train stations and the highly-used roads serving them, to the north and south of the current center grid. The 'white' grid is a faster east-west directional insertion associated with a more conventional renewal of the center involving substantial new office development. The redefinition of the urban center around this machine,

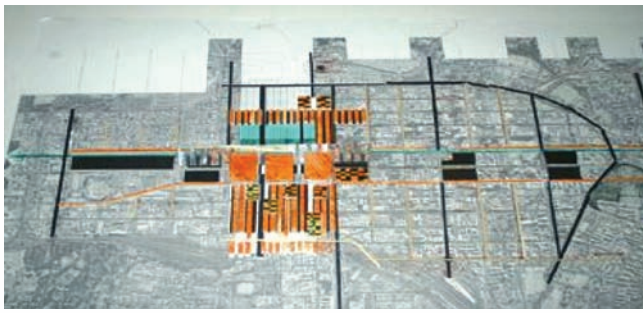
with a lot of attention to 'trading surfaces', parking and transportation terminals, is used to ensure interaction between two societies and economies, sparking micro-social and micro-economic events and articulating new socially and economically productive patterns of activity. It is within these new small tremors, around street commerce, and curb logics that the meeting of two previously separate worlds is enacted. White and black have the opportunity to acknowledge the other, and formal and informal social and economic systems are brought into a constructive engagement with each other. The effects of this engagement are fed into adjacent urban zones of container architecture, urban agriculture gardens, and other street commerce spaces.

This body of research tries to mediate between the urban condition, social-political domains and their affected states. It proposes a method of analysis of the urban condition in relation to everyday lifeworlds, and sees the city as the field of encounter between highly contrasted social and economic sectors. The exchange takes place at the level of visibility and transaction – social difference provoking exchange, with seller, pedestrian and motorist encountering each other in a familiar but charged and significant moment. This is where urban design may play a fundamental role in creating the platform for the exposure of the marginal. African Urbanism, becomes a mechanism, not based on the instrumental rationality of the transportation model, but on the platform it provides for an engagement between differences. It gives form and directionalities to both black and white, formal and informal vectors, and generates charged points open to new creative enactments of urban life.

It creates the platform for constantly changing social configurations, the emergence of a diverse and multiple new city, a new UBUNTU, a new Post-Colonial Urban Tribe Space.



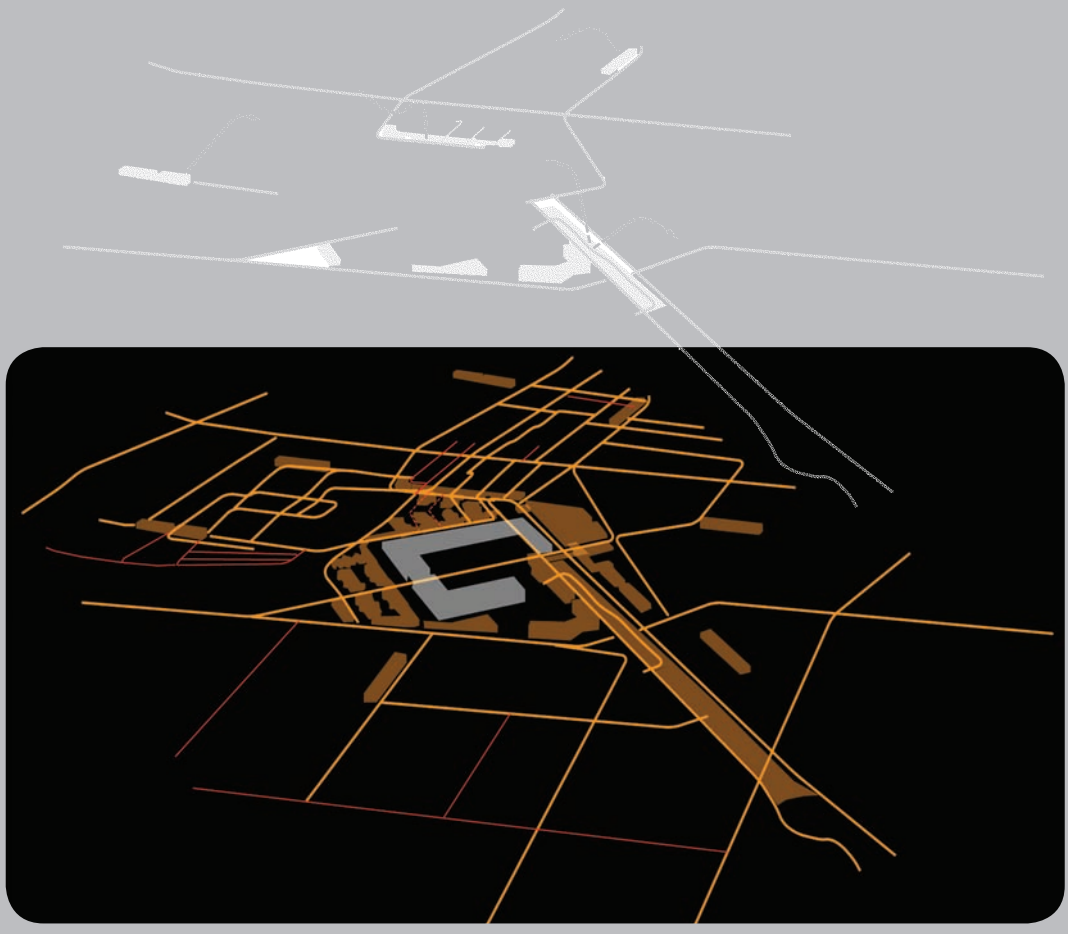





AZAM
WIG boutique

Situations of fragmentation and contradiction evidenced in urban fabric and resulting from metropolitan urbanization processes may be seen as either problems or as *opportunities*; as occasions offering sets of 'possible futures' or 'virtualities', to be critically employed in the search for design solutions. Urban 'disjunctions' may be reworked into 'differences' and can provide opportunities for marginal or novel activities – as often happens spontaneously in 'edgy' conditions. This project has taken on the 'problematic of the virtual' (see chapter 3), experimenting with the dynamic relationship between a working urban market depot facility in Bogotá, and the residential neighborhoods that have engulfed it as the city has grown, in order to find ways these highly disparate urban activities can positively relate when issues of scale and fine-grained interactivity are addressed. The urban itself, as capable of both acting and being acted upon and working off relationships of 'difference', is seen as the means to resolving problems of disjunction, and of producing a rich public space of diversity and through the *continuous multiplicity* of emergence.

Urban Re-vision:
The Market Supply Facility of Bogotà
Juanita Fonseca



Imposed rationalities have guided transformations of cities such as Bogotá, producing a lack of coherence among the 'systems implemented' and the 'receivers'. The 'postmodern condition' currently being experienced in Bogotá is reflected, among other ways, by the situation of metropolitan-scaled facilities – while once they existed within 'peripheral' conditions, they are now immersed within complex urban fabrics.

These co-existing 'alternative realities' create a clash of urban structures that provide rich, dynamic and complex situations composed of antagonistic features, such as housing and industry. The common response, until now, has been very direct: the removal of 'high impact' structures to the periphery. This intervention tries to instead develop disjunctions into differences, supporting spontaneously formed relationships in the area.

This study tries to deal with such current 'infra-structure' conditions, by confronting traditional types of intervention through the specificities presented by the case of Corabastos, the market supplying facility of Bogotá. The research poses the initial question of how to update and revitalize this facility and its surroundings.

Corabastos, a wholesale market supply facility, with an area of 40 hectares, consists of a warehouse complex in which the exchange of goods takes place. This facility displays metropolitan-scaled characteristics in its shape, size and the infrastructural networks to which it is tied. It lies within a poorly consolidated urban fabric, and this formerly strategic peripheral location is affected now by informal urban sprawl.

The market facility is enclosed by a wall that gives it the quality of a medieval citadel. The influence of the 'interior' on the outside is reflected in the overlapping of metropolitan-scaled elements onto local character and functions. Corabastos generates a unique 24 hour dynamic – generating flows of goods through the night and providing for trading activities during the day. These flows promote complementary, and sometimes conflicting uses such as storage, parking, and prostitution.

The facility's function provides a regional center offering connection and identity to the peripheral area in which it lies, but the absorption of the facility into the informal housing structures produces a lack of metropolitan image. The site is an 'infra-urban' structure that refers to a local-regional dependency between the facility and its surroundings.

These existing realities provide the triggers with which to deal with the alternative condition of the market and its surroundings. This exploration undertakes the task of developing realities waiting to be actualized, and to re-visualize the dynamics and potential of spontaneous changes.

The existing scales indicate the basic scheme for the re-vision, consisting of elements representative of each scale: a warehouse, a housing project, and a settlement fragment. The infiltrations concept depends on responses, or the development of potential relationships, between the existing realities channeled through three types of interventions:
Hubs: which refer to the improvement of public spaces that produce the necessary transition between public and controlled space;

existing realities

scales

regional scale overlaps

dynamics

supply

10:00 pm - 04:00 am

24 hour activity dynamic

trade

04:00 am - 05:00 am

space

controlled space

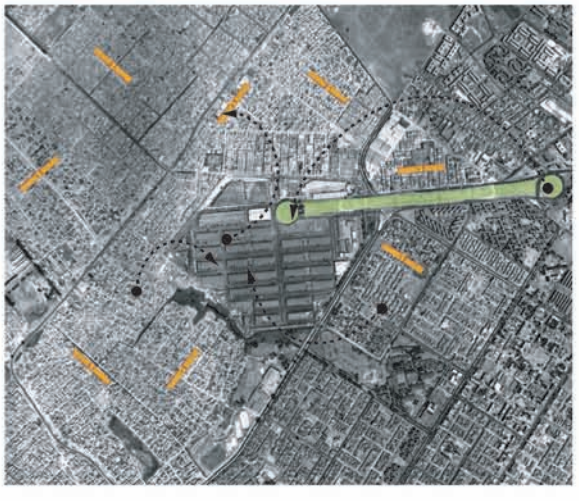
self built housing typology reflects scales and transformatic
ground floor = 1.5 height allows storage of vehicles and produ

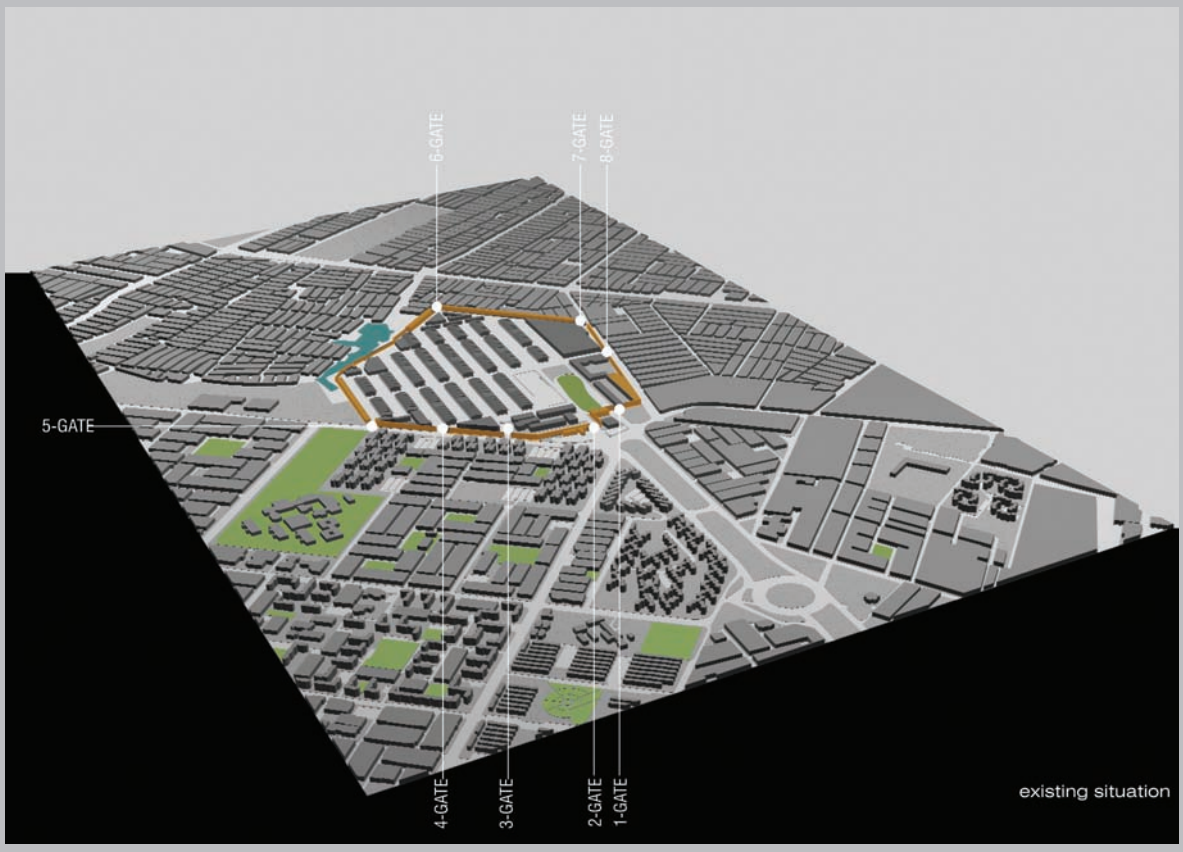
typology

metropolitan scale network and local scale background

10:00 pm - 12:00 pm
12:00 pm - 02:00 am
02:00 am - 04:00 am

04:00 am - 06:00 am
06:00 am - 05:00 pm
10:00 am - 02:00 pm



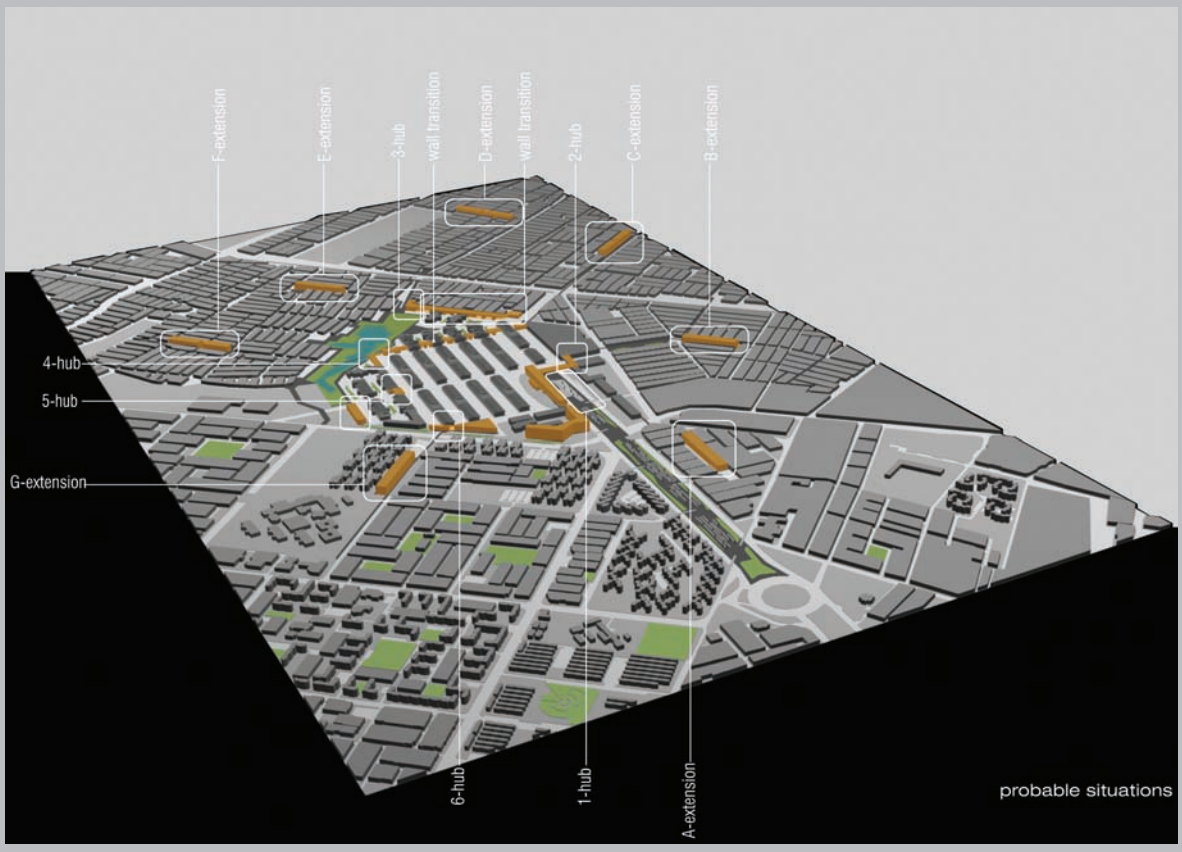


Wall Transitions: understood as transformations of the 'medieval' walled enclosure. These are spaces that respond directly to the existing and future context;
Extensions: these are decentralized elements of the facility – they appear in neighboring surroundings and emerge through local spatial and economic dynamics.

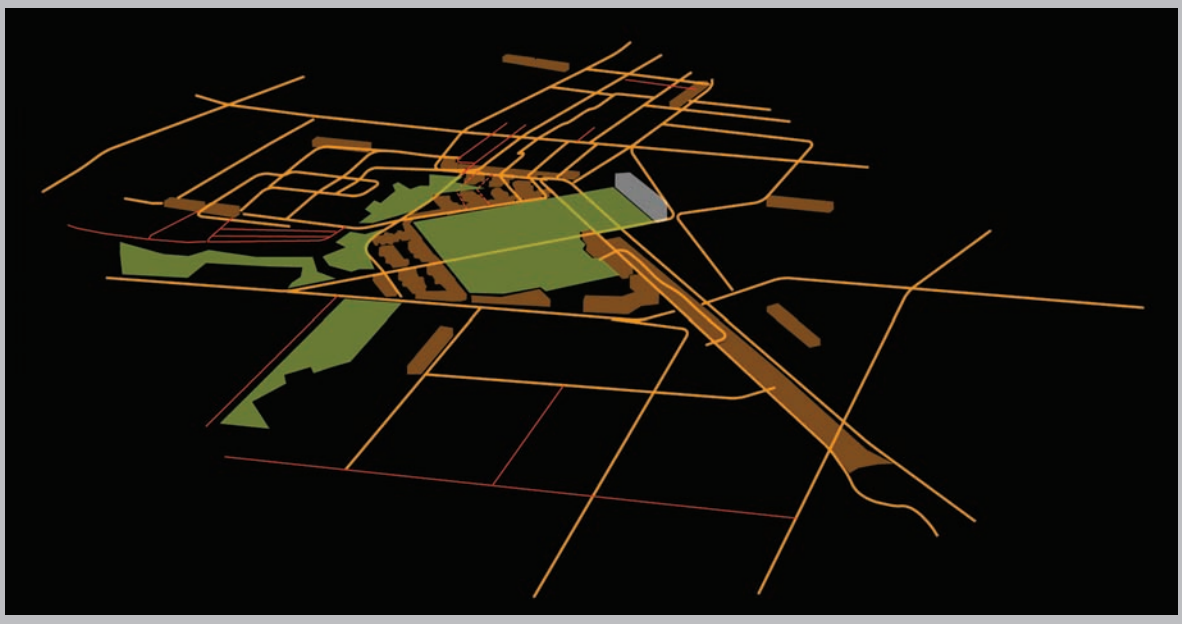
The site response to the projects forms simultaneous and unplanned 'tenses' that go from existing conditions, through expansion, contraction, and dispersion, to extension.

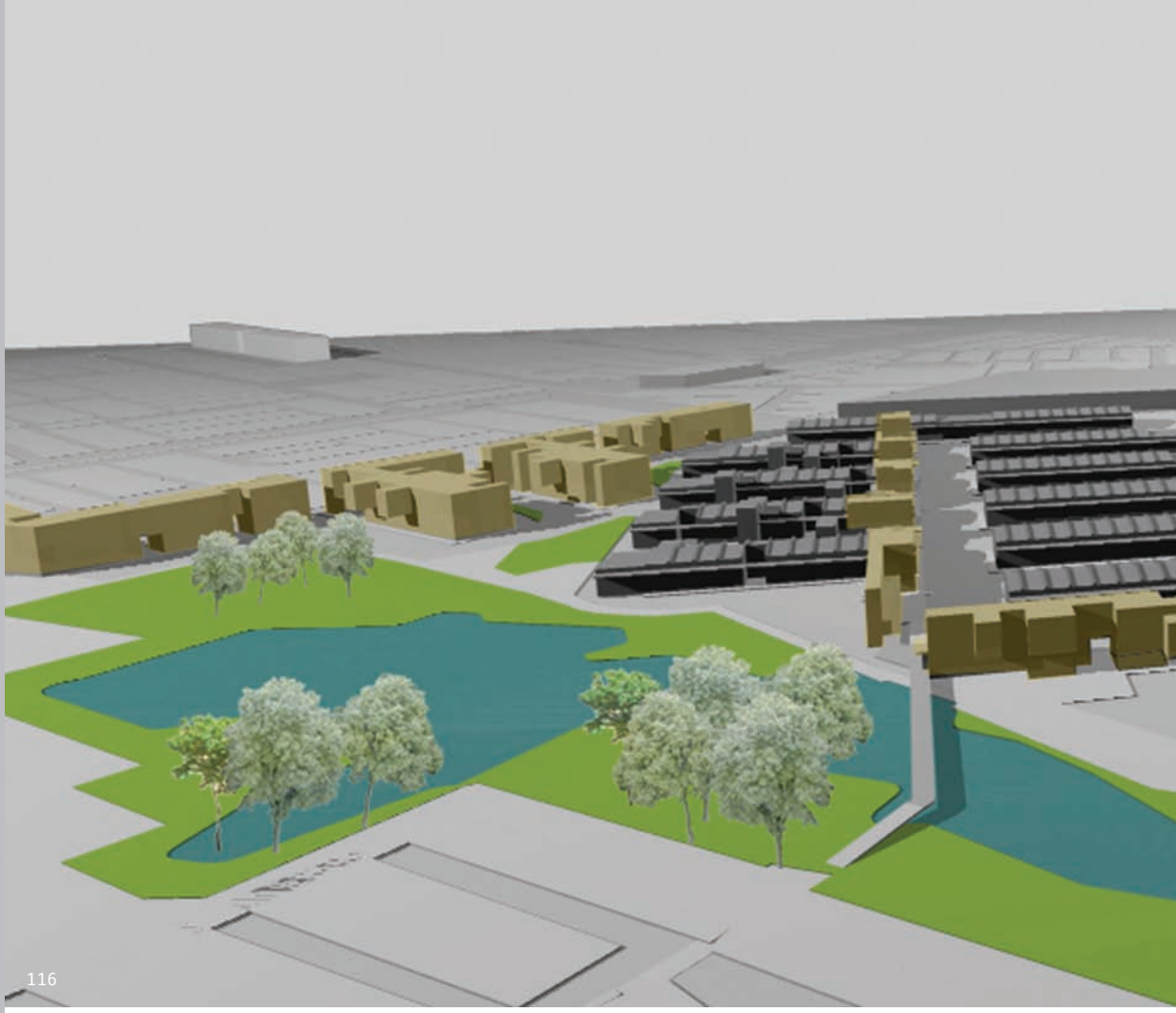
To relate the levels of scale, the interventions, and the 'tenses', the design relies on the intensification of existing flows and the actualization of others. The concentration, overlapping, and types of flows determine the location of projects and their capacity. The layout of projects applied on site results in a platform that contemplates probable situations: 2 wall transitions, 7 extensions, and 6 hubs are utilized as key factors for research explorations.

The derived probable situations result from within the dynamics of the design process, which (as parallel research-design actions) establish priorities and define a set of probabilities. They then select an ideal probability from which to work further. To promote a spontaneous form of growth for the derived situations a corresponding 'acupuncture' form of development was conceived. Its nature is to



aggregated probable situations





continue dynamics through the actualization of key situations, which in an independent but related manner generate other interventions.

The hubs replace the existing gates as places of transition. Their eventual role is that of a filter between the facility and the surrounding environment, and between today and tomorrow. Each hub has the capacity to merge with the facility enclosure in order to complement processes of expansion and contraction. The hubs host uses that vary in range, but are mainly configured to serve public purposes. They can behave as independent structures to later supply the existing surroundings with a landmark.

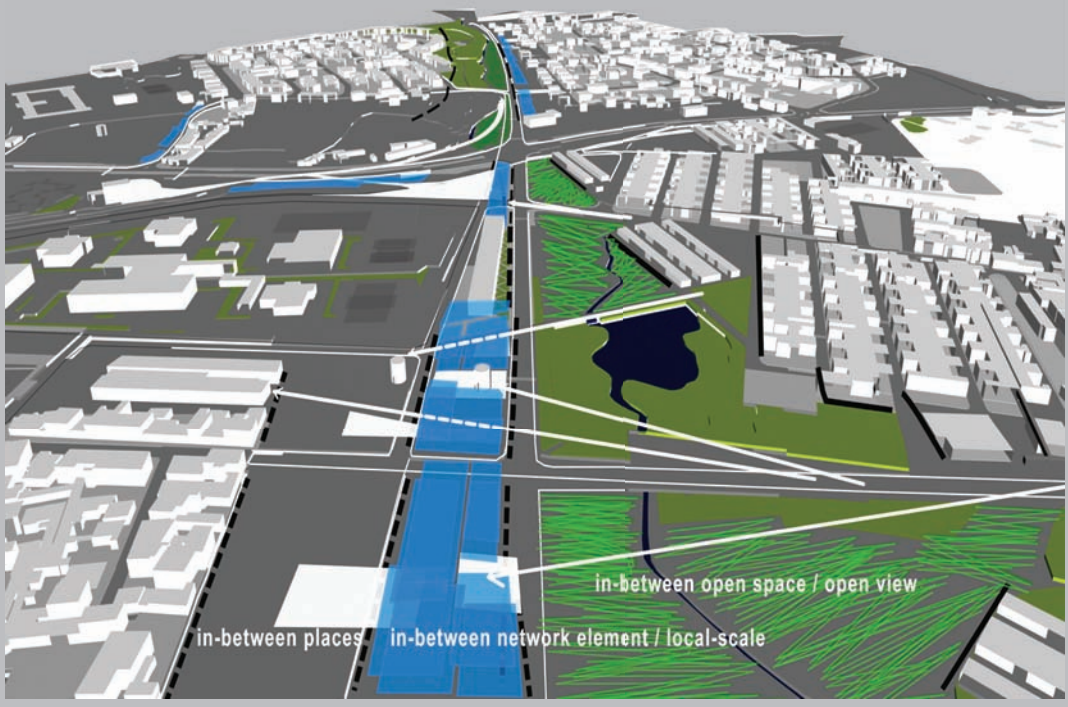
The spaces produced by the wall transitions dissolve the radical limit between the facility and its surroundings in a controlled way. The wall transforms gradually, from a barrier into a space that contains activity. This space relieves pressure on the wall and allows the facility structure to contract through eventual change. The interior building structures and exterior spaces combine and permit places of local appropriation.

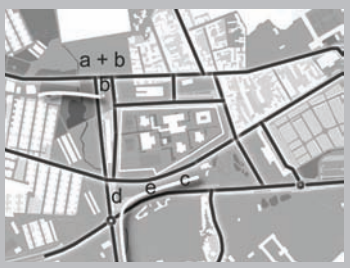
Extensions are localized centers of overlapping activities. They allow a reinterpretation of the existing dependencies towards the facility, the way of life, and the typology of the surroundings. They extend complementary market activities into the surroundings with the intention of actualizing local relationships in a spatial way. The specific location of extensions works off three scaled connective elements, an urban-regional connector, a local main street, and a local back street. The urban-regional connector responds to regional influences, the local main street is one of transition between the high impact and local back street offering the community spaces a place to develop a relation to metropolitan functions, and the local back streets consolidate processes for housing.

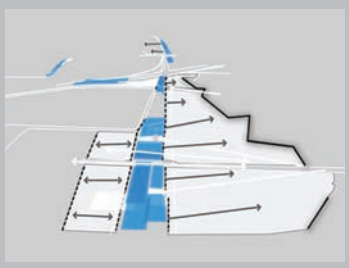
This type of research-design proposal is intended to update places of 'infra-structure', local dependency, and regional influence. A re-vision can be applied in environments under pressure – from a specialized electronic shopping center in Seoul to the Sambodromo in Rio de Janeiro – where resources may be limited, but where change can be linked to the actualizations of already existing virtualities in a natural process of spontaneous change. The project rethinks a given structure without its necessary removal and proves how realities not yet actualized may be exploited to produce particular realized localities consolidated within metropolitan and global forces.

The 'explosion' of the 'urban edge' into the so-called 'void' of the periphery is taken to be a major issue in urbanism and urban design today. We problematize this 'void' differently (see chapter 6) – seeing it as another active and positive centrality *into* which dominant contemporary movements and communications have shifted. The 'edge of center' becomes a zone complexified by a layering of newly dominant large scale space-time strata which need all to be incorporated into a process of the 'production of the local' where that local is not currently supported by layerings of fine-grained activity. This project investigated the space between historic 'citadel' and new fragmented periphery in the World Heritage site of Évora, Portugal, in order to address problems of the qualities and experience of public space outside the 'ordinary urban' of the medieval center. The investigation in depth of the space-times of experience across the borders between two public space realms led to a proposal for a prototype 'urban periphery' public space improvement project.

In-Between Spaces
Marta Mendonça







medieval tower gate

mosteiro de santa clara

praça
igreja paroquial de s

process

concrete service gallery

white wall

concrete service gallery

no contact surface

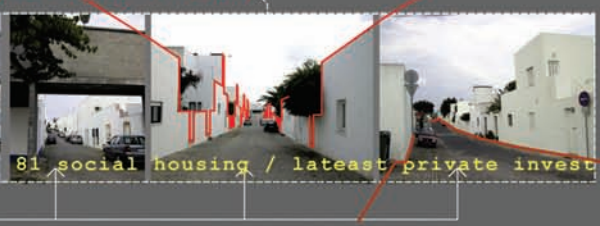
spatial form process - nested relationship of
interdependency between process (years)
and things (built form)
QUALITY turned into THE PUBLIC SPACE & PUBLIC FACADE
'REVEALING' SURFACES - history transparency
URBAN LIFE GATTERING SURFACES

iraldo
antão

praça do giraldo
arcadas

igreja
de s. vicente

ars) and objects (built) -no relation of interdependency
a spatial form process - enclosed predefined project
LITY turned into THE PRIVATE SPACE
ifferent / all the same - 'UNREVEALING' SURFACES
TORY MASKED - UNINTELLIGIBLE URBAN LIFE
gular outline - volumetry



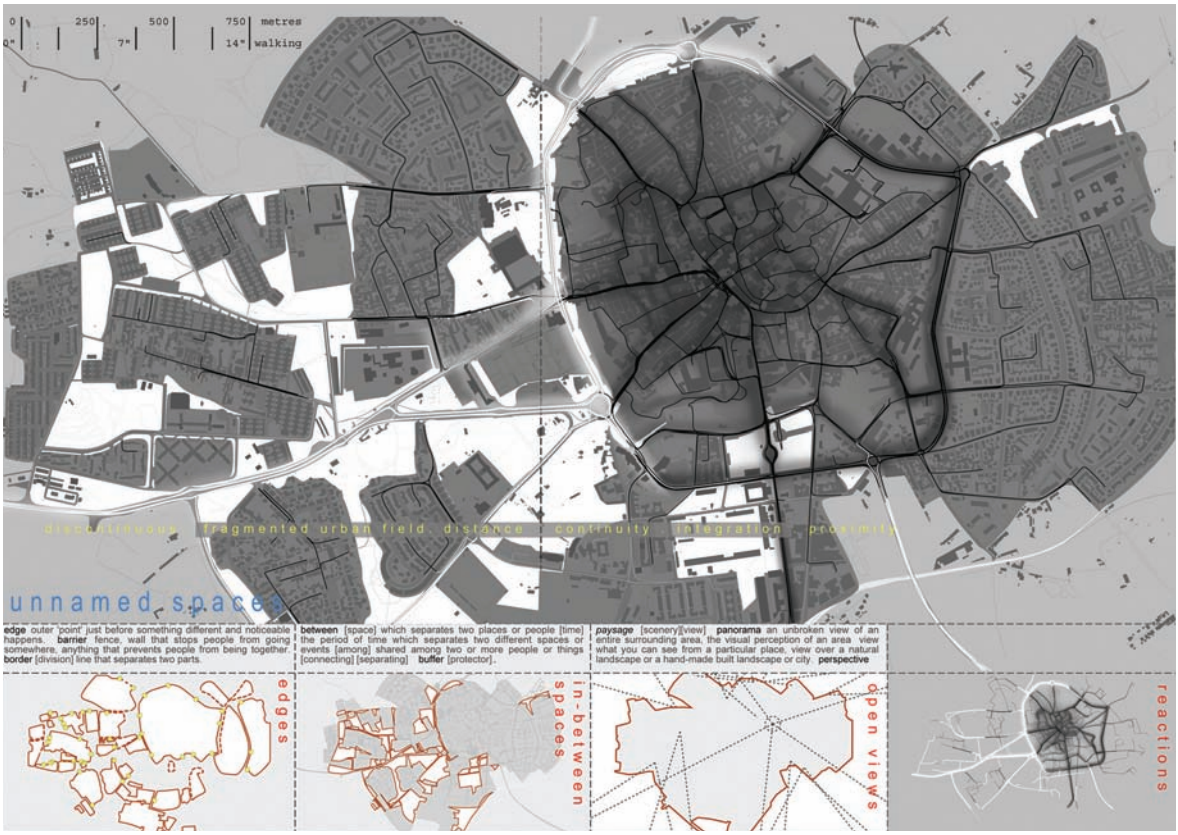
introverted living - NO CONTACT SURFACES
26 housing tipology - frontyard house
45m² available area - maxi used area 123m
2 floors - terraces + balconies
south-solar orientation

fences.....voids.....walls

The growth of mobility and the development of communication technologies, have both worked to reduce the importance of the limitation of distance on human social interaction. Thus, the fragmented post-traditional urban landscape no longer consists of physical objects in relative proximity to each other, but is composed more and more of invisible networks individually established by city users. A relative dissociation between the scale of the local and everyday experience, has come to characterize urban life in the latter half of the 20th century. Themes such as hyper-stimulation and alienation reflect a decentered urban life within today's fragmented urban field.

Today urban life is a product of the time-budgets of different individuals and their movements. The individual is a body of experiences and a cognitive perceptor and mapper. The way in which he intervenes in the urban field, is a product of individual modes of selfhood, more and more detached from a collective vision. The urban social fabric becomes a simple summing up of individual activities.

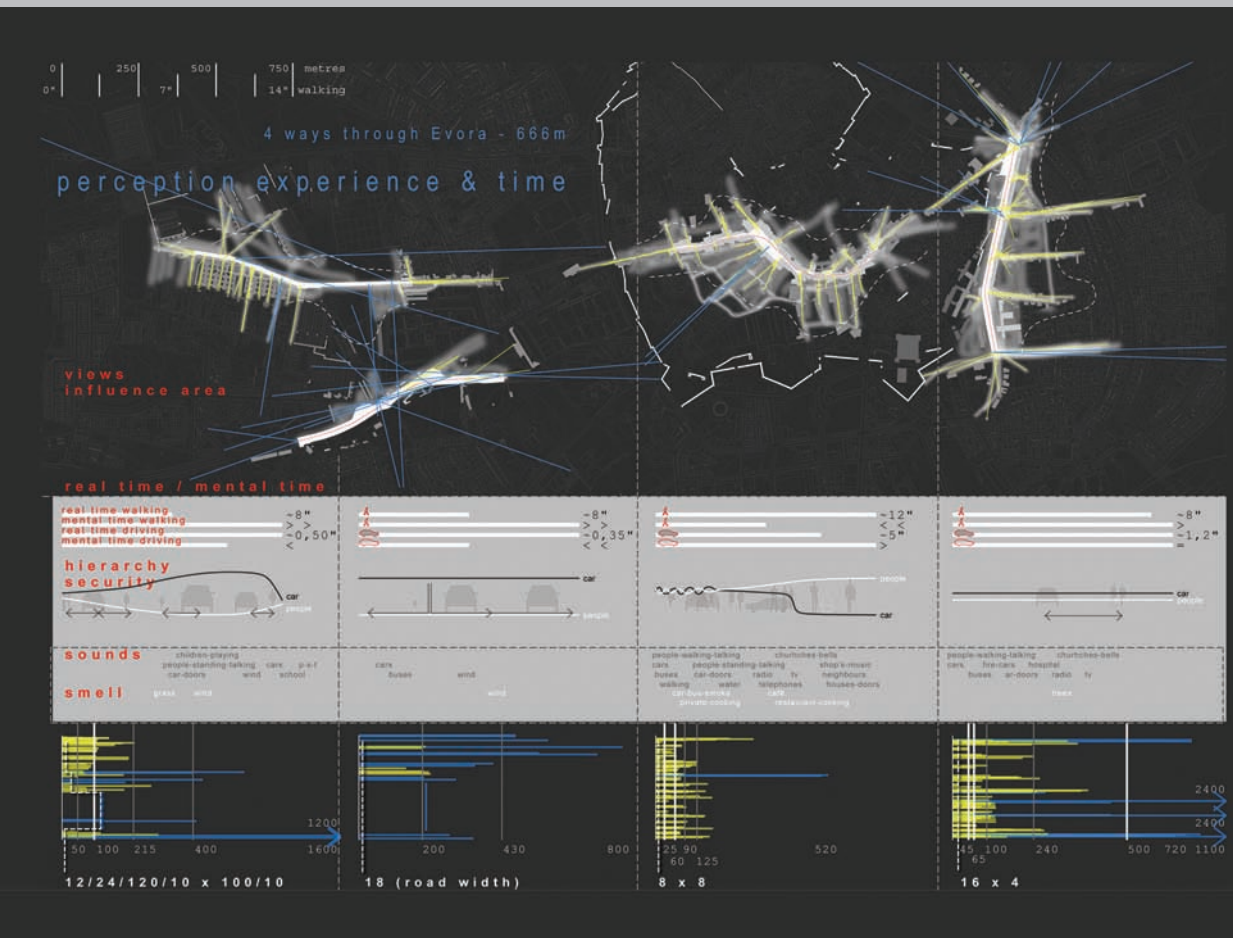
Évora is a city with a metropolitan urban physical form – with a strongly defined multi-functional historical center (in this case a UNESCO World Heritage Site) and suburban-peripheral mono-functional settlements. The relation between place and self and space and time is organized as a multi layered matrix with different scales of uses and movement and different experiential and mobility modes as in most of the great historical European cities. However, Évora, with 32 000 inhabitants does not have the scale of a great metropolitan city and almost all distances fall within the range of walkability. The fragmented environment and the disarticulation of center and periphery, interrupts perceptions of continuity and proximity within the fabric however, generating a fabric of disjoint places served by specialized mobility networks. Distances relate exclusively to time, as is usually

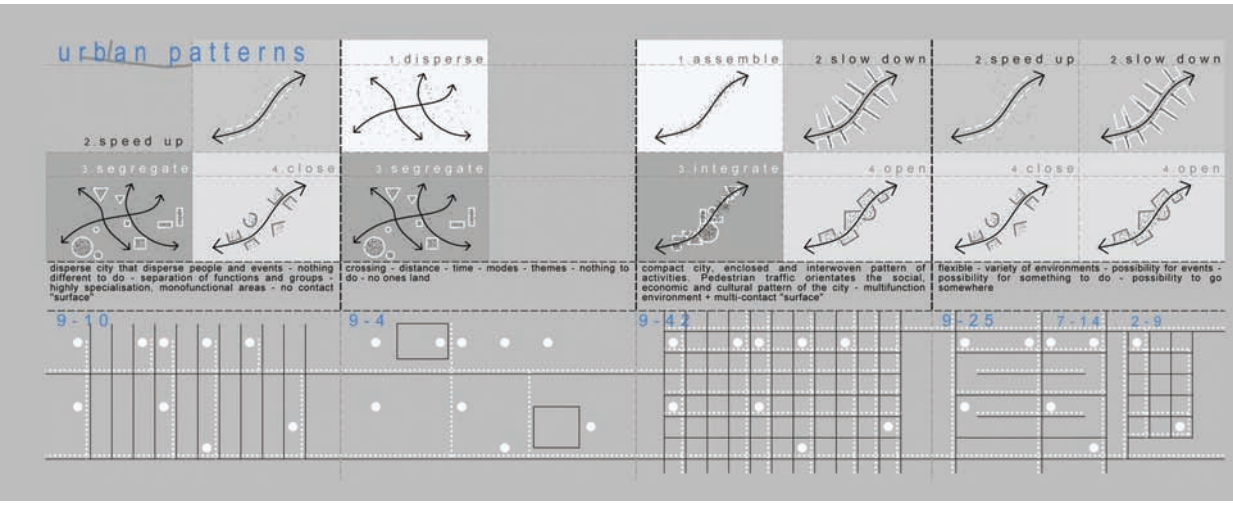


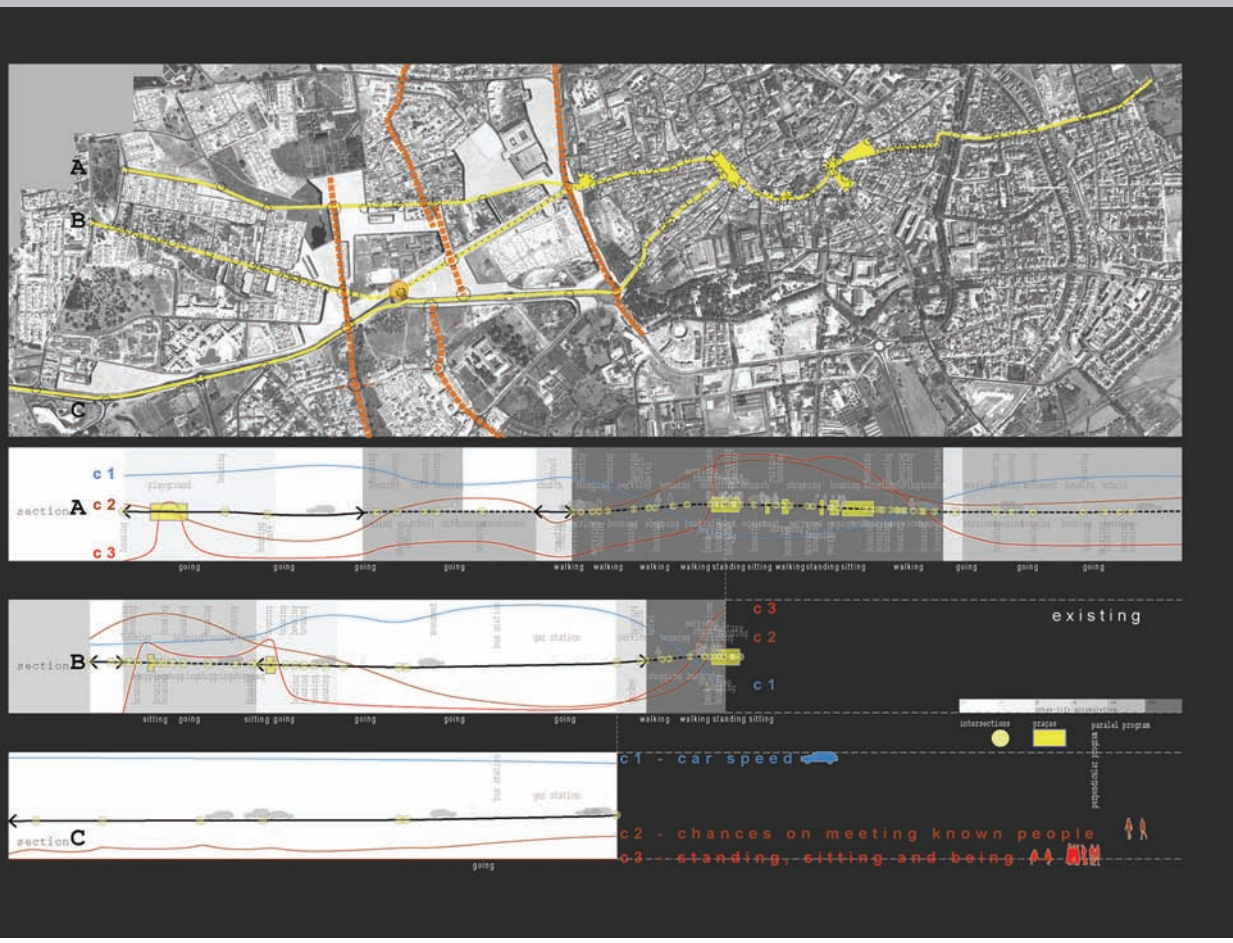
the case with car-driving conditions, and not to a continuous movement experience grounded in collective urban life patterns.

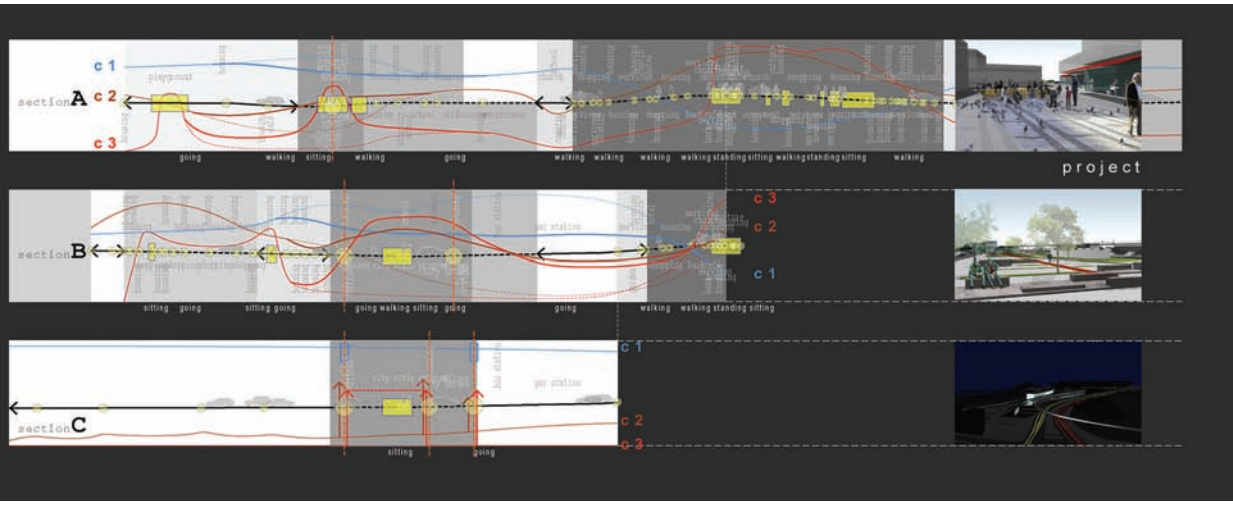
Peripheral fragmentation disturbs the power of the city to integrate the urban experience. Today, Évora is a medieval citadel in a peripheral archipelago of neighborhoods rather than a city with a medieval center. Left-over spaces are lost spaces which no longer play a role in grounding an urban society. They become a residual territory; the gaps in an urban lifeworld; the empty space in-between the named places, the identifiable lived urban elements. These in-between spaces are not called places because they do not have a 'place' in individual or collective maps of urban life; they belong to the unnamed spaces of the urban field.
The thesis proposes to identify the different components of Évora's physical urban state (physical fabric) and their place in its different users life patterns (social fabric), in order to understand the relation at different scales between place and self and space and time. It tries to insert different social rhythms into the void spaces that surround the identifiable places. It tries to strengthen the web of relations and to consolidate the fragmented urban field, 'socializing' the residual spaces in order that these can become places.

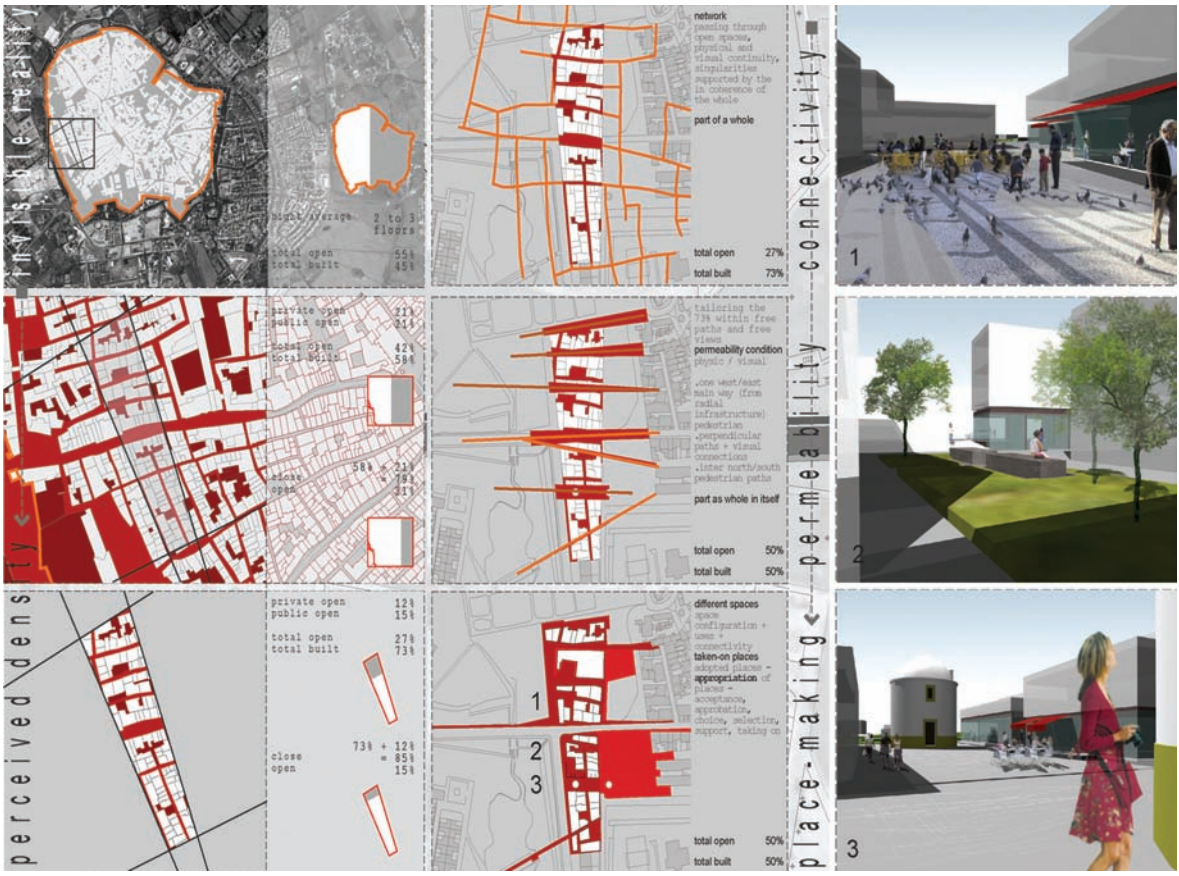
The questions become: How can in-between spaces become recognizable places in Evora's urban environment? How do we construct an image of the self through these voids. How do we construct an experience of continuity through a landscape of voids? Is it possible to make the individually-lived, time-budgeted spaces of the periphery part of the recognizable and collectively-lived city? If so, on what terms? What can happen to the actual hierarchy of units-neighborhoods? What will be the balance between the medieval city and the peripheral developments?


0 250 500 750 metres
0° 7° 14° walking
4 ways through Evora - 666m
perception experience & time
views
influence area
real time / mental time
real time walking ~8"
mental time walking ~0,50"
real time driving ~12"
mental time driving ~5"
~8"
~0,35"
~1,2"
hierarchy
security
car
people
sounds
smell
children-playing people-standing-talking cars car-doors wind school
cars buses wind
people-walking-talking cars people-standing-talking buses car-doors radio tv walking water
churches-bells shop's-music neighbours telephones houses-doors cafe restaurant-cooking
people-walking-talking churches-bells cars hire-cars hospital buses air-doors radio tv trees
1200
50 100 215 400 1600
200 430 800
25 90 520
60 125
2400
2400
45 100 240 500 720 1100
65
12/24/120/10 x 100/10
18 (road width)
8 x 8
16 x 4


urban patterns
1 disperse
1 assemble
2 slow down
2 speed up
2 slow down
2 speed up
3 segregate
4 close
3 segregate
3 integrate
4 open
4 close
4 open
disperse city that disperse people and events - nothing different to do - separation of functions and groups - highly specialisation, monofunctional areas - no contact "surface"
crossing - distance - time - modes - themes - nothing to do - no ones land
compact city, enclosed and interwoven pattern of activities. Pedestrian traffic orientates the social, economic and cultural pattern of the city - multifunction environment + multi-contact "surface"
flexible - variety of environments - possibility for events - possibility for something to do - possibility to go somewhere
9-10
9-4
9-42
9-25
7-14
2-9


A
B
C
section A
c 1
c 2
c 3
going going going going walking walking walking walking standing sitting walking standing sitting walking going going going
section B
c 3
c 2
c 1
existing
sitting going sitting going going going going walking walking standing sitting
intersections
spaces
parallel program
perpendicular program
c1 - car speed
c2 - chances on meeting known people
c3 - standing, sitting and being
section C
going


section A
c 1
c 2
c 3
going walking sitting walking going walking walking walking walking standing sitting walking standing sitting walking
project
section B
c 3
c 2
c 1
sitting going sitting going going walking sitting going going walking walking standing sitting
section C
c 1
c 2
c 3
sitting going



The design intervention was a product of a reflection on the scales and patterns of urban movement, informed by time related ideas of the 'moment' and the 'urban sequence', and ideas of appropriation, of place-making, and of a 'different' space intended to play a social-grounding role.

The 'moment', understood as an increment in time, can correspond to two different ways of reading place. On the one hand places and their features are tied to a location and relate to a space of places; the particularity of a 'moment' corresponds with its exact locality. On the other hand in the network of places, flows are marked by general and particular speeds and rhythms in distance and in time and are a product of movement from place to place.

The relation between time and space is here distinguished by 1: 'moments' of any duration associated with a specific location-bound place; and 2: the 'sequential moments' resulting from the movement through a relational space, in-between places. This last brings us the notion of urban sequences, series of related 'moments' or 'events'. As Whitehead tells us "...space-time is nothing else than a system of pulling together of assemblages into unities. The word 'event' just means one of these spatio-temporal unities".

The notion of 'view appropriation' results from the understanding and taking cognizance of 'in-between elements' in in-between spaces. An in-between element, through establishing a momentary particular centrality in itself, reorganizes surrounding empty spaces giving them an orientation and transforming those spaces into spatial settings. The perceptual dialogue between the subject and environment is established.

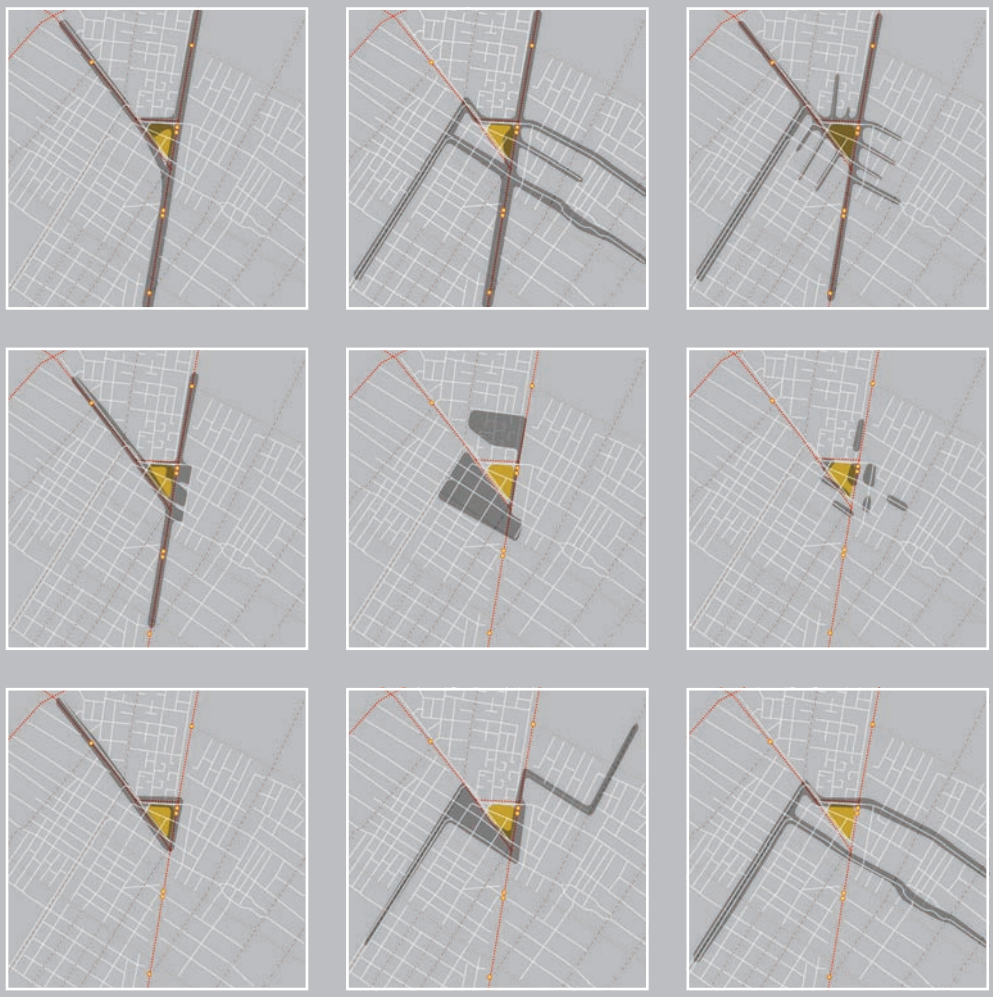
The project explores the potentials and overlaps of space configuration, rhythms and speeds, through uncovering patterns of social use and physical connectivity in relation to city network position. Through processes of overlapping appropriation region-networks of places turn into social spaces of collective use and collective recognition – public spaces of encounter, co-presence and acceptance. The project attempts to optimize the social value of particular spatial conditions, creating a diverse networked collection of places open to difference. Different spaces and different places gathered together by movement networks generate the conditions of unity and variety enabling spatial perception, collective use and the production of image.

The intention of the project is to investigate ways of supporting the social and perceptual integration of urban components, transforming in-between spaces into moments of a continuous urban experience. Évora as a whole maintains its different units and identities and, in plan, a fragmented structure of voids. Nevertheless, these voids are woven into a structure of urban-life connectivities and overlaps that allow for the appropriation of the emptiness and their transformation within life-patterns into named places.

The space-times of contemporary metropolitan areas are being hugely reconfigured by high-speed mobilities. One of the problems – largely unrecognized in contemporary urban research – of this systematization is the negative effect it generates in regards to the manifold layers involved in urban 'integration'. What tends to happen is that systematized transportation generates a hermetic functional and experiential reality fragmented from lower-scaled urban processes, which subsequently become by-passed by the system. The complex exchange between differently scaled urban processes is essential to the maintenance of a diverse urban fabric with fine-grained functionality and experiential qualities. This project investigates the effect of the proposed new fast tram system, the Transmilenio, in Bogotá on the space-times and public space of the city, through its flows, rhythms and frequencies. A new head terminal for the system at Los Héroes junction has been designed as an integral part of a metropolitan city space, incorporating patterns of use at a range of scales by the metropolitan population.

Exchange Request: Urban Interactions at Los Héroes Junction, Bogotá

Camilo Pinilla



taxi
3 passengers

collective bus
15 passengers

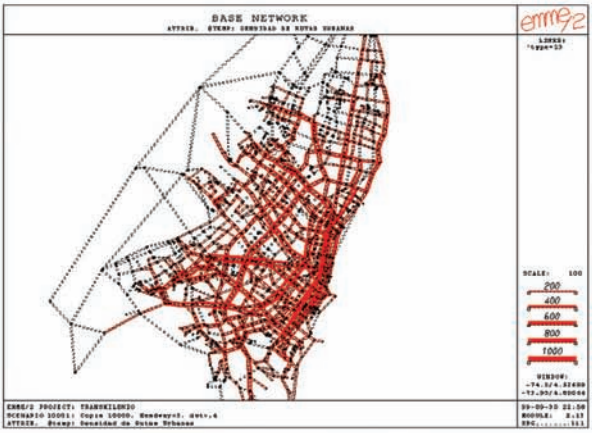
executive 2 (smaller)
30 passengers

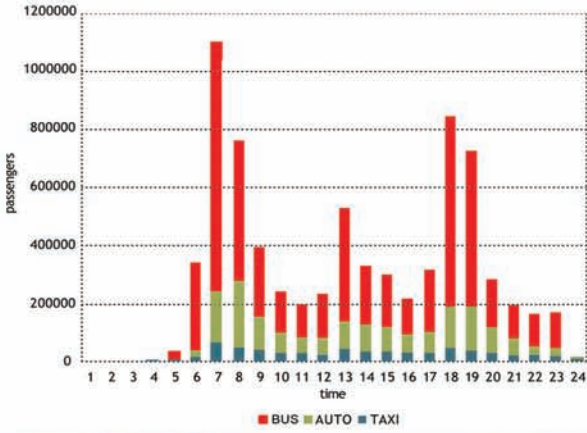
buseta
30 passengers

metropolitan (executive)
40 passengers

inter municipal
50 passengers

regular
72 passengers

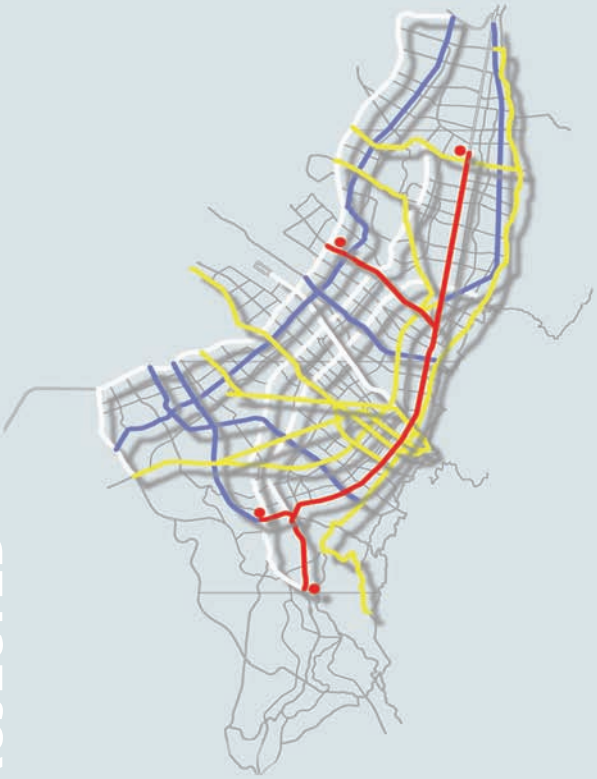




EXISTING

Exchange Request: Urban interactions at Los Héroes Junction- deals with the future of a metropolitan inters

PROJECTED

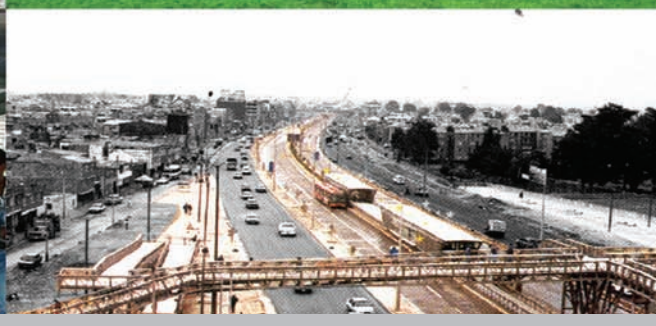


1998-2001

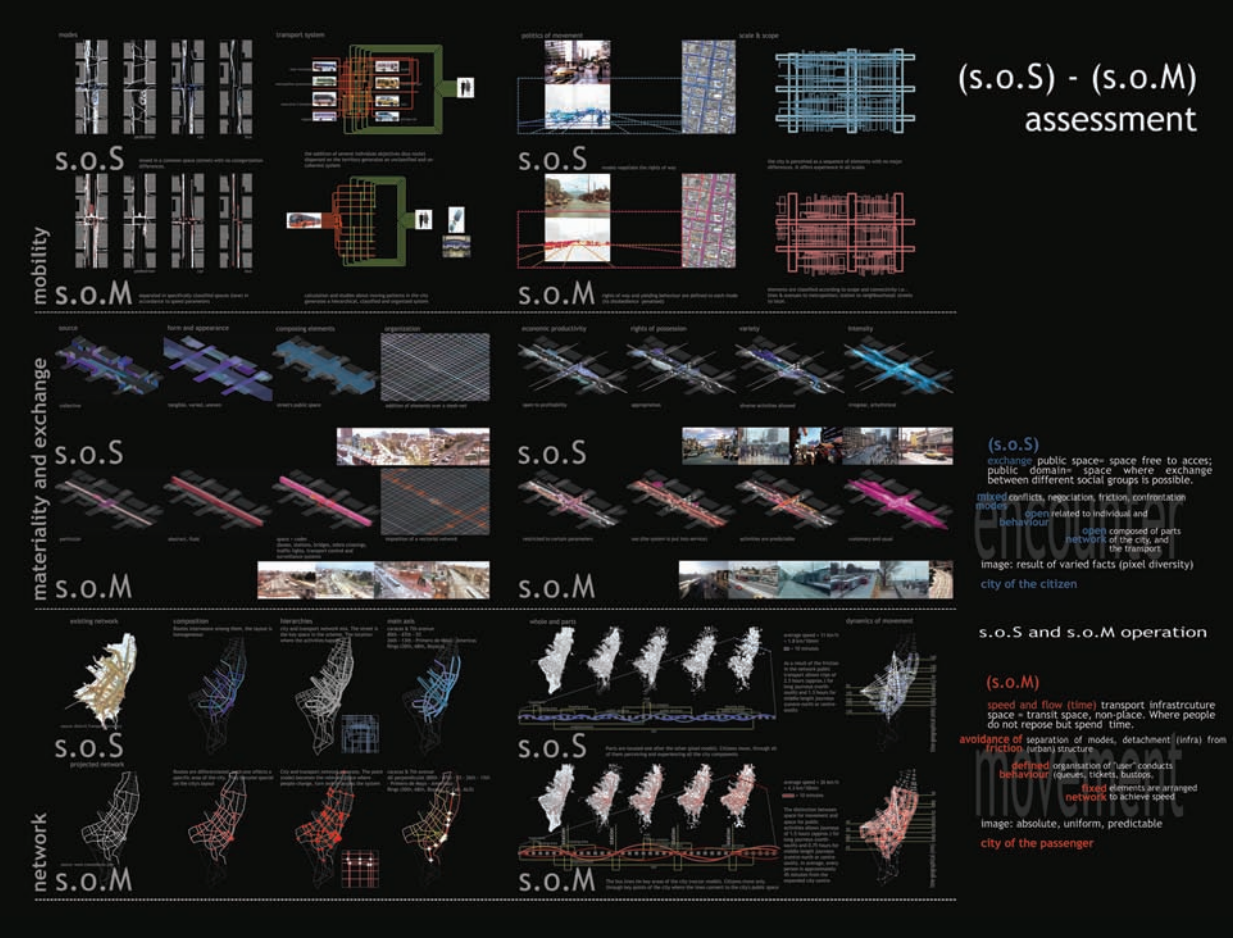
2001-2006

2006-2011

2011-2016



on recently affected by the insertion of the first two lines of a mass transport system called Transmilenio.

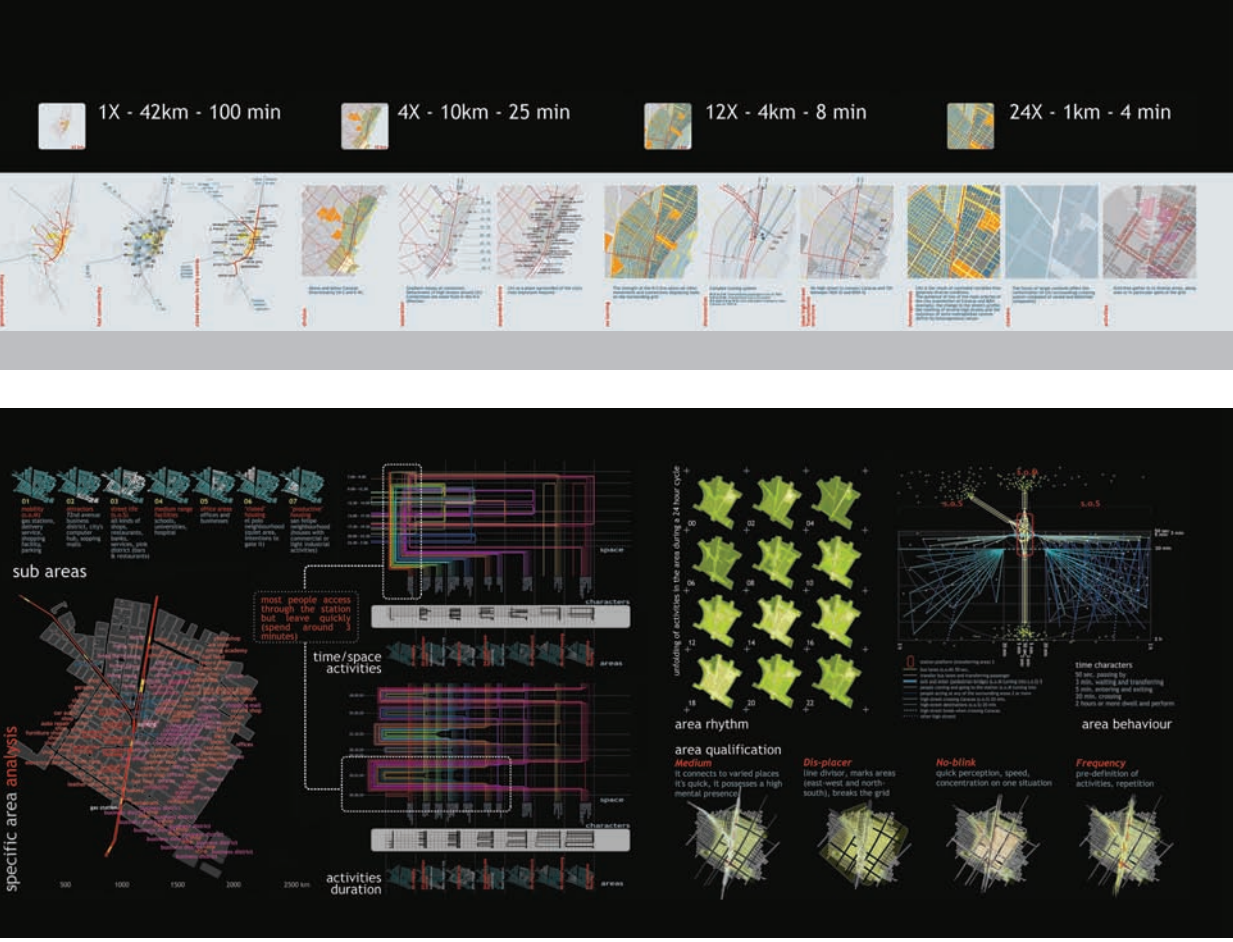


This project deals with the future of a metropolitan intersection recently affected by the insertion of the first two lines of the Transmilenio mass transport system.

Conceptually, the project explores urban interaction and character by considering movement as the principle that regulates actions, and by defining time as the producer of events. Thus the conception of new forms of spatiality is 1: dependent on mobile, abstract and transitory phenomena – flows, rhythms and frequencies, 2: relative to scale and connectivity, and 3: strongly attached to behavior in public space in relation to appropriation, use and consumption. These three qualitative aspects provide a frame within which the junction's inhabitants (local) meet and interact with commuters (non-local). The proposal offers the required structure for a negotiation, within varied social levels, of meeting, crossing paths and interaction, with neighbors or foreign 'forces', allowing them to play a role in the future development of the area.

A cluster of actions that builds up to a decision-making process organizes the design method in relation to existing and potential conditions, and in relation to relations, replacements and mergings. Diagrams and models that present complex relational phenomena at each stage are the means of representation – portraying systems producing expected conditions for future constructions.

Avoiding the inflexibility of a conventional master-plan, the outcome is produced within a structure of a few defined elements capable of suggesting future (non-determined) possibilities that the actors must initiate with the passing of time. Hence the production of 'states' or 'modes' – variable dimensions and flexible time frames are considered positive conditions to achieve, and ways to enhance the project's versatility.

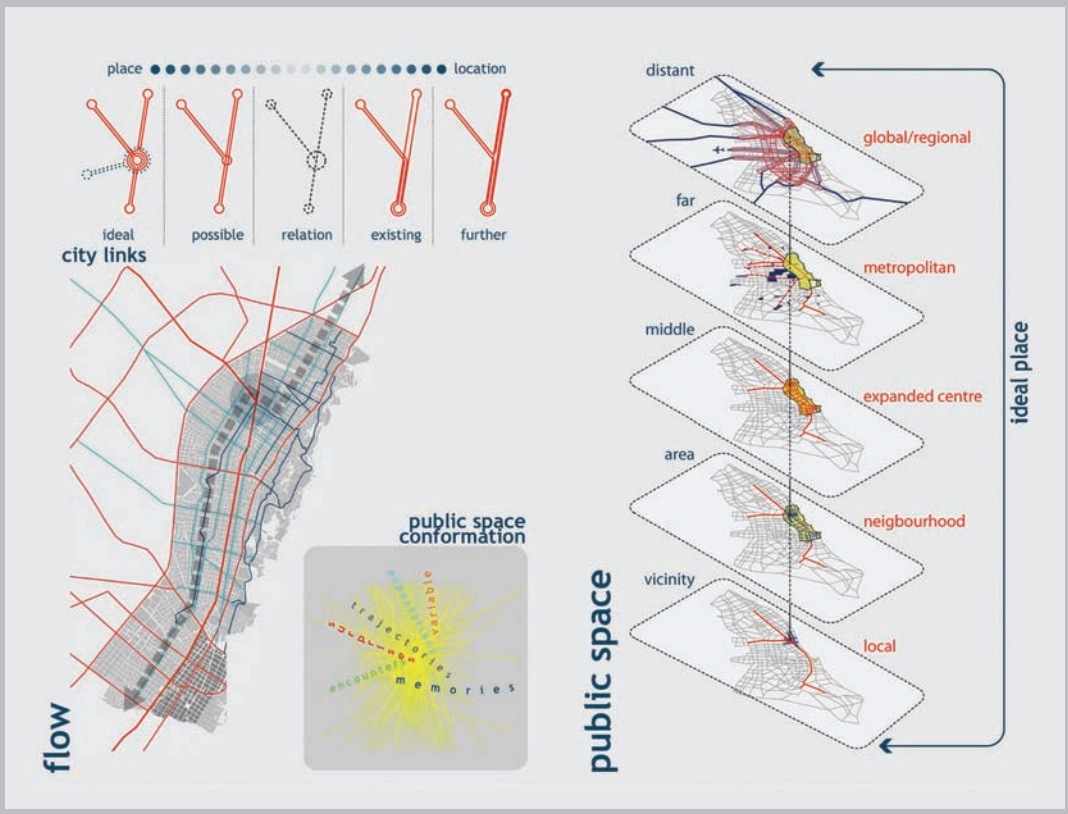


1: Existing. The city's transport system prior to the Transmilenio infrastructure project is based on private initiative. Its lack of organization is visible in its low service quality, unsafe driving behavior, the chaotic distribution of operation lines and the high contribution to traffic congestion in the city. Nevertheless, in the year 2000, the statistics showed that around 72% of the city's population used public transport on a daily basis.

Transmilenio is a public/private system comprising buses running in exclusive lanes, with fixed stops and timetables that is intended to take over the existing service and the whole public transportation demand by the year 2016. It takes over the central lanes of the existing road infrastructure, and allocates fixed pedestrian access at stops. The municipal government is to build the infrastructure, leaving the operation of the service to private companies.

As a background, a research referred to as Space of the Street (s.o.S) and Space of Movement (s.o.M) assessment, analyzes conditions before and after Transmilenio by comparing regulation, organization and traveler behavior. In specific terms, physical and mental issues (of people spending time by using space in and around the junction) are represented by means of time durations and qualities. Performance is qualified under categories of 'medium', 'displacer', 'no blink' and 'frequency'.

Both approaches are based on the understanding of a junction as the place where two or more time-space frames openly interact and introduce the project's main matters to overcome: the fact that Transmilenio's fixed order determines actions and suppresses a 'middle scaled' interactivity and threatens the sense of place.



2: Potential. The project explores the junction's capability to manage flows, public space, time frames and program as structural qualities that enrich characters of interaction and experience. The objective is to activate lost meanings by way of 'friction', mixing and the multiple productions of social space-times, and to enhance local place production dynamics. Distractions and breakages that do not interfere with Transmilenio's positive qualities are considered constructive issues to achieve.

3: Replacement. Several models of possible future organization are explored. Flow is used as the structural parameter that evokes public space and program transformation and diagrammatic and physical configurations are constructed as tentative models. Ideas are canalized and refined through models that collect past observations and channel future possibilities.

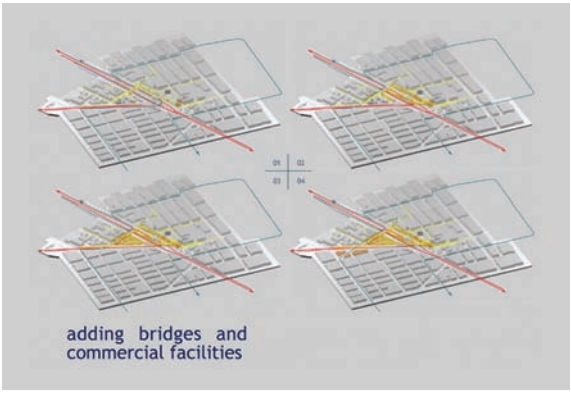
4: Relation. A strategy that uses fixed and variable components relates the model with the forces that surround the area. The fixed components define implementations to unfold future actions. They re-structure the public transport infrastructure (new stations for example) and the production and disposition of public space and program. The variable components, which are partly guided but not fully determined, comprise customizable (re)actions to the proposed infrastructure.

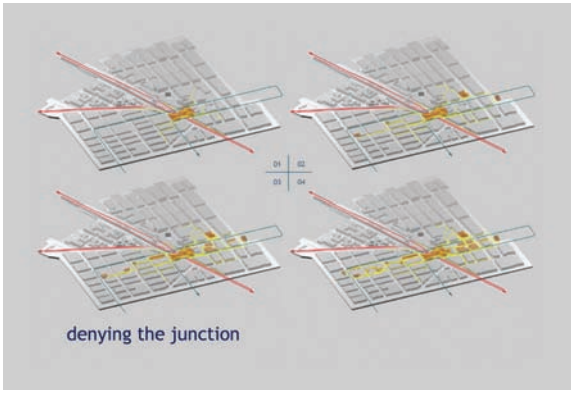
Fixed and variable components relate throughout three modes:

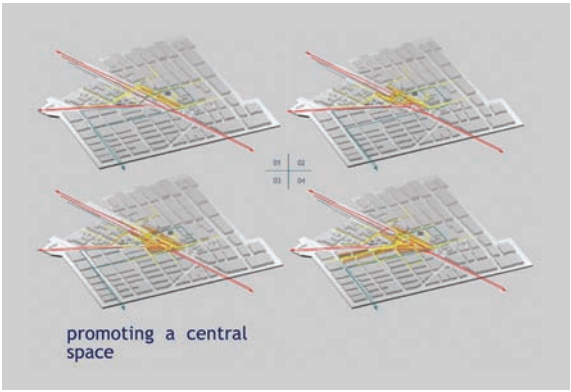
a: Organization: coordinated through a central space that receives relational influences under categories of i: Image; commercial and business districts, new front-back relations and extension of activities towards station, ii: Projection; extension of commercial activities by means of association and cooperation, iii: Border-transition; conservation and/or transformation of a housing district.

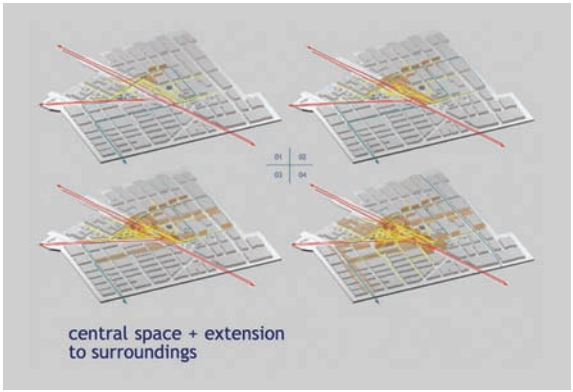
b: Space: selects the 'flow' model from three possible models as capable of handling movements and interaction.

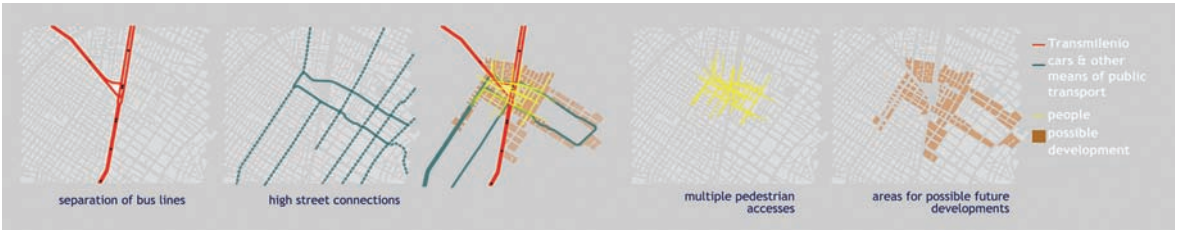
c: Relations: comprise the project's 'urban tectonics', describing interactions under categories of time, scale and program.











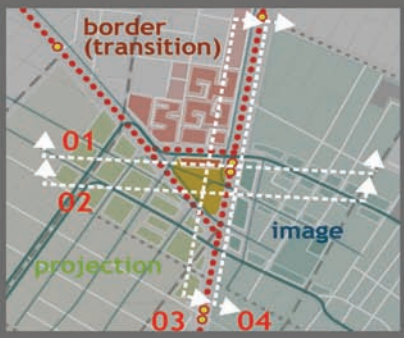
5: Merging. Defines a physical construction and the guides for an urban tectonics. The fixed components are given by the flows' re-organization (bus lines, public space network and program). The variable components are expressed by the allocation of new global and metropolitan scale sites for development, and the expected (re)actions from surrounding areas.

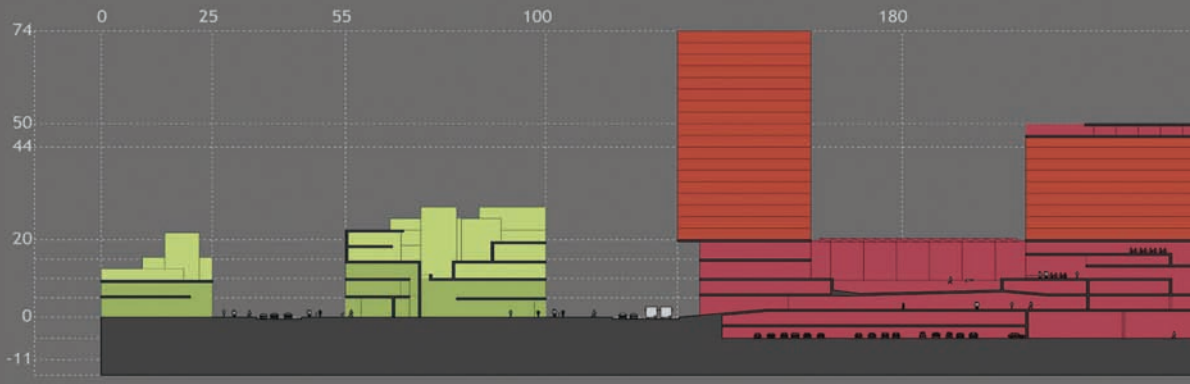
Interpreting the model by way of different perspectives is a way of determining the project's social relevance and testing and assessing the outcomes:

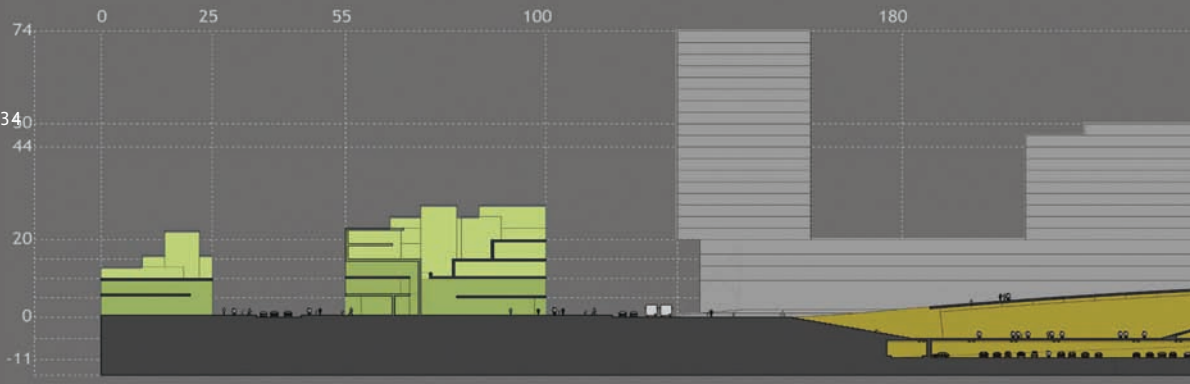
a: Multiple orders and modes of inhabiting (displacer/re-placer); ways to find and constitute place; variation in time readings, social orders and perceptions.

b: Diverse range of time-characters (frequent/singular, no-blink/distraction); expansion of activities' time frames, interaction and character.

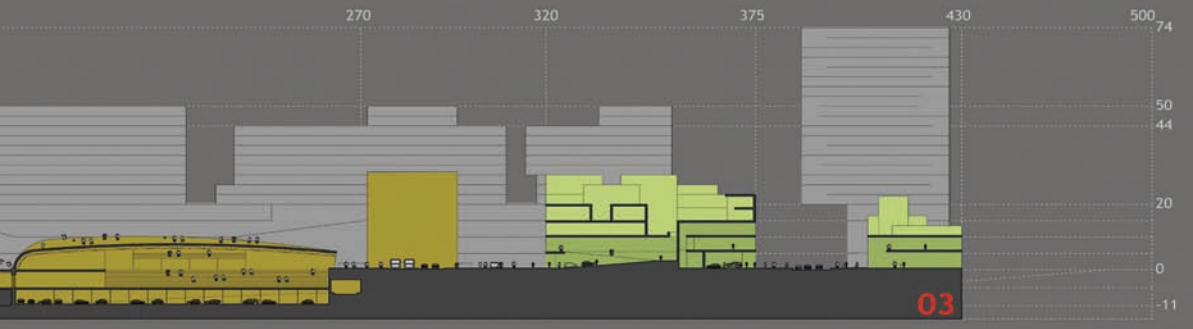
c: New dimensions (medium/goal); introduction of a structure that offers the possibility of mixing diverse paths and characters.

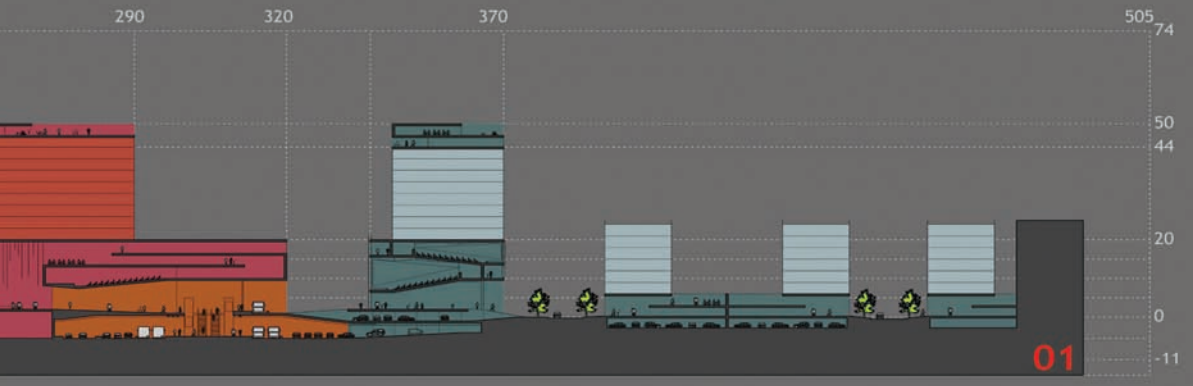


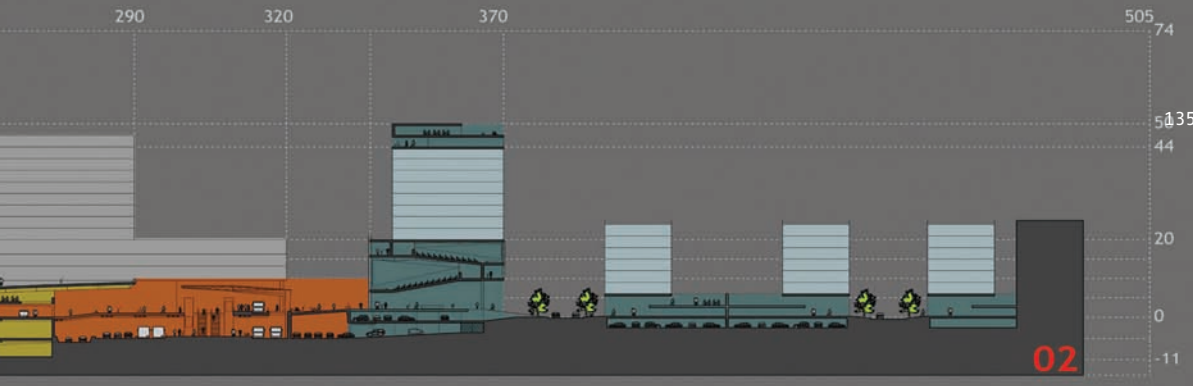




The project engages the historical development of Bogotá, its overpopulation, densification and informality. This study sees Transmilenio as a feasible, attractive, orderly, well-thought solution to combat grid-lock and transport disorder. However while Transmilenio solves the problem of time and connectivity at the large scales, it generates effects of 'non-place', and fixes people into rigid patterns of behavior, at the local ones. The strategy proposed in this project explores the possibilities of generating positive dynamic transformations by utilizing large scale connectivity in combination with local connections into surrounding areas to permit the experience of space-time and social interaction in multiple ways.







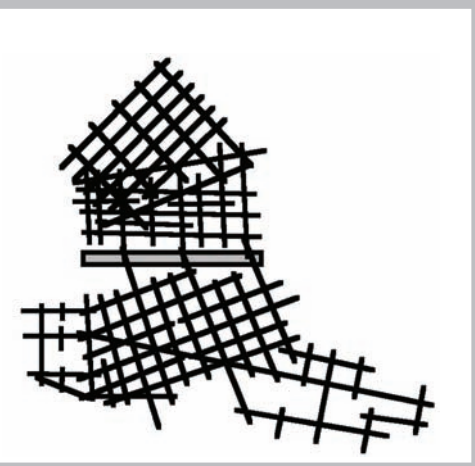
existing conditions

reactions and conditions

Analysis and design 'in depth' – the idea that urban activity or urban 'life' is a product of an extensive social-spatial fabric crossed by multiple temporalities – is basic in the work of the studio. The 'stratification' of movement temporal frames – at scales of the local neighborhood and the just above local urban center, and 'held' in *local* grids on the one hand and *middle-scaled* or *super*-grids on the other – provides the 'structure' by which these temporalities begin, in the 'interface' between them, to 'produce the local' in the central 'ordinary urban' fabric of the European city. This project analyses the relation between the new Hafencity plan for the old harbor area of Hamburg and the old urban center. Serious weaknesses were identified in the plan in relation to its stated ambitions to become a lively, integrated urban district with strong relations to the existing urban center. The project proposes simple alterations to the plan which address these issues and reinforce the productive urban fabric logics of these areas in combination.

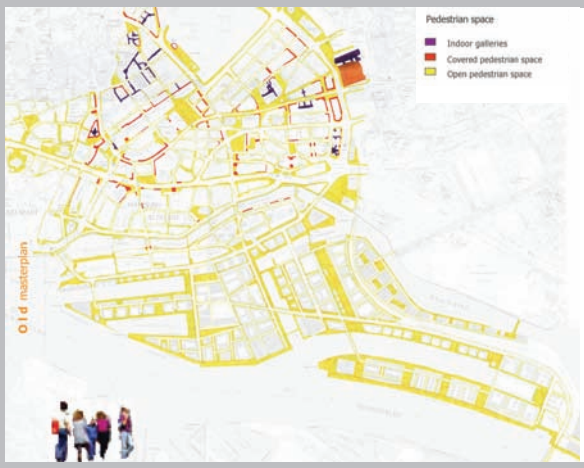
Hafencity Hamburg: Constructing an Active Waterfront

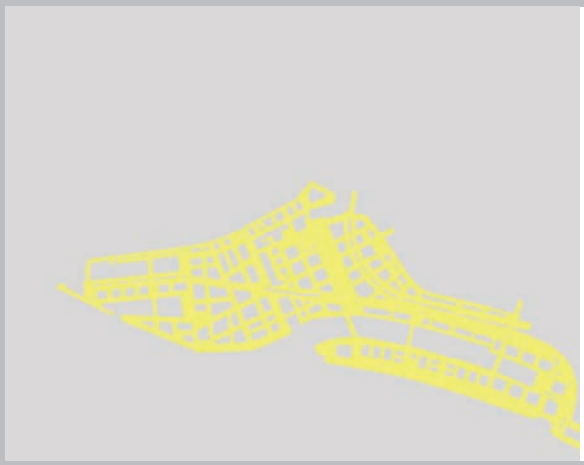
Nicola Boritska



Hafencity is a former harbor location of Hamburg, which became unsuitable for the modern requirements of container ports. The harbor functions have moved further upstream, and the city planning authorities have decided to redevelop the valuable land and to reintegrate it with the adjacent city center, returning to the center of Hamburg its second waterfront. The planners want the new quarter to be a district that complements and extends the city center with urban functions and an atmosphere of urban centrality. The Hafencity project was initiated in 1998 with the following objectives for the new quarter: historic preservation and local identity; central functions and activities; diversity and mixed uses; high quality of setting and living; spatial variety; environmental, economic and social sustainability; strong links with the city center, the surrounding quarters, and the region; liveliness, density and compactness, and; walkability. The new development is further intended to help revitalize the existing city center, which presently lacks a diverse and vital urban life.

The design by Hamburgplan and Kees Christiaanse won the masterplan competition in 2000 and has since presented a framework for further planning and design decisions. The present project takes this masterplan as a starting point. It begins with an evaluative analysis of the present conditions of the city center and its potentials for a more lively urban atmosphere, as well as the potentials of the masterplan in terms of its ability to meet the aims of the city. It then explores the potentials of the two areas together to achieve these aims as a spatially integrated couple. This analysis is organized into three phases: spatial layout (with the aid of space syntax analysis); program, and; built execution (physical filling of space and interaction between buildings and streets).

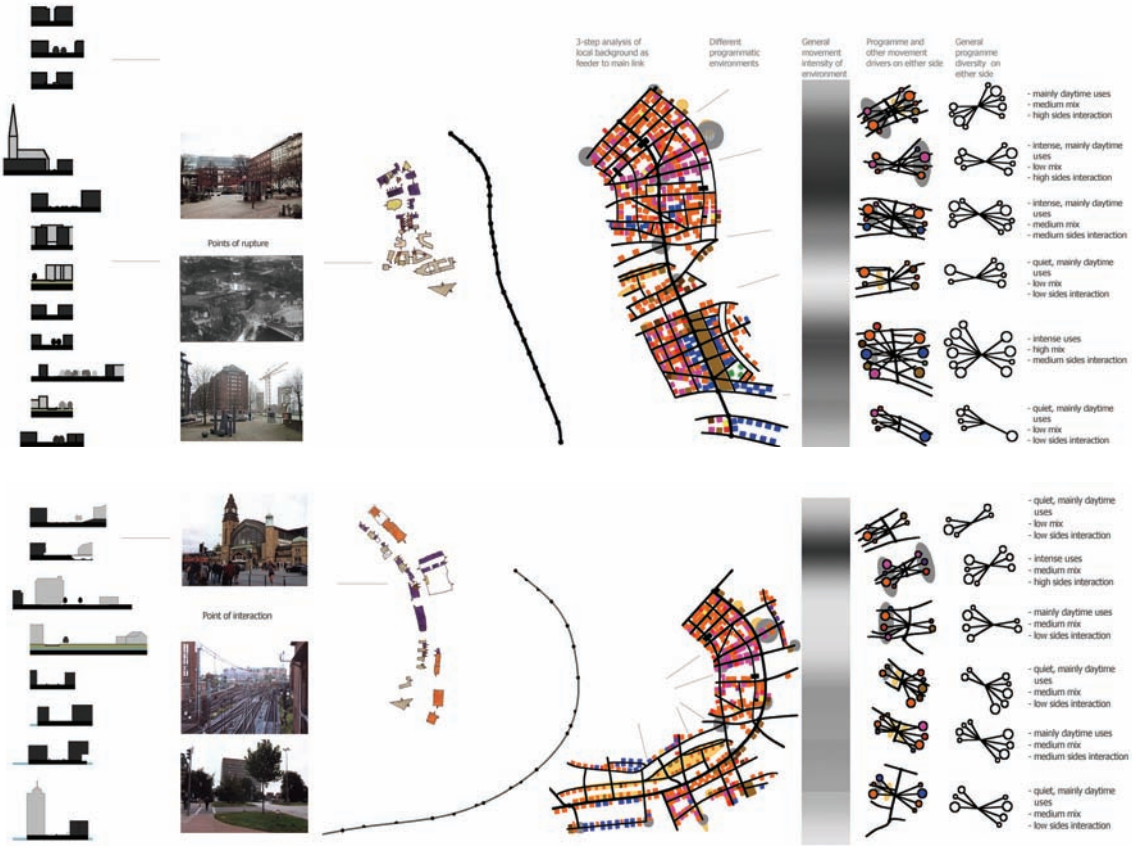




The spatial analysis takes a configurational approach with a focus on the street and on the spatial pattern as a support for urbanity and public space quality. This approach is opposed to the programmatic-architectural point of view with the focus on the individual buildings and the distribution of uses among them. The spatial layout, as a movement network, is seen as a limiting support for the program type, densities and activity levels it contains. A high density and diverse mix of program will not deliver the intended urban qualities if the spatial layout does not have the necessary integrative and connective potential to support and sustain it. It is particularly important to create a highly integrative spatial framework for this site due to its location at the edge of the center – systematically therefore subject to a decrease of integrative intensity – and its high ambitions to become a vital part of the city center. Besides the layout considerations, programmatic diversity and a fine and human scaled built execution are also considered important for a coherent and comprehensive design.

The analysis concluded that the official Hafencity masterplan has a good programmatic mixing and diversity, but that spatial integration and connectivity are very poor and the plan is not developed enough spatially to lead to the desired result. The city center on the other hand has a spatial layout with a strong potential to generate and support urban liveliness, but programmatic segregation and built execution are not able to make adequate use of it. Along the main (supergrid) links from the city center to Hafencity there are distinct points of rupture in the existing movement network fabric, which hinder orientation, movement and perceptual integration between the two parts.

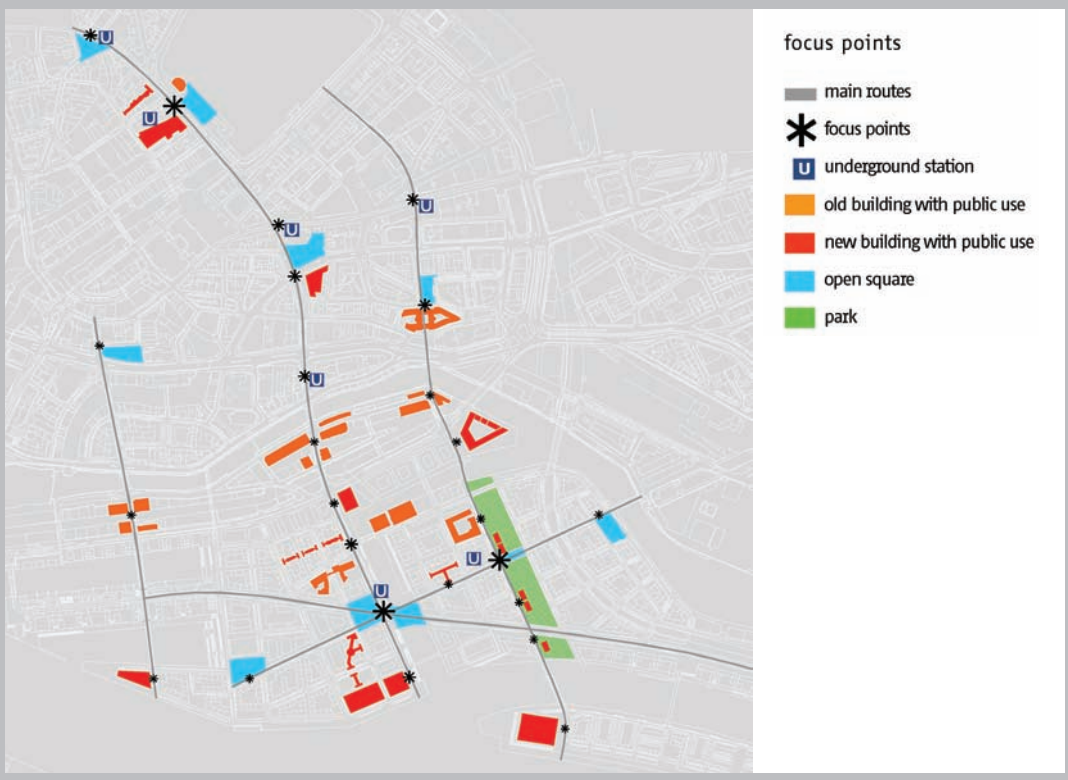
The thesis design for the Hafencity and its reintegration with the city center adjusts the factor of 'topological depth' (a technical term to do with spatial configuration – translating roughly as 'spatial complexity' or 'spatial scale layering') in the spatial hierarchy and improves the spatial integration with a few clear modifications. The spatial potential to generate and support urban liveliness is improved by improving the linkages between the center and Hafencity, so that the whole affords a wider area of high integrative centrality at local and city scales. A more diverse and balanced mix of program is also proposed. A more integrative and connective layout delivers a walkable environment integrated with other modes of movement. Guidelines for the built execution are proposed that reinforce the identity of the quarter while at the same time identifying it as a part of Hamburg. Specific interventions at the points of rupture ensure that both parts can grow together in the minds and movement patterns of people. In the end, the old city center and the new Hafencity area can together generate a lively center for Hamburg.

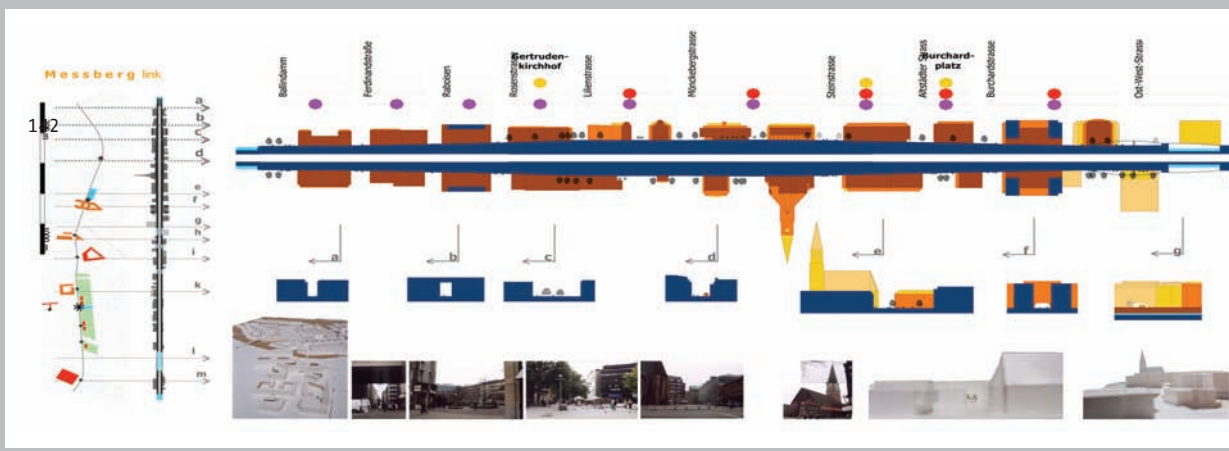


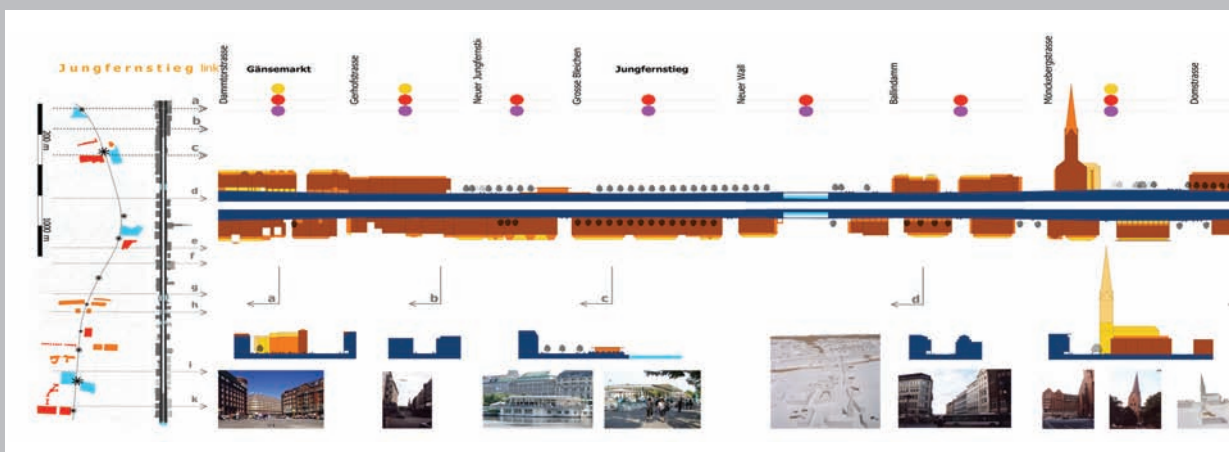
The re-design of the masterplan for Hafencity adopts a practical and pragmatic approach that tries to learn from spatial-morphological research on cities with a vibrant urbanity, and to apply these findings in a concrete design. Space syntax techniques are used to test spatial centrality and integration aspects of the design. Other approaches have tended to focus on program and built execution, ignoring the role of spatial layout, which itself has often reflected idealist utopias rather than deriving from the patterns of everyday movement and activity in the real world.

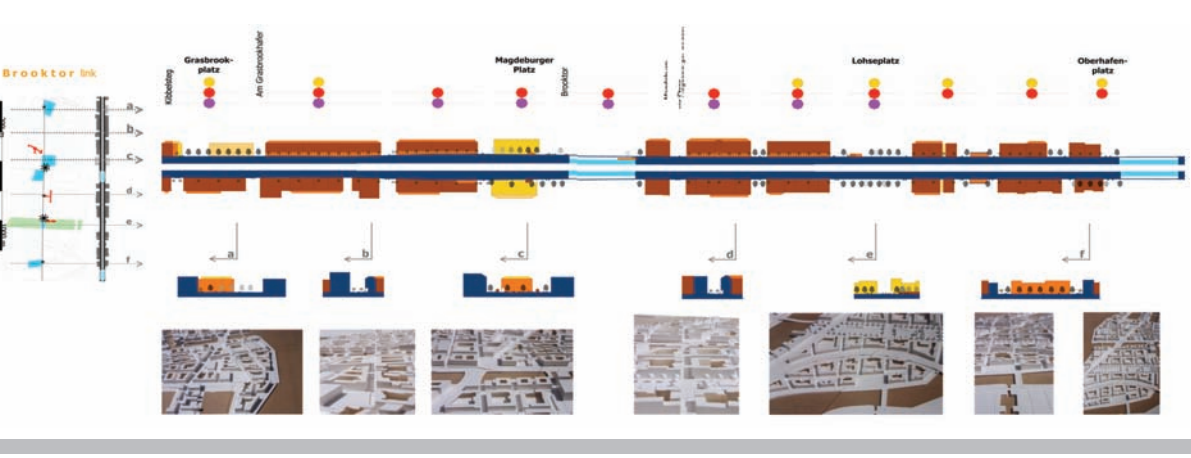
What counts is not to reinvent the city but to understand its underlying spatial principles. The new design for the Hafencity aims to bring program, layout and built execution together in a well-founded integrative spatial design. Only an approach that takes into account all key underlying aspects of urbanity is able to produce the diverse and lively city we are looking for.

Rediscovering streets and public life as the essence of cities, is the essential starting point. The human character of cities begins with face-to-face interactions, and these are encouraged in a city with a spatial layout that at the same time affords pedestrian movement, offers diversity of program bringing different people on the streets at different times and a diverse and coherent built environment and streetscape of a human scale that produces intimate and open public space.


focus points
main routes
focus points
underground station
old building with public use
new building with public use
open square
park


Messberg link
Ballindamm
Ferdinandstraße
Rabenstraße
Gertruden-kirchhof
Lilienstraße
Mönckebergstraße
Steinstraße
Alsterarkaden
Burchard-platz
Burchardstrasse
Ost-West-Strasse


Jungfernstieg link
Dammtorstraße
Gänsemarkt
Gerhofstrasse
Neuer Jungfernstieg
Große Bleichen
Jungfernstieg
Neuer Wall
Ballindamm
Mönckebergstrasse
Domstrasse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Grasbrook-platz
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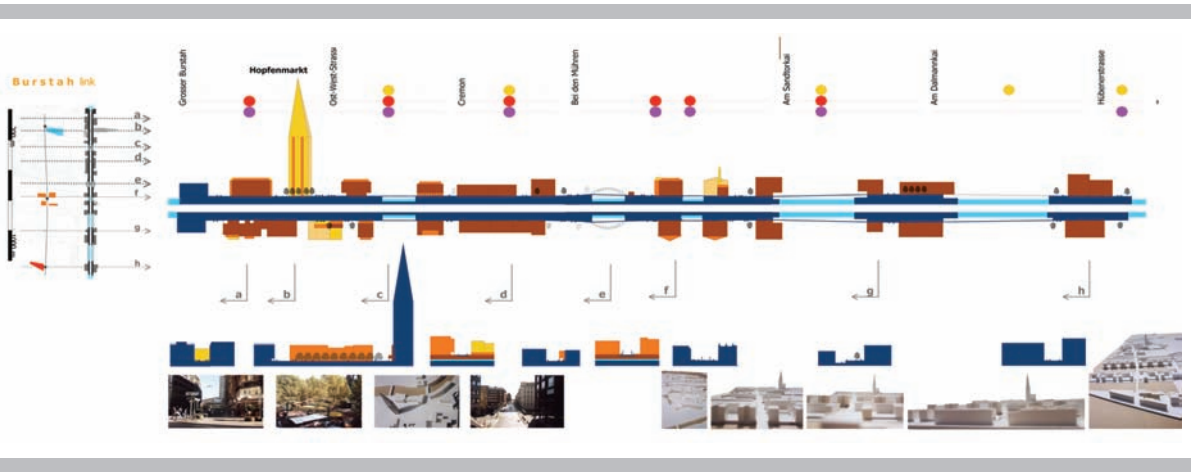
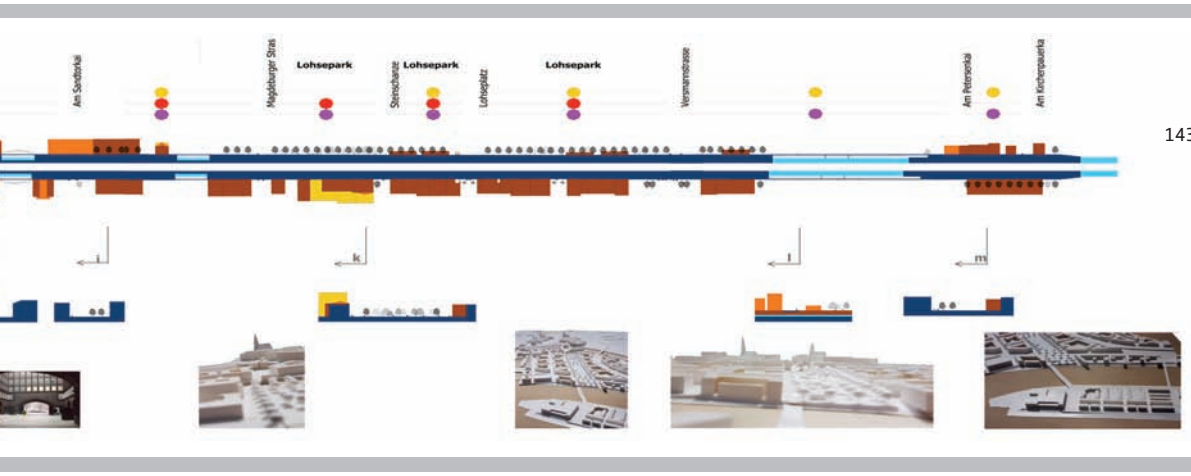
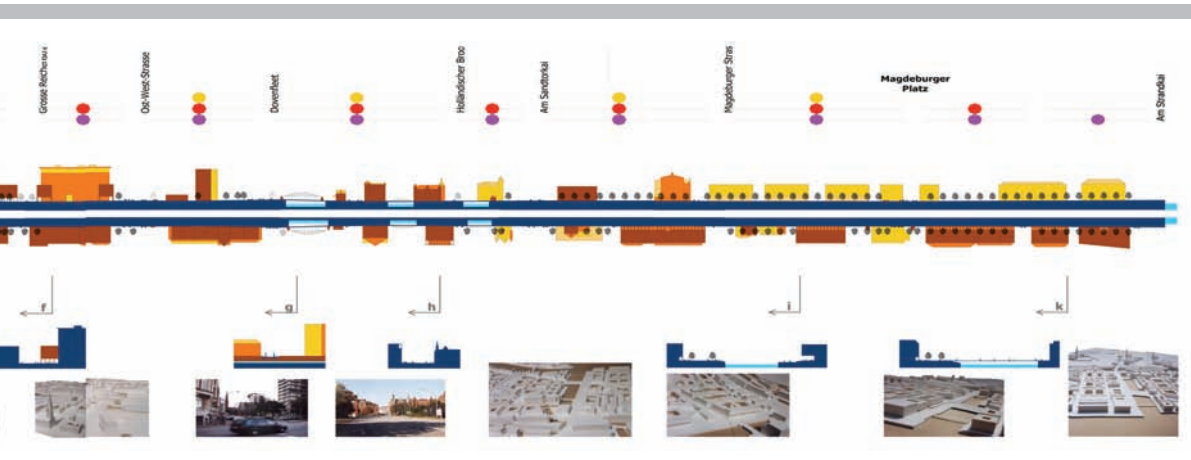
Magdeburger Platz
Brooktor
Lohseplatz
Oberhafen-platz

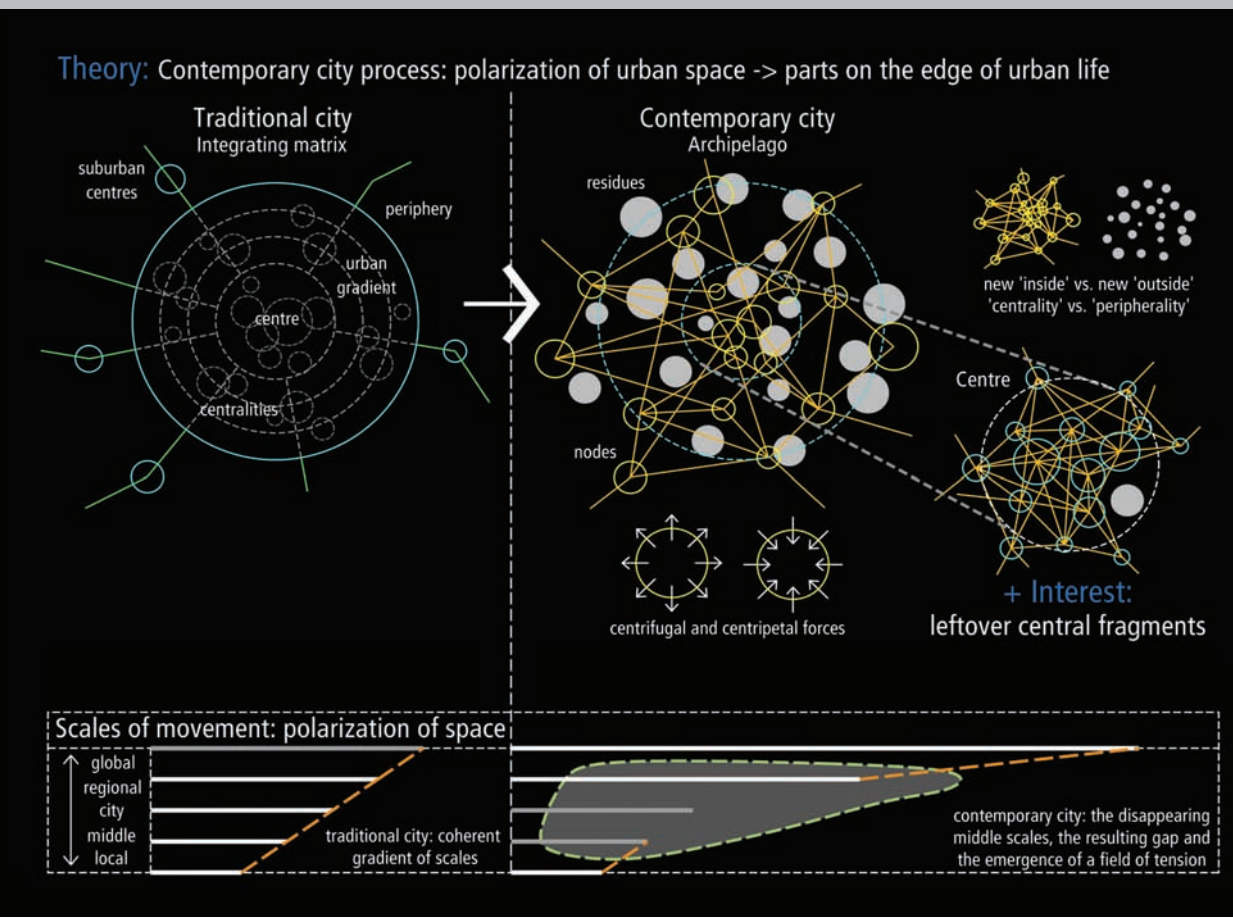

Burstah link
Grosser Burstah
Hopfenmarkt
Ost-West-Strasse
Ceremon
Bei den Mühren
Am Sandtorkai
Am Dalmannkai
Hübenstrasse


Am Sandtorkai
Magdeburger Strasse
Lohsepark
Steinschanze
Lohsepark
Lohseplatz
Lohsepark
Vermannstrasse
Am Petersenkai
Am Kirchenpauerkai


Grosse Reichenstrasse
Ost-West-Strasse
Dovenfleet
Holländischer Brook
Am Sandtorkai
Magdeburger Strasse
Magdeburger Platz
Am Strandkai

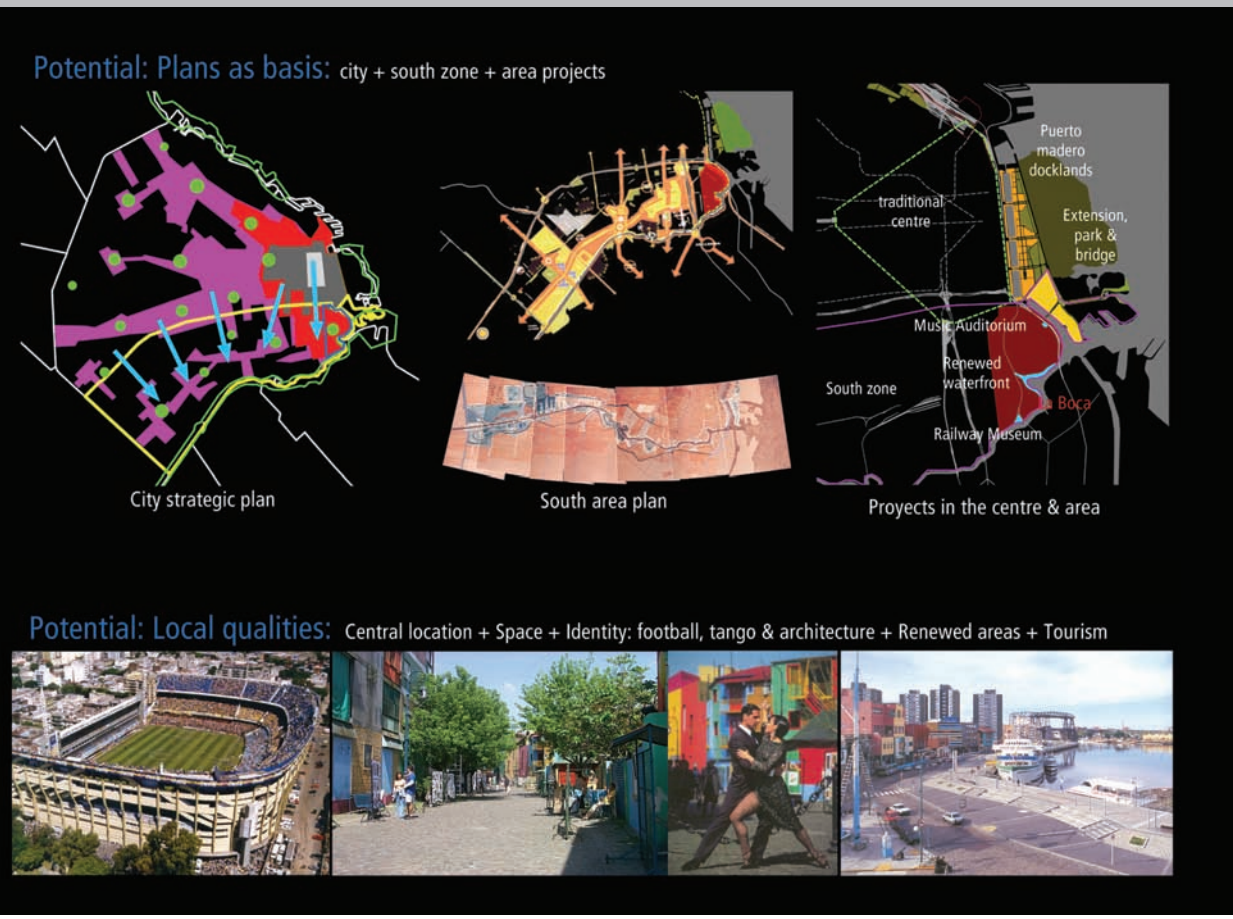
The urban center today is becoming woven through – and simultaneously complexified and animated – by the movement scales of a larger metropolitan space. Contemporary planning strategies involving 'big urban projects' tend to treat those projects as simple destinations in this metropolitan space, and to seriously fragment urban functionality and experience at the local neighborhood and 'middle' scales. A design approach which recognizes, and is able to manipulate in an integral design, the scales of the local neighborhood, the urban center *and* the metropole, will be capable of accommodating all those layers of function and experience into one design. This project addresses the revitalization of La Boca, an edge of center, former harbor district of Buenos Aires, by analyzing its relations with the rest of the city in a new dynamics of scale between center and periphery. A new strategic plan for the district addresses the increasing spatial fragmentation at scale levels below the metropolitan, the integration of higher scaled infrastructure with the more local fabric, and the integration of the waterfront into the local area.

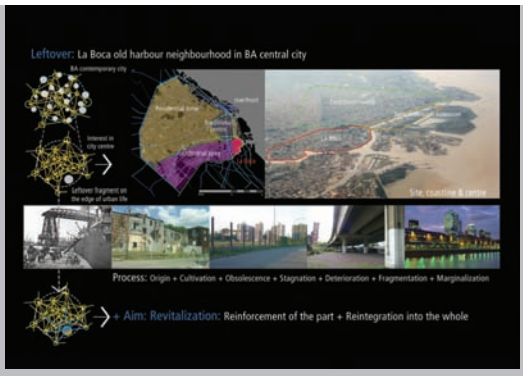
Edge in Transition
Guillermo Vidal



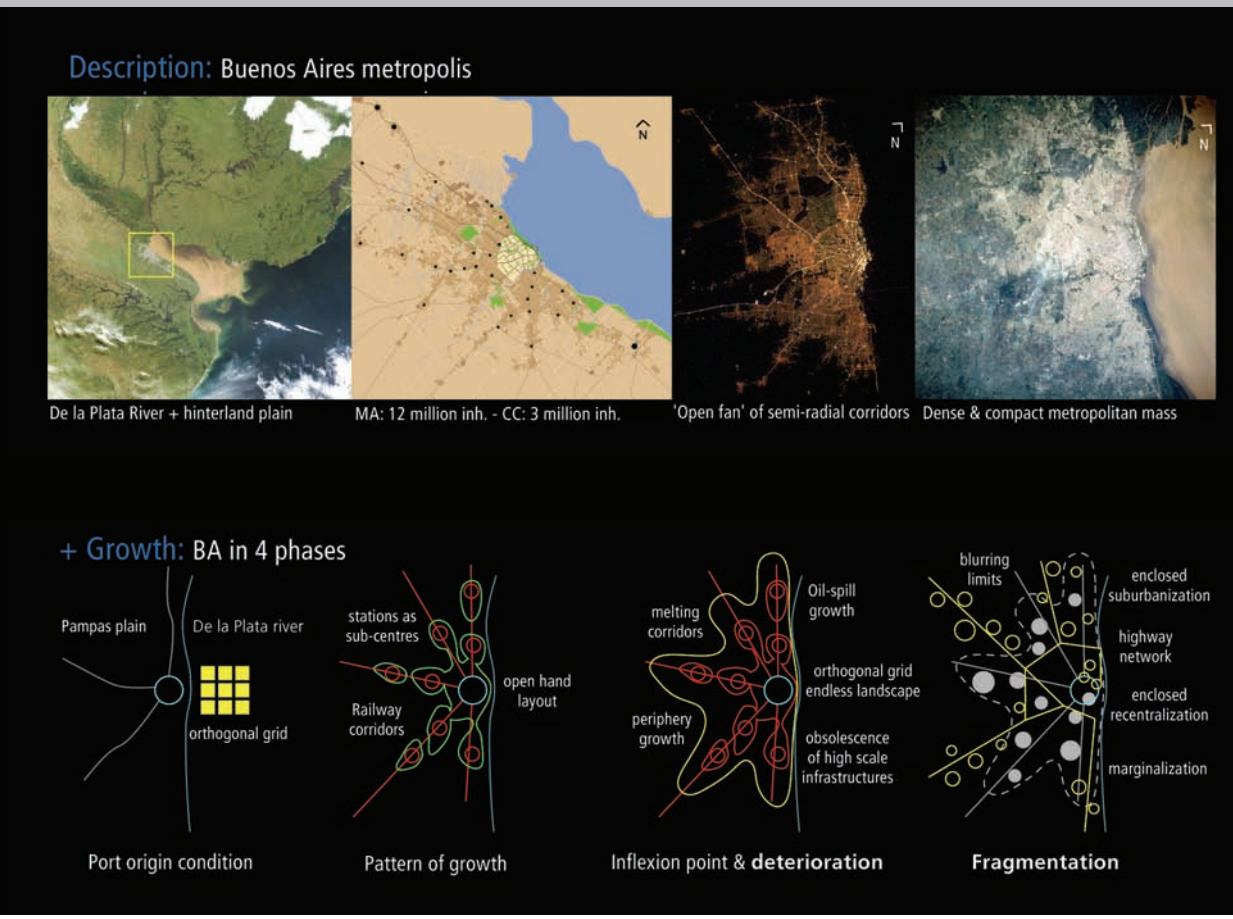
The increasingly complex urban environment has become very difficult to understand and explain. The contrast between the traditional city and the contemporary city illustrates that the city has become fragmented and polarized into different worlds, which seem to coexist in an incredible proximity throughout the entire urban field. In this sense, this work intends to comprehend the nature of the central part of this process by examining and transforming a central urban fragment lying on the edge of the zone of urban central 'life'. This fragment is La Boca, an old harbor neighborhood located just outside of the traditional urban center of Buenos Aires, the capital city of Argentina. The project is divided into five interrelated stages: Theory, Context, Analysis, Design, Review.

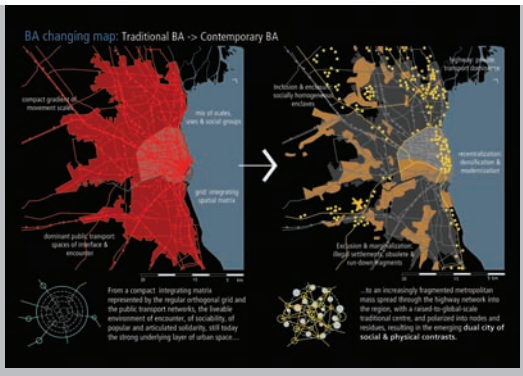
Theory: It is necessary to reflect about the bases of the fragmentation of the urban field; the disruption of its structure of scales and the resulting contrast between the traditional city and the contemporary city. In the contemporary city, the territorial dynamics are based on a 'space of flows'. This means a shift from a continuously experienced territory, to a discontinuously experienced space broken into fragments. The increasingly powerful regional or metropolitan scale is becoming dominant, and the old dichotomy between center and periphery has become difficult to apply, as the 'outside' quite suddenly disappears from the old 'inside-outside' of urban center-periphery. 'On the edge', between traditional and contemporary urbanisms, one finds the emerging 'residues', the 'leftovers', central urban fragments generally characterized by street crime, visible poverty, decaying homes and deteriorating obsolete infrastructure. These are situated just beside the new functional 'nodes', the businesses, luxury housing and commercial complexes highly connected to the highway networks, and meant for socially homogeneous groups, who secure themselves against urban 'life'.





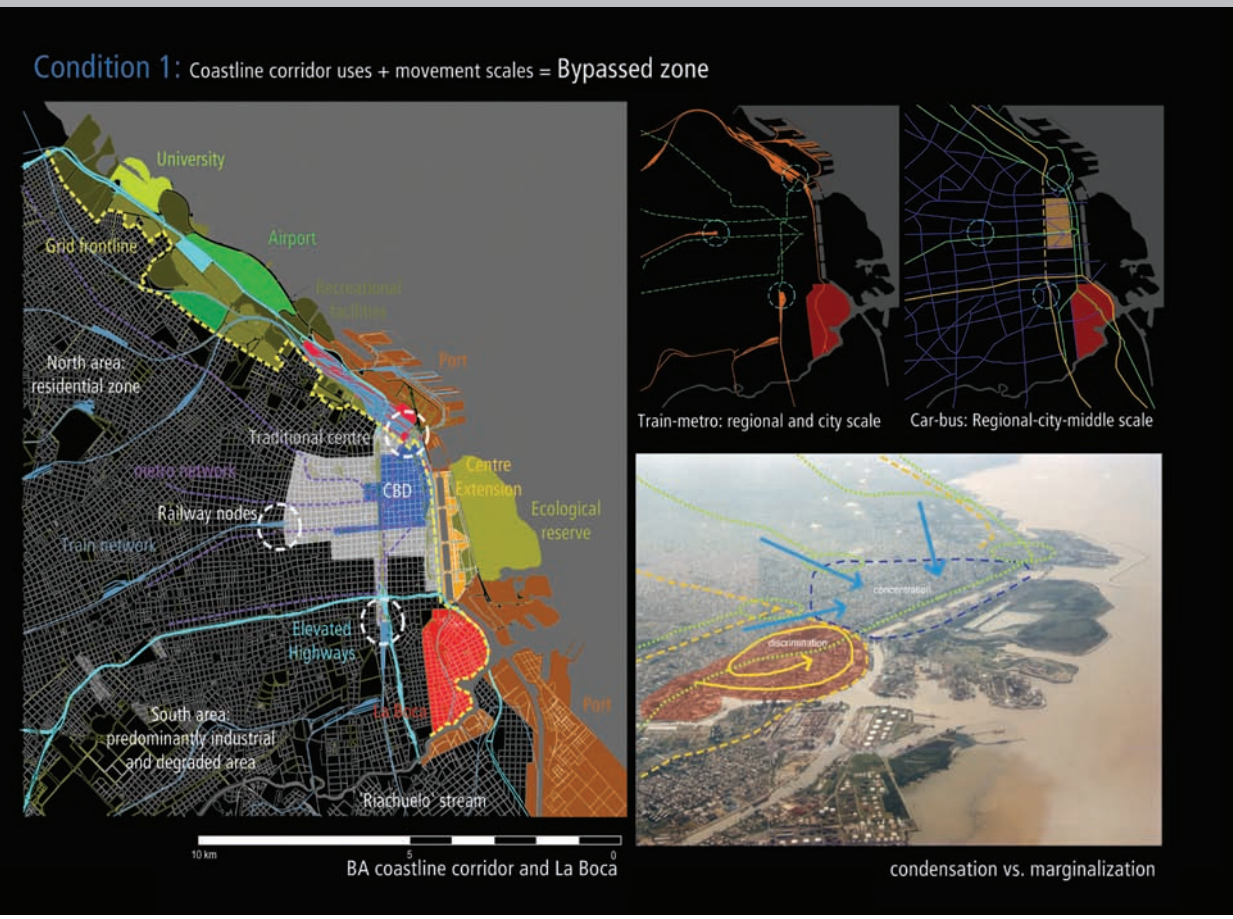
Context: In order to understand the central urban fragment condition of La Boca neighborhood, it is necessary to grasp and understand the wider context. The afore-mentioned concepts are translated into the case of Buenos Aires in order to see the changing process from 1: Traditional BA, into 2: Contemporary BA. Buenos Aires went through 1: Traditional BA; a compact integrating matrix represented by the regular orthogonal grid and the public transport networks – with a vibrant environment of encounter, of sociability, of popular and articulated solidarity (which still structures a strong underlying layer of central urban space) – into 2: Contemporary BA; an increasingly fragmented metropolitan mass spread through the highway network into the region – with an increasingly *global*-scaled traditional center, and polarized nodes and residues – resulting in the emerging 'dual city' of social and physical contrasts. In this context, La Boca represents one of these forgotten spaces, which in its origin as a harbor area was an outstanding example of the new public space in the 19th century modern city. In this sense, the project aims to generate a process of revitalization on the area focusing in two indivisible concepts: the reinforcement of the part and the reintegration into the whole; maintaining its local qualities and incorporating it into the experiential map of the city.

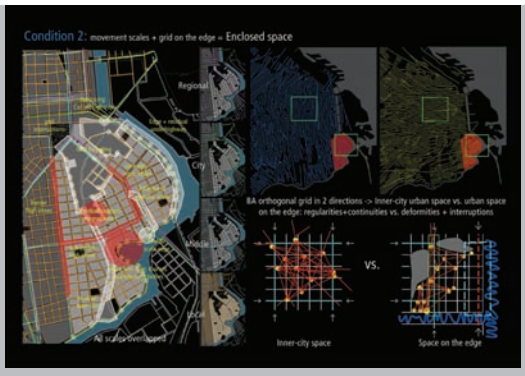




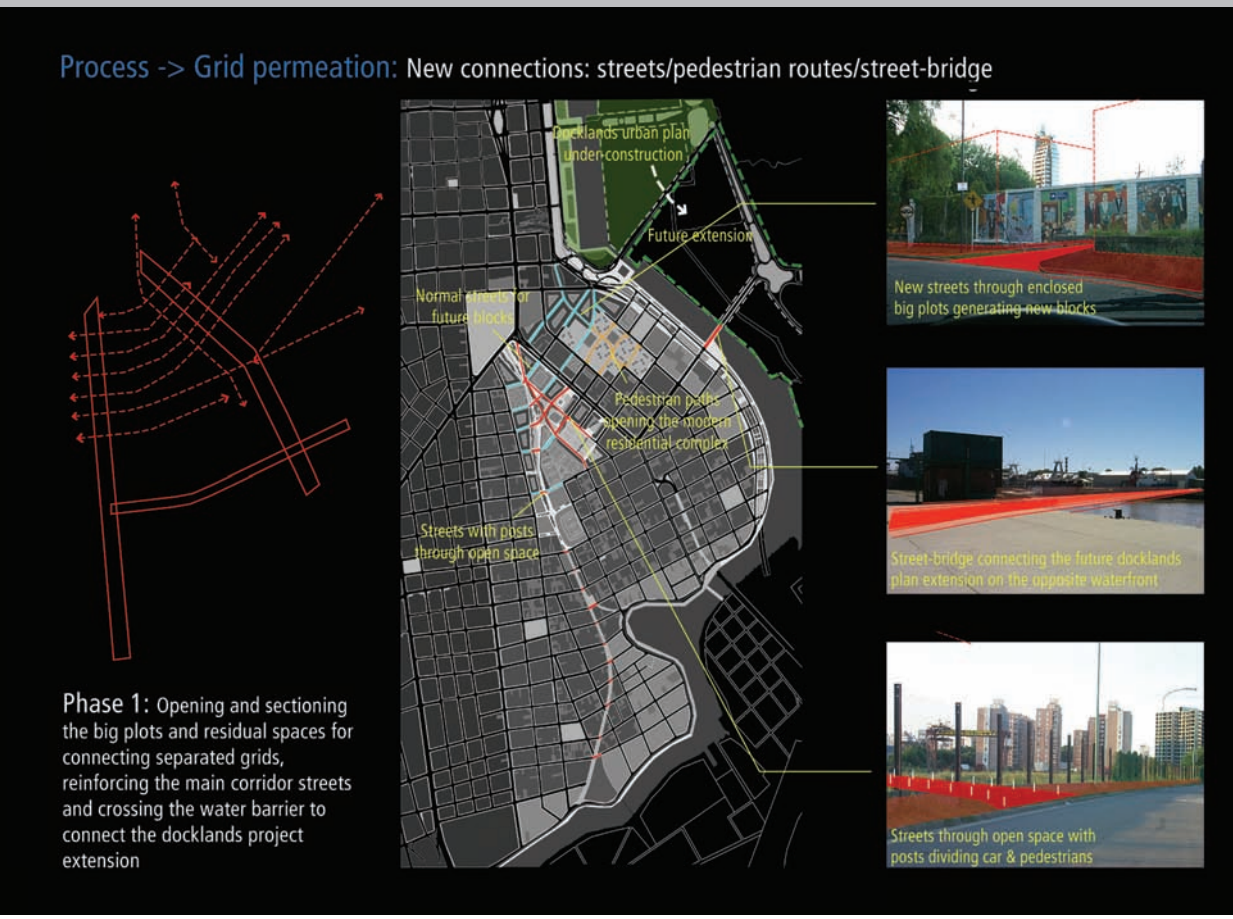
Analysis: Examining the site closer, the situation of urban fragment can be explained by analyzing three main conditions. The first is related to the scale of BA's coastline corridor, a metropolitan-scaled feature which contains the traditional center. The movement scales and 'corridor' programs make La Boca a 'metropolitan by-pass zone'. Zooming in, the second condition is related to the scale of the site: the interruptions of the grid and its special condition of 'grid on the edge' determines that the site becomes an 'enclosed space'. The third condition is also related to the scale of the site: analyzing and mapping the main components that form La Boca's physical fabric it is possible to determine that the site is a 'mosaic of contrasts'. As a result of the analysis and in order to proceed to the design stage, the 'enclosed space' condition and the 'mosaic of contrasts' conditions have been merged, and three main areas have been defined along the site as a guide for the design proposal.

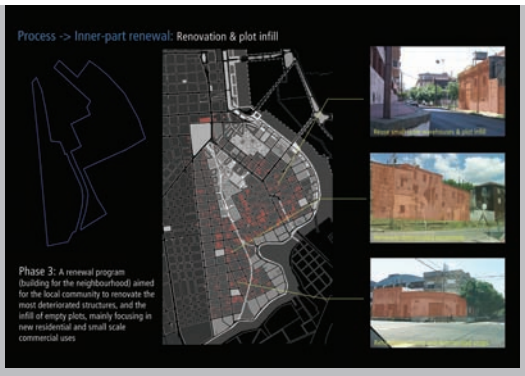
Design: The three areas are used as a flexible starting point to generate a strategy for the whole site. The general objective is to reinforce La Boca's local qualities, interconnecting its cultural, touristic and recreational assets, incorporating new social groups and mixing them with the local community through the ways different scales come together in its local fabric. It is intended in this way to



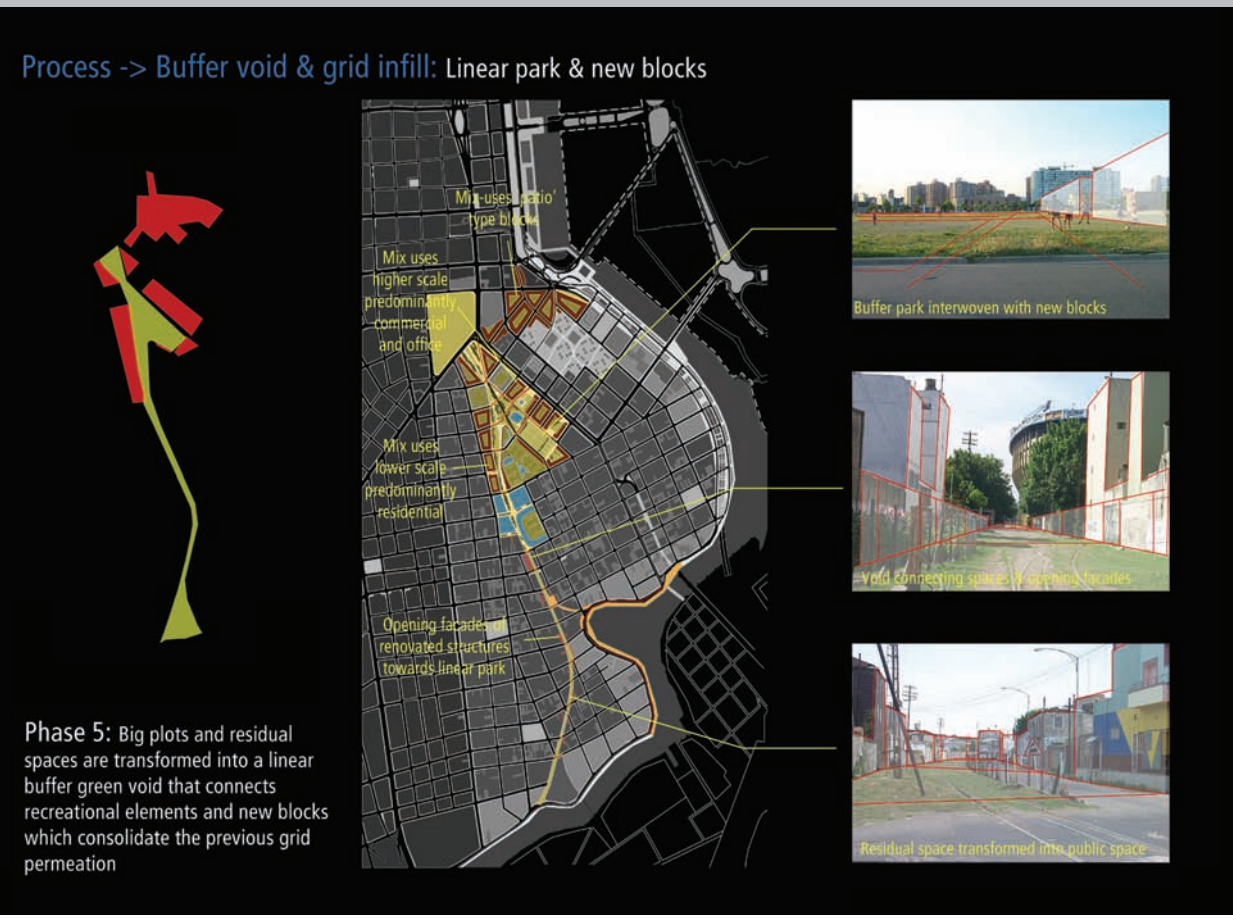


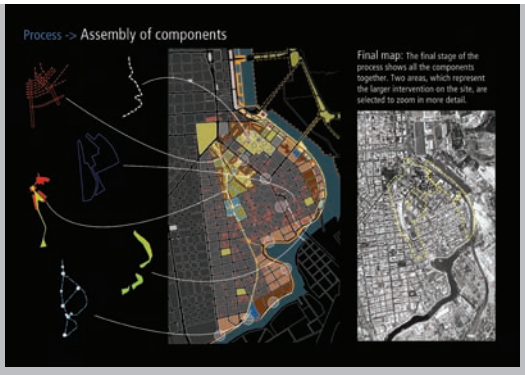
reintegrate the site into the experiential map of BA. In order to drive the new regenerative dynamics, the problems seen in the area require several initiatives and a variety of interventions. The general strategy is to propose solutions that form a 'regenerative complexity' – where each intervention is aimed at the specific characteristic of the 'part', but at the same time is integrated functionally and experientially with the 'whole'. The final vision map outlining the strategy is then generated, with the following design components: Grid permeation + City tram connection + Inner-neighborhood renewal + Buffer void & grid infill + Recreational circuit + Waterfront development. These are applied on the site in sequential phases, which overlap with each other, respecting the order needed to establish bases for later stages to develop. The objective is that phases work as catalysts that generate a coherent transition from the existing state into the desired future one. Two sub-areas are chosen to zoom in and depict programs, functional patterns and realizations in more detail.



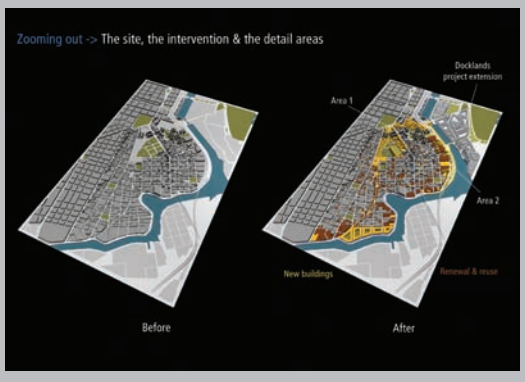


Review: In order to 'reinforce' the neighborhood of La Boca and 'reintegrate' it into the wider context, the desired effect of the multiple-component strategy is to generate a dense mesh of overlapping loops, 'opening' the local fabric to movements at different scales, mapped in terms of multiple social groups – including locals and strangers – and crossing one another in many different situated places. The conditions for 'filtering and mixing' are set-up to allow a diagram of diversity, where 'interfacing' different co-present populations is the common denominator. Zooming out, at a wider scale, the proposal would work as a catalyzing development to reduce the gap between the north and the forgotten south part of Buenos Aires. Nowadays, the role that La Boca plays in the larger city is weak, yet it holds powerful potentials. The project presents one possible way in which La Boca may develop the opportunity for a genuine integrative role – where a recreational, sporting, and tourist identity can be experienced at all scales, resulting in a local that can be experienced as





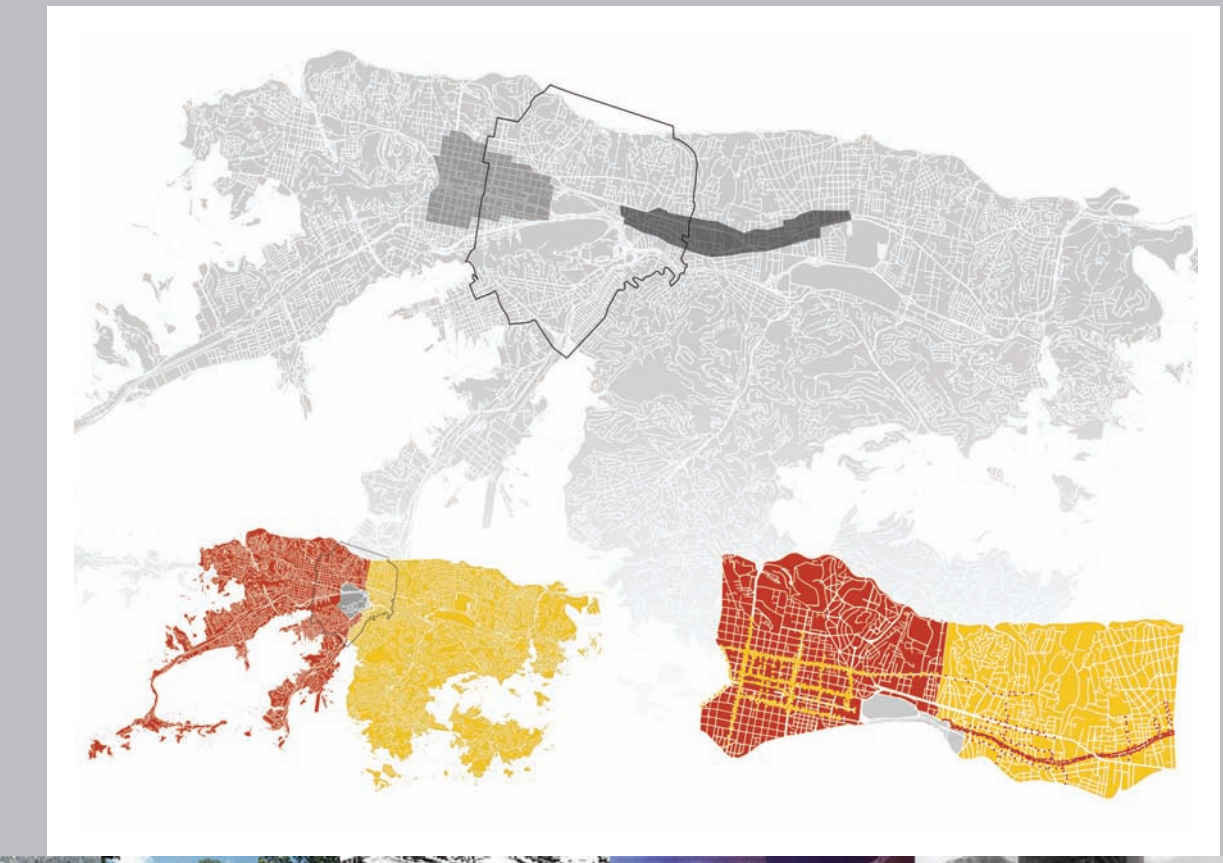
implicated in the neighborhood to the global scales. The traditional spaces for encounter and sociability between different publics are giving way to homogenized and enclosed spaces of fear between social groups – in this sense, this proposal for reinforcing and reintegrating a central urban fragment on the edge of urban 'life' intends to contribute to increasing situated social heterogeneity within our contemporary urban condition.



It is clear that the present-day dispersed mobile city, operating in its bulk movements on the new metropolitan grids, generates its own 'synekism' which we see in 'edge cities' and in edge-of-centre developments, but it is clear also that 'synekisms' generated at lower scale levels are important for our experience of urban spatial quality. It is increasingly clear also that these lower scaled 'synekisms' generate added value even at higher economic levels – that concentrations of relations and activity at these lower scales become integral with the operation of global financial markets for example. The 'machines' we build today are of object-places, related in a very tenuous way to a movement network at the new dominant scale of the metropolis. This project contrives a weaving together of the logics of an 'edge city' metropolitan-scaled development with those of an urban center – repairing a segment of central urban fabric in Caracas and connecting it at the Plaza Venezuela to the trans-national highway to create a new central financial district for the city.

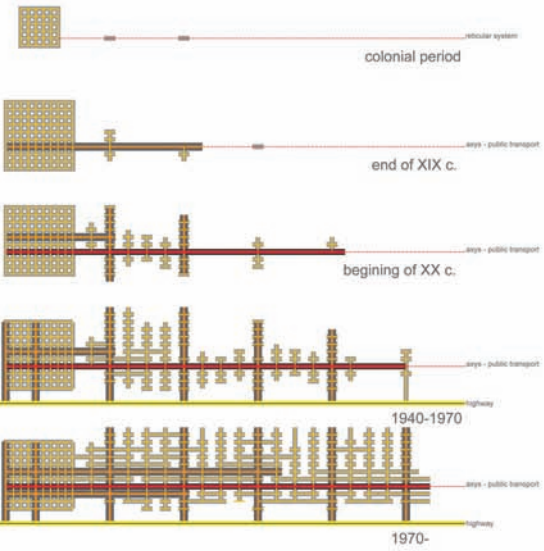
Urban Compressor: Urban Transformation Plan for Plaza Venezuela Area, Caracas

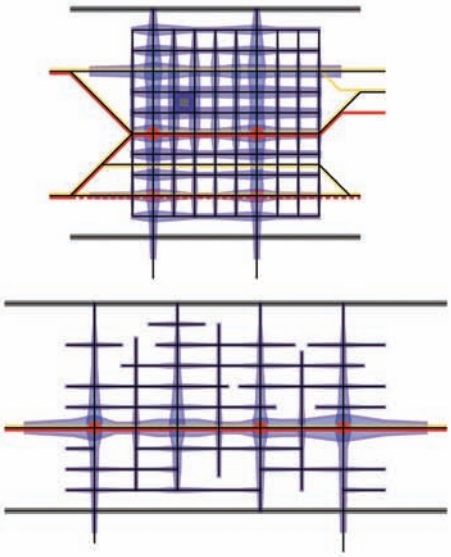
Gonzalo Lacurcia

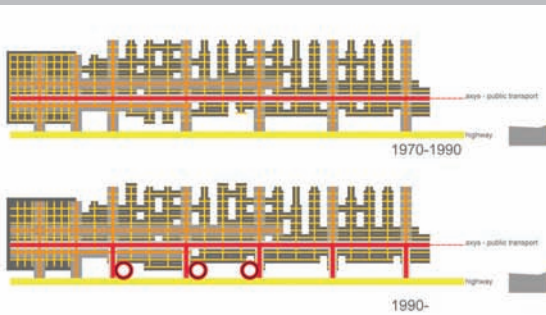


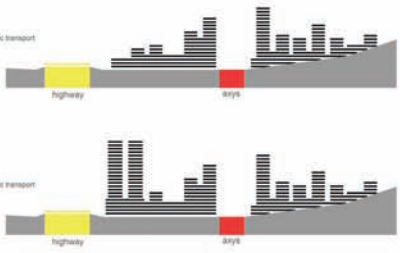
The Plaza Venezuela area is located right in the middle of Caracas, extremely well served by both highway and metro systems, and between two clear central conditions of the city (the historical and the new centers). But the place itself is manifested as a collection of fragments interrupting the continuity of the city. The problem is defined then as how to intervene in such a strategic location in a way that could be useful not only for the area itself – which is depressed and rundown despite its apparent 'centrality' – but for the entire city.

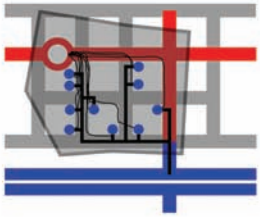
Caracas has been developed following different urban approaches. From the 1950s onward, the city has grown for the most part by the aggregation of isolated urban patches, most of them strongly socially separated. This situation has not only created a condition of physical discontinuity in large parts of the city, but has also left a deficit of places where different social groups are able, within the normal physical fabric of the city, to gather together. The Plaza Venezuela area constitutes also that imaginary line dividing the generally accepted east-west/rich-poor division of the city. The research-design deals with the problem of transforming the socially and perceptually 'empty' area of Plaza Venezuela into a new central condition linking the two existing zones, and mediating the gap between the one part of the city and the other. It tries to use the potentials of the area as a metropolitan-scaled centrality as the 'motor' to achieve these ends.









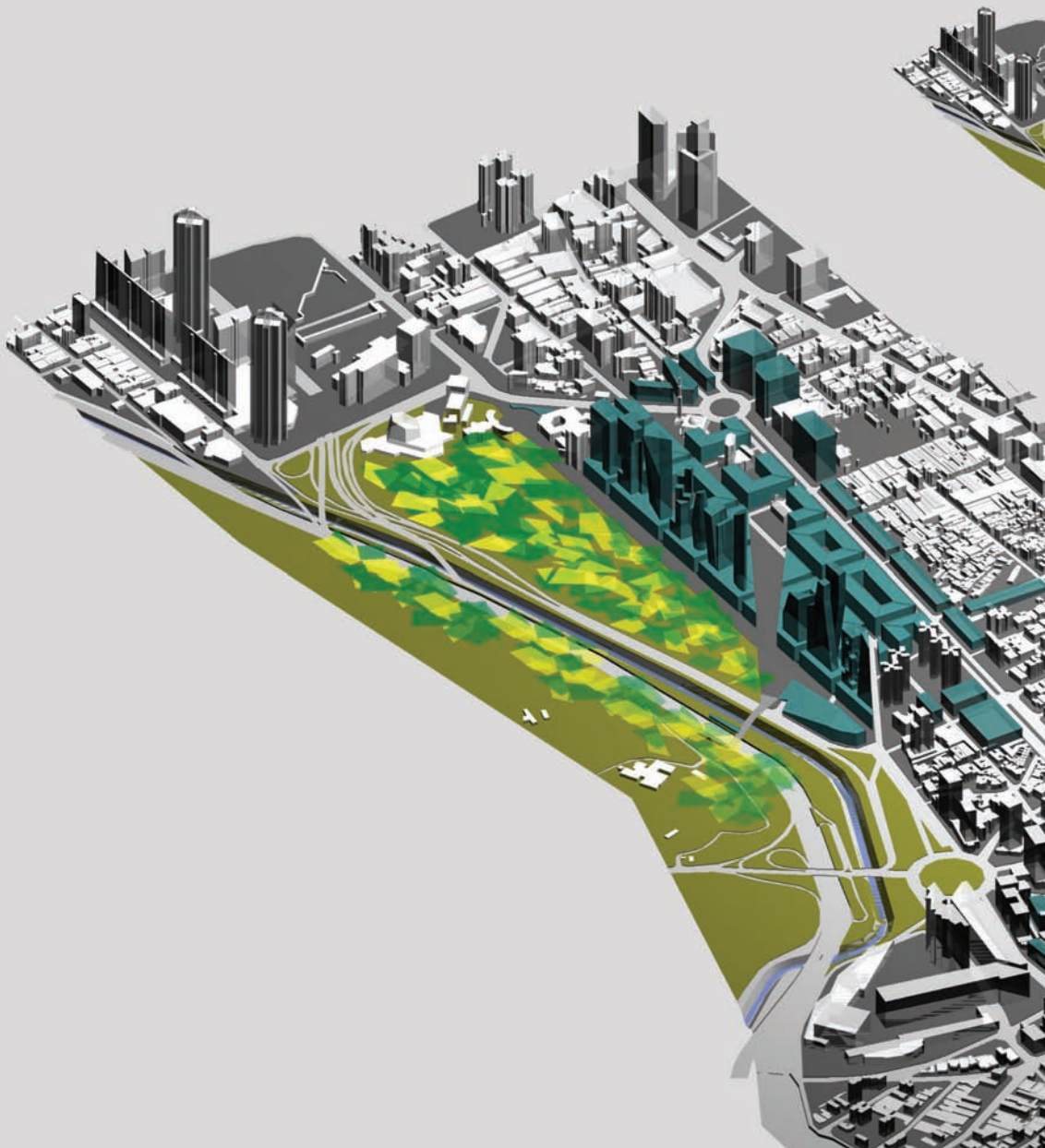


An analysis of Caracas' current plan structure shows four elements that appears to be relevant for the appearance of a 'centrality' condition:

1: Continuity of east-west lines. From the beginning of the 20th century, Caracas' gridded historical center has tended to expand following the direction of the valley. East-west connections have become lines of concentration of activities, a situation that has been reinforced by the introduction of public transport along these lines, and especially after the construction of the metro system. The continuity of these lines would appear to be an important factor with regard to the continuity of a central condition.

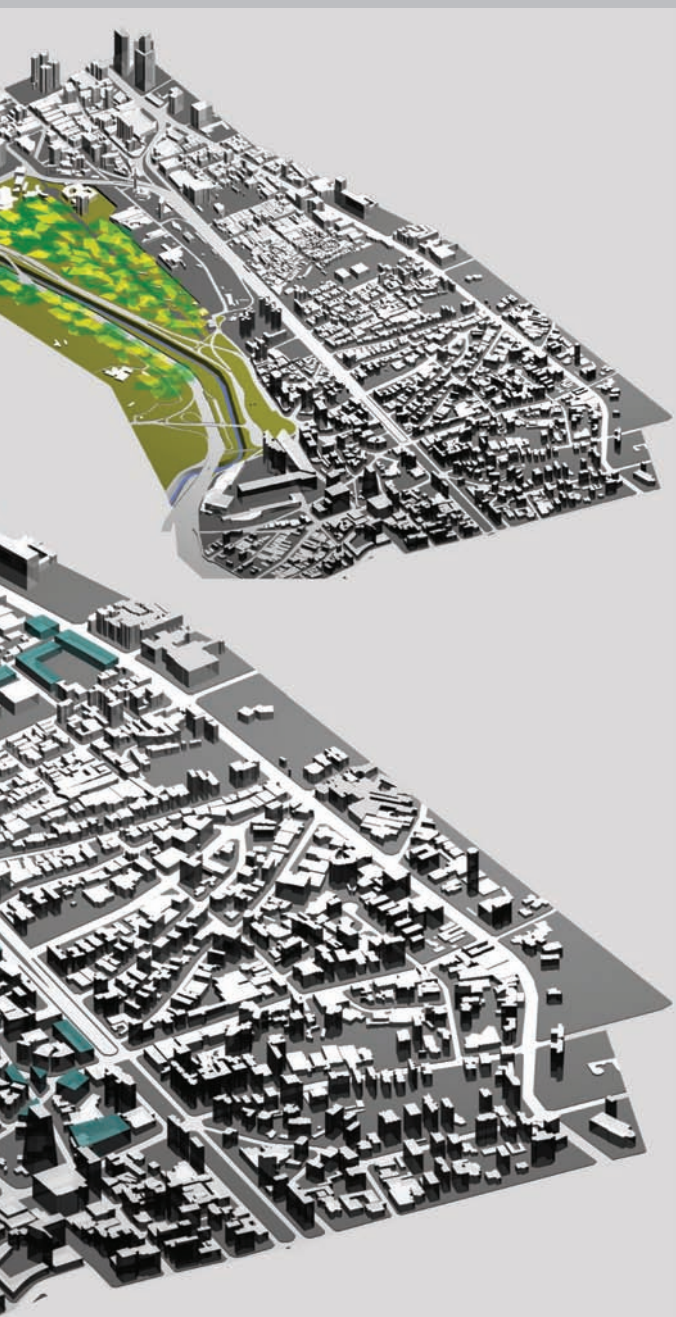
2: Accessibility from local lines. In the opposite direction, north-south connections have retained a more local color. The 'centrality' of the east-west lines seems to be affected and *infected* by the local lines transecting them, and is supported by these lines. In some places on these central lines, where few local connections are made, there is a clear decrease, and in some cases a disappearance, of the perceived 'central' condition. On the other hand, where the number of local lines crossing the east-west central connections increase, an increase of street occupancy and intensity of activity is apparent. These differentiations in the qualities of situated urban 'life' demonstrate the 'in depth' functionality of urban space.

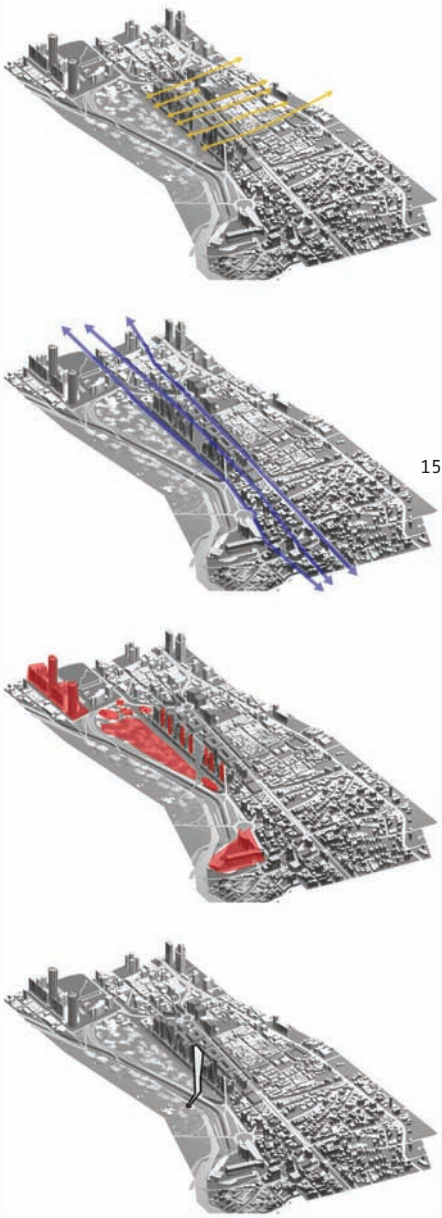
3: The metropolitan-scaled centrality of the highway. As elsewhere in the world, in the last decades Caracas has seen an increase in the importance of private car use and the emergence of the highway network as a fundamental (distributed) centrality of the city (see p. 80). The appearance of a dense concentration of activities near the highway – the so-called 'edge city' effect – is not a new phenomenon in Caracas. Nevertheless, because the main national highway has been constructed



following the same east-west direction and just few meters away from the central axis of the city, it has had an enormous impact on the gridded part of the city, and especially in the Plaza Venezuela area. Malls, office complexes, leisure or theme parks, commercial depots, all kind of uses generally related to the highway are found close to the gridded city, and are easy accessible from public transport or by pedestrian movement.

4: Street level transfer system. Being located close to the very heart of Caracas, the highway system has become the main structuring element of the city, It organizes the flows of private as well as public transport, which often has no other means of reaching the central areas. Because the city has nothing like a central bus station for local and metropolitan lines, the transfer between different transport modes – car, buses, metro and pedestrian – is done in small areas located at the junctions of the highway's off-ramps and metro station entrances. These areas – sometimes located along several blocks – become extremely lively with an dense variety of activities, that extend well into the night.





The proposal for the area is built around a simple physical intervention in the urban plan with the purpose of exploiting all of the elements previously analyzed.

The first two elements are exploited by extending the existing gridded pattern of the adjacent central areas through the project site. The most important east-west connections of the city, at present interrupted at Plaza Venezuela, are reconnected creating an axis that runs the length of the valley. This new connection makes possible a walkable urban area crossing the existing park. Several other connections, working at the scale of the urban grid run parallel to the new axis complementing the movement system.

At the same time, by transforming the character of the northern expressway in this grid pattern into a normal avenue with traffic lights and pedestrian crossings, north-south connections are able to intersect the main movement axes and bring the densely populated areas to the north into the new configuration.

The metropolitan centrality associated with the highway is managed in two complementary ways: firstly by proposing high densities and metropolitan scaled activities like high-rise office buildings and commercial areas along the principal east-west axis, that exploit the proximity of the highway and metro; and; secondly, by using the grid to integrate the area locally, and improve lower-scaled accessibility to the already existing attractors, like the park itself, the different religious buildings and the big cultural complex. Providing an almost direct connection to the highway system and a high quantity of parking space reinforces this operation.

It is proposed that the area become a transportation exchange system, with a bus station for interurban lines near the highway, as well as a new metro station in addition to the existing station – all of this creating, with all the parking, an important transfer node in the city.

A diagonal space cut through the grid, forming a long square, becomes a social condenser and meeting point for a complex of activities, densities and scales, where people crossing the city meet others transferring from the bus to the metro; and the person coming back home to the area crosses paths with others leaving their office buildings or going to the cinema or the opera.

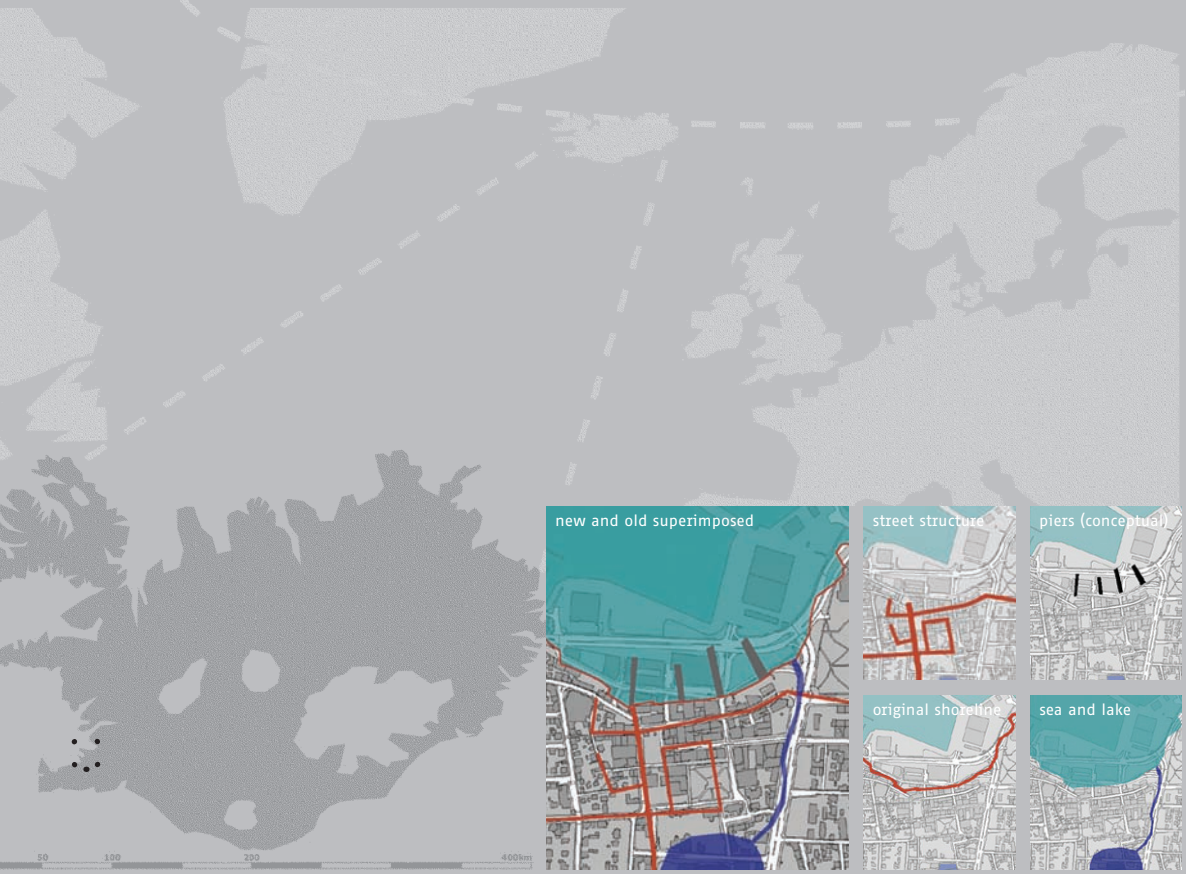
Movement is one of the most important factors sustaining public life. The city itself can be defined as a layering of multiple movement networks. However, movement has changed profoundly over the last decades, and the emergence of the private car as a mass transportation mode has not only introduced an infrastructure into cities that has changed their relations and morphology, but has also raised the possibility that people may live in the city without participating substantially in its everyday public life.

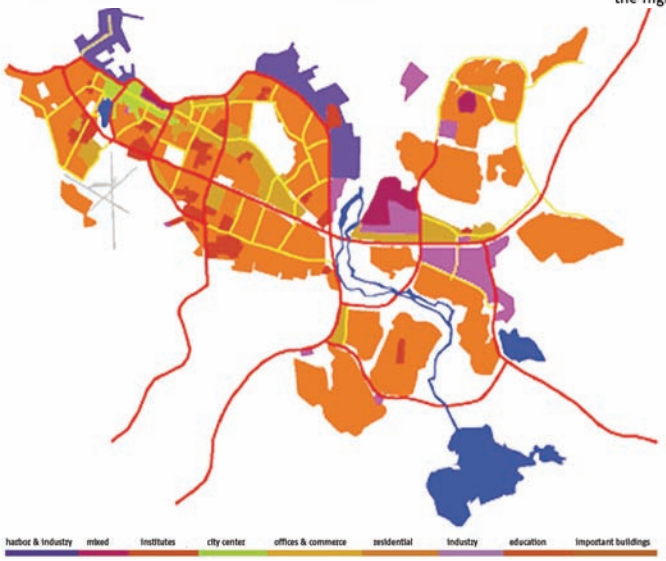
This research-design work has attempted to study the impact of contemporary modes of movement and their consequences on the construction of an urban metropolitan public space. It has exploited the morphological particularities of Caracas to integrate activities that one may normally expect to emerge in the metropolitan 'periphery' into a mixed urban public space. The future of public space – and therefore, of the city as a place where the encounter between different activities, social groups and cultures takes place – could be seen as a design issue at the metropolitan scale, dependant on exploiting the contingent possibilities of bringing together different transport modes to make lived public 'places', constructed 'in depth', in the city.

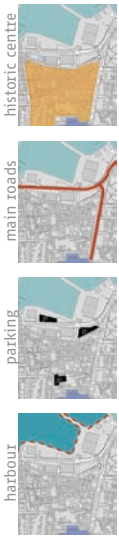
The edges of our traditional central cities have taken on radically different qualities with the explosion of the mobilities of urban populations and their shift, as mobile populations, into the movement space of the metropolitan city. In certain zones, like waterfront areas for example, these changes have had the effect of cutting urban centers from positive edges like waterfronts (formerly porous and sustaining of the center) and replacing these edges with diffuse disorienting and fragmenting 'wasteland' zones of metropolitan scaled movement, parking, warehousing and the vacant space of former harbor, fishing and industrial functions. This project analyzes patterns of movement and flow of the highly mobile population of Reykjavik, and the working relations of the harbor with the rest of the city, in order to design or *re*-design a spatial and experiential and functional relation between waterfront and center. In a city where tourism is the new growth industry, the project maintains a working fishing harbor on the water's edge while re-establishing the lost productive relationship between the central city and the sea.

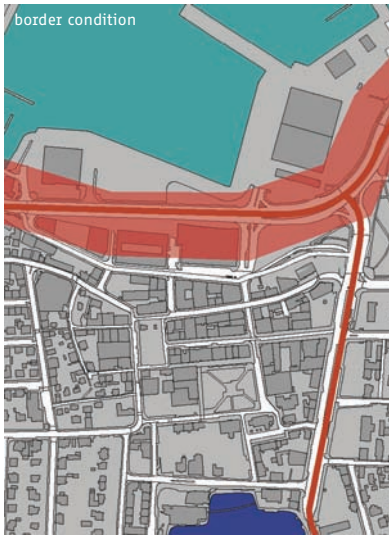
Re-Thinking the Border: Between Reykjavik City Centre and Harbor

Smàri Jonsson









city center | center blurring out | 'wasteland' in-between | harbor

In the middle of the North Atlantic Ocean, just south of the Arctic Circle, the island of Iceland rises from the sea. It is inhabited by a population of only 290 000 people, half of whom live in the capital and only city, Reykjavik.

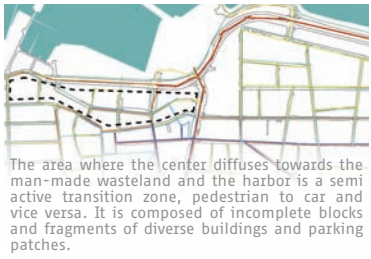
The old city center of Reykjavik is changing as people become more mobile and the periphery expands with the process of suburbanization, and as tourism and the services economy intrude on the economic dominance of the fishing industry. The old harbor, which originally gave birth to the city, is also in transformation, and the focus of the project is on the changing interaction between the city center and the harbor, the active border between these two parts of the city, and how this relationship can be developed and implemented in the future. It is about setting the stage and defining in which direction the center needs to be developed in the light of changing social and economic conditions.

The subject is not so much the center itself or the harbor as it is, but the possibilities existing in the changes of these things, and in the link between the two. The project is an attempt to extend and reconfigure the center, and to adapt it to its new more specialized roles in the total life of the city. These roles include those of shopping, entertainment and tourism, but the emphasis is also on

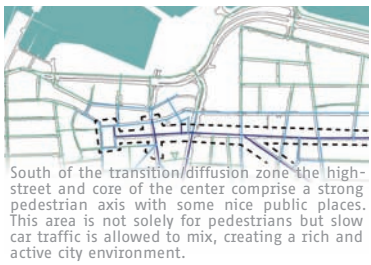
maintaining an urban mix and a rich and diverse vitality. Part of the problem is the need to deal with changes at the waterfront which have come about due to increased mobility and the effects of mass car ownership. At present the area in between center and harbor is occupied by infrastructure and parking lots. It is a man made land built initially to serve the needs of a growing harbor but taken over now mostly as a car park. It is a wasteland and a perceptual barrier between city and waterfront. The task here is to re-unite the city and harbor and change the no-mans land into a legible and active border where center and harbor meet.

Reykjavik old city center is the only place in the city where diverse uses and functions mix to create a rich and active urban environment. But the area is not extensive, limited for the most part to one high-street and a small portion of the center itself. Something is missing and the old city center still seems to lack the kind of identity and legibility it had in its early days as a harbor city. Then the street

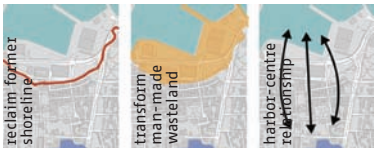
The Wasteland on the man made patch of land between center and harbor is currently occupied by infrastructure and parking. Car traffic enters the center in this area, not leaving much space for pedestrians or quality public spaces.



The area where the center diffuses towards the man-made wasteland and the harbor is a semi active transition zone, pedestrian to car and vice versa. It is composed of incomplete blocks and fragments of diverse buildings and parking patches.



South of the transition/diffusion zone the high-street and core of the center comprise a strong pedestrian axis with some nice public places. This area is not solely for pedestrians but slow car traffic is allowed to mix, creating a rich and active city environment.

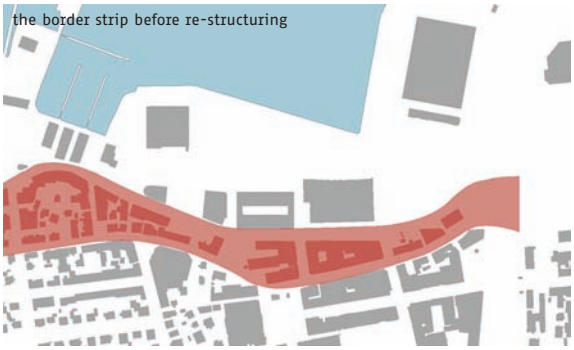


pattern followed the shoreline and formed the logical continuity of the harbor. It formed a legible interwoven whole supporting an intimate relationship between city, harbor and the sea.

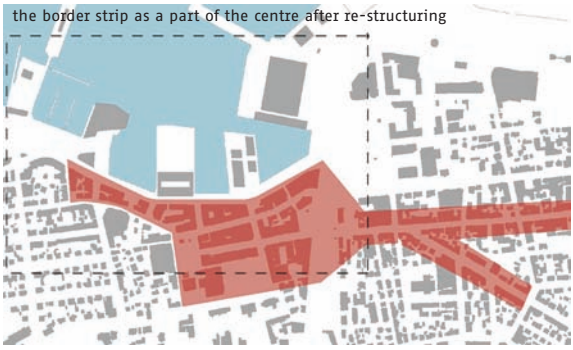
If the original shoreline is superimposed over the current city plan the structure begins to make sense again, and the relation between harbor and city again becomes apparent. This relation has been obscured by the moving and changing of the original shoreline. The city has in a sense had its back turned on the harbor, and vice versa, and it has become difficult to find the open border that defines the relationship between the two for the user. The existing zone between center and harbor, functionally acting as a traffic interchange feeding traffic from the eastern parts of the city into the center, acts perceptually as one of disorientation. There is a scale interchange on this border zone, where the scale of the new extended metropolitan city meets the scale of the center. The area has been dealt with as a problem of traffic engineering and parking. The link to the center is made at two or three junctions that control traffic flow into and out of the center, restricting movement trough the street structure, so that parts of the center are left out as dead zones while others just next to them are served directly from the metropolitan network and are very active without becoming parts of a integrated vital urban street scene.

In the present project, three main actions are suggested as means of addressing the aforementioned problems; 1: Re-definition of the nature of the thoroughfare between center and harbor, shifting its configuration from that of a highway-like main road to a slower inner city boulevard; 2: Restoring the harbor to its original line, giving the street layout it's original logic and; 3: Repairing the block structure, continuing the fabric of the center all the way to the edge where the urban structure meets the water and the harbor.

the border strip before re-structuring

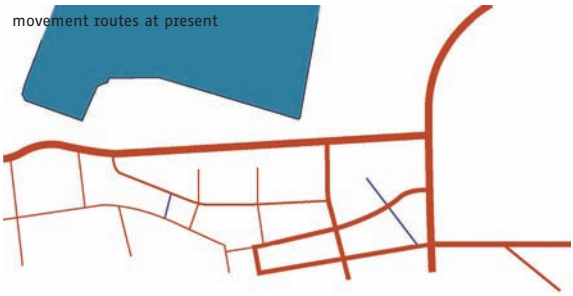


the border strip as a part of the centre after re-structuring



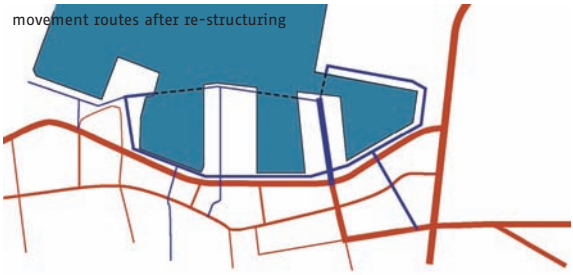
existing situation

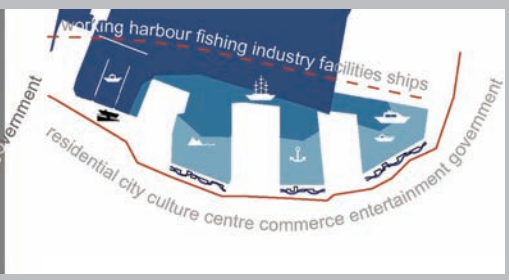
movement routes at present

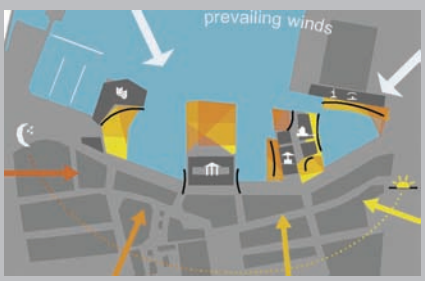


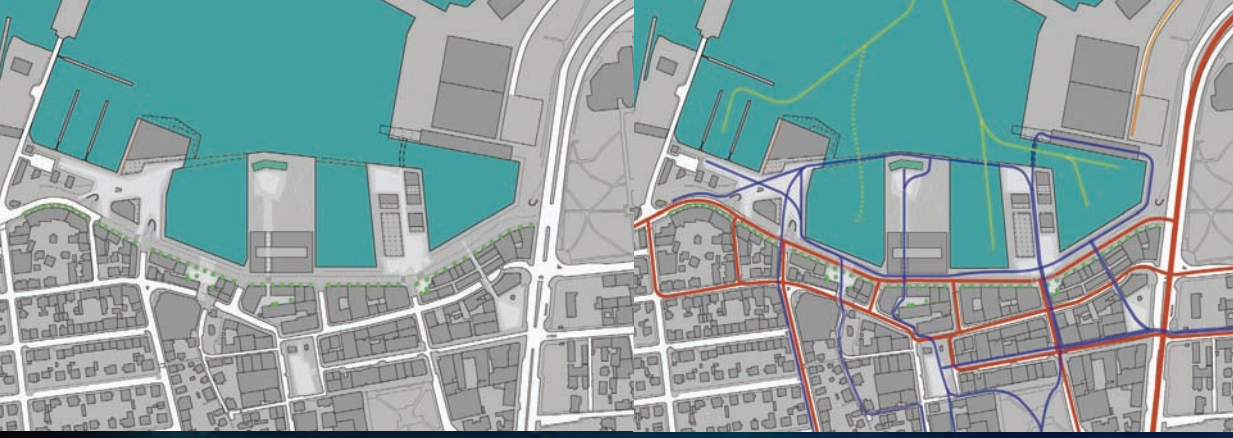
proposed changes

movement routes after re-structuring









After re-structuring the center and harbor take on a new form and meaning. It gains an integrated unity with a face towards the harbor and the sea. The movement routes are redefined and the grid structure repaired as far as possible. The grid structure should now support more integrated and interlinked activity patterns and allow in its openness and intelligibility for a rich mixture of use.

Daily routes of people going about their business are integrated into the fabric by opening up the grid from the local to the 'middle' to the metropolitan scales.

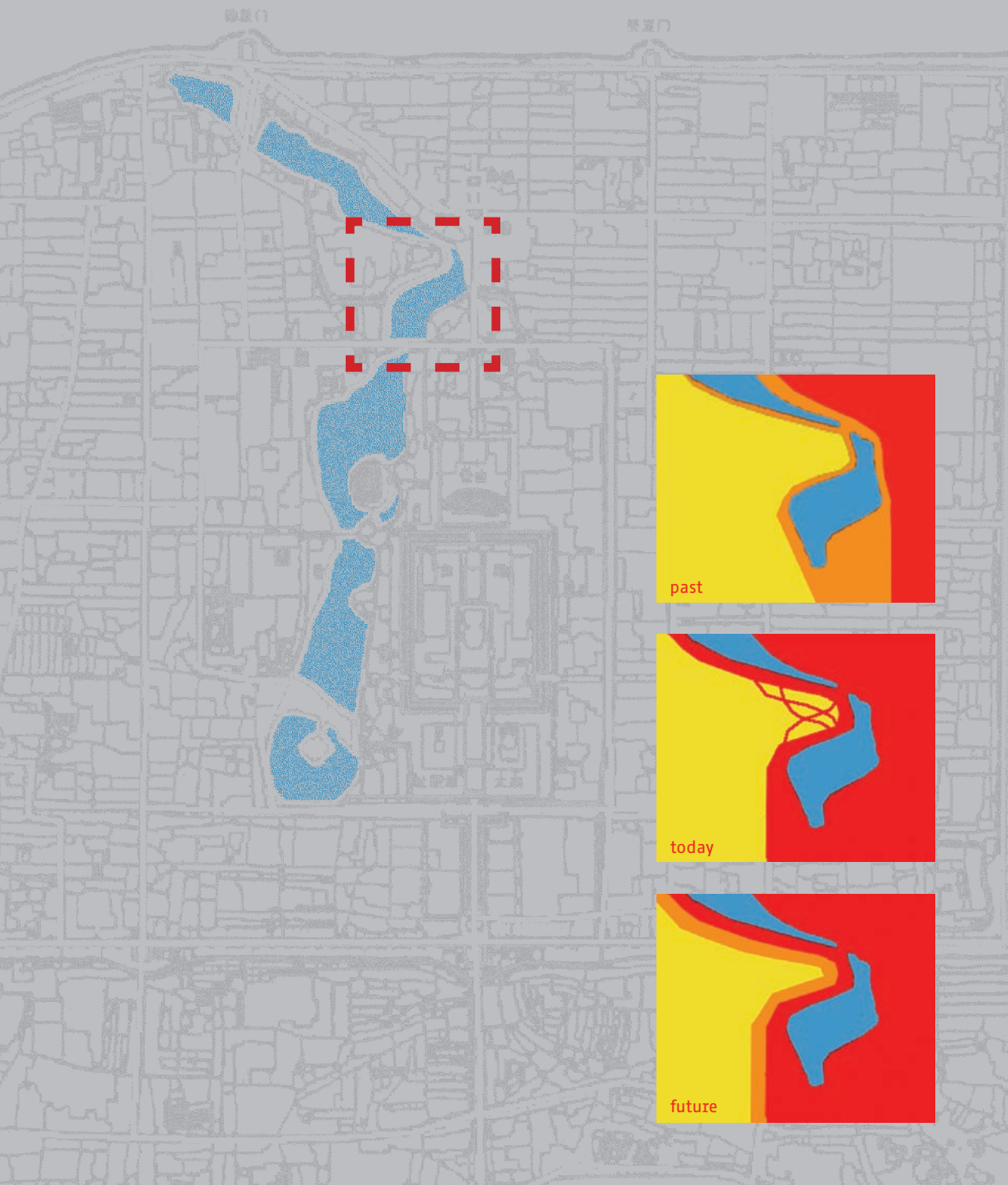
The streets lying parallel to the waterfront become the backbone of the structure, activated and supported by the smaller through connections between them. A peninsula with residential and commercial developments acts both as a windscreen for the North-South boulevard and a magnet towards the waterfront, shifting the direction of the high street to the north to integrate it with the boulevard and the harbor.

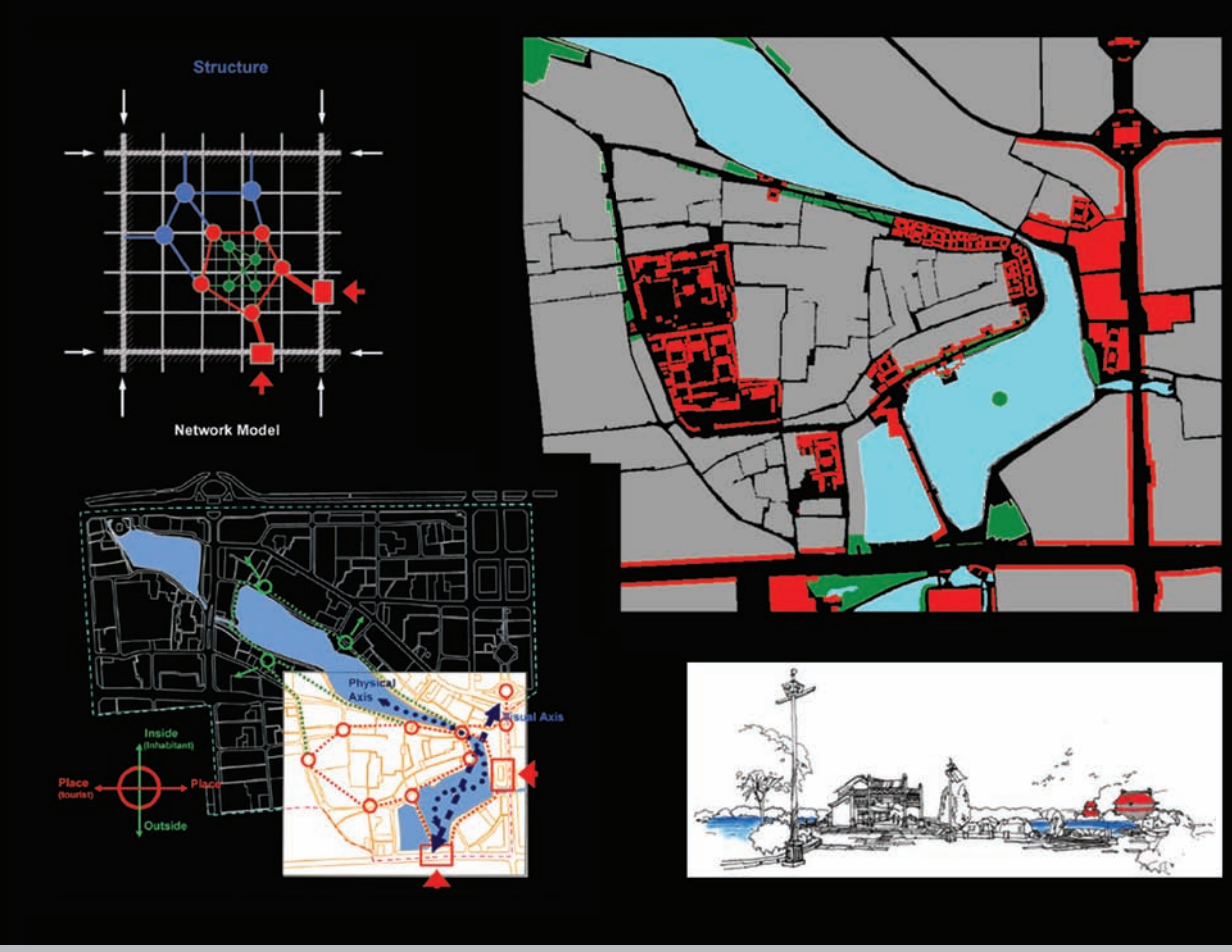
The thesis is an attempt to think about the center of Reykjavik in a new way. It attempts to set the course of evolution of the center on a new trajectory. A pattern of inner city fabric is opened throughout the center and harbor area and through the no-man's-land occupied at the moment by metropolitan-scaled infrastructure. The design opens the way for the harbor to become a part of a rich and active urban city center. The center and harbor together become a focus and identifying point for the city, a place to receive the new tourist visitors as well as a place for inhabitants to use and enjoy. The proposal chooses for an urban city life, a rich and active center where people can enjoy inner-city life in the northernmost capital of the world.

The 'machine' of urban space has always served to differentiate the 'worlds' of people with stronger commitments to the local from those whose 'worlds' are more dispersed, mobile, and between places. This generic relation between local inhabitant and passing wanderer, trader or itinerant, is today increasingly becoming one between finely adjusted lifeworlds, relics of a less mobile time, and the global pressures of contemporary commercialism and mass tourism. Inhabitant and stranger today often find themselves in an uneasy relation of mutual dependency – each finding the reason for their being *there* often in the other. This project investigates the historic Shichahai area of Beijing in order to research ways of dealing with the new pressures on the life of an old city due to huge current and projected increases in cultural tourism. The project proposes spatial means of promoting and controlling relations between tourists and local populations, and of both exploiting and controlling conflict between contemporary global movement patterns and traditional and transforming ways of life in a socially and historically sensitive area.

Living Fossils: The Integrative Re-habitation of Qianhai Area, Shichahai, Beijing

Xiaoyang Zhou





The transformation of Chinese cities in times of accelerated economic development has led to the disappearance of many historic and traditional residential districts. The increase of the urban population, and growing needs for organized transportation, commercial space, public institutions and recreational areas, have created a shortage of affordable housing. Meanwhile the growing number of international visitors, and the growing interest in traditional Chinese culture, have raised the question of the balance between urban conservation and development.

The Shichahai area, in the old centre of Beijing, is the biggest conservation area in the old city with a special location and meaning in the urban landscape. It is located just behind the Forbidden City, beside the end of the central North-South axis of the city, and its position in the structure gives the area an important image. The meaning and historical importance of the Forbidden City itself is dependent on its surrounding areas. As part of the background area for the great palace and because of its particular position in the structure, the area attracts 2 500 000 tourists a year. This brings with it a serious problem: How to adapt and preserve this 700 years old residential area in a larger area which has historically been an entertainment and shopping centre for the whole city and now even the whole country? How also to allow it to open up to the pressures of tourism while maintaining itself as a place of cultural heritage?

Urban space is fundamentally relational, and the production of the city as a social artifact is accomplished through everyday action, interaction and experience. It is a social fabric, within which masses of social relations are enacted. Society is in fact a relational product set up within the networks and pathways of the real world. And transformations in that society can be seen as

the product of the making of connections and relations in the world we make for ourselves today. According this understanding, the design needs to give attention to the changes in the range and possibilities of people's contacts and movements through these networks. It is here that issues of place and of the quality and the experience of public space can be located. The intention is to think about how to achieve experiential ends within this object we live in – how to build the bridgework to link the physical fabric and social fabric.

The form of the city is related to the 'urban-social' through the dynamics of the movement and social group interface. Particular social conditions are set up in this interface which produce the particular street-scene. The city is the 'machine' and urban space is the mechanism of the city. People occupy the city dynamically at diverse scales and move differently and choose different mobility webs or networks depending on the length of the journey they are undertaking. Through the manipulation of this machine, urban experiential and social-functional factors can be influenced substantively.

From this point, it is easy to understand what is going wrong in the scale and movement overlaps in the Shichahai area. A *global* scale suddenly rushes into this sensitive local scaled neighborhood through its connection to the circuits of tourist movement, and it can be seen that the more urban scaled movement network needs to be designed to control the way tourists move in the local area and to preserve a valuable traditional residential culture. This means that the *interface* between circuits of local people and circuits of tourists needs to be designed. The experiences of local people are therefore not only about their expectations of the local space but also about how other scales of movement change the uses of the local grid. Our analysis of these changes have to provide principles to guide the design.

Design Result

— Precincts

Inside is the tightly built-up pedestrian town with its enclosures and no doubt areas of viscosity, its focal point and claves, which is peaceful and quiet. Outside are the expressive attraction for tourist and also the way for pedicab and boat which exist to serve and vitalize the precincts. This is the traditional pattern at its clearest.


a


b


c


d

Chinese philosophy understands the world not as an antagonism of fractured differences, but through an idea of the continuity of the world. At any moment in our existence, our life and nature are inextricably intertwined and completely involved in each other. This is the doctrine of 'equalizing all things', and this concept is used in the design, seeing the environment as bridging differences between local inhabitation and tourism and building a strong interface between them, and developing advantages to both groups by their sharing of the same territory.

The strategies used all deal with the same issue; from the courtyard house (local) to the folk culture museum (global-international), what we want to solve is the interface between the global and the neighborhood scales. We need to use these strategies to make a place for both development and preservation.

The method of intervention comes from a basis in Chinese philosophy, but is also based in a modest attitude. The method uses particular space to create order and coordination, which can be applied from the small scale to the large scale. 'Particular' space means that it transfers different information to different 'perceptors' – it means allowing different meanings for different people. This idea penetrates to each level of this design, from the basic courtyard house to the public node. For instance, the so-called

'enclosure' for the tourist is the open place for the local inhabitant. This method of 'particular' space is used to deal with the issue of people's interaction both *between* populations and *within* populations.

Human activity itself is defining the identity of space, or, more correctly, place – and place may have its own special identity in relation to a particular group. This image of place can also change in time. A place which has a special meaning for each group in the daytime, may become a public communal place at night. The process is from a simple overlap to real communication, and the change of character or identity is based on the qualities of people's actions. The particular space should be redundant or flexible enough to support changing identities. The design needs to be adjustable or flexible enough to fit changing functional and social conditions. The whole scenario derives from Chinese traditional ideology, which finds a balance between stability and change, between tradition and innovation. It allows, at the same time, both clarity and confusion in the real orders of our world.

Design Result
— New System for The Neighborhood

Traffic System


Movement

Emergency Route System


Function and Facilities

Grocery


chat


vendor


have fun

Design Result
— New Courtyard System

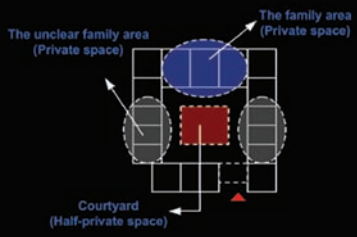
Street Section

Plan of the courtyard house


Roof Plan

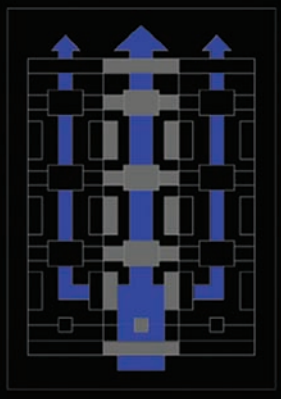
Design Result
— New Courtyard System

Design Principle



A. Basic one-courtyard complexes

B. Courtyard Extension

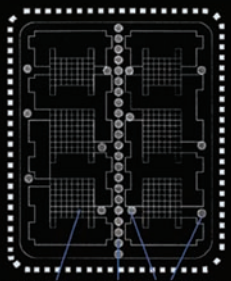


Today: no gradual change of privacy; vague boundaries between different functional areas and possibilities of conflict among the residents.

Design Result
— New Courtyard Houses

New courtyard concept:
Of particular importance of this design is the retention of the courtyard space itself as a communal space. The garden and the alleyways play the gradual transition of privacy, and also supply the space for the beautiful environment, and the second- and third-storey walls are whitewashed to contrast with the trees and their shadows. Socially, this new courtyard will also facilitate neighborhood communication through the provision of intimate and well defined communal space, while retaining privacy and supplying the amenities available in modern apartment blocks.

Plan of a the courtyard unit



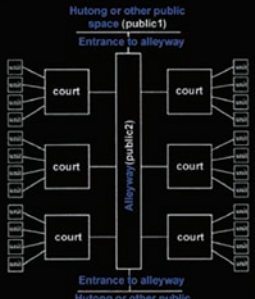
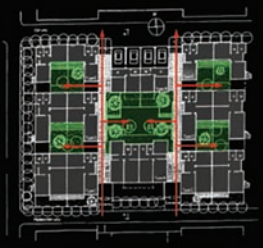
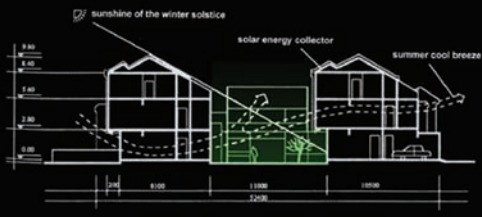


Diagram of the new courtyard-alleyway system



Plan of the ground level

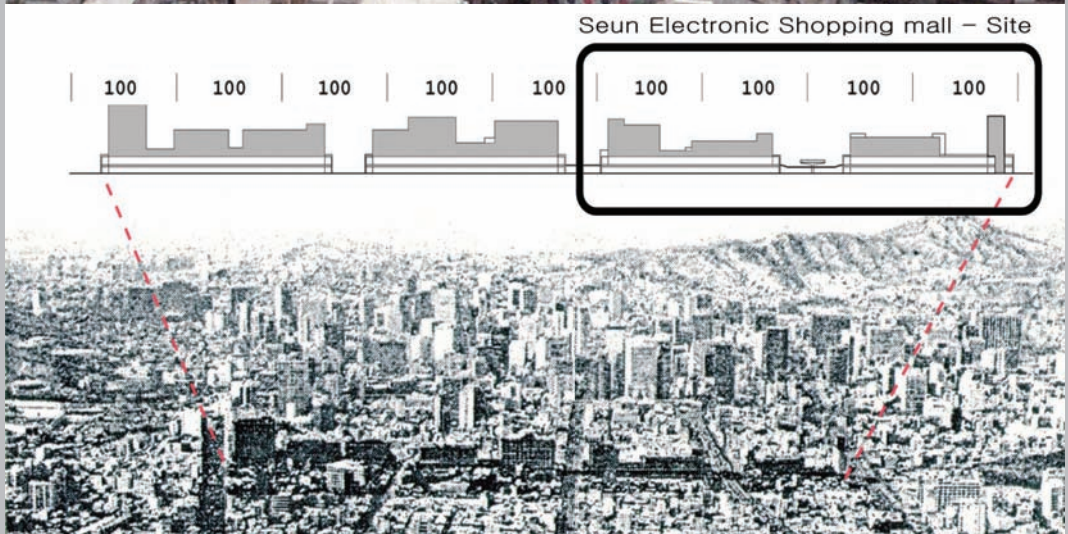


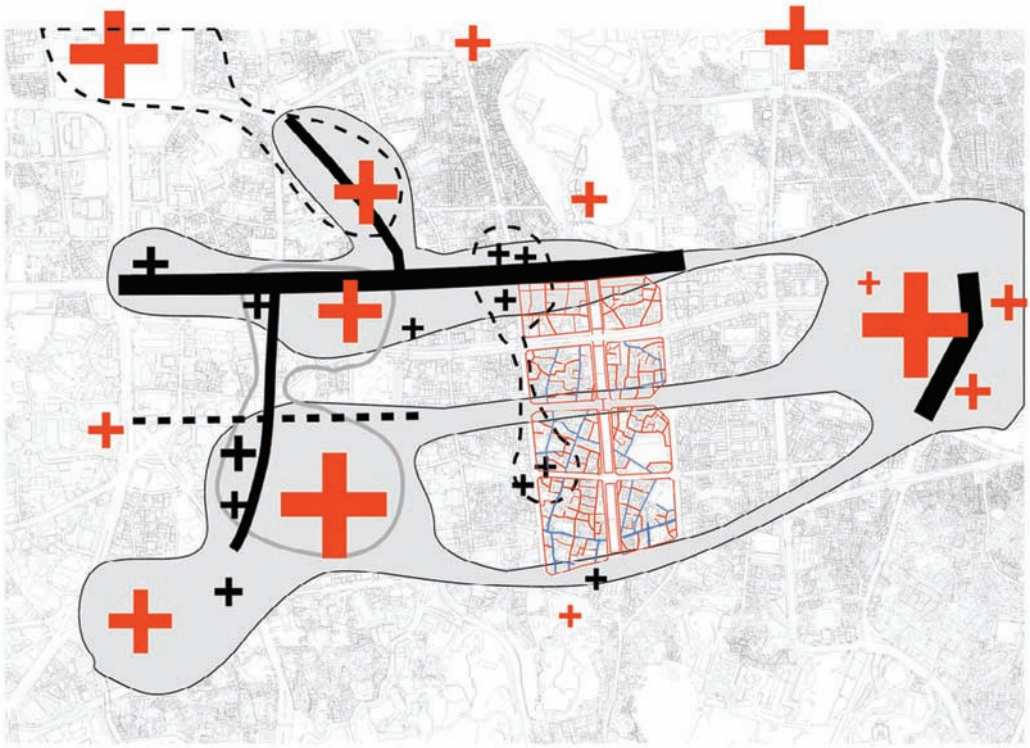
Section and Sunlight and Ventilation

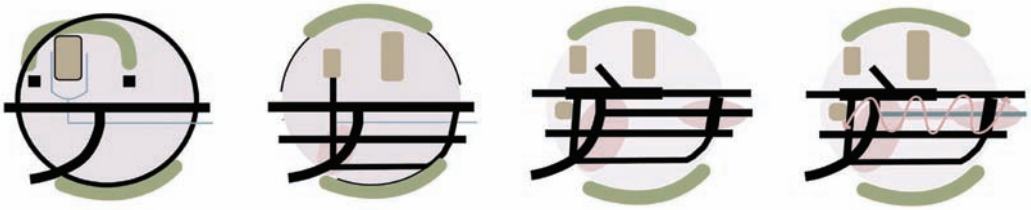
The metropolitan and global spaces driving contemporary urban commerce place the urban local under increasing pressure. Contemporary processes of commercialization – and even planning strategies for the renewal of central urban districts – have difficulty reconciling the *macro* forces generated by contemporary mobilities and connectivities with *micro* situated realizations. Staged projections of a thin and reduced global urban image are pasted up over the 'depth' of the city, and the immense opportunities for the *local* realization of *global* potentialities are squandered in a lack of understanding of the urban as a process that achieves its own becoming. This project takes an existing architectural mega-structure in the Seun district of the city of Seoul in order to investigate ways both of stimulating the diversification of the district's commercial life and activity and the renewal and freeing up of the small scale public space of the interior of the district block. The 1km long existing building acts as an urban section, in combination with a strategic development plan, catalyzing change in the fabric on either side.

Spaces in Transition: Renewal Strategy for a Mega-structure and Neighboring Area in Seoul

Changwoo Lee

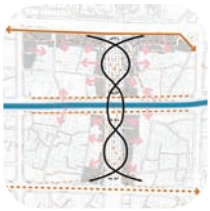


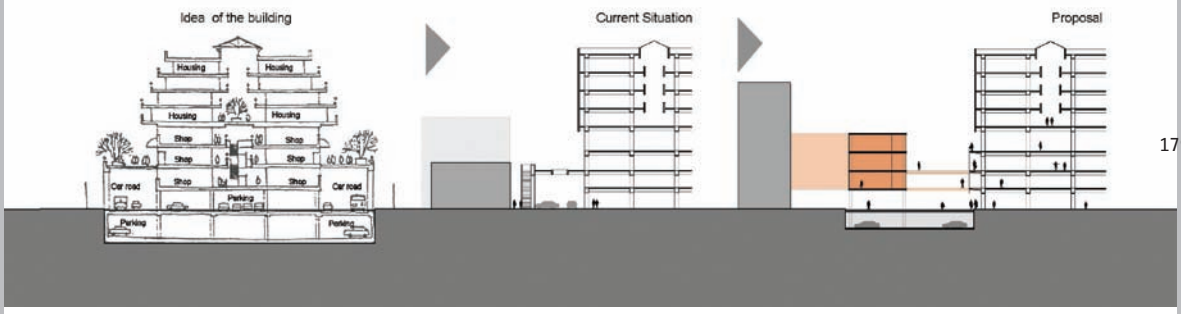




The city of Seoul is one of the most dynamic of world cities. Within a relatively short span of time, the life of the average citizen has changed dramatically. Not only has the city seen rapid social changes, but rapid urban and spatial transformations as well.

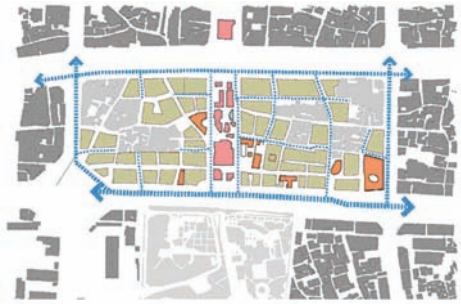
This design research begins by identifying a very specific 'urban phenomenon' existing at both the architectural and urban scales within the city: a mega-structure known as the Seun Electronic Shopping Mall, which cuts a kilometer long incision through the heart of the city center. The buildings and their surroundings have not adapted well to contemporary commercial demands and the new dynamics of mobility. Currently, this stretch of 4 buildings, approximately 50 x 200 meters each, is being considered for demolition. They provide an intolerable environment for commercial exchange and their malfunctioning creates a brutal 'urban blockage' condition. As an 'urban phenomenon' they demand our sensitive observation and critical response.

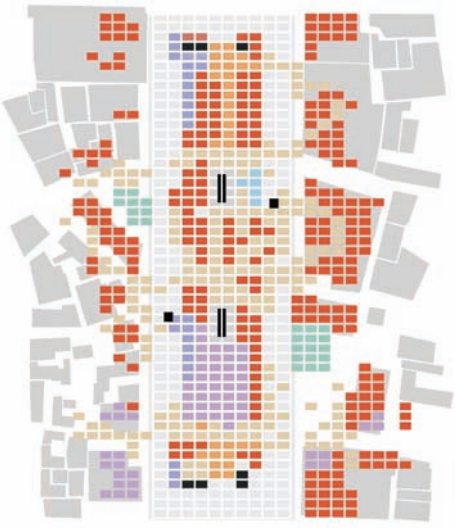


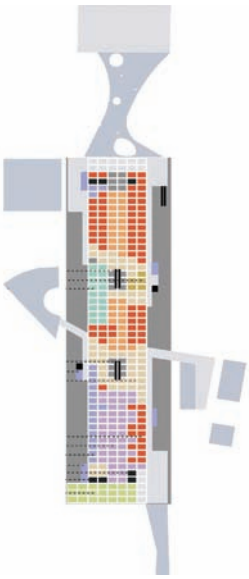


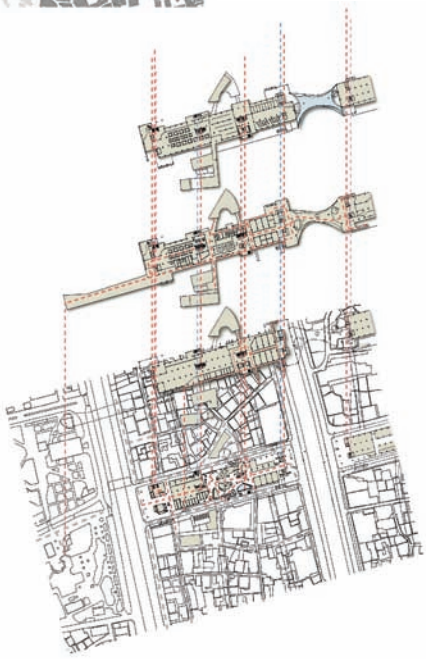
The buildings currently perform at the urban scale, but even the sectional scale expresses succinctly the urban dilemma this architectural object manifests. Research and design tries to deal with the problems that this building imposes at both the city and local scales, while refusing the idea that demolition is the only solution. This mega-structure may be capable of changing the area effectively on the basis of existing socio-economic realities, and of guaranteeing on-going development in this declining area.

The work proposed here operates from a double premise: Firstly, that the radical erasure of the building will leave a stretch of vacant land 50 meters by 1 kilometer long. This will presumably create another form of incision, which does not guarantee a sensitive or viable urban intervention for the area. It will however, successfully erase a significant aspect of Seoul's architectural history. Secondly, that there is an important 'renewal' problem to address, which involves the adaptation of the building's modern architectural typology to a new urban dynamics.

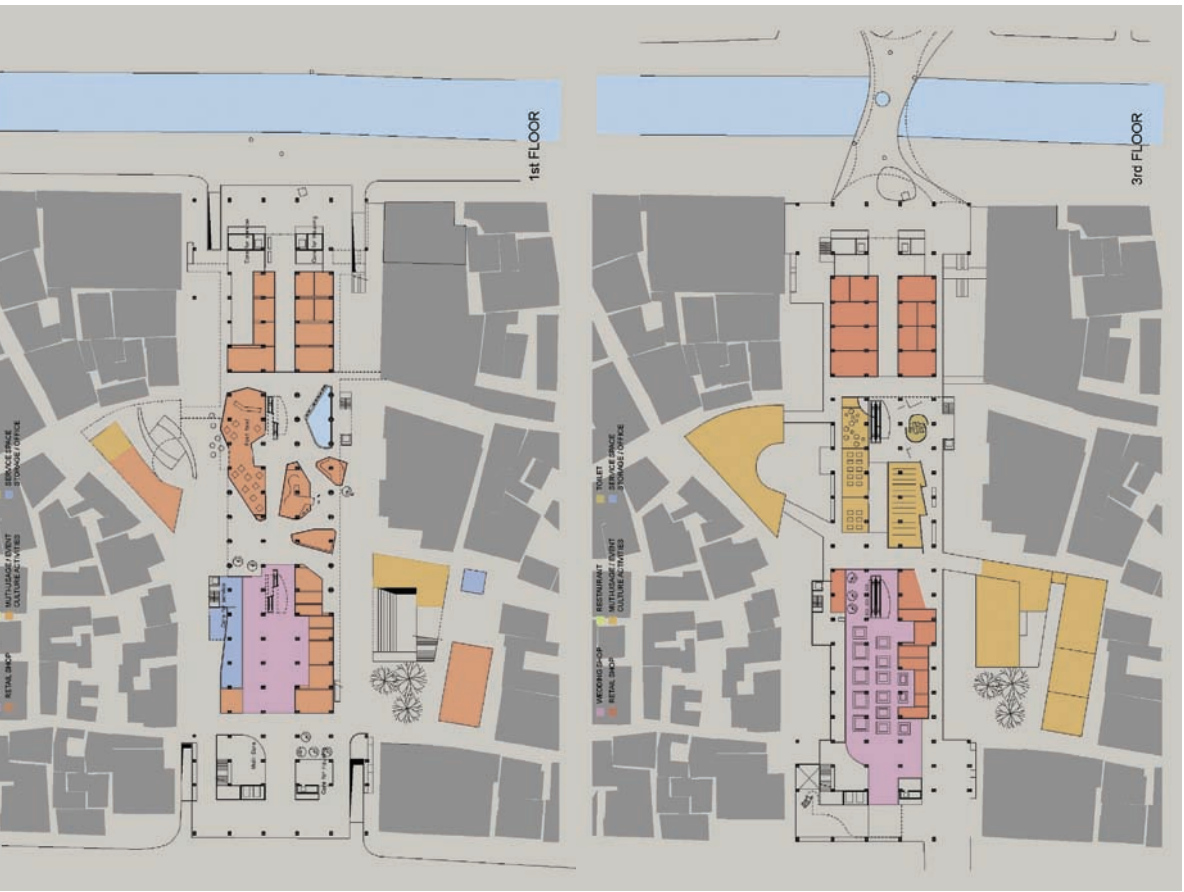








Outline of 'renewal project's' initial steps:
1: The project intends to improve the urgent problem of insufficient connections with its context and poor lighting created by the useless deck plate located above the parallel streets. The removal of parts and the shifting of the existing core of the building to the edges are the initial design actions. These openings in the building's edge offer new conditions where pedestrians can move along and across the axis of the buildings.
2: A new building skin and significant alterations to the building interior will introduce new open and fluid spatial configurations and bring a new image. Treating the facade as a porous membrane while utilizing aspects of its surface for advertisement and signage will not only alter the interior-exterior relation but will also become part of the dynamics of information by which the commercial district will identify itself to the city. The massive building will open up its circulation and programmatic possibilities to offer a more complex yet well defined space which is integral with its surroundings.
3. The mono-functionality of the Seun Mall is a problem to be corrected. This research developed a programmatic analysis of the area and identified various functions which could promote alternative activity patterns and transform the current situation. These new programs and uses will help insert a new life into an currently inactive place. Furthermore, since the analysis of this historic center suggests the Seun district can accept other programs such as wedding shops, food courts, retail shops and entertainment activities, they are proposed to 'jump-start' the urban transformation.



4. The new intervention will act as a catalyst to change other private buildings in the neighboring area. The effect will stimulate the area to become more diverse in its activities by way of its improved cross connections.
5. A new process of urban development is suggested in this project. An urban *process* is promoted and stimulated for the renewal of Seun Mall and its surroundings. The building itself and its redevelopment is used to direct this process. The actions of owners of the surrounding district are engaged through the way the building, as it is redeveloped, opens possibilities for the future development of their own properties. Public investment, policy, regulation, and the master plan are coordinated towards the opening up of the district in terms of accessibility and commercial possibility. The building is a physical section through the area which is used to change the conditions of functional-spatial possibility for the whole area.

Architecture in this project is directly related to an urbanistic goal. This relationship shows it is not possible to solve the problem by concentrating simply on the architectonic or the urbanistic aspect of the intervention. Architecture can become an effective factor to change the surroundings of a project – as improved urban conditions contribute to accelerating the commercial renewal of the building itself. In the case of the Seun Area Renewal, the orchestration of these two aspects promotes the further *urban* development and positive transformation of the city.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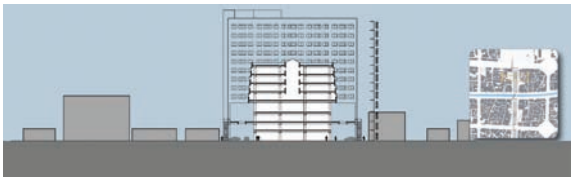


Initial Project by Public investment
Affection from the Initial Project - Private investment


issue
COFFEE
DRINK
BEER
이슈
이다
SHANEJEANS
NOTON
JEPEORO
14K.18K せんもんてん
容室
치과
속눈썹 파마
まつげ パーマ
쎈 텐

Within what (in a highly vectorized and regulated global space) is still a highly contingent reality of the dynamic urban field, we may also *generate* and accommodate and even embrace uncertainty and hybrid becomings. Problems can become potentials if we allow ourselves to perceive the city as a field of *opportunities* for accommodating and facilitating this open interface of differences. Positing open urban structures delivering open-ended negotiated outcomes is a starting point for delivering a truly *new* urbanism. An urban spatial politics passes from the Agora through various structures or forms of community facilitated by urban relational dynamics ... to the point where we stand today. And today we will have to learn to embrace a *geo*-politics of space, an understanding of the way global issues become manifest and negotiated and fought out *in* local place ...

Hidden Places, Hidden Powers

Alexander Vollebregt

A contained urban

> All social relations become real and concrete, a part of our lived social existence, only when they are spatially 'inscribed' – that is, concretely represented – in the social production of social space. Social reality is not just coincidentally spatial, existing 'in' space, it is presuppositionally and ontologically spatial. There is no unspatialized social reality. There are no aspatial social processes. Even in the realm of pure abstraction, ideology, and representation, there is a pervasive and pertinent, if often hidden, spatial dimension.[1]

This paper looks at the idea of an emergent 'placeness' in our contemporary cities. Moving beyond modernist urban design thinking, it takes up Henri Lefebvre's theoretical notion of *espace vécu* (lived space), to try to point to a relational understanding of urban place. It looks further towards an alternative design in urbanism, affirmative of difference. An approach that focuses firstly on *in*scribing the urban with signs to be read and appropriated by urban populations, and secondly on the designing of *affects* in the urban. Seeing the city as an urban field, an effect of flows and forces, it tries to find a way to a *sensible* urban form.

Modernist thought held certain misconceptions concerning the designing of our urban life-worlds. It strived to create utopic worlds which held their inhabitants in the vise of an 'end of history', and was blind to the effects that advanced technologies would have on putting these contained urban realities under an unmanageable stress. In addition, as Maurice Merleau-Ponty said as early as 1945, modernist thinking has been "blind to the mode of existence and co-existence of perceived objects, to the life which steals across the visual field and secretly binds its parts together."[2] The departure point of an object-based epistemology produced an urban composition and artifacts that have failed to accommodate the intensely complex urban dynamics emergent in contemporary transformation processes. Our contemporary metropolis overflows with the fragmented offspring of a modernist urban design ideology.

But the role of modernist urbanism in itself constructing the present problematic is complex, particularly when it is seen that the discipline works primarily through two fields. An *urban design* discipline, an extension perhaps of the architectural praxis, understands the urban aesthetically and functionally; and *urban planning*, a universalizing and regularizing ideology of control and containment, struggles to contain both the residual side-effects of its own intentions and of a technologically driven globalization. The intensification of this process of globalization has today magnified these side-effects, generating an all-encompassing reality that has engulfed, and generated unprecedented stresses on, human life-worlds and the economic, political, environmental and societal structures and beliefs that we inherited from previous urban and social realities. The truth of the matter is that our present day

urban reality comprises a communicative tissue that has been astonishingly transformed by global mobilizations and migrations of humans and materials and information.

Modernism engaged with the urban in the belief that it could generate structures and activities that reflected its predetermined intentions. This belief may have been sustainable in geographically and functionally contained situations, but when the village became global, the effects of what was 'residual' to planning intent, the 'excess' it itself generated, became a global concern. Witnessing the realities that have emerged out of this new condition, we are surprised, but all too often fall back on to old habits to deal with new problems. The urban problematic of today consists not only in the local effects of these global processes, but also in how in fact the problem is perceived. Using modernistic understandings to deal with a post-modern (Bruno Latour would say non-modern) reality is in effect part of our 'blindness' in the face of the urban. We persist in using modernist instruments to understand a new condition; we struggle still to find answers to the emergent processes of a 'man-made' city. And what do we know of the space of the city? We can barely even *describe* its physical characteristics without a grasp of its virtual implications? How does the *relata* of the city manifest itself? What social conditions does it produce? What are its physical and psychological products? I propose that it has been the limited conception that urbanism has had of *space* that enabled space to be eluded in its multiplicity of forces that overlay (and underlay) the *realized* material fabric and mediate our urban life-worlds.

During the era of modernity the feasibility, the *reality*, of a reality beyond the visually perceived – beyond an object-based reality – had completely escaped urban praxis. Driven by an insatiable capitalist machine, urban praxis uncritically fabricated a surface urban scenery as setting for a disciplined and commoditized society. Yet, a disparity, a gap, was noted by numerous thinkers throughout the 20th century with regard to our notions of space, time and place in the urban condition. One particular forewarning came in 1970 from Henri Lefebvre in his *La Révolution urbaine*.[3] In this book Lefebvre criticized the Parisian Project that had begun 10 years earlier, aimed at creating the first European metropolis. He pointed to the growing contradictions within urbanism, and suggested that urban praxis took place in what he called a 'black box', where urbanists "know what goes in, are amazed at what comes out, but have no idea what takes place inside."[4] Disconnected from reality by their preconceptions, urban practitioners operated within 'blind fields' which manifested themselves in both their *reading* and *writing* of the urban.

Lefebvre illustrated the process of urbanization in a time-line 'axis of urbanization'. Starting from the complete absence of urbanization (pure nature) up to the current phase, he elaborates four major shifts in the urban: first, the 'political' city of priests, warriors and princes; second, the 'mercantile' city of the 14th Century; third, the 'industrial' city where industry, an operation that could locate itself anywhere, soon started to make its way into existing cities or even created new cities; and on now to the 'critical zone' of the contemporary city. The process that *technological globality* initiated, namely the facilitating of unprecedented global migration and communication, intensified and complexified the urban framework, in Lefebvre's analysis, to a current moment of 'implosion-explosion'.

> Urban reality, simultaneously amplified and exploded, thus loses the features it inherited from the previous period: organic totality, belonging, an uplifting image, a sense of space that was measured and dominated by monumental splendor. It was populated with signs of the urban within the dissolution of urbanity; … During this period of generalization, the effect of the

> process – namely the urban reality – becomes both cause and reason… the urban problematic becomes a global phenomenon.[5]

Four years later Lefebvre published *The Production of Space* in which he set the foundation for a novel way of understanding the built environment.[6] Initially portrayed as a 'social utopian' by many of his peers, even his own student, Manuel Castells and later David Harvey had their objections to his assessment. Shortly after *La Révolution urbaine*, Castells responded with his own book *La Question urbaine* in 1972,[7] in which he raises three fundamental objections. Neil Smith in the introduction to the first English edition of *La Révolution urbaine* points out how at first Castells saw in Lefebvre a certain romanticism since for Lefebvre "urban propinquity created a unique quotidian environment available for future reconstructions of sociability and desire." Castells, Smith states, found that a "philosophical utopianism" underpinned Lefebvre's scheme. Secondly Castells challenged whether "the 'urban' represented any kind of coherent scientific object available for study" (this was a statement that he toned down in later years), and thirdly, Castells objected to that fact that Lefebvre displaced Marxist analyses of history, politics, and economy within the urban revolution. "Castells complained that Lefebvre moves from a Marxist analysis of the urban to an urbanist analysis of Marxism."[8]

David Harvey however, who acknowledged the importance of Lefebvre's work for his own, reflected in 1973 on Lefebvre in the conclusion to *Social Justice and the City*.[9] He could not agree that the opposition between urbanism and the industrial capitalist machine were resolved in favor of the urban. While Castells attacked Lefebvre through a "structuralist critique fashioned over a blueprint of Marxism, Harvey came at Lefebvre with a political economic critique of the sort that typified Anglo-American Marxism after the 1960's."[10] Harvey maintains that it is in fact industrial capitalism which continues to create the conditions for urbanization, rather than vice versa. As Smith states, "the surplus value produced by capital accumulation, and especially its mode of circulation, is the raw material out of which urban change crystallizes. Urbanization here is the excrescence of the circulation of capital."[11] In other words, urbanization and urbanity are the products of the 'capital machine', as opposed to the 'urban machine' being the producer of its own attributes in a non-foundational *urban* dynamic of self-generation.

Returning to *The Production of Space*, we see how Lefebvre introduces the notions of a *perceived*, *conceived* and *lived* space. Striving to bring light to 'blind fields', he lays out a straightforward division of urban space from which architects and urban designers – whose discipline is conducted in the *conceived* realm – can broaden their spatial horizon, and begin to understand both the limitations inherent in *perceived* realities (bordered, standardized, finite), and the infinite possibilities to be found in the *lived* realities of everyday urbanisms. Capitalizing on the concept of a *lived* reality, urban practitioners can equip themselves with a deeper understanding while designing the urban.

In his book *Thirdspace*,[12] Edward Soja, re-introduces the 'lived space' notion and sets the ground for his sequel, *Postmetropolis*.[13] Dealing with the almost surreal effects witnessed during the Los Angeles Riots of 1992, he advances from his reading of Lefebvre in *Thirdspace* by raising the necessity of an advanced awareness of the *spatialities* of our politics. He writes: "… the spatial dimension of our lives has never been of greater practical and political relevance that it is today. Whether we are attempting to deal with the increasing ways to act politically to deal with the growing problems of poverty, racism, sexual discrimination, and environmental degradation; or trying to understand the multiplying geopolitical conflicts around the globe… Perhaps more than ever before, a strategic awareness of this collectively created spatiality and its social consequences has become a vital part of making both

theoretical and practical sense of our contemporary life-worlds at all scales, from the most intimate to the most global."[14]

The limitations inherent in modernist planning and policing had become more and more apparent with the outbreak of the riots, and Soja was calling for a whole rethink of the urban planning and design strategies that had been steering the Los Angeles megalopolis. The 'Hammer and the Rock' approach to urban policing[15] as described by Mike Davis in *City of Quartz*[16] had reached its height (or nadir) as the 'spacewatchers' of LA found themselves at the mercy of a true urban revolution![17] The proposition that the urban populace can be contained and managed like human 'resources' proved not only to be naive, but gravely misconceived.

Edward Soja calls for a reconfiguring of what constitutes our 'being' in an urban world, with the addition of a *spatial* realm of concern, to compliment the *social* and *historical* realms that are employed in current urban analysis. He sees the three realms interweaving and informing one another as they together represent and constitute our being. Soja calls for "... the deconstruction and strategic reconstitution of conventional modernist epistemologies – in other words, the radical restructuring of long-established modes of knowledge formation, of how we assure that the knowledge we obtain of the world can be confidently presumed to be accurate and useful."[18]

He then proceeds to argue and illustrate the necessity to reconfigure our understanding of space with a *second* 'trigram' of concern. Our understanding of space has thus far, according to him, and borrowing from Lefebvre, been created primarily by our *perception* of space, and a *conception* of space (space as conceived in our urban praxis). It is without a concept of *lived* space. The necessity to include an awareness of *actualized* spatialities in our urban understanding and praxis is vital, Soja argues, to our struggle to create sustainable and equitable urban environments. This 'thirdspace' serves as a guideline to help us obtain practical knowledge of our 'existential spatiality'. Soja explains how it helps us break away from our two former epistemologies, our two distinctive modes of producing urban knowledge, in order to offer a third alternative: an 'other' way of making practical sense of the spatiality of our life.

We are operating at a moment in time where an emergent urban reality, intensely produced and animated by new space-times of movement and communication, have exponentially complexified and reconfigured the urban field. An urban praxis that tries to engage in the city without an attuned sensibility to this urban reality, quickly becomes ineffectual. The city, in this new account, must be understood as process *and* product. Layers of processes, with both intrinsic and extrinsic relationships, produce inter-related and co-produced hybrid products that no binary epistemology will ever be able to fully grasp. To visualize the urban as a field and as a 'becoming' allows for the development of an understanding and eventually for intervention in the contemporary city.

The vectors and flows of movement and communication are steered by (mostly) hidden socio-spatial and socio-*technical* (infra)structures which in turn generate 'hidden' places. *Placeness* in this perspective, is thus not inserted by way of program or defined by conceived borders *made* perceived, but is ephemeral, mutable, open; a fluid and dynamic *process* of actualization in an extensive inter-active flux. As such, the actual *form* of the city is not the configuration of buildings and infrastructure, but is generated by relations and communications *in the midst of* the urban, converging to generate transient crystallizations of placeness. Our movements as human agents, as well as the movements of images, goods, information, finance, ideas, constitute the true *texture* and weave of the city. Form

is not the materialization of the urban fabric, nor is it generated by the overlaid program inserted to activate the city; it emerges by way of our co-engagements within the city through the appropriation and performance of space (and technological infrastructures) through relations. These performed relations constitute the substance and matter of city, and the interplay of human and non-human agency by way of these relations and their performance produce the urban reality of the contemporary metropolis. The enabling or disabling *surface* in which this complex operation takes place is our concern as urban practitioners.

In his paper "Deleuze and the Open-ended Becoming of the World", Manuel De Landa explains how Deleuze's neorealist approach involves a "theory of genesis of form that does away with essences, as well as a theory of epistemology that does not rely on a view of truth as a faithful reflection of a static world of beings." He searches for a connection between human knowledge and the open-ended evolution of the world, and elaborates how the latter depends on "divergent actualizations, combinatorial productivity, and the synthesis of novel structures out of heterogeneous components." He proposes that these define the essentially problematic structure of the world, and that "truth cannot be a correspondence relation between representations and a static, fixed set of beings, but an open-ended relation of isomorphism between problems as actualized in reality and problems as actualized in our bodies and minds."[19]

He points out how, "unlike social constructivism, which achieves openness by making the world depend on human interpretation, Deleuze achieves it by making the world into a creative, complexifying and problematizing cauldron of becoming." Drawing our attention to the fact that the world has been enriched by a multiplicity of human *and* non-human agencies. De Landa goes on: "in contrast with other realist or materialist philosophies of the past, the key non-human agency in Deleuzian philosophy has nothing to do with the negative, with oppositions and contradictions, but with productive, positive difference. It is ultimately this positive difference, and its affirmation in thought, that ensures the openness of the world."

So what to do in a world, in itself open, but governed and spatialized by 'ministers of knowledge' who try to create closed systems of control totalizing a partial understanding? We have constructed a machine devoted to the endless capitalization of the world and, as Foucault illustrated with the Panopticon, toward the regulation and standardization of thought and action. We attempt to secure complete commoditization through a space that serves, and is fully dependant on a logic of global domination. The unknown, the uncertain, change and difference are deviant concepts to our 'ministers' – and our own ways of living, and livelihoods are condemned to exist in a society of fear, maintained in control through a paralysis of thought and action.

What role can urbanism play in this seemingly pessimistic worldview? If we understand that the urban entails more than the planned or manifested fabric, the urban disciplines may engage what one could refer to as the *urban surface*; an interface which synthesizes the three layers of reality our becoming unfolds: the spatial, the social and the realms of time – spatialized time or 'speed', and the historical. Within what (in a highly vectorized and regulated global space) is still a highly contingent reality of the dynamic urban field, we may also *generate* and accommodate and even embrace uncertainty and hybrid becomings. Problems can become potentials if we allow ourselves to perceive the city as a field of *opportunities* for accommodating and facilitating this open interface of differences. Positing open urban structures delivering open-ended negotiated outcomes is a starting point for delivering a truly *new* urbanism.

An urban spatial politics passes from the Agora through various structures or forms of community facilitated by urban relational dynamics through urban history – to the point where we stand today. And today we will have to learn to embrace a *geo*-politics of space, an understanding of the way global issues become manifest and negotiated and fought out *in* local place – through the way place in fact can begin to be understood as a 'whole', a situated assembly or 'society',[20] gathered to that place and staging global realities. We will need to learn how to both see and synthesize global-local urban realities, and learn – as we see groups like Stalker in Rome and others around the world doing – to *perform* a politics of contemporary space. Perceiving the city as an open, generative and self-actualizing urban *body* in its own right may aid us in understanding the *organi*zation opening up its productivities.

The more we know of these things, the more we can do, and the more we can facilitate *trans*-formations in contemporary formational processes integrating real, virtual and digital *productivities* into our urban praxis.

[1] Edward Soja (1997), *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places,* Blackwell, Oxford, p. 46.

[2] Maurice Mearleau-Ponty (2004), *Phenomenology of Perception,* Routledge, London, p. 40.

[3] Henri Lefebvre (2003), *The Urban Revolution*, trans. Robert Bononno, University of Minnesota Press, Minneapolis. (Originally published as *Le Révolution urbaine,* Editions Gallimard, 1970).

[4] Lefebvre (2003), pp. 27-28.

[5] Lefebvre (2003), p. 14.

[6] Henri Lefebvre (2001), *The Production of Space,* trans. Donald Nicholson-Smith, Blackwell, Oxford. (Originally published as *La production de l'espace*, Editions Anthropos 1974).

[7] Manuel Castells (1979), *The Urban Question: A Marxist Approach*, MIT Press, Cambridge Mass. (Originally published as *La Question urbaine,* F. Maspero, 1977).

[8] Lefebvre (2003), p. xvi.

[9] David Harvey (1973), *Social Justice and the City,* Johns Hopkins University Press, Baltimore Ma.

[10] Lefebvre (2003), pp. xvi-xvii.

[11] Lefebvre (2003), p. xvii.

[12] Soja (1997).

[13] Edward Soja (2000), *Postmetropolis: Critical Studies of Cities and Regions,* Blackwell, Oxford.

[14] Soja (1997), p. 1.

[15] The 'Hammer and Rock' refers to the strategy introduced by Los Angeles Police Chief Daryl Gates. 'Operation HAMMER' initiated in 1988 over a ten square mile area of Southcentral Los Angeles was intended to annihilate the 'rock' (crack) trade. The operation entailed the arrest of more black youth than at any time since the Watts Rebellion of 1965. See also the *Ecology of Fear* also by Mike Davis (1998, Metropolitan Books, Los Angeles).

[16] Mike Davis (1990) *City of Quartz: Excavating the Future in Los* Angeles, Verso, New York.

[17] Mike Davis reflects how when interviewing a Mexican farmer who refused to live too close to Los Angeles, regardless of the financial prospects, he was told that Los Angeles was perceived to be a volcano, and was told that; "One should never live too close to a volcano!"

[18] Soja (1997), p. 3.

[19] See: Manuel De Landa (undated), 'Deleuze and the open-ended becoming of the world', available at http://www.societyofcontrol.com/library/htm_pdf/delanda_openended.htm.

[20] Bruno Latour (2005), *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press, Oxford.

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