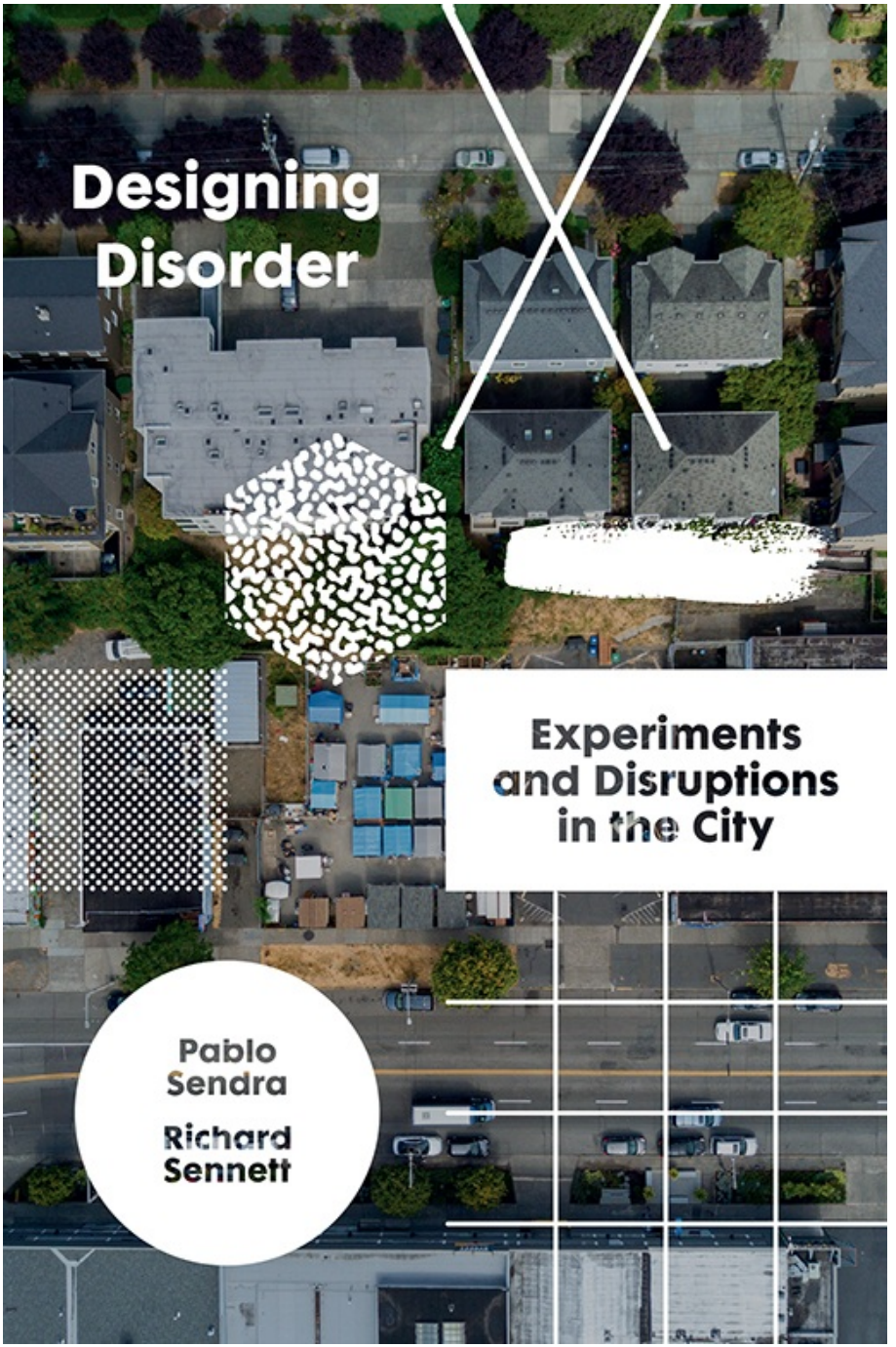

Designing
Disorder
Experiments
and Disruptions
in the City
Pablo
Sendra
Richard
Sennett

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Designing Disorder

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Designing Disorder

Experiments and Disruptions in the City

Pablo Sendra
and
Richard Sennett



London • New York

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"In 1970, Richard Sennett published the groundbreaking The Uses of Disorder, arguing that the ideal of a planned and ordered city was flawed. Fifty years later, Sennett returns to these still fertile ideas and, alongside campaigner and architect Pablo Sendra, sets out an agenda for the design and ethics of the Open City. The public spaces of our cities are under siege from planners, privatisation and increased surveillance. Our streets are becoming ever more lifeless and ordered. What is to be done? Can disorder be designed? In this provocative essay Sendra and Sennett propose a reorganisation of how we think and plan the social life of our cities. 'Infrastructures of disorder' combine architecture, politics, urban planning and activism in order to develop places that nurture rather than stifle, bring together rather than divide up, remain open to change rather than closed

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Introduction

Pablo Sendra and Richard Sennett

Rigid, overdetermined forms are smothering the modern city. These unyielding environments suppress people's freedom to act, stifle informal social relations, and inhibit the city's power to grow. In this book, we propose an alternative, underdetermined form of city-making, one which disrupts rigid forms, putting in their place more life-enhancing designs.

Evidence of overdetermined form now dominates Manhattan's skyline. Located at the north end of the High Line, Hudson Yards represents the commercially driven urbanism that has transformed cities like New York and London. Hudson Yards is an assemblage of luxury condominiums and rentals, a hotel, offices, restaurants and a shopping mall offering the most expensive brands. In its centre is the Vessel, a sculptural staircase designed less for use than as a picture frame for commercial promotions. [1] The square is delimited in its south part by the 'Shed', a gigantic movable structure that aims to become a flexible arts venue for big-ticket performances. This enormous development neither encourages local activities by ordinary citizens, nor can its fixed forms evolve; it can only degrade.

In contrast, Hudson Yards is bordered on its east side by the Garment District, a vibrant, diverse community with small as well as large businesses, mixing relatively recent Korean immigrants with other established immigrant communities, combining housing for working- and middle-class people with schools and churches. This complex, often noisy and unruly community has been able to evolve and prosper over the last century and a half.



Figure 1: Global capital imposing order. Hudson Yards, New York City. In the image: the shopping mall (right), the Shed (left), the Vessel (centre-back) and the skyscrapers. March 2019.

In this book we want to show how such a community can be designed – that is, what kind of basic forms, what kind of urban DNA, allows a place to grow.

This book builds on the work of one of the authors, Richard Sennett. In 1970, when *The Uses of Disorder* was published, the reasons Richard saw behind the 'overlap of so many different kinds of life' [2] in the Garment District was that none of the different parts of Manhattan's lower midtown had sufficient power to build

its own limits. [3] The author also warned that 'abundance' was erasing this vitality from city life, both by creating boundaries and by eliminating the need to share resources with people around you. Hudson Yards is a manifestation of the effect which *The Uses of Disorder* warned that a concentration of wealth and power could have on the city. It epitomises New York's transformation into a real estate-driven city. [4] If *The Uses of Disorder* saw modernist developments as impositions of order that were erasing city life, today the forms of order imposed come from a globalised real estate industry.

A vital and open city does not occur naturally. There are places where improvised activities and social interaction do not happen because the rigidity of the urban environment does not allow this improvisation to take place, and planning for disorder is necessary. When architect Pablo Sendra read *The Uses of Disorder,* he decided to explore which urban design interventions could enable the kinds of disorder that allow for unplanned activities and provide an open-ended urban configuration that can change according to people's actions. This book proposes urban design experiments for those places where spontaneous activities and social interactions do not occur. It does not propose design strategies for places where informality and sociability are already happening, but it rather explores disruptions in urban design that can dismantle overly rigid environments.

This collaboration between architect Pablo Sendra and sociologist Richard Sennett revisits *The Uses of Disorder* ideas of a 'disordered, unstable, direct social life' [5] and turns them into urban design experiments that put them into practice. In the first part of the book, Richard Sennett reflects on the context which led him to write *The Uses of Disorder* and on its meaning today. Richard then explains his proposal for an Open City, which can release the rigidity of prescriptive environments. In the second part of the book, Pablo Sendra proposes urban design experiments which disrupt overly ordered urban environments, encourage the unplanned use of public space and provoke social interaction. Pablo's piece is not a prescriptive manual; rather, it encompasses suggestions for how design can become more open-ended in scope and more collective in practice. The third part of the book is a discussion between Pablo Sendra and Richard Sennett, moderated by editor Leo Hollis, in which they reflect on the implications of *The Uses of Disorder* today.

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PART I: CIVIL SOCIETY

Richard Sennett

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1

The Politics of the Hidden City

In 1804, midway through the military conquest of Europe, Napoleon laid out laws to regulate civil society in France and throughout his empire. The *code civil* imposed order on everyday life by regulating family affairs, defining school curricula and organising religious practices. This was the first great piece of modern social engineering.

Little more than a decade later, Napoleon's empire lay in ruins, as did his formal, rationalised plans for civil society. Writer and political thinker Benjamin Constant was happy to see it fail, but what was to replace it? Rather than return to the ancien régime past, or to the violent ideologies of the Revolution, he dreamed of a different kind of civic organisation. In his 'The Liberty of the Ancients Compared with that of the Moderns' in 1819, Constant argued for an ordinary life in which people are personally stimulated by the unexpected; in which social experience expanded beyond the values of like-minded 'in groups'; in which political certainties are confronted. In Constant's ideal society, people learn to live with, and indeed benefit from, ambiguity, contradiction and complexity. The life-stream ran deep, he argued, rather than clear. This life-stream ran through a city.

Constant proposed that a city like Paris possessed three characteristics. In the old, prerevolutionary city, rich and poor lived cheek-by-jowl with one another but did not mix. It was a city of indifferences. In the revolutionary city, especially during the 1792–94 Reign of Terror, people who did not conform to the dominant powers were hunted down and guillotined; difference became a crime. After Napoleon's fall, from 1815 to 1830 Constant lived in a Paris whose streets teemed with people who were mutually, intensely, nervously aware of one another, but who allowed each other space to lead separate lives; the citizens were both traumatized and tamed by history's disorder. This third, chastened Paris embodied Constant's idea of civil society.

In this book, we explore what Constant's vision might mean today and how it

could perhaps be designed. The project began fifty years ago when I, Richard Sennett, wrote *The Uses of Disorder*. I knew little about Napoleon then and had never heard of Benjamin Constant. But in probing the connections between self and city, the book explored a particular version of civil society. It was premised on the not-remarkable observation that personal experience expands by turning outward rather than inward. Similarly, civil society emerges as individuals become less self-involved and more socially engaged.

But how? I argued that a dense and diverse city engages people in a particular way. It is not just a matter of exposure to or toleration of the city's many ways of life. To connect with others who differ racially or religiously, whose ways of loving are alien, who come from distant cultures, people have to loosen up inside themselves, treating their own identities as less absolute, as less definable. You could say that people have to engage in a kind of self-disordering.

This leaves us with a big and concrete problem. A city is a physical solid that contains many different ways of living. In old French usage it is both a *ville* – the solid of buildings and streets – and a *cité* – the behaviour and outlook adopted by the people who lodge within the physical place. Could the kind of civil engagements envisaged in *The Uses of Disorder* be made physically? Could the buildings, streets, and public spaces be designed to loosen up fixed habits, to disorder absolute images of self?

Once printed, I was still not satisfied that I had good answers to constructing civil society materially. As I have worked increasingly as a practical city planner, this lack of material answers has remained a grave defect, in my mind – and it generated the collaboration in this book. Here, architect Pablo Sendra explores how the adaption of flexible urban infrastructure can loosen up and enrich life on the ground. Sendra's aim is to design infrastructure that permits community innovation and surprising configurations. Though these designs could enable a complex, diverse, loose city to function, they alone cannot cause it to exist. They are tools, necessary but not sufficient for creating a nurturing urban civil society. The mark of a complex, diverse, loose city is that a person can look back and reflect that 'life turned out differently than I expected'. That reflection is just what Benjamin Constant thought to be the rationale of civil society – life beyond the ordained, the prescribed – even though he never contemplated the sewers of Paris as a tool for

creating this experiential freedom.

*

Napoleon's *code civil* was revolutionary in that it afforded all citizens equal rights – albeit only if those citizens were male. Napoleon championed 'family values' that tied women to their husbands and disenfranchised illegitimate children. Again, the code afforded religious liberty to all, freeing Protestants and Jews to pray openly in France, but it also reintroduced legal slavery into French colonies. This troubling document had a profoundly positive effect, even so, on the later pursuit of civil rights. In particular, it decreed equal schooling for all. And such demands for educational equality set in motion the post–World War II struggle for racial civil rights in America, where the *code civil* formed part of the background for the American Supreme Court decision to outlaw in 1954 racial discrimination in schools.

By the time *The Uses of Disorder* was published in 1970, the accumulated injustices done to Americans of colour had turned major American cities into violent battlegrounds. The Kerner Commission, a national quasi-governmental body, was created to analyse these riots. The mayor of New York, John Lindsay, was a member of this commission, and in 1967 I belonged to his legion of assistants. The commission concluded that 'white society is deeply implicated in the ghetto. White institutions created it, white institutions maintain it, and white society condones it'. This might seem, perversely, to explain the title, *The Uses of Disorder*: violent disorder serves as a wake-up call.

Burning streets did not resurrect, however, the scenes of barricaded streets that Benjamin Constant witnessed at the end of his life, during the 1830 revolution in Paris. Here he encountered barricades raised to protect insurrectionary districts from military attack and police round-ups. A barricade was at the time constructed by throwing furniture into the street and then piling it up at corners to create an impasse. In 1830, the spaces behind barricades were vigilantly guarded by the citizens in revolt; until the military overwhelmed them, the streets were, for a few weeks, disciplined spaces. In contrast, during the violent urban disorders of the 1960s, storefronts inside poor communities were set aflame by looters who had infiltrated the rioters. The leaders of street protests could not control these violent

parasites from the very beginning. As the Kerner Commission found, these looters were few in number; still, the revolutionary 'uses of disorder' appeared corrupted by theft.

Racial upheaval was not the only kind of disorder touching America at the time. While rarely being violent, more personalised disorder afflicted the civil society of the privileged: those who were white, middle class, heterosexual, and, if young, free from military service abroad. The discontent inside this 'secure' zone traced back to a malaise articulated by Benjamin Constant.

Constant was a novelist as well as a jurist; such pursuits were practised separately, imagined as the activity of different islands labelled *Imagination* and *Philosophy*. His novel *Adolphe* portrays a man who gives up a great romance, chronicling his falling out of love rather than the initial stoking of his ardour. Adolphe becomes bored by the storms and stresses of desire; in middle age, passion arouses him less than the allures of a career. The novelist writes this story to show how 'small' a human being Adolphe becomes.

The philosopher of civil society thus decries how the circumscribed life comes to fear adventure, shunning difficulties, avoiding storms and stress. This contrasts with the contemporary account of ambition drawn by Stendhal in the novel *The Red and the Black*. Stendhal's protagonist, Julien Sorel, burns with ambition, driven by desire to conquer Paris and to penetrate the very heart of power, becoming a domestic Napoleon. Adolphe does not burn with passion, nor did he conform to the more German model of aspiration, a desiring of youth succeeded by resignation and regret in middle age. Adolphe is content, indeed relieved, to lead an orderly, clearly laid-out life.

Constant the philosopher did not analyse the mechanism by which such 'smallness' could afflict the collective civic body. That explanation appeared later, as social science. The fear explored by Adolphe's story appeared nearly a century later in Max Weber's writings on bureaucracy. People live inside an 'iron cage', Weber famously argued, when working within bureaucracies, particularly if their overriding ambition is to climb the bureaucratic ladder. The figure of Adolphe was now by Weber set in a broader context, one in which efforts to rationalise society, as the *code civil,* inevitably created the bureaucracies which demeaned people: 'Rational calculation ... reduces every worker to a cog in this bureaucratic machine

and, seeing himself in this light, he will merely ask how to transform himself ... to a bigger cog'.

Weber was not a dry observer of this process: 'The passion for bureaucratization ... drives us to despair'. He was certainly not alone in identifying this malaise. Novels like Robert Musil's *The Man Without Qualities* dissected, in relentless though often comic detail, how bureaucracy makes for small life. Perhaps the most despairing image of the iron cage was elaborated by Weber's contemporary, Rainer Maria Rilke, in his poem about a panther confined to a zoo. The poem began, 'his vision, from the constantly passing bars, has grown so weary that it cannot hold anything else'.

Iron-cage despair afflicted those of my generation who had grown up inside the security zone. Sociologist C. Wright Mills detailed with some sympathy the construction of his parents' particular cage: Daddy and Mummy were haunted by the Great Depression and World War II but kept those nightmares to themselves; the nightmares could be repressed thanks to America's new prosperity and global hegemony. But by the beginning of the sixties, the children of the zone simply paced, panther-like; by the end of the decade, they sought more actively to destroy it. The young had regained the passion for experience writ large which Constant – and after him, Musil and Weber – had though shrunken. Which is where *The Uses of Disorder* entered the picture.

I did not come from the zone. My childhood was spent in an urban public housing project, and my single parent was a covert member of the Communist Party. I was gay, and I had lived in Chicago and New York on my own or with lovers since I was fifteen. A series of accidents led me into Harvard University as a young adult. There, at first, the sorrows evoked by those who grew up secure seemed to me self-indulgent. In time, I appreciated that their suffering was real. I was also as self-involved as any suburban Hamlet. I made big mistakes in judging the strangers with whom I mixed daily and nightly. I had survived, but I had not gained much self-knowledge.

At Harvard, I sought to find self-knowledge by writing. Something in me wanted to write, however, about places lived in rather than strict autobiography; in relating self and city, 'city' seemed to me the independent variable. It might be said that I was not ready to face myself. But at Harvard a mentor, psychoanalyst Erik

Erikson, thought this was the right way to face: looking outward rather than inward.

The young Erikson was a Danish artist who got nowhere with art and so turned to psychoanalysis as a second-choice profession, initially training under Freud and working with children in Vienna. He fled war-gutted Europe for a post at the Austen Riggs psychiatric clinic in Massachusetts, where he became more interested in adolescents and young adults. There Erikson did the work for which he became famous, on the 'identity crisis' which occurs as human beings transition from adolescence to adulthood. In his view, this is such a rough passage because of the tension between seeking and shutting out new experiences. On one hand, the young thirst for the new; on the other, they fear being exposed raw. If this tension is not worked through, the young will cling to a rigid sense of self that inhibits them from accounting for difference and divergence in others.

I accepted this view in *The Uses of Disorder* but in time came to see it could be restructured without the Freudian plumbing of id shits, superego flushings and the like. Cognitive psychologist Lionel Festinger did so by researching the continual interplay in the brain between inductive curiosity, which opens up new perspectives, and deductive reasoning, which seeks to resolve mental disorder. In another vein, psychologist Carol Gilligan rejected the idea that an adolescent identity crisis – 'Who am I?' – is the defining moment when gender differences between self and others are sorted. Gender, she showed, is renegotiated again and again, across the human lifespan.

These un-Freudians rephrased what Freudian jargon calls 'ego strength'. Whether confronted with a math puzzle, the jarring demands of a lover, or learning a new job, people need to develop an ability to deal with ambiguity, difficulty and the unknown to explore the unexpected turn rather than defend against it. And here lay Erikson's own strength as a thinker: he was a moralist more than he was a psychoanalyst.

His moral view could be encapsulated in the phrase *Less Self, More Other.* That's what happens on the positive side during an identity crisis, and indeed throughout a lifetime: a person takes in more of the outside Other, projects less of one's Self on others. It takes psychological strength to practise this ethic but this power cannot develop in a vacuum. People have to practise *Less Self, More Other,*

rather like going to a gym to develop one's muscles. My insight – and I hope the durable value of my book – was that a big, dense, diverse city was the place where people could practise and gradually strengthen this moral muscle.

Were Benjamin Constant alive today, I suspect that the phrase *Less Self, More Other* would resonate with him. Civil society as he conceived it should turn people outward, shaking them out of their own prejudices and habits as defining absolutes of how everyone should live. But his view was more complicated, wiser than this moral nostrum, at least as I have compacted it into four words. Constant's civil society is to be a place in which people are both mutually engaged and disengaged, a city of solitudes as well as communities.

Constant perhaps learned this duality from his liaison with Madame de Staël, a writer he met in Paris in 1795 and with whom he fled to Switzerland when Napoleon banished her in 1802. Her novel of 1807, *Corinne; or, Italy,* a manifesto for women's rights lightly disguised as a story, argued for the right of women to be freed from permanent obligations in marriage, for their freedom to conduct passing affairs, for their 'inalienable right to privacy, that is, solitude'. Never monogamous, Constant practised what Madame de Staël preached – until he and his wife, Charlotte von Hardenberg, whom he married after Madame de Staël's death, returned to Paris.

There, his writings extended de Staël's erotic ethics to civil society more generally. He wanted a society that challenged communal conformity and collective propriety. Civil society should embrace differences in and fluctuations of behaviour, so that people could be set free, free to be themselves – alone. The unbridgeable distances, the necessary silences, between people who differ should be acknowledged and respected. That's what makes civil society 'civil', and what a big, dense, diverse city – unlike a nosy village – makes possible.

*

But we cannot talk about freedom without talking about power. And the city, while being an exemplary theatre for self-expression and social engagement, is also a site of complex networks of dominance.

In 1806 Napoleon captured the city of Jena, where Georg Friedrich Hegel had

been teaching. The young philosopher fled, carrying a half-finished manuscript for *The Phenomenology of the Spirit* but little else; Napoleon the general terrified him. In later years, Hegel came to idolise Napoleon the emperor as a heroic figure and praised the *code civil* as a rational way to organise civil society – but that lay in the future, when Hegel had hardened in old age as an apostle of order.

The Phenomenology is an edgier book, one in which the author argues with himself. Its most famous chapter is on 'Lordship and Bondage' and perhaps the most famous sentence in this chapter declares that human beings are fulfilled 'only in being acknowledged' by others. That is, 'a process of mutual recognition' is necessary for each person to feel complete in their selfhood. This might seem no more than a philosophic version of the cliché declaring that no man is an island, but Hegel turns recognition into a deeper and darker issue.

How can people of unequal standing – lords and servants, master and slaves – practise mutual recognition? The servant has to obey the master, but to Hegel this is not enough. As Hegel observed in the French Revolution, if servants do not believe in their masters, eventually they will turn on the powerful. It is a radical proposition: In the long term, power depends on voluntary obedience by those who obey. Moreover, the long-term master wants to be thought legitimate, wants his servants (in Hegel's time, always a 'he') to acknowledge that he has the right to rule them.

Relations between 'lords' and their 'bondsmen', as Hegel called superiors and subordinates, had become much more likely, he thought, in his contemporary world than in past societies. In the past, religious dictates or inherited privilege legitimated a master; the master did not have to do anything himself personally when the social order was designed by God. In a secular, tradition-hostile society, recognition of a bond across the gap of unequal standing becomes more fragile. Machiavelli had observed something similar in the upheavals of Renaissance city-states, but he thought the dilemma to be one of statecraft only, of how the ruler behaved so as to elicit voluntary obedience from his subjects. By Hegel's time, the issue had become social as well as political.

Benjamin Constant, as Hegel's contemporary, perceived that something beyond shared suffering entwined the Parisians of the 1820s. People in the city formed a civic molecule even as most no longer believed in the revolutionary slogan

liberty, equality, fraternity and few longed for Napoleon's escape from the island prison of St. Helena. What now was the social chemistry bonding people of very unequal standing? Something did so, but what it was Constant couldn't say.

By focusing on the servant's own need for recognition, Hegel tried to solve this problem. A list of 'servants' today might include women, gay and transgender people, immigrants, ethnic minorities – anyone who is not recognised as a peer by the master. Each of these servants, Hegel says, is engaged in a duel with the master to win acceptance, be it working women who fight for recognition of their right to equal pay, gay couples seeking to adopt who argue for their right to parent, immigrants who want it acknowledged that they are loyal citizens, or transgender people who must jump through medical establishment protocols to gain legal recognition of their gender identity. In all of these cases, Hegelian logic says that the master has set the terms of acceptance. This struggle for recognition bonds servants to their masters. Even if, as in the Napoleonic code, men or religions have equal legal rights under the law, the struggle for recognition goes on in civil society. See me! Acknowledge my presence! Do not treat me as invisible!

If the servant wants freedom – rather than recognition – then they must step outside of the master's frame of reference. And this passage progresses in four steps: The servant is first stoic about his or her own suffering, then becomes sceptical about the master's right to impose pain; a period of detachment ensues in which the underling feels both free of the master but unsure and unhappy about what he or she should do. Reasoning at last leads to the resolution of this unhappiness.

When thinking through the same question in reference to how one might live in the city, Immanuel Kant had promoted the notion of becoming 'cosmopolitan', which meant engaging with strangers in discussions of reasoning and rational action. This practising of intimate distancing allowed a level of engagement without submission. However, the young Hegel doubted this version of cosmopolitan life for good historical reasons. It was not possible to come together without some collective identity emerging. In the French Revolution, strangers in the Parisian streets had come together to hunt down 'traitors', 'secret aristocrats', and other deviants, drawing together in an unreasoned passion.

In the 1890s, following firsthand encounters with the Paris Commune, Gustave Le Bon made such collective irrationality the subject of his own studies and

attempted to identify the identity of the crowd. This was later followed by the contrasting work of Elias Canetti and then Sigmund Freud. Each in their way made the observation that it's easier to lose yourself when surrounded by people you don't know. It appeared, therefore, that the anonymous city gave licence to irresponsibility.

Moreover, Hegel seems caught in a contradiction, because he has declared that recognition by others is necessary to feel fully human. The need for authority is not always a base impulse – children need to rely on adults to learn at school and soldiers must rely on the commands of other officers to survive in battle. Therefore, rules can guide and they can reassure. It's more so a question of which kinds of rules don't, and under what conditions can and should people challenge lordship.

Hegel's way through the lordship-and-bondsman dilemma is to declare that 'through work the bondsman [servant] becomes conscious of what he truly is'; through thinking about work in relation to himself, he can 'discover that he has a mind of his own'. Karl Marx seized exactly upon these phrases in his *Phenomenology*. But uneasy with an emphasis on practical activity in the everyday world, Hegel himself would, as he aged and his thought hardened, put increasing emphasis on a rational, all-comprehending, all-inclusive state to resolve the problems of lords and bondsman – the perverse conclusion the older Hegel arrived at in 1821 in *The Philosophy of Right.*

We want to be young Hegelians, in the sense that we want people to step outside the lordship-bondsman relationship without, as did old Hegel, then seeking refuge in a higher, rational, resolving order. But we face the same problem, in our own narrow sphere, as the young philosopher. Can a city create a chemical bond between people outside of the unequal struggle for recognition? Seemingly, a civil society that admits ructions between people and values their separateness doesn't do much to bond them. Furthermore, we need to discriminate among rules – some provide positive guidance, others need to be disordered.

*

Hegel did well to focus on labour. In modern society, the servant's work poses complex, indeed surprising problems of authority. The bonds between employer and employee have come unglued in a new era of capitalism, beginning in the late

1970s, which sought to make organisations more 'flexible'. In part, this flexibility means upsizing and downsizing a company's workforce numbers in response to global market and financial conditions. It also means a constant process of internal reorganisation as the company does new things or abandons established practices. Finally, flexibility means changing the worker's job to focus on a shifting set of tasks rather than performing a fixed function within the firm.

Flexibility has set many workers adrift. The reason for this involves time. The iron cage described by Max Weber and later C. Wright Mills structured workers' experience of time as deep. Bureaucracy organised labour in years or decades. Workers typically worked for fewer than four employers in the course of their careers. Labour unions protected seniority for long-serving labourers and pensions rewarded such service. Organising labour in long units of time meant that a corporation would generally follow a clear internal structure: people would climb up or down fixed job ladders, knowing exactly where they stepped. Despite cyclical blips of unemployment, labour time was predictable and, in that sense, orderly.

Today's workers experience much shorter labour time because of a reconfiguration based on power. Firms are now oriented to short-term share price rather than long-term profit. This shift speeds up and shortens labour time, as the firm requires different skills and restructures groups of workers in pursuit of short-term recognition by global investors. Flux within organisations kicks away people's career ladders. Workers shift from task to task without an overarching narrative of where they are going. Young employees can expect to work for at least a dozen employers – or in the 'gig' economy, to work from month to month selling themselves to whomever will contract for their services.

*

Today's labouring servant is thus set adrift. This is where Hegel enters the picture. How can servants demand recognition of their needs, their presence, from the master? And what does this tell us about the kind of cities in which we live?

Flexible capitalism unfolds now in a rigid city. The city has become an iron cage – one that imprisons disoriented, labouring animals. There are several reasons for this paradox. The first is the withering of mixed spaces and their replacement with more homogenised districts. This process of sorting and segregating went on

throughout the last century but has sped up since the early ’80s.

In the nineteenth century, the wealthy centres of London, New York and Paris were necessarily mixed because they contained a huge live-in servant population. These districts were also filled with small shops – butchers, cobblers, ironmongers – whose specialised commerce maintained affluent households. Servants and shopkeepers in turn had their own local supports, in pubs and cheap restaurants, close to where they worked. London’s Mayfair or the Upper East Side thus registered in censuses before World War I as diverse places in a particular way: they mixed the elite and the satellite working class.

Missing from the centre, however, were the middle and lower-middle classes, and the industrial labourers who were spread out in the city. From the 1870s, the middle and ‘respectable’ working classes established colonies in new suburbs, while the industrial proletariat was often condemned to live in degraded conditions near factories. Still, outer city territories were amorphous; they were mostly new housing developments that arose in erratic fashion. Whether respectable or miserable, all of these places had mixed local economies, just as in the centre. Near-in suburbs before the Great War were more like small towns than the dormitory-suburbs that sprang up after World War II.

The twentieth-century city was marked by relentless homogenisation. In the centre, the departure of live-in domestic servants meant that mews houses in London and top-floor flats in Paris became new kinds of luxury spaces. Haussmann had dreamed of remaking Paris in the mid-nineteenth century to create elegant, affluent spaces where the ugly underside of the city did not appear; a century later his wish began to be fulfilled. Outside the elegant zone, large developers came to dominate the financing and construction of housing at urban edges and in the suburbs; for these firms, homogeneous projects were much more commercially attractive than mixed-use and mixed-user ones.

Above all, the twentieth century saw the reign of zoning laws far more detailed and draconian than the rather loose standards of the nineteenth century. The history of zoning law is boring, but it has largely shaped the modern city. Written law takes aim at ambiguity. Increasingly in the decades after World War II, planners hunted down informal, abandoned or amorphous spaces.

In New York, in particular, planners’ prescriptive writing was seldom based on

inductive experience of the city; their prescriptions were deductively formulated, with the division of labour as a model for the division of space: separate places for shopping, schooling, housing. New York is urbanistically distinctive because of the street-walls formed by contiguous tall buildings. These street-walls enable complexity of use and users at street level; they were replaced during the postwar years whenever possible by set-back, isolated buildings with few or no activities at street level.

This process of caging – separating – different uses, places and people has accelerated under flexible capitalism. The more the city has been sorted into different silos, the more the issues of lordship and bondage become visible and physical. The 'lord' becomes a rule or plan designating the precise use of each space, including who belongs there. The 'bondsman' is still a human being, one who submits to the rules of a space, using it as it is meant to be used; the bondsman knows, moreover, where she belongs and where she doesn't. In New York today, the 'lord' of Hudson Yards is its highly articulated and regulated public space; the 'bondsman' are the men and women who use it exactly as planned. Moreover, few poor Latinos and African Americans will be found here; they know they don't belong here.

Hegel's early logic of civil society – as noted, different than his later, more statist views – is that the bondsmen set themselves free in the end by a show of indifference to the rules – say, by colonising bits of the outdoor public space in Hudson Yards for political purposes. Rather than debate planning regulations, they will speak a language to justify themselves which revolves around the need for face-to-face contact, or, more abstractly, invokes Lefevbre's right to the city. An asymmetry results; lord and bondsman are speaking at cross purposes; thanks to this disordering, the bondsman has set her or himself free – free of the lord's setting the terms of control.

By this same logic, Constant saw the creation of a civil society. In a good civil society, discourse is not resolved into a single set of issues for the lord and against the bondsman seeking recognition. Due to that very lack of resolution, people find spaces of freedom: they are no longer positioned, defined.

A city can make tangible this kind of civil society. The density and diverse population of a city spawns multiple scenes for civil society, so long as these spaces

are not fixed in form and function. Our argument here is that the DNA for these unresolved, liberating spaces can, however, be designed.

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2

Open Forms

The Closed System and the Brittle City

The cities everyone wants to live in should be clean and safe, possess efficient public services, be supported by a dynamic economy, provide cultural stimulation, and also do their best to heal society's divisions of race, class and ethnicity. These are not the cities we live in.

Cities fail on all these counts due to government policy, irreparable social ills, and economic forces beyond local control. In these ways, each city is not its own master. Still, something has gone wrong – radically wrong – in our conception of what a city itself should be. Imagining the good city became ever more difficult as planning become legalistic and bureaucratic after World War II – Paris in 1960 had a far thicker rulebook than it did in 1870. This presents a paradox.

Today's planner has an arsenal of technological tools – from lighting to bridging and tunnelling to materials for buildings – which urbanists even a hundred years ago could not begin to imagine: we have more resources to use than in the past, but we don't use these resources very creatively.

This paradox can be traced to one big fault: the overdetermination of both the city's visual forms and its social functions. The technologies which make possible experimentation have been subordinated to a regime of power which wants order and control; in the grip of rigid images and precise delineations, the urban imagination lost its vitality. Now, nearly a century on, with even greater technical abilities, we need to loosen up the city; we need to imagine an open city in which experimentation is possible, one which is friendly to informality, one which is open.

A portent of the paralysed imagination about cities appeared in Le Corbusier's 'Plan Voisin' in the mid-1920s for Paris. The architect conceived of replacing a large swath of the historic centre of Paris with uniform, X-shaped buildings; public life on the ground plane of the street would be eliminated; the use of all buildings

would be coordinated by a single master plan.

'Plan Voisin' froze the city by eliminating unregulated life at street level; instead, people were to live and work, in isolation, higher up. This vertical dystopic experiment became reality in various ways. The plan's methodology shaped public housing from Chicago to Moscow, housing estates which came to resemble warehouses for the poor. Corbusier's intended destruction of vibrant street life was realised in suburban growth for the middle classes, with the replacement of high streets by monofunctional shopping malls, by gated communities, by schools and hospitals built as isolated campuses.

The result of overdetermination is what could be called the *Brittle City.* As their use changes, buildings are now destroyed rather than adapted. The average lifespan of new public housing in Britain is now forty years; the average lifespan of new skyscrapers in New York is thirty-five years. It might seem that the Brittle City represents openness of a sort, the new sweeping away the old, but change of this sort is malign. In the United States, people flee decaying suburbs rather than reinvest in them; in Britain and continental Europe, as in America, 'renewing' the inner city most often means displacing the people who have lived there before. 'Growth' in an urban environment is a more complicated phenomenon than simple replacement of what existed before; growth requires a dialogue between past and present, it is a matter of evolution rather than erasure.

This principle is as true socially as it is architecturally. The bonds of community cannot be conjured in an instant, with a stroke of the planner's pen; they too require time to develop. Today's ways of building cities – segregating functions, homogenising population, preempting through zoning and regulating the meaning of place – fail to provide communities the time and space to evolve, which is needed for growth.

The Brittle City is a symptom of society operating on a large scale as a closed system. This view of society has two essential attributes: equilibrium and integration.

The closed system ruled by equilibrium derives from a pre-Keynesian idea of how markets work. It supposes something like a bottom line, in which income and expenses balance. In state planning, information feedback loops and internal markets are meant to ensure that programs do not 'overcommit', do not 'suck

resources into a black hole' – such is the language of recent reforms to health services, familiar again to urban planners in the ways that infrastructure resources for transport get allocated. The limits on doing any one thing really well are set by the fear of neglecting other tasks. In a closed system, a little bit of everything happens all at once.

Second, a closed system is meant to be integrated. Ideally, every part of the system has a place in the overall design; the consequence of that ideal is to reject, to vomit out, experiences which stick out because they are contestatory or disorienting; things that 'don't fit' diminish in value. Planning in the urban environment can practise repressive integration by emphasising *context* – a polite but potent word to cast suspicion, repressing anything that doesn't fit in, ensuring that nothing sticks out, offends or challenges.

Emphasis on integration discourages experiment; as the inventor of the computer icon, John Seely Brown, once remarked, every technological advance poses at the moment of its birth the threat of disruption and disfunction to a larger system. So too in a city.

The twin sins of equilibrium and integration bedevil plans for education, welfare services or corporate vitality as much as in the Brittle City; moreover, the sinning sisters appear in both state capitalism or state socialism. The closed system betrays the twentieth-century bureaucrat's horror of disorder.

The social contrast to the closed system is not the free market, nor is the alternative to the Brittle City a place ruled by developers. The cunning of neoliberalism speaks the language of freedom while manipulating closed bureaucratic systems for elites' private gain. The true counterbalance of the closed system involves a different kind of *social* system.

The Open City

An open city works like Naples, a closed city works like Frankfurt.

The idea of an open city is not my own: credit for it belongs to the great urbanist Jane Jacobs in the course of arguing against the urban vision of Le Corbusier. She tried to understand what results when places become both dense

and diverse, as in packed streets or squares, their functions both public and private; out of such conditions comes the unexpected encounter, the chance discovery, the innovation. Her view is reflected in the bon mot of William Empson that 'the arts result from overcrowding'.

Jacobs sought to define particular strategies for urban development, once a city is freed of the constraints of either equilibrium or integration. These include encouraging quirky, jerry-built adaptations or additions to existing buildings; encouraging uses of public spaces which don't fit neatly together, such as putting an AIDS hospice square in the middle of a shopping street. In her view, big capitalism and powerful developers tend to favour homogeneity: determinate, predictable and balanced in form; the role of the radical planner is therefore to champion dissonance. In her famous declaration, 'if density and diversity give life, the life they breed is disorderly'.

If Jane Jacobs is the urban anarchist she is often said to be, then she is an anarchist of a peculiar, conservative sort. Her spiritual ties closer to Edmund Burke than to Emma Goldman. She believes that an open city is slow moving; people best absorb and adapt to change if it happens step by lived step. This is why Naples or New York's Lower East Side, though resource-poor, still are sustainable and why people care deeply about them. They have lived *into* these places, like nesting. Time breeds attachment to place.

The cities we know today, outside the European orbit, are fast moving; the urbanisation of Asia, Latin America and Africa has occurred in decades, not centuries. The drivers of fast time – developers, investors, national actors – want their cities to be closed in form; that is, to be quantifiable, determinate, balanced and well-integrated. The investor knows what he or she is getting.

If we want urban development to be open, we cannot counter these forces simply by saying 'slow down' or 'wait'. Jacobs's Burkian sense of time, accompanied by her championing of small businesses, hasn't much traction in the face of today's political economy. Instead, resistance to the closing of the city makes countervailing designs all the more important.

In my own thinking, I've wondered what kinds of physical forms might resist the closed city and empower the open. The plans presented by Pablo Sendra in this book explore the physical infrastructure which might do so. Above ground, there

are three kinds of 'urban DNA' configurations that can be deployed in a situation of rapid, massive urban development. These three forms in an open city are 1. passage territories; 2. incomplete objects; and 3. nonlinear narratives.

Passage territories

I'd like to describe in some detail the experience of passing through different territories of the city, both because that act of passage is how we know the city as a whole, and also because planners and architects have such difficulty designing the experience of passage from place to place. I'll start with walls, which seem to be structures inhibiting passage, and then explore some of the ways edges of urban territory function like walls.

Walls

The wall would seem an unlikely choice; it is an urban construction which literally closes in a city. Until the invention of artillery, people sheltered behind walls when attacked; the gates in walls also served to regulate commerce coming into cities, often being the point at which taxes were collected. Massive medieval walls such as those surviving in Aix-en-Provence or Rome furnish a perhaps misleading general picture; ancient Greek walls were lower and thinner. But we also mis-imagine how those medieval walls themselves functioned.

Though they shut closed, they also served as sites for unregulated development in the city: houses were built on both sides of medieval town walls; informal commerce with black-market or untaxed goods sprung up nestled against them; the zone of the wall was where heretics, foreign exiles and other misfits tended to gravitate, again far from the controls of the centre. These spaces would have attracted the anarchic Jane Jacobs.

But they were also sites which might have suited her organically focused temperament. These walls functioned much like cell membranes, both porous and resistant. That dual function of the membrane is, I believe, an important principle for visualising modern urban living forms. Whenever we construct a barrier, we must equally ensure the barrier is porous; the distinction between inside and outside has to be breachable, if not ambiguous.

The typical contemporary use of plate glass for walls doesn't do this; true, on the street you see what's inside the building, but you can't touch, smell, or hear anything within; the plates are usually rigidly fixed so that there is only one, regulated, entrance within. The result is that nothing much develops on either side of these transparent walls: as in Mies van der Rohe's Seagram Building in New York or Norman Foster's new London City Hall, you have dead space on both sides of the wall; life in the building does not accumulate here. By contrast, nineteenth-century architect Louis Sullivan used much more primitive forms of plate glass more flexibly, as invitations to gather, to enter a building or to dwell at its edge; his plate glass panels function as porous walls. This contrast in plate glass design brings out one current failure of imagination in using a modern material so that it has a sociable effect.

The idea of a cellular wall, which is both resistant and porous, can be extended from single buildings to the zones at which the different communities of a city meet.

Borders

Ecologists like Stephen Jay Gould draw our attention to an important distinction in the natural world, that between boundaries and borders. The boundary is an edge where things end; the border is an edge where different groups interact. In natural ecologies, borders are the places where organisms become more inter-active, due to the meeting of different species or physical conditions. For instance, the shoreline of a lake, where the water meets solid land, is an active zone of exchange; here organisms find and feed off other organisms. The same is true of temperature layers within a lake: where layer meets layer defines the zone of most intense biological activity. Not surprisingly, it is also at the borderline where the work of natural selection is most intense, whereas the boundary is guarded territory, as established by prides of lions or packs of wolves. The boundary establishes closure, whereas the border functions more like a medieval wall. The border is a liminal space.

In the realm of human culture, territories consist similarly of boundaries and borders – in cities, most simply, there is a contrast between gated communities and complex, open streets. But the distinction cuts deeper in urban planning.

When we imagine where the life of a community is to be found, we usually look for it in the centre of a community; when we want to strengthen community life, we try to intensify life at the centre. The edge condition is seen to be more inert, and indeed modern planning practices, such as sealing the edges of communities with highways, create rigid boundaries lacking any porosity. But neglect of the edge condition – boundary thinking, if you like – means that exchange between different racial, ethnic, or class communities is diminished. By privileging the centre, we thus weaken the complex interactions necessary to join up the different human groups the city contains.

Let me give as an example a failure in my own planning practice. Some years ago, I was involved in a plan to create a market to serve the Hispanic community in Spanish Harlem in New York. This community, one of the poorest in the city, lies above 96th Street on Manhattan's Upper East Side. Just below 96th Street, in an abrupt shift, lies one of the richest communities in the world, running from 96th down to 59th Street, comparable to Mayfair in London or the 7th Arrondissement in Paris. Accordingly, 96th Street itself could function either as a boundary or a border. We planners chose to locate La Marqueta in the very centre of Spanish Harlem, twenty blocks away, and to regard 96th Street as a dead edge where nothing much happens. We made the wrong decision. Had we located the market on 96th Street, we might have encouraged activity which brought the rich and the poor into some daily commercial contact. Wiser planners have since learned from our mistake and on the West Side of Manhattan sought to locate new community resources at the edges between communities, in order, as it were, to open the gates between different racial and economic collectivities. Our prioritisation of the centre proved isolating; their understanding of the value of the edge and border has proved integrating.

I don't mean to paint a Panglossian picture of such ventures in planning: opening up borders means people of different strengths are exposed to competition. Borders can serve as tense rather than friendly sites of exchange – evoking some of the predatory quality of border conditions in natural ecologies. But taking that risk, which planners are now doing under more explosive conditions in Beirut and in Nicosia, is the only way, I believe, in which we can create conditions for a socially sustained collective life in cities; ultimately, isolation is not a true guarantor of civil

order.

The porous wall and the edge as border create essential physical elements for an open system in cities. Both porous walls and borders create liminal space – that is, space at the limits of control, limits which permit the appearance of things, acts and persons unforeseen yet focused and sited. Biological psychologist Lionel Festinger once characterised such liminal spaces as defining the importance of 'peripheral vision'; sociologically and in an urbanistic sense, these sites operate differently than those places which concentrate difference in a centre; on the horizon, at the periphery, at the border, differences stand out since one is aware one is crossing out of one territory into another.

Incomplete Form

This discussion of walls and borders leads logically to a second systemic characteristic of the open city: incomplete form. Incompleteness may seem the enemy of structure, but this is not the case. The designer needs to create physical forms of a particular sort that are 'incomplete' in a distinctive way.

When we design a street, for instance, so that buildings are set back from a street wall, the space left open in front is not truly public space; instead, the building has been withdrawn from the street. We know the practical consequences – people walking on a street tend to avoid these recessed spaces. It's better planning if the building is brought forward, into an interplay with other buildings; though the building will become part of the urban fabric, some of its volumetric elements will now be incompletely disclosed. There is an incompleteness in the perception of the object.

Incompleteness of form extends to the very context of buildings themselves. In classical Rome, Hadrian's Pantheon coexisted with the less distinguished buildings which surrounded it in the urban fabric, though Hadrian's architects conceived the Pantheon as a self-referential object. We find the same coexistence in many other architectural monuments: St. Paul's in London, the Rockefeller Center in New York, the Institut du monde arabe in Paris – all great works of architecture which stimulate building around them. It's that stimulation, rather than the fact that the surrounding buildings are of lesser quality, which counts in urban terms: the

existence of one building is sited in such a way that it encourages the growth of other development around it. And now the buildings acquire their specifically urban value by their relationship to each other – they become, in time, incomplete forms if considered alone, by themselves.

Incomplete form is most of all a kind of creative credo. In the plastic arts it is conveyed in sculpture purposely left unfinished; in poetry it is conveyed in, to use Wallace Steven's phrase, the 'engineering of the fragment'. Architect Peter Eisenman has sought to evoke something of the same credo in the term 'light architecture', meaning an architecture planned so that it can be added to or, more importantly, revised internally over time as the needs of habitation change.

This credo opposes the simple replacement of form which characterises the Brittle City, but it is a demanding opposition – a tension seen, for instance, when we try to convert office blocks to residential use.

Nonlinear Narratives

Cities do not build linearly over time: their shapes twist and turn as historical events alter the ways people live in them. But all too often, the *ville* is planned as though particular projects can be developed in a sequential fashion, moving from conception to completion with a minimum of alteration along the way. It's certainly necessary to reduce costs for material and labour by calculations made at the start, and you cannot build an airport or a sewage system by trial and error. But these are vast constructions. At the level of the house, the school, the office or the store, smaller scale allows for the structures to shift in form as uses or users change.

Incomplete forms enable this alteration to occur physically. Massed together in an assemblage, these incomplete forms allow nonlinear development of the *cité* to occur. For example, in London, this massing of mutable buildings occurred in the Spitalfields neighbourhood in the East End, as weaving and weavers brought to London by French Huguenots in the seventeenth century gave way to tailoring and Jewish tailors, who moved from Eastern Europe to London in the late nineteenth century; in the early twentieth, construction workers from the West Indies began to arrive and in the mid-twentieth, it was Bangladeshi and Indian small businessmen. The assemblage of flexible building forms allowed the different groups to make

their way in the same space. Until the gentrification of Spitalfields drove out most of these immigrants, they contrived informal ways of coexisting which matched the adaptive uses of the physical forms.

No one planned this history; Spitalfields never put out a sign saying 'immigrants are welcome here'. Nonetheless, planners can learn from such spontaneous growth. In our small projects, we can work reflexively. That means focusing on the stages in which a particular project unfolds. Specifically, we must try to understand what elements should happen first, and the consequences of this initial move. Rather than a lockstep march toward achieving a single end, we should look at the different and conflicting possibilities which each stage of the design process might entail. Keeping these possibilities intact, leaving conflictual elements in play, opens up the design system.

If a novelist were to announce at the beginning of a story 'here's what will happen' – what the characters will become and what the story means – we would immediately close the book. All good narrative has the property of exploring the unforeseen, of discovery; the novelist's art is to shape the process of that exploration. Likewise with the urban designer's art.

In sum, we can define an open system as one in which growth admits conflict and dissonance. This definition is at the heart of Darwin's understanding of evolution; rather than the survival of the fittest (or the most beautiful), he emphasised the process of growth as a continual struggle between equilibrium and disequilibrium; an environment rigid in form, static in programme, is doomed in time; biodiversity instead gives the natural world the resources to provision change.

That ecological vision makes equal sense for human settlements, but it is not the vision which guided twentieth-century state planning. Neither state capitalism nor state socialism embraced growth in the sense Darwin understood it in the natural world, in environments which permitted interaction among organisms with different functions, endowed with different powers.

I'd like to conclude by making a connection between the systematics of the open city and the politics of democracy. In what sense could the forms I've described contribute to the practice of democracy?

Democratic Space

When the city operates as an open system – incorporating the principles of porosity of territory, incomplete form, and nonlinear development – it becomes democratic not in the legal sense, but as a tactile experience.

In the past, thinking about democracy focused on issues of formal governance; today, it focuses on citizenship and issues of participation. Participation is an issue which has everything to do with the physical city and its design. For example, in the ancient polis, Athenians put the semicircular theatre to political use; this architectural form provided good acoustics and a clear view of speakers in debate; moreover, it made possible the perception of other people's responses during debates.

In modern times, we have no similar model of democratic space – and certainly no clear image of an urban democratic space. John Locke defined democracy in terms of a body of laws which could be practised anywhere. Democracy in the eyes of Thomas Jefferson was inimical to life in cities; he thought the spaces it required could be no larger than a village. His view has persisted. Through the nineteenth and twentieth centuries, champions of democratic practices have identified them with small, local communities and face-to-face relationships.

Today's city, which is big, is filled with migrants and ethnic diversity, a city in which people belong to many different communities at the same time – through their work, families, consumption habits and leisure pursuits. For global cities like London and New York, a key issue with citizen participation is how people can feel both physically and socially connected to others whom, necessarily, they cannot know. Democratic space means creating a forum for these strangers to interact.

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PART II: INFRASTRUCTURES FOR DISORDER

Pablo Sendra

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From the Paper to the Plan

I first read *The Uses of Disorder* [1] when I was twenty-five, the same age as Richard Sennett when he wrote the book. I read it at the beginning of 2009, when the crisis of capitalism and the economic recession were opening a period of uncertainty and an opportunity for social movements, as it happened in 2011 with the 15-M movement in Spain and the Occupy movement in the United States, the United Kingdom and other countries. *The Uses of Disorder* was published in 1970, influenced by the new left and the counterculture of the 1960s, as Richard Sennett admits in the preface of the 2008 edition. [2]

The way this sociopolitical situation influenced Richard Sennett differentiates his position from other reactions to modernist urban design, such as that of Jane Jacobs. [3] The contestation of social norms made Richard focus on personal identity and how city life influences it. In this context, Richard saw urban experience, its complexity and its uncertainty as necessary to develop an adult identity that prepares people to face unexpected situations and encounter difference. In this way, Richard's position differed from Jacobs's call to restore the 'small, intimate relationships between neighbours in city life' [4] characteristic of the past. Instead of seeking a romantic revival of past neighbourhood life, Richard proposed finding new conditions of urban life for the future, where people learn how to accept disorder through the urban experience. Richard also identified that overdetermining functions through planning was eliminating these unpredictable encounters and hindering social interaction.

Fifty years after *The Uses of Disorder,* regeneration schemes still seek to remove unwanted behaviours and tend to domesticate informality. The validity of the book's arguments fifty years later made me question: can architects and planners design disorder?

In the 1960s, the restrictions in city life that Richard identified were framed in a very particular political context, with the imposition of certain social norms, and

were introduced through major urban renewal schemes that included the mass construction of housing and urban motorways, along with the refuge of affluent communities in the suburbs. Today, the sociopolitical context has changed. However, the imposition of order through urban planning and design remains.

Both the 1960s and the 2010s have been decades of contestation and activism against imposed order, social control and urban developments that exacerbate inequalities and produce alienation. To understand which kinds of disorder cities need today, we need to recognise which are the diverse forms of imposed order and how they are being contested.

The kinds of disorder we refer to are not rigid designs, nor do they imply disordered urban and architectural forms, as postmodernism attempted to do in response to modernism. On the contrary, we understand disorder as the contestation of imposed orders. Since these enforcements of social control through urban planning and design change, disorder is not stable, it is dynamic and shifts to challenge the system and propose alternatives.

When Richard Sennett wrote *The Uses of Disorder* in the late 1960s, the United States lived in the climate of the Cold War and the Vietnam War. There was a rise in activism and, as Richard reflects in the preface of the 2008 edition of the book, young people believed they were 'on the cusp of revolutionary change' [5] and that capitalism was about to implode. This feeling of being in a very unique momentum, in a time of opportunity to challenge a system that had failed, is very similar to what has happened to young people in the 15-M movement and in the subsequent activist and political initiatives that have emerged from it.

The 2008 financial crisis caught Spain by surprise. The economic crisis, high levels of unemployment, the fact that many families were being evicted from their homes because they could not pay their mortgages and the discontent toward a system that privileged the powerful led to a widespread social unrest that resulted in the occupation of a central square in every city in Spain on 15 May 2011.

The 15-M movement started in Madrid and rapidly spread to every city in the country, with people protesting and imagining alternative futures during the day and camping at night. A generation that had comfortably lived with the status quo awakened on 15 May 2011 contesting an unjust system that, in a moment of crisis, had privileged the bankers and economic powers. The 15-M movement crossed

generations. Although the people of my generation comprised a high percentage of the protesters, it received widespread support.

The regular assemblies that started taking place once people stopped camping on the squares aimed to imagine alternative futures away from capitalism. Three years after the 15-M, the political party that emerged from the ideals of the movement, Podemos, used the expression 'asaltar los cielos' (storming heaven), which Marx had previously used to describe the Paris Commune of 1871. [6] The party called for the unity of the social movements and transmitted the idea that we were in a unique moment to challenge the system and elect a government that had emerged from the grassroots.

Íñigo Errejón, one of the founders of the party, in his conversation with Belgian political philosopher Chantal Mouffe, explained that the system's failure opens a window of opportunity that will soon be closed once again by the powerful. [7]

This feeling of being in a moment of opportunity to propose changes to the system was also present in the intellectual sphere. I was spending a few months at the University of Cambridge when the Occupy movement took place in October 2011. Manuel Castells came to give a few lectures and presented his research on the role of technology in social movements like the Arab Spring and the Indignados movement in Spain. Richard gave lectures at University of Cambridge and at the Serpentine Gallery Pavilion in London about the social interactions during the Occupy movement in New York.



Figure 2: 15-M demonstration in Plaza de la Encarnación (popularly known as 'Las Setas' [The Mushrooms]), Seville, Spain. May 2011. Author: Pablo F.J. (Flickr). CC BY 2.0.

However, while Errejón observed that this crisis of the system was a short-term opportunity that cannot be missed, he also explained that there is a longer-term task – to reconstruct a society fragmented by neoliberalism.

The Uses of Disorder discussed this long-term change fifty years ago, too. This shift demands that we go beyond changing the political leaders and forces us to think about what happens after the revolution. In the context of the revolts at the end of the 1960s, Richard Sennett advocated for a 'new anarchism', where people learn to accept disorder in their lives as beneficial. He saw that this acceptance of disorder should happen in diverse and crowded cities and advocated for turning 'the urban-based large-scale bureaucracies' into 'better communal lives'. [8] The new anarchism not only rejected the current system, but it also offered a viable alternative which reconstituted metropolitan bureaucratic power.

This new system combines decentralisation and localism – devolving power and providing economic resources to communities – with limited centralised power that consists of distributing goods and managing certain services. With this decentralisation, he proposed involving many more people in the planning of cities.

An example of this new anarchism in the 1970s can be found in the squatters' movement in London. As Alexander Vasudevan explains in his book *The Autonomous City,* a new wave of squatting emerged in London in 1968. [9] Vasudevan explains how the success of certain squats led to the emergence of countless local occupations in many different parts of London, with some initiatives coordinated London-wide. He also explains that these squats were not only about housing struggles – they also proposed new ways of living in community, as Richard advocated in this book. Vasudevan explains the links between the squatting groups and campaigns and other movements such as the Situationist International, anarchists and other leftist groups, and feminist and LGBTQ+ collectives. [10]

Take, for example, Frestonia, a heterogeneous group that squatted derelict dwellings owned by the Greater London Council on Freston Road, West London. The mixture of artists and activists triggered a creative response to the announcement of the demolition of the homes. Collectively, the group decided to adopt the surname 'Bramley' and declared independence from Great Britain. The surname strategy was a response to a Greater London Council policy in which family members should be rehoused together as a single family.

Next, actor David Rappaport-Bramley, foreign minister of Frestonia, wrote a letter to the United Nations informing them of their self-determination and made an application for full membership of the UN for the Free Independent Republic of Frestonia. In the document, they warned the UN about the possibility of an 'invasion into Frestonia and eviction by the Greater London Authority and other organs of the British Government'. [11] From the moment of their independence, visitors to Frestonia got a stamp in their passport and unlimited visa entry. Although the UN never replied to this application, it attracted a lot of media attention and the Greater London Authority eventually had to negotiate with the squatters, who formed the Bramley Housing Co-op and built new homes in collaboration with the Notting Hill Housing Trust. [12] , [13] , [14]

From the late 1970s onward, the Greater London Council facilitated the

transformation of squats into housing co-ops. As Vasudevan explains, this secured the tenancy of many of the people squatting, but it also neutralised squatting in London to a certain extent. [15] The debate on whether to negotiate with local authorities to regularise a situation in which the law is being contested was present in activism in the 1970s and continues today. This tension raises a very relevant discussion: to what extent do such negotiations neutralise disorder or are they political victories that produce alternative futures and can bring more inclusive forms of living in community?

The new anarchism of London in the 1970s has a counterpart in the 2010s, where community groups have opposed neoliberal austerity policies by proposing alternative collective strategies. In this more recent activism, groups of tenants and residents of social housing estates are deploying a revealing diversity of strategies to stop the demolition of their homes and propose alternative plans led by communities. [16] These range from direct action, such as occupying empty buildings, to strong engagement with the planning process, in which communities form a community land trust in order to request the transfer of the homes from the local authority to their community-owned company, and/or produce their own plan for regenerating the housing estate through neighbourhood planning, a statutory planning framework introduced by the English Localism Act of 2011.

The strong and active engagement of these groups has resulted in many residents becoming experts in both planning and confronting injustice. Campaigns like those led by residents in Lambeth's Cressingham Gardens or in the West Kensington and Gibbs Green estates in Hammersmith and Fulham – two social housing estates in London where residents are resisting and contesting plans for demolition and redevelopment – demonstrate the powerful capacity of residents to take action, acquire planning knowledge and collaborate with experts to propose alternative community-led (and even community-owned) regeneration schemes.

This connects with Richard Sennett's proposal for a 'radical broadening of people active as the city's planners and leaders'. [17] It also represents a form of contestation that does not only oppose top-down processes, but also proposes alternative ways of communal living from the bottom up. Some of these campaigns have already managed to influence bureaucratic decision making and persuade local authorities to break deals with private developers. Although in the neoliberal

London of today a shift in power from the property developers to the people seems far away, the alternative futures that these community groups envision, which include ideas such as collective ownership, can become models for collectively building a fairer city.

But how can we learn to scale up these alternative forms of communal life from community initiatives to citywide level? This has remained a great challenge for activism and social movements.

There are two ways to expand the contestation of power to the level of the city: networks and municipalism. These two elements do not exclude each other – both are necessary, complementary and in continuous interaction. Networks address how to be in permanent struggle from the grassroots, creating connected local initiatives that propose alternative forms of governance and communal living. Municipalism offers insights on how to transform existing institutions into more open and democratic structures.

In my recent involvement in activism in London, I have been collaborating with Just Space, [18] a London-wide network of campaigns that aims to bring the voice of grassroots organisations into the urban planning of the city. During my collaboration with the group, I have experienced the importance of such networks for creating alliances between communities that are going through similar struggles and developing alternative solutions. First, such alliances create solidarity between communities, in which residents or local businesses that experience the possibility of being displaced can feel that they are not alone. Second, these communities learn from each other how to challenge power and propose alternative forms of governing and planning the city. This exchange of knowledge and skills between communities aids the building of a wide-ranging capacity and expertise among residents, tenants and local businesses to have a stronger voice in planning. Third, having a London-wide alliance of community organisations provides them with a voice for influencing planning decisions and collectively proposing how city strategies could be more inclusive and democratic. [19]

The idea of creating networks of movements builds on ideas from anarchism, where diverse autonomous groups create a federation of collectivities that have no hierarchies. There were some attempts to create such networks during the 1970s squatting movement in London. [20] Today, there are diverse examples of housing co-

op federations that organise from the citywide level to internationally and which share certain values and principles and meet regularly to revise their ideas and promote cooperativism. [21]

Such networks need to be in continuous interaction with existing institutions in order to challenge and transform city authority into a more open and inclusive form of governance. [22] A good example of social movements entering city institutions is how such movements in Spain, four years after the 15-M, on 25 May 2015, managed to build municipalist political initiatives that won municipal elections in cities like Madrid, Barcelona, A Coruña, Cádiz and Zaragoza. [23]

Activists' presence in municipal politics allows for the transformation of bureaucratic city structures into more open forms of governance. These open municipal governments have implemented policies and strategies that prevent private interests from creating further inequality in the city. For example, in 2018 Barcelona created its own municipal electric company to combat fuel poverty and it has also fought against unlicenced tourist apartments. Furthermore, these municipalist authorities are experimenting with more open forms of governance and resource distribution. They are actively engaging with communities in city planning experiments, including participatory systems for allocating economic resources to community initiatives through open-source platforms.

Widening the number of citizens involved in planning is the first change that Richard proposes in creating 'new city institutions', in *The Uses of Disorder*. [24] The second change has to do with encouraging more horizontal forms of governance. While both Ada Colau (mayor of Barcelona) and Manuela Carmena (mayor of Madrid until June 2019) showed themselves to be charismatic leaders, their administrations governed horizontally. Laura Roth and Kate Shea Baird, from Barcelona en Comú, explain this nonhierarchical stance as the 'feminization of politics', [25] in which hierarchical structures are substituted for a more collaborative approach that includes neighbourhood assemblies and committees in the decision-making process.

The third institutional change that Richard proposes is to weaken 'the phenomenom of family intensity'. [26] Society has changed a lot in the last fifty years, with people having children at a later age, a wider diversity in family structures, and substantial progress in the recognition of LGBTQ+ rights. Much of this progress

has been thanks to the pressure of social movements and their interaction with governments that have implemented policies such as equal marriage rights. In Spain, social movements and the presence in politics of LGBTQ+ activist Pedro Zerolo strongly influenced the adoption of equal marriage (which included right to adopt children) in 2005. Since then, LGBTQ+ politicians have become more vocal, and this has affected the diversity of family compositions in Spain.

Andrés Jaque and his Office for Political Innovation have studied how contemporary households have become more complex and diverse. According to Jaque, this has turned the domestic sphere into an 'arena' for dispute and negotiation. [27] Further, the 8 March women's marches in 2018 and 2019, which both saw massive attendance, underscored public debates on feminism that challenge patriarchal society.

It is essential that grassroots networks and municipalism coexist and continuously interact. Laura Roth and Kate Shea Baird explain this interaction as a 'creative tension between those inside and outside of local institutions', [28] where grassroots movements and networks can put pressure on local governments and participate in decision-making processes. Municipalist governments like Barcelona en Comú see pressure from social movements as something positive and necessary, since it counterbalances pressures that may come from other interests. In her first speech after being reelected as mayor of Barcelona in 2019, Ada Colau said that all the accomplishments during the first four years of her administration were the achievements of the social movements that had pushed for these changes.

How was such contestation to imposed orders enacted fifty years ago and how is it today? Community resistance along the Westway in North Kensington, London, exemplifies well the connections between activism today and fifty years ago. Activists have contested different forms of imposed orders, but there are links between what happened at the end of the 1960s and the activist work unfolding now.

The Westway is an elevated highway that crosses North Kensington, an area in West London well known for Portobello Road Market. This elevated highway was built between 1966 and 1970, [29] with housing demolition starting in 1964. It was part of a very ambitious plan to build the 'London motorway box', a ring road that would have surrounded inner London and destroyed thousands of homes, but it

was cancelled in 1973 after strong opposition by groups in different parts of London and the formation of the political party Homes Before Roads. [30] The Westway was one of the few bits of the motorway that was built. It caused the destruction of many homes in a disadvantaged community and turned the neighbourhood into a very large construction site for six years.

During the demolition process, a community action group named the London Free School, the organisers of the first Notting Hill Carnival in 1966, started using part of the cleared site as a playground. [31] From the need for space to play, the North Kensington Playspace Group was founded and started claiming further space. [32] While the council was planning to build a car park below the Westway, the residents realised that there was still not a planning permission in place for this and claimed that space below the Westway should be given to the community.

During those years, local people constructed community spaces below the Westway, such as the self-built playground between St Marks Road and Ladbroke Grove. After years of campaigning, the North Kensington Amenity Trust was formed in 1971 with the aim of giving the twenty-three acres below the Westway to the community in compensation for the damage caused by the road. [33] Although this was an important victory for residents, there was discontent among campaigners over the fact that Kensington and Chelsea Council controlled the trust. [34]

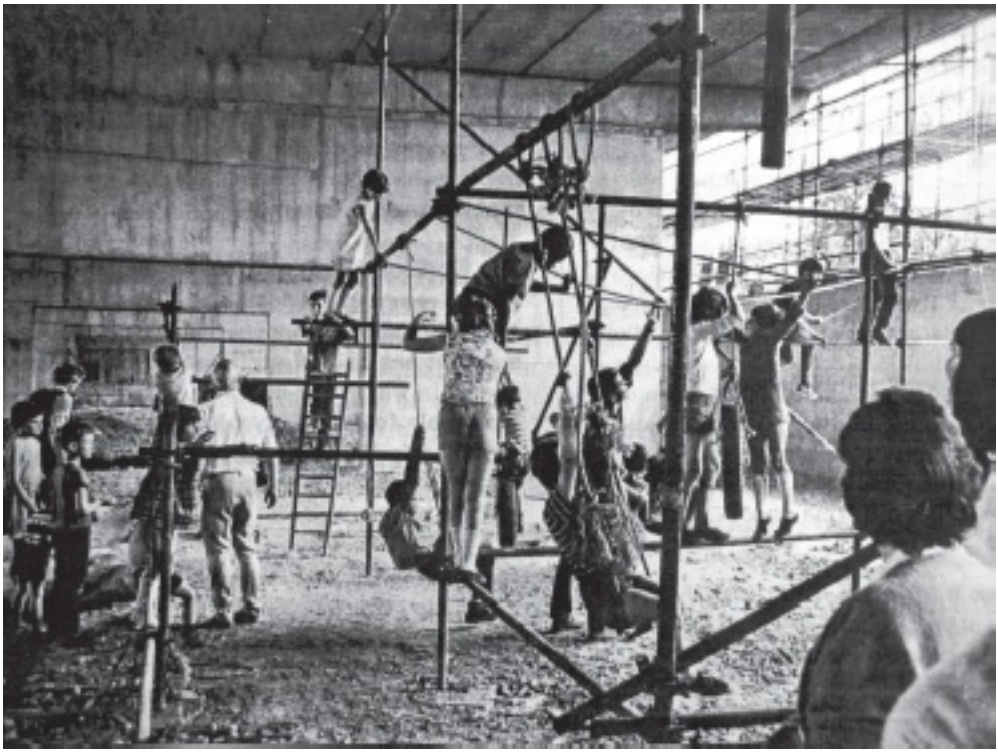


Figure 3: Playground near St Marks Road under the Westway, 1968. Photo: Adam Ritchie.

North Kensington was a key place in the 1960s and 1970s London counterculture: [35] following the Westway community space reclamation of the 1960s, initiatives such as Frestonia or Meanwhile Gardnes – a park and community infrastructure near the Westway, which was built by local people from the bottom-up on a derelict piece of land between the railway tracks and the canal [36] – took place here in the 1970s. All of these are examples of the anarchist city proposed in *The Uses of Disorder*.

However, if North Kensington was a good example of the 1960s and 1970s revolutionary milieu, we must note that it also illustrates well the paradoxical development of the neoliberal city of today. It exemplifies how the hypercapitalist city has managed to appropriate and commodify many of the things that were seen as revolutionary in the 1970s.

For example, in 2015, the Westway Trust (formerly the North Kensington

Amenity Trust) launched a commercial scheme, 'Destination Westway', in which they aimed to turn the space managed by the trust into a retail destination, replacing the marquee in Portobello Green Market with a new building. The scheme faced strong opposition from the community, [37] which formed the campaign Westway23 and claimed that the twenty-three acres of land should be for community uses. The plan to replace the marquee was cancelled, but the campaign remains.

I met the campaigners in November 2016, when Marco Picardi, leading a walk organised by CivicWise, [38] took us to meet different community activists and organisations along the Westway, who shared the history of community resistance in the area. I filmed a short documentary about activism on the Westway in which local activist Toby Laurent Belson from Westway23 explained the Westway's history and current campaign. [39] After that, Westway23 and I further collaborated through co-organising a summer school for urban planning students. [40]

Westway23 forms part of a series of local campaigns that are contesting many of the orders – and widening inequality – imposed by the neoliberal city: while Westway23 pushes for genuine community use of the space below the Westway, another nearby campaign claimed that their local library should remain public despite council plans to lease it to a prep school for children of wealthy families. [41] Another group opposed the merger of the local further education college with a larger organisation since it may have meant the end of that branch of the college. [42] There has likewise been consistent denouncement of the lack of investment and mismanagement of social housing in the area, which was cruelly highlighted by the tragedy of the nearby Grenfell Tower fire, in which at least seventy-two people died.

These campaigns combat the impositions of the neoliberal city and stake a claim for alternative futures that empower communities: they fight austerity, mismanagement and lack of investment in social housing, social cleansing, and top-down forms of decision making that only address the needs of the privileged. They demand the preservation of public assets and educational facilities for the community as well as more community-managed spaces.

The tragedy of the Grenfell Tower fire threw a spotlight on this area. On 14 June 2017, the community responded in solidarity to this disaster. Local activists took over a space below the Westway on Acklam Road to store donations given to

the victims. This space, Bay 56 in Acklam Village, has become a community space managed by local activists – another example of the ways a community can make use of space to develop activities and release its creative potential. [43] Is this what a more disordered city might look like?

If disorder is defined as an unstable state, but it could also be a response to imposed systems, the urban design strategies proposed should contest these current forms of imposed order – rigid designs which commodify local culture, produce alienating urban environments, and lead to processes of social exclusion and displacement. In contrast to these impositions, designing disorder means designing urban interventions that are flexible, adaptable and open to constant change; which encourage the emergence of informal, spontaneous and unplanned uses of the public realm; which stimulate cultural expression; and which create an atmosphere of tolerance toward difference and the unknown through the construction of common places where people can interact and share interests and experiences.

After reading *The Uses of Disorder,* I started to work on how to take these ideas from the paper to the plan. As someone with a background in architecture and urban design, I wanted to experiment with urban design interventions that could create the kinds of disorder that Richard discussed in his book: an unregulated public space where people learn how to tolerate difference, which encourages social interaction and the emergence of unplanned activities. My approach to experimenting with urban design involved drawing and writing about how public space in modernist housing estates could be transformed into spaces for social interaction.

I soon faced a contradiction: how can we design disorder if design itself tends to introduce more order in the urban space? My response to this contradiction was to start with the infrastructure. I took infrastructure as a point of departure since it *creates conditions* and *provides possibilities* for change without dictating what is going to happen. This is how I came to propose the term that gives title to this part of the book: '*infrastructures for disorder*', which I define as initial interventions that create conditions for unplanned use of the public realm, which are points of departure for a continuous and open process.

These initial infrastructures are created to encourage an open and flexible system while allowing people to use the space in unpredictable ways. Thus, the

design of the public realm will be a result of community actions and negotiations, as suggested in *The Uses of Disorder*. [44] These negotiations may cause discussion, arguments and possibly some conflicts, but this could be interpreted positively since those using the space would be creating social interaction and innovative ways of communal life.

My proposal is not just to design the technical infrastructure – however, I argue that it is tightly connected with and interdependent upon the social and cultural infrastructure of a place. Any intervention needs to consider this relationship. Intervening in the urban infrastructure – its underground facilities, the assemblage of material elements in the urban space, the social infrastructure or the process of negotiating a shared space and living together – supposes looking closely at the variety of relationships in the public realm. Amin and Thrift argue for this approach of looking at the city from the 'inside out' rather than from the 'outside in' 'because cities work from the ground up'; [45] they propose that infrastructure can be a 'focus of political action'. [46]

The following pages experiment with interventions on the physical and social infrastructure through illustrations and four chapters: 'below', 'above', 'disorder in section' and 'process and flux'. The 'below' chapter explores how to create conditions – through interventions on infrastructure – for opening up overdetermined urban environments and triggering new relationships between people and the built environment. Since infrastructure is both physical and social, the following three chapters address these two dimensions. 'Above' and 'disorder in section' explore which forms these infrastructures take at the ground level and above the ground level. 'Process and flux' explores the social dimension of these infrastructures and also addresses the challenge of designing underdetermined environments. The illustrations accompanying this text provide an imaginary set of scenarios of which forms these infrastructures could adopt, how they could grow and evolve, and how people may interact with them. They imagine how *The Uses of Disorder* could look on the plan.

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4

Below

Infrastructure can mean very distinct things, depending on who is talking. Architecture, civil engineering, urban planning, political economy and geography all interpret the term differently. For us, infrastructure involves all of those material elements in the city and its public spaces – the floor, the soil, the pipes, circuits and sewage system underground, the structures and constructions, the urban furniture, the vegetation, the play spaces and other props – which create conditions and provide possibilities. For example, the availability of AV equipment and a screen in a community-managed public space allows the improvising of an outdoor cinema on summer evenings. Access to running water and cooking appliances may facilitate a community kitchen. Such material elements are not inert objects [1] – they are linked to forms of management and governance, to particular customs and agreements, to collective actions, to social gatherings, to memories and identities. They are design interventions that impact both the physical and the social structures of the city. This requires looking closely at the relationships between the built and the social in the public realm at every level.

The design interventions proposed 'below' are a point of departure for transforming infrastructure and public spaces that work as closed systems into open systems. [2] , [3] , [4] In a city that works as a closed system, form and function are predetermined and do not have the capacity to evolve and adapt to changing situations. In contrast, a city that works as an open system is in 'unstable evolution' [5] and is continuously changing its form and functions in response to different circumstances.

A city that works as a closed system cannot easily transform into an open system. It needs interventions that turn its spaces into a flexible system that can be occupied freely by different activities. These pieces of infrastructure work together, not as isolated elements or as a whole intervention. They are the sum of interventions that interact and form part of a larger system that keeps changing

with new additions and relationships. If urban infrastructure is understood as the sum of pieces of infrastructure, the open city allows additions, upgrades, and transformations in response to people's needs, facilitating diverse urban situations and supporting spontaneous activities and social gatherings.

When infrastructure becomes an open system, into which additions can be incorporated, it can be collectively shared and managed, and it empowers people to take action to change their environment. Infrastructure becomes a place for 'political action', [6] from which imposed orders can be contested and other forms of conviviality can be proposed.

Infrastructure is an Assemblage

Infrastructure does not work as a fixed and stable whole but as the sum of many pieces that can be replaced, adapted and upgraded, which allows continuous repair and maintenance. [7] This 'associative regime' [8] of the pieces of infrastructure can be explained through the idea of *assemblage,* a conceptual tool that critical urbanists use to understand relationships and interactions in the city.

Assemblage was first used in the arts in 1953 by Jean Dubuffet to describe an '[a]rt form in which natural and manufactured, traditionally nonartistic, materials and *objets trouvés* are assembled into three-dimensional structures'. [9] This term gave title to an exhibition in New York's MoMA in 1961 [10] that included works from Marcel Duchamp, Man Ray and Pablo Picasso. In art, an assemblage is characterised 'as much by the materials used [as] by the way in which they are treated'. [11]

The use of assemblage in art is similar to its use in critical urban theory. Assemblage is a 'symbiosis', where different elements work together rather than individually. [12] The term, which was developed by French philosophers Gilles Deleuze and Félix Guattari in *A Thousand Plateaus*, [13] has been used by urbanists to look at the relationships between different actors in the urban space: people, material objects, forms of governance. Like the approach to urban infrastructure proposed here, assemblage focuses on the interaction between the different elements rather than on the whole. It explores processes and how multiple possibilities can emerge in the urban space. [14]

Colin McFarlane explains three uses of assemblage theory in critical urbanism. [15] Firstly, assemblage can be used to understand 'the actual and the possible' [16] – to describe the existing power relations and to explore the capacity of new connections and relationships to challenge them. Second, it can explain the interaction between social and material actors. Third, he asserts that assemblage can offer an 'imaginary of cosmopolitanism' [17] – how difference is encountered, managed or negotiated. [18]

These definitions and uses of assemblage are linked to the kind of infrastructure proposed here, which focuses on the association of different elements and the multiple functional possibilities that may emerge from these relationships. It likewise looks at the potential of new connections to disrupt imposed orders, exploring the relationship between physical and social infrastructure, and it provides urban infrastructure with the capacity to negotiate difference and cope with unexpected situations.

There are also links between assemblage and disorder. Richard Sennett proposed urban environments where people learn to cope with difference and uncertainty, where functions are not fixed, and which can encourage multiple, unplanned and spontaneous activities in the public realm. This relationship between Richard's notion of disorder and assemblage thinking can be explained through three conceptual tools, which can help to design a formal infrastructure that catalyses informal outputs: socio-material symbiosis, uncertainty and incomplete form. [19]

In *The Uses of Disorder,* Richard explains that people, through the experience of diversity, can become more prepared to encounter strangers and unexpected situations. In his later work in *The Conscience of the Eye,* his thinking evolves and he explores the influence of material elements in the public space on people's perceptions of others. He explains that 'there is a consciousness of material objects which can resonate to the consciousness people have of one another in cities'. [20] This active role of material elements in negotiating difference and encounters is also present in the assemblage debate as one of McFarlane's points. It is a socio-material 'symbiosis' between the physical and the social infrastructure that can produce an environment where people live comfortably with the presence of difference and unexpected situations. When designing infrastructure, we need to consider how the physical infrastructure will be assembled with people, systems of governance, forms

of gathering, encounters and multiple activities.

Second, too much order in cities hinders spontaneity and improvisation. [21] This debate of ambiguity versus definition [22] is also present in the assemblage discussion and it is key for designing infrastructure that can encourage unexpected uses of public space. Assemblage thinking, rather than attributing a fixed function to each urban element, assigns them functional capacities, which are different possibilities of cofunctioning that will depend on the interaction they have with other components of the assemblage. [23] McFarlane explains that assemblage connotes the 'indeterminacy, emergence, becoming, turbulence and socio-materiality of phenomena'. [24]

This uncertain nature of assemblage, where functions and interactions are not predetermined, is what Richard has proposed for cities: 'when predetermined use through zoning is eliminated, the character of a neighbourhood will depend on the specific bonds and alliances of the people within it'. [25] In his recent work, Richard proposes to design these uncertain spaces, with no predetermined function and which permit multiple and unexpected possibilities, by building the public realm as an open system. [26] He proposes exploring construction technologies that allow additions and adaptations. Expanding on this, this chapter proposes technologies that can build infrastructure as an open system.

Finally, in *Building and Dwelling,* one of the 'five open forms' [27] that Richard proposes is the incomplete form. This idea of leaving public space unfinished, which he has also developed in recent essays as well as in this book, can be understood as a process of assemblage. [28] When the design of the public realm leaves certain parts unfinished, it can change or adapt and new pieces can be assembled by responding to people's interaction with the built environment and the diverse activities that take place in it. Deleuze saw unbound points as opportunities for 'creativity, change and resistance'. [29] Stephen Graham and Nigel Thrift also explain that disconnections and failure are what causes infrastructure to be upgraded. They use the example of infrastructure breakouts that lead to improvements and innovation, or IT systems that are under continuous upgrade. [30] Designing infrastructure with this unfinished nature, where different pieces can be assembled and disassembled, is key to building the public space as an open system and allows unpredictable activities to surface.

Infrastructure is an Open System

When infrastructure works as an open system that can evolve organically, it can bring forward many of the positive uses of disorder: urban places with no predetermined functions, where unpredictable, unplanned activities may emerge, where people learn how to cope with difference, unknown and unexpected situations; places which can adapt according to the interactions and activities that take place in the public realm. [31]

The notion of building infrastructure as an open system still remains abstract. Assemblage thinking helps to understand that these uses of disorder can be achieved by looking at socio-material connections, designing urban elements without predetermined functions and building an unfinished infrastructure. Building on this, what are the material characteristics that infrastructure should have to work as an open system?

Most importantly, the question is not just about how to build a piece of infrastructure that works as an open system, but how to turn a closed system into an open one. A closed system does not have the capacity to grow, mutate or evolve. Infrastructures work as closed systems when they do not allow the addition of new pieces, progressive upgrades, and do not have the capacity to adapt. Likewise, an urban environment works as a closed system when it is rigid and does not allow organic growth. The overdetermination of functions reduces the complexity of a place and decreases the probability of unplanned activities and unpredictable situations to occur.

The 'infrastructures for disorder' aim to open up a closed system. Most urban interventions are not projects that start from a blank canvas; they build on existing urban and social conditions. The point here is not to build completely new infrastructure which denies that existing, but to look at strategies and processes on how to transform the existing system.

On many occasions, critiques that modernism creates alienating environments have simply served to justify local authorities' agenda to demolish a modernist housing estate and build a new development in its place. This is the case of the Heygate Estate in Elephant and Castle, South London, where discourse blaming modernist architecture for crime and poverty led to the demolition of over a

thousand homes. The substitution of modernist estates with new developments involves another imposed design order and, in cases like the Heygate Estate, the displacement of residents, the substitution of a low-income population with an upper-middle class, and a dismantling of the social fabric. The result of this redevelopment is a closed system.

Turning a closed system into an open one seems challenging, but there are processes that can turn some of the massive modernist structures and monofunctional developments (roads, infrastructure, walls, tower blocks, large housing estates, open spaces) into places that encourage unplanned activities, allow constant adaption and generate an atmosphere of tolerance of difference. Richard explains that 'even a solid mass of material, seemingly resistant to any change, can be made porous in a social sense'. [32] These transformations do not require demolishing the existing urban elements but can be achieved by rearranging them and adding new ones that can generate more possibilities for interaction. These strategies aim to break the rigidity of a closed system.

For opening the system, it is necessary to understand how the proposed layers of infrastructure might connect with and introduce disturbances in the existing system, establish new patterns and allow growth. What is the relationship between the municipal grid and the proposed pieces of collective infrastructure?

In 2017, the mayor of Barcelona, in her fight against fuel poverty, created a municipal energy company: Barcelona Energia. [33] The company, in addition to tackling fuel poverty, is powered by green energy, and one of its programmes engages individuals and collectives in energy production. Their programme for promoting solar energy production defines four different kinds of partnership, combining the possibilities of private or public investment in the infrastructure, and installing panels on top of private or public buildings. [34]

At the same time, these four kinds of association open up many possibilities, since the 'private' actors or spaces can also be collectives. While there are many kinds of association, there are only two options on what to do with the energy. The first option is self-consumption – either for individual, collective or public use – and the second option is to 'sell' it back to the grid, which can be to the municipal energy company or a private one.

In a system where each collective infrastructure facility connects at one point to

the municipal grid and sells to it its excess of energy, does this relationship work as a closed or an open system?

On the one hand, strategies like the one proposed by the mayor of Barcelona work as an open system since they are proposing a distributed [35] and collective form of producing energy. The programme explains that self-consumption should be a 'collective action' for the city to generate its own energy from renewable sources. Each individual or community can generate energy and use it for self-consumption. When excess energy is returned to the grid, if it is sold to the municipal company, it can be used for powering and lighting public spaces and buildings and for tackling fuel poverty. The municipality assumes the role of redistributing wealth and resources and enlists residents in the production of energy.

However, this system still does not work as the 'anarchic city'. [36] There is a certain hierarchy in which the exchange with different communities has to go through the grid. In opening the system, it is necessary to look at other forms of exchange which do not necessarily have to go through the municipal grid. Both types of exchange (through the municipal grid and independent from it) are not incompatible. The fact that collective infrastructure is plugged into the municipal grid does not turn it into a closed system. There are possibilities to retain relationships of exchange with the municipal grid and allow other kinds of exchange among collective pieces of infrastructure. An open system should emerge from plugging into an existing grid which may have worked as a closed system, and then opening it up.

Accepting the hierarchical structure of collective infrastructure connected to a municipal grid does not eliminate other possibilities for exchange. There are opportunities for openness and multiple exchanges that can happen at the micro scale. Assemblage looks at these micro-scale connections and at the interaction between formal and informal forms of governance. In the infrastructure proposed here, a formal system that ensures equality and distribution of wealth can be combined with other informal systems that allow continuous and fluid exchange. This means that an infrastructural system like a community-owned energy company would also allow an exchange of the surplus energy by other goods or resources with other collectives or individuals, without necessarily going through the municipal grid.

*

But what form will they take? Philip Ball, in his book *Branches,* explains the shaping of unstable systems. He explains the transition from a system in equilibrium to a system in non-equilibrium as the process of 'symmetry breaking'. He explains that this does not happen at one time, but 'in stages, a little at a time'. [37] Through this process of breaking the symmetry, the system increases its complexity. [38]

The interventions on the infrastructure proposed here follow the same logic. They are step-by-step processes for turning closed-system infrastructure into an open system. Each step of the process explained below involves introducing disruptions to the infrastructure, which adds complexity to it. How does this process begin?

The first step in the process of opening up infrastructure is a combination of reassembling its components and introducing disruptions that trigger new relationships. 'Reassembling' is 'the capacity of the urban designer to identify the still-latent emergent processes in the public realm and to produce new and innovative ways of rearranging things so that these processes can be strengthened and new associations and possibilities take place'. [39]

Stephen Graham and Nigel Thrift see 'failure' in infrastructure as an opportunity to learn, adapt and upgrade. Most of the time, infrastructure is in a 'black box', buried underground in an invisible and complex web of pipes, circuits, sewerage systems, fibre-optic cables and other underground facilities, and they are only noticed when something stops functioning. [40] When doing work for public authorities, architects, planners and engineers receive a drawing with a great number of layers, lines and symbols. It is a cryptic map, generally confidential, which only certain experts can understand. There is a clear physical division as well as an intellectual barrier between what is hidden and the above-ground realm. Radical urbanists such as sociologist Fernando Dominguez Rubio and architect Uriel Fogué propose 'disrupting' this separation by 'technifying public space' and 'publicizing infrastructure'. [41]

Through a proposed (unbuilt) intervention in the Plaza del General Vara de Rey in Madrid by Uriel Fogué's architectural practice, Elli, they explain how infrastructure can be made visible and how it could become a political actor. Elli's

design for the plaza aimed to 'reintegrate into public life different infrastructural processes like energy production and water collection, while retaining the usability of the square for humans'. [42] For doing so, they looked carefully at the interaction between infrastructure, nature and people.

By attempting to 'unblackbox' [43] infrastructure through architectural design, I am proposing a process that further explores how infrastructural 'disruptions' can bring negotiation, interaction and diverse kinds of engagement with the built environment. By proposing 'disruptions' in the infrastructure, I don't mean to stop its functioning; instead, I advocate introducing new elements that make people notice and engage with the infrastructure, and that bring collective awareness of the production and consumption of resources.

Urban infrastructure and resources are now distributed mostly through underground facilities, owned and managed either by public or private companies. These networks at a municipal scale reach communities and individuals through a rush, which connects the municipal network to the community or the individual 'consumers'. For individuals connected to the municipal network's rush, there is a reader that displays information on electricity or water consumption. At a community level, resources like water and electricity are used to light the staircases, common areas, lifts and similar spaces in communal facilities. The only engagement that people have with this infrastructure is their share of the community bill in their annual report of the community service charge.

This infrastructure use at either the individual or community level implies very little negotiation, collective awareness and engagement with the infrastructure. In contrast, in situations of scarcity, where infrastructure is subject to interruptions in the service, [44] certain negotiations may appear, such as sharing or exchanging resources, and people have a stronger engagement with the infrastructure.

My proposal is to think about ways of reassembling the infrastructure and introducing new components that may bring greater collective awareness of how the city works.

These components should be communal or public resources that go beyond the lighting of common space or powering a lift. The new elements can be of two kinds. The first involves points of access to infrastructure in the public realm, such as access to drinkable water for running activities such as a community kitchen,

non-potable water for cleaning after activities, or power suppliers for developing different initiatives. These infrastructural additions provide access to shared infrastructure and collectively generated resources, and they can make transparent the negotiation of protocols, agreements and conditions to use common resources, which may be finite and depend on the capacity of the community to generate them.

The second kind of infrastructural additions are collectively managed catchments of resources. These can be community-owned solar panels; infrastructure that collects, purifies and stores rainwater for use as non-potable water; and other innovations depending on climate conditions and location. These additions can also bring collective awareness, since the community can generate resources and then decide how to use them.

Moreover, these initial 'disruptions' can bring new interactions between people and infrastructure. Since they are the beginning of the process of reassembling, it is necessary to understand the existing dynamics in an urban area, which resources, spaces and facilities are shared and if any agreements are already in place. From there, new collective engagements with the infrastructure can be proposed. And finally, once these 'disruptions' have been tested, new interactions have emerged, and the added elements have managed to open up the closed infrastructural system, it is important to question: what are the community's next steps for building open-system infrastructure that can be continuously adapted?

The first disruptions may cause some conflicts. These may include discussions on how to use the resources – for example, whether the power generated through solar panels is used for self-consumption or sold back to the grid; who can and cannot use the electricity; whether the resource is free or has to be paid for in a certain way. These discussions over new elements of infrastructure will help people to grow what Richard calls an 'adult identity', where people learn to negotiate and face conflict, and social interaction increases. The next step of the process will be to go from these initial elements to building an open system, which breaks this separation between the underground and the aboveground. [45]

Hausmann's underground infrastructure galleries in Paris aimed to sanitise the city by locating the sewage system and other infrastructure in large underground galleries. [46] Today, state-of-the-art regeneration schemes also use an evolved version

of the Hausmannian infrastructural galleries. The 22@ scheme in Barcelona, a regeneration process that is transforming an industrial area in the Eixample into an 'innovative district', [47] has built a sophisticated and well-equipped network of underground infrastructural galleries. The 22@ district is located in the northeast of Barcelona's Old City, between the Olympic Village and the Plaça de les Glòries. After the process of deindustrialisation, a regeneration scheme was proposed at the turn of the twenty-first century. Since the blocks of the 22@ district follow Cerdà's orthogonal grid, this has allowed for the rationalisation of the infrastructure and the building of a parallel orthogonal grid of underground galleries.

These galleries are accessible from the underground level of the blocks and allow adapting, repairing, upgrading, and adding new kinds of infrastructure without the need to open new holes in the ground. While this system can apparently be seen as open because it allows adaptation and collective access to it, it still works as a closed system to a certain extent. First, when implementing this infrastructural system in a place where people already live, it is necessary to open a big ditch in the ground. Second, it keeps a separation between the surface and the underground, since the access points are still reserved for experts.

The alternative to this is the *technical floor*. In open-plan office design, technical floors allow facilities like electricity, ethernet and phone connections to reach every desk and place in the floor. Its modular tiles, which can be easily removed and replaced, provide flexibility for adaptation, adding a new desk or meeting room, or implementing any technological upgrade. When applying the concept of the technical floor to the public realm, the shared infrastructure no longer needs to run underground. Instead of being buried, the shared infrastructure can run in a gap between the existing floor and the technical floor.

This system can work as a carpet – or additional layer to the floor – equipped with infrastructure; this works as an open system in which people can engage with the infrastructure, and the underground is democratised and open to non-experts. A modular floor, where tiles can be removed with a key, replaced, and reassembled with other elements, permits constant adaptation. Using a grid with standard construction measures (such as 600 x 600 mm) can help to build this modular system.

The division between the underground and the above ground no longer exists;

infrastructure can be accessed at any point and it permits growth in any direction and with new ramifications. The pipes may have register points that can be accessed by removing one of the tiles. In the case of pipes that carry electrical circuits, these register points allow the addition of more circuits and distribution panels, as well as the enlargement of the infrastructure when needed. This modular system and interface between the underground and the above ground allows for as many supply terminal access points as needed.

The system also permits the distribution of generated resources, from where they are generated to where they are stored or devolved to the grid to where they are used. Finally, one of the most important points is that all these flows and circuits can be visible above ground, which creates an awareness of the infrastructure and of the multiple possibilities it brings. A colour-coding or use of different materials, symbols or variations in the design of the tiles can indicate what is going on underground, where the infrastructure can be accessed or modified.

For a better understanding of this infrastructural open system, I will explain some of its elements: terminals, resource catchment and new connections.

One of the visible points in this infrastructural carpet are the terminals: access to power supply, drinkable and non-potable water, and data. These terminals are points into which people can plug to run activities ranging from festivals, street initiatives and social gatherings to a community kitchen, repair shops or market stalls.

Many neighbourhood initiatives struggle to find space for, say, a cinema club, cooking lessons or get-togethers. These activities are often crammed into some small space in a community hall, which are now becoming sparse. They also may struggle to find spaces that have access to drinkable water, power supply for large equipment, or the appropriate ventilation to run certain activities. In a public space with an equipped infrastructural carpet, activities that are run as a small club in a hidden space can jump into the public dimension and become an open activity.

The infrastructural carpet and its terminals work in the same way as envisioned in Archigram's Plug-in City. [48] An infrastructural shell is built, and then different activities can be plugged into and unplugged from the shell. The *design for disorder* here consists of deciding which places have a stronger concentration of infrastructure at the beginning of the process. These places will have a greater

possibility of activities happening and as a result need a denser concentration of additional infrastructure.

If terminals are one of the visible points of the infrastructural carpet, how do they look? They can emerge from the surface as tiles of a different colour, texture, and with symbols that indicate which utility they are supplying. The cryptic infrastructural maps that local authorities provide to professionals doing engineering or urban design work are then turned into democratised signs on the ground that everyone can read. Each of the access points is equipped with technology that permits managing its consumption. Its functioning is similar to any public bike hiring system, which has a way to manage its use by releasing the bike from its rack. Likewise, each terminal has the possibility of releasing a certain quantity of kilowatts per hour or water flow for a particular activity.

A shared infrastructure can bring an awareness of the resources people use collectively or individually. This shared infrastructure, in addition to publicly available consumption points, should also emphasise the collective production of resources. When energy or other natural resources are generated by a large corporation or by an individual household, this implies little negotiation and social interaction between people. When individuals generate energy, whether for self-consumption or for returning it to the grid, it impacts energy bills and creates an awareness of their consumption level. However, when collectives generate energy or resources like rainwater, engagement with infrastructure goes a step further and brings in social interaction, negotiation, and the need for decisions on how to manage those resources.

When people are not engaged in the production of infrastructure and rely on large organisations for the supply, they are consuming resources through a user-friendly system. [49] One of the main issues with such a system is that consumers are not aware of the costs, implications and origins of these resources. When turning the electric heater on, one might not be aware that the electricity supplied is coming from an open-pit coal mine in Colombia, where extraction may have meant the displacement of several communities or negative health effects for the regional population. [50] This is one of the main problems of the comfortable 'black-boxed' infrastructure – we have little control over where the resources come from.

When a collective gets involved in resource production, it gains independence

from large corporations and control of the origin of that resource, [51] and it also supports forms of self-management that increase the group's awareness. These cooperative forms of resource production likewise rely mainly on renewables. There are diverse ways to generate resources in urban areas, depending on climate conditions, the presence of nearby water and other contextual factors. Two renewable sources are rainwater collection and generating energy through solar photovoltaic panels.

In urban areas, rainwater can be collected from rooftops, streets and public spaces. This collected rainwater can be transported to a neighbourhood depuration plant, which will purify and store the rainwater for local distribution as non-potable water. One of the main issues here is pollution, as the rainwater will carry the dirt from the ground, making depuration difficult. This can be solved by incorporating a drainage system that carries and filters rainwater through a small vegetated wetland until its storage at the depuration facility. This system, known as the sustainable urban drainage system (SuDS), is becoming popular as a way to make urban spaces more permeable, which improves biodiversity in cities. [52] The modular system allows for small wetlands in gaps on the 'infrastructural carpet'; these carry and filter the water to a tank, where the water is stored, purified and distributed locally.

The generation of solar energy through implementing photovoltaic panels in rooftops and public spaces is already bringing alternative forms of producing energy that do not depend on large corporations. In the example of Barcelona Energia, collectives or individuals can enter partnerships with the municipality to produce solar energy by installing panels on private, collective or public buildings' rooftops and open spaces. [53] This generated energy can be used for self-consumption and/or returned to the grid, contributing to municipal renewable energy production. The programme presents different forms of partnership between individuals, collectives and public administration, which can build diverse forms of association for producing energy.

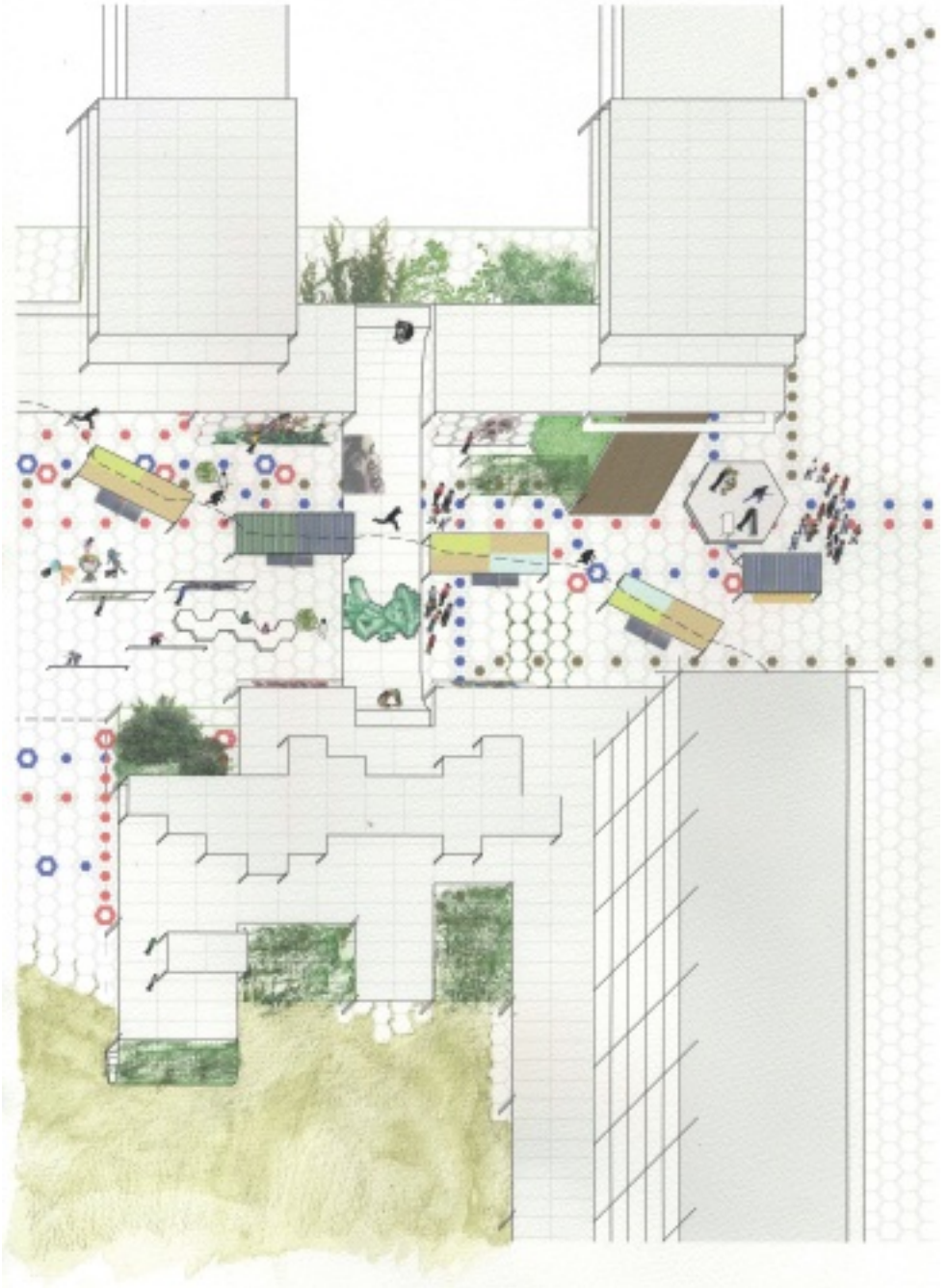
In initiatives like Barcelona Energia, the opportunity for collectives to engage in energy production supports the kind of collective infrastructure proposed here. It also spurs many questions on how to manage the collectively produced resources: whether the energy is fully returned to the grid or whether it is used for self-

consumption first and the excess returned, or other management models that include more variables.

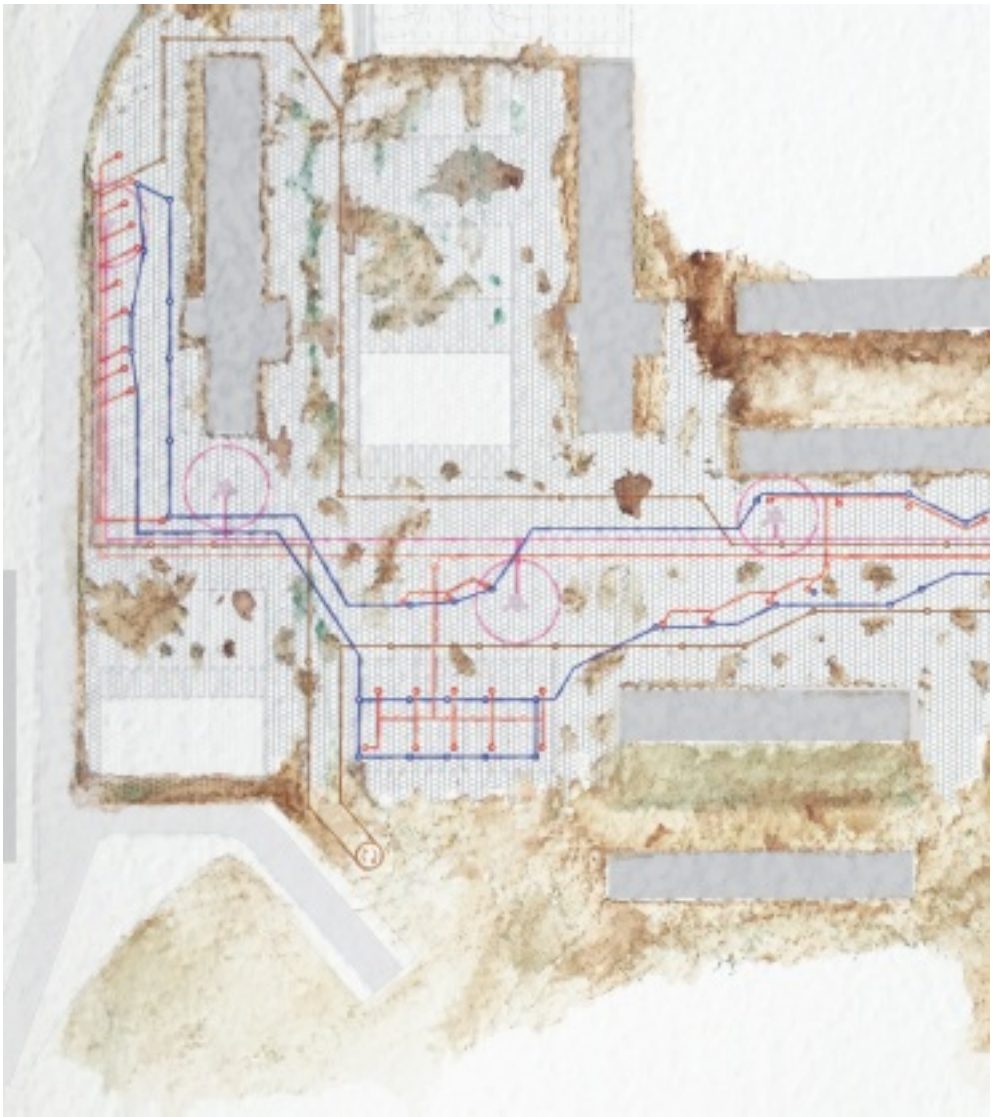
Finally, the proposed system has the capacity to develop and assemble new elements, as each step in opening the infrastructural system nurtures the possibility for horizontal and vertical growth. In the horizontal dimension, such growth happens through the explained introduction of disruptions and through reassembling and assembling a collective infrastructural layer. To open connections on the vertical dimension, some of the modular slabs could have the capacity to plug in structures and constructions above ground. These connecting slabs are foundations – literally – for an open system.

This overall transformation of infrastructure offers an idea of a deregulated space, where unplanned activities and events take place, and where people build an adult identity through encountering difference, facing unexpected situations, and having to negotiate and reach agreement with others. However, the focus on the physical characteristics of the infrastructure leaves some gaps in the relationship between the physical and social aspects of the city needed to achieve those outputs, and it raises questions on how this collective infrastructure is managed.

Infrastructures for disorder



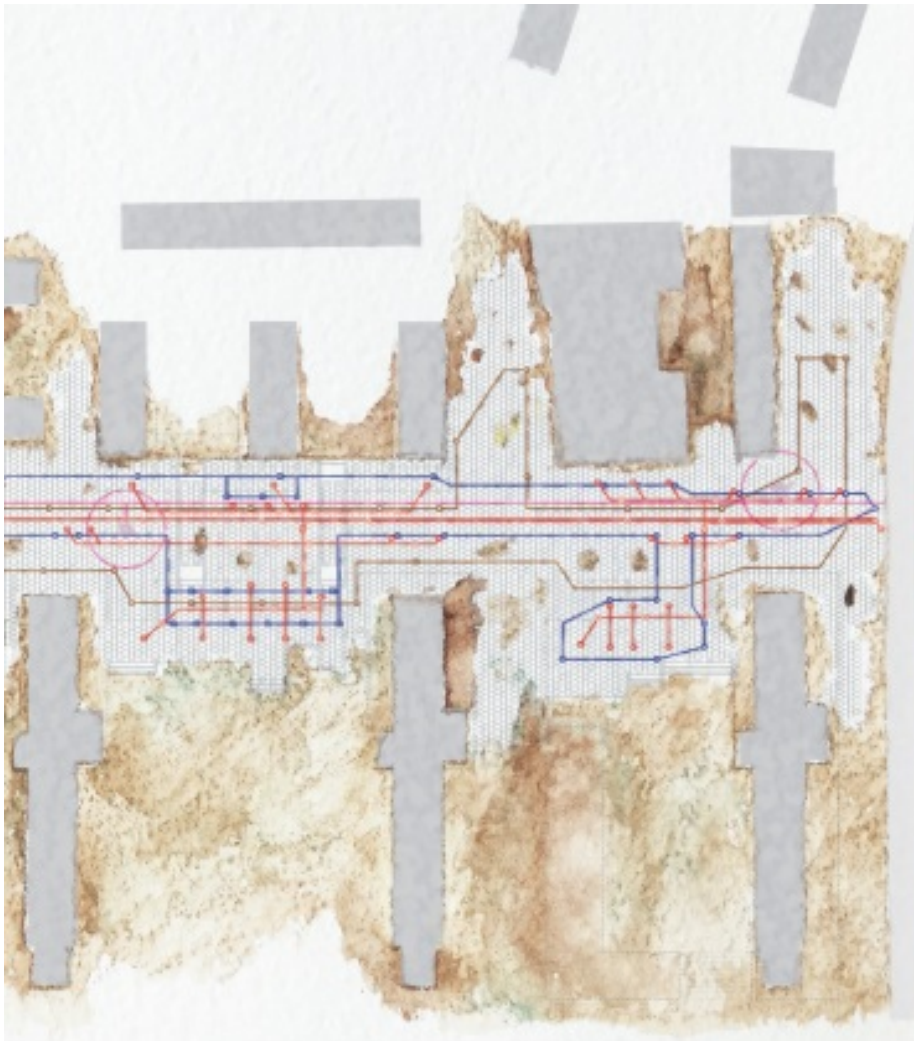
Pablo Sendra, 2009.



The open system provides a new layer of collectively managed infrastructure (*the technical floor*) that equips the ground floor of the public space with drinking water, low-voltage electricity, non-drinking recycled water, and data. The provision of this infrastructure prompts negotiations of how to use and manage it and allows

a diversity of planned and spontaneous activities in the public realm. People can plug into the infrastructure through the *terminal* points in the floor. In those places where there is a higher concentration of infrastructure, there is a greater probability that activities will emerge.

Below



- Drinkable water supply
- Drinkable water meter
- Drinkable water terminal
- Low-voltage power supply
- Electricity meter
- Electricity terminal
- Electricity register point
- Non-drinkable water supply
- Non-drinkable water terminal
- Data supply

Pablo Sendra, 2009, with post-production in 2019.



The paving system follows a modular logic, allowing the construction of a flexible surface that can be easily modified by adding new pieces, changing its texture or transforming its uses. Certain areas of the surface are supplied with infrastructure

and with foundations for plugging in structural elements. These provide possibilities for diverse activities to take place in the public space. For instance, electricity supply can facilitate activities such as musical events, while drinking water supply and shelter can provide the necessary space and facilities for a community kitchen. Since each part of the surface provides different possibilities, this modular system achieves a continuous surface of diverse areas with different qualities.

Above



Pablo Sendra, 2009.



Permeable borders can be achieved through an uninterrupted section without divisive walls, and a succession of different built elements and events that provide spaces for disruption. The diversity of the longitudinal section is provided by a changing urban landscape and not by a fixed hierarchy of walls.

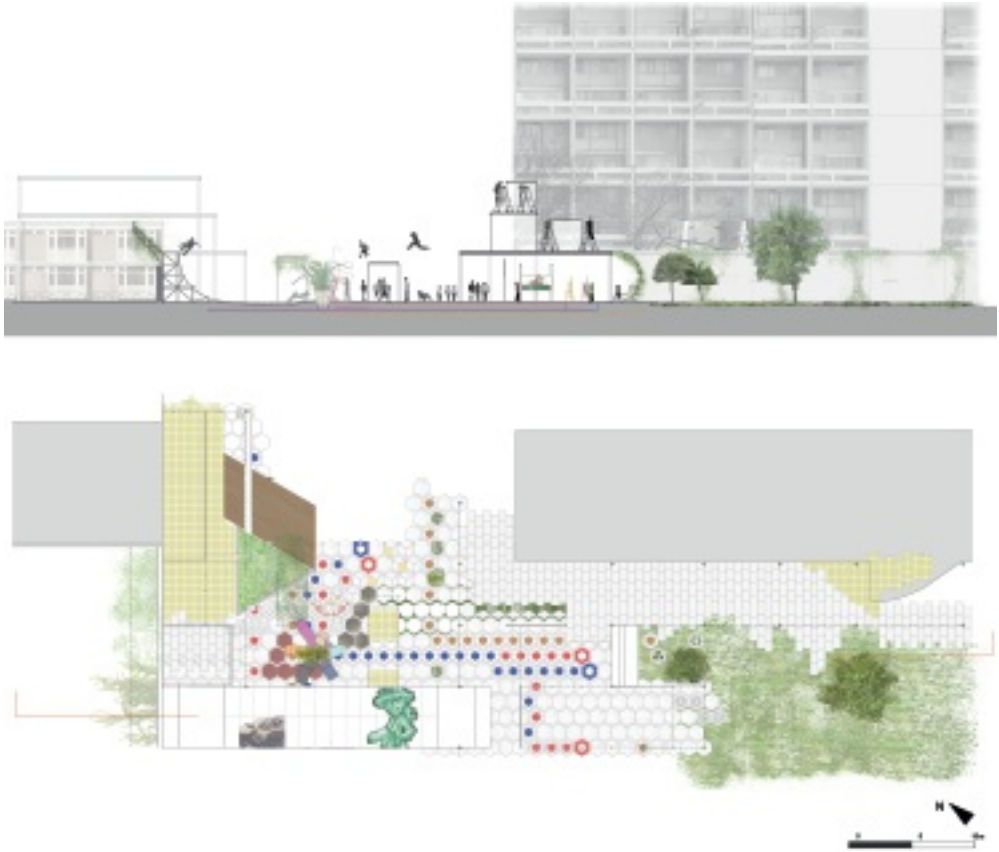
Note that this section is from a different neighbourhood than the rest of the illustrations.

Longitudinal Section



Pablo Sendra, 2014.

Cross Section



Interventions on the cross section modify how people perceive and experience the space, as well as how people perceive others. They also transform the division between interior/exterior and public/private into permeable borders. The assemblage of elements on the section can change the proportions of the street in relation to humans, facilitating social contact. In addition to this, they can transform hard divisions into permeable borders and provide shelter to host a diversity of activities.

The structures have the possibility to grow organically and more constructions can be added to respond to needs. This capacity to grow is achieved by providing light constructions with structural capacity to support other activities above and grow vertically as activities require it. These structures would initially just cover the

ground, while providing the option to assemble other structures on top of them.

Pablo Sendra, 2009.

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5

Above

When designing infrastructure as an open system, what happens above the ground?

When looking at Gillett Square in Dalston, East London, the first thing that we see is the granite surface that covers the streetscape. Tiles create a certain pattern in the floor by arranging rows of tiles of a larger size, with lighting features embedded within the tiles, anti-slip metal strips, and a wooden platform with trees that can work as sitting space or as a stage. These physical characteristics are just one of the many elements that form the 'urban surface'. [1]

The design of Gillett Square's pavement is not particularly unique. What makes this square special is the interaction between this surface and other objects, equipment, processes, forms of management and activities in the square. This includes the provision of kiosks and affordable workspaces – hosting ethnic minority businesses and entrepreneurs [2] – the Dalston Culture House and Vortex Jazz Club, which attract a diverse audience. In addition, there are wooden benches, where people can sit down and hang out, as well as containers for storage of soft play features, table tennis, AV equipment, and other structures and elements that can be arranged in the square for multiple activities. [3] Volunteers take these elements in and out of the containers, which allows for a range of activities – programmed and spontaneous – to take place in the square: outdoor cinema, play activities, markets, improvised skateboarding, celebrations, and social gatherings.

This shows that the formal urban design and management of this square interact with informal activities that happen spontaneously in the space. But in order to encourage these connections, it is necessary to build the street as a platform that supports and encourages people to think about different ways to use the public space.



Figure 4: Gillett Square, Dalston, London. The square is an assemblage of different activities, some of them fixed and some temporary, some of them planned and some spontaneous. June 2013.

Understanding the urban surface as an assemblage means that the focus cannot be just on designing its separate components; we must pay particular attention to the interrelations between the different elements and how they interact with the social dimension. The importance is not on the granite floor or on the kiosks, but on the interaction of these elements with the management of the square. Furthermore, we should examine how these elements relate with the small businesses that populate the square, how diverse groups use it in different ways, and the kinds of gatherings that take place. None of these elements has a fixed function, but rather they contain capacities that will vary depending on how they interact with other material and non-material elements. [4] This gives rise to an infinite number of possibilities of association, enabling almost limitless uses of this public

space. [5]

These surface interventions explore how to increase spatial capacity to *enable* these connections and to encourage unplanned activities and social interaction. [6], [7] In contrast with the 'sensory deprivation' [8] of the modern city, the urban design experiments proposed here can bring a more intense relationship between people and the physical environment; [9] the physical environment takes an active role [10] in supporting interactions between people and place. Countering the stable and inert environment of modern developments, the proposed interventions introduce a *changing and mutable condition* – a surface in continuous adaptation.

*

How did we get to such rigid urban environments? Twentieth-century urban developments placed order above complexity. *The Athens Charter* divided the city into functions and this had a strong effect on the fragmentation of cities into different predetermined zones. This saw the rise of large housing developments, central business districts, leisure and shopping centres, and long commutes for moving from one single-function area to another.

In contrast, in the twenty-first century, planners and urban designers have started to advocate for 'mixed-use developments', where different functional spaces, such as offices, housing and retail, are combined in an urban area. 'Mixed-use' has become a buzzword and a mandatory ingredient in a masterplan. While the intention of these developments may seem to reverse the effects of the Functional City, there is still little room for improvisation – every function is predetermined and there are particular rules about what people can and cannot do in the public realm.

This can be seen in the way housing estate regeneration has been approached on both sides of the Atlantic. Since the 1970s, planners like Oscar Newman in the United States and later Alice Coleman in the United Kingdom started to blame the urban design of modernist housing estates for causing crime. Newman proposed urban design strategies for designing out crime, based on the principles of 'territoriality', 'natural surveillance' and 'image and milieu', which consist of creating a hierarchy of public and private spaces, subdividing the open spaces with fences or other devices to prevent strangers from entering common spaces of the

neighbourhood, establishing methods to easily identify outsiders and undesirables, and replacing the modernist architectural style of these neighbourhoods with an architectural style that does not contribute to the stigmatisation of the area. [11]

Newman's ideas for US housing projects were taken up in the United Kingdom by Alice Coleman, [12] who proposed corrective interventions such as eliminating elevated pathways or creating enclosures by adding new buildings to increase street surveillance.

Newman's and Coleman's proposals for designing out crime have strongly influenced housing estate regeneration in both the United States and the United Kingdom from the 1970s onward. They promoted two kinds of interventions: first, subdividing the large open spaces that characterise modernist estates into smaller and fenced open spaces with exclusive access for those who live in a building. This measure, which aims to protect the open spaces from the presence of strangers, has turned many of these estates into a cluster of gated communities, denying any kind of relationship with their surroundings. It has turned neighbourhoods into places where people are in the streets only when they are on their commute to work, where there is little possibility of social interaction.

The other kind of intervention has been the demolition of these estates and their replacement with a 'mixed-use and mixed-tenure development' that incorporates uses such as retail and provides housing for people with different income levels. This kind of redevelopment, which in many cases is associated with processes of 'social cleansing' and the displacement of residents, is another form of imposing order and stronger social control. These newly built developments leave little room for improvisation and do not turn the Functional City into a place that encourages social interaction.

Opening Up Closed Developments

For reversing the isolating effects of areas of the city that were designed with too much order, it is important to consider their connections with surrounding areas. In the case of isolated suburban gated communities, it can be difficult to find pieces of urban fabric to connect with the neighbourhood. However, there are other cases

of enclosed and monofunctional urban areas, particularly those within the inner city, that have strong potential to be opened up.

In the case of inner-city housing estates, approaches to regeneration so far have involved subdividing and closing the space, densifying through adding more buildings, or demolishing and redeveloping the estate. These approaches do not create possibilities for new relationships nor open up closed developments. For doing so, we must intervene on the margins, [13] on the places where various isolated places meet, where there is potential for interaction between these urban areas and the people who live there. Richard, in an analogy with natural ecosystems, explains this process of intervening on the margins as turning closed 'boundaries', which are limits with no interaction between the two sides, into permeable 'borders', which are full of exchange. [14]

The initial step is to identify streets and urban spaces with the potential to become permeable borders or places for connection, association and exchange. For doing so, it is necessary to look at how the place works as well as people's habits, patterns of movement, interaction and socialisation. It is first necessary to detect where the main pedestrian fluxes are, the main points of destination, where people stop and spend time, and how often and when 'outsiders' enter the area.

Second, it is necessary to recognise the current main spaces for social exchange – where people from different places interact, how these places relate to their surroundings, and the kinds of activities that take place in these spaces. These could be a community centre, a semi-private garden, an open public space, a light shelter or any other particular place in the neighbourhood. Third, it is important to detect the current barriers that isolate places from one another, such as walls, fences, control points, physical barriers that block the entrance to an area and other dissuasive measures to prevent strangers from entering a place. In places like housing estates, these measures for preventing the presence of strangers can vary from a gated area where only neighbours have a key to other physical barriers that do not impede but dissuade access, such as steps or leafy bushes protecting a space.

This analysis can identify the different obstacles that have broken the continuity of the street and identify potential places for intervention to revert the area's isolation and fragmentation. Jane Jacobs proposed that social housing neighbourhoods and other monofunctional developments should be 'rewoven

back into the urban fabric', which implied 'strengthening the surrounding fabric'. [15] She also proposed connecting these neighbourhoods to adjacent urban areas and rethinking the streetscapes that generate these connections. Building on Jacobs's proposal, through more clearly defining the connections between these areas and surrounding ones, and redesigning the space between buildings into meaningful public spaces, we can turn the urban surface into a place for social interaction.

These interventions should provide continuity and diversity [16] to the urban surface. The identified places at the borders, which connect an urban area to its surroundings, are turned into a continuous surface where different objects, people, constructions and forms of self-regulation can be assembled, disassembled and reassembled. In Gillett Square, the patterned granite pavement connects the square to the busy Kingsland Road and to the other two surrounding streets (Bradbury Street and Boleyn Road). This provides an inviting visual connection to the square and knits it into the existing urban fabric.

However, thinking about the surface just as continuous and homogeneous cannot nurture different kinds of spontaneous activities. This mistake was already made in modernist housing estates, when architects designed the ground floor around tower blocks as large continuous green spaces where recreation may occur. However, these large open spaces did not create spaces for interaction. Such continuous and limitless green spaces, which had few or no amenities, did not encourage people to spend time on them and socialise. Apprehension about these open spaces and the will to introduce more order led to their subdivision and enclosure.

A continuous surface does not need to be homogeneous. [17] To create a stronger relationship between the built environment and the social activities that take place, it is necessary to introduce alternations, mutations and variations to the nonexpressive urban grid. [18]

How do we achieve this? Rather than using the overdetermined zoning and functional subdivision that has characterised modernist developments, we can provide a continuous ground-level surface that has diverse characteristics in different places. This can lead to a built environment with diverse properties, spaces and capacities to host a range of possible activities. For example, certain soft pavement materials have the capacity to host children's play areas, others have

strong resistance to heavy-duty equipment, which is useful for setting up stages, others may have connection holes where temporary structures can be plugged in, or the appropriate drainage for certain activities that imply the use of water, or the necessary infrastructural supply for other activities. This diversity of properties of the built environment does not need to create subdivision but can be done through a continuous surface with different attributes.

Rather than subdividing the space through fences and other types of barriers, the built environment can let people know about its properties through its different materials, through colour-coding the access to infrastructure and other kinds of signage. These variations on the materiality, attributes and capabilities of the ground-level surface will make the built environment more expressive, creating unexpected new uses and creating unique narratives [19] when people go from one place to the other.

Creating a place rich in connectivity does not just mean providing a surface that links places, people and activities that are currently fragmented or isolated from each other. Connecting also means creating a succession of events, places, unexpected encounters and activities that provide a narrative experience [20] and a diversity of situations. This diversity will prepare people to face the unexpected and will create a stronger engagement with the built environment, which is no longer inert but expressive and changeable.

In Gillett Square, these conditions for diversity were created by providing an urban surface that connects the main high streets with two other streets and also by increasing the functional capacity of this surface through a series of strategies – providing kiosks and workspaces with affordable rents, containers to store equipment and temporary urban elements or structures, programming for and management of the square, having volunteers to take out some of the urban elements in the containers, and also actively attracting activities and cultural venues to the space.

Opening up closed urban development cannot be done just by improving its relationship with its surroundings. The construction of continuous pavement in Gillett Square would not have been sufficient to create conditions for diversity. It needed other elements to foster conditions for the emergence of public activities.

Creating Conditions for the Unplanned

The capacity of the urban surface to enable unplanned activities [21] and social interaction depends on the design of each of the urban elements, materials, agreements, policies, processes of engagement, plans for the maintenance, upgrade and adaptation of the public realm and, most importantly, on the interaction between all of these components.

Developments where all activities and functions are predetermined do not support improvisation and social interaction, and they do not encourage people to engage with the built environment. How can these 'surfaces for disorder' be constructed? In what follows, I propose strategies to assemble, disassemble and reassemble these surfaces.

How can we think of new ways of arranging objects, materials and other elements in order to make a disordered public space? Back in the 1990s, Gillett Square in Dalston, East London, used to be a car park surrounded by dilapidated buildings [22] and positively discouraged social activities. However, the intervention of placing kiosks with affordable rents for businesses, promoted by Hackney Cooperative Developments and designed by Hawkins/Brown, started to encourage people to gather around the area. These social gathering spots made evident the need to replace the car park with a square.

The project highlighted the potential of an urban surface to be turned into something else. For making such interventions, it is necessary to look closely at the activities already happening around it, at the people who live in the area and who potentially will gather in the public space. From this examination of the existing relations between people and place, urban designers can propose mutations, [23] distortions and alterations in the urban surface to enhance the potential for new situations.



Figure 5: Kiosks at low-cost rent for local businesses in Gillett Square, Dalston, London. Photo by Estrella Sendra. April 2012.

In most cities, cars are the main occupiers of the public realm. This implies large areas of asphalt, wide roads and car parks, often placed next to malls, business districts, leisure facilities or homes. In many parts of the United States, these kinds of developments have led to the disappearance of the city [24] and it is hard to reverse their effects. In modernist housing estates, the spaces between buildings are structured into large green areas with no other uses or into fenced-in areas, car parks or wide roads for cars. But does it have to be this way?

There is the issue of speed. Car dominance in public space can be tackled through strategies like limiting car access in some areas or preventing cars from using certain streets as through routes, as has been done in Barcelona's Superilla, where the majority of the space between buildings is solely for pedestrians. [25] Additionally, it is possible to change pavement in a way that might lower the speed of competing participants in public spaces. In order to do this, one must first factor in the question of mobility, ensuring that everyone can access the space.

Furthermore, it also means building a surface that encourages people to stop and lower their pace. Mixing pavement with different textures and materials [26] – wood, metal, rubber, different kinds of stone – alongside permeable natural surfaces such as grass, plants and soil can encourage people to stop at different points, to engage with the urban surface and may lead to spontaneous uses of the public realm. This diversity can create a 'textured surface' [27] that captures the attention of people and encourages new associations.

Take, for example, Aldo Van Eyck's playgrounds in postwar Amsterdam. The Dutch architect designed 734 playgrounds in the city between 1947 and 1978. [28] The designs filled empty spaces of the city with boundary-free playgrounds and with different textures such as sand, grass, water and rocks to climb – inviting children to explore. These tactile surface variations provided opportunities for surprise. [29] In Van Eyck's playgrounds, security was achieved through the presence of people in the public space, not by fencing off the children's areas.

Permeability – combining paved surfaces with natural surfaces – is another method of disrupting the sense of speed in a public space. Since the 1980s, architects and urban designers across Europe, in reaction to modernism, have designed many squares with hard surfaces and very little permeability, which has led to a decrease in urban biodiversity. [30] The 'hard squares' that Barcelona built in the 1980s, 1990s and at the turn of the twenty-first century have succeeded in providing small public spaces for social interaction, but they considerably reduced the permeability of the pavement.

This variety of textures can be used to 'speak' to people by coding the tiles with different colours, materials and signage, which will provide information about the infrastructure underground and other spatial capacities. This does not mean that the surface dictates the space's functions, but it provides information that people can use to imagine different possibilities. This kind of textured surface breaks out of zoning and predetermined design and, at the same time, allows a diversity of social activities to occur in the public space.





Figure 6: (Top) Buskenblaserstraat, Amsterdam, c. 1955. (Bottom) Intervention by Aldo Van Eyck. Buskenblaserstraat, Amsterdam, c. 1955. Source: Amsterdam City Archives.

Finally, these interventions can foster a closer relationship between people and material things, enhancing the relationship between 'the I and the It', [31] as Richard explains. This can be achieved by providing surfaces for urban art and sport that give people more direct interaction with the environment. For example, local authorities tend to spend a lot of resources on preventing and prosecuting graffiti artists and urban sports such as skateboarding. Incorporating such activities into the design of the public realm without isolating them can make the public space more attractive, expressive and full of life – and at a much lower cost than prohibiting and prosecuting. The former mayor of Bogota, Gustavo Petro, introduced a decree to promote graffiti in the Colombian capital through funding schemes to artists, but he also delimited the places and conditions where graffiti is legal. [32] Although this decree has not eliminated the controversy around graffiti, the streets of La Candelaria – Bogota's Old City District – are famous for its beautiful murals, full of political messages and protest.

These initial interventions, which enhance the capability of certain parts of the urban surface to create more possibilities for activity and interaction, can lead to an organic transformation of the public realm through building the surface as a modular system. In fact, the three interventions explained need to be implemented like a puzzle that can be assembled, disassembled and reassembled. This offers up the invigorating potential in which the process of building the public space remains 'incomplete'. [33]

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6

Disorder in Section

However, a city does not just exist in all of its complexity at street level. What happens above the street is as important as below. Critical urban theory, as Stephen Graham and Lucy Hewitt have shown, has not paid enough attention to the vertical dimension of the urban space. They identify certain processes of segregation that take place as the city rises, placing homes in vertical towers far from the disorderly public space. [1]

This disconnection between the horizontal plane and the vertical axis can be seen in many urban developments. In the mid-twentieth century in both the United States and the United Kingdom, local and metropolitan authorities built elevated highways that crossed the middle of many cities. It happened in many US cities like Boston, where the Central Artery, built in 1959, crossed the downtown. This elevated highway was replaced with an underground tunnel at the turn of the twenty-first century through the large project known as the Big Dig. [2] It almost happened in Manhattan, too, where Robert Moses proposed building an expressway across Greenwich Village, but the plans were stopped following a powerful campaign led by Jane Jacobs. These infrastructural projects cut neighbourhoods in two, generating strong barriers and fragmenting the built environment. In London, while the plans to build an elevated ringway (Ringway 1) were also eventually stopped, some pieces of it were built.

One of these works, the Westway, cuts through North Kensington in West London. The lack of attention to the vertical nature of the city generated a situation where this elevated motorway was just a few metres from the windows of the homes next to it, making it impossible to live in the neighbourhood.

Modernist housing developments also disregarded verticality. The Functional City separated pedestrian flow from traffic flow at different levels and prioritised movement, since people would be driving from one ‘function’ to the other. Housing developments were envisioned as tower or slab blocks standing on large

open spaces, which would have green areas, roads and car parks, without any relationship or interaction between the buildings and the ground. This vertical segregation of functions created alienating public spaces where people feared the presence of strangers. If we pay attention to Le Corbusier's drawings in *The City of To-morrow*, [3] we can see this vertical segregation between the housing blocks and the large landscaped surfaces. The roads are very wide to allow cars move fast from one function (home) to another (work) and the buildings on each side of the road are over 200 metres apart. This urban configuration eliminates the feeling of being in a street surrounded by buildings and activities. It divides the street and there is little relationship between the buildings and the ground.

Designing with disorder in mind also faces the problems of the vertical city. The emergence of spontaneous activities on the ground and how people interact and perceive strangers is often mediated by the architectural composition of the buildings that surround the space, the heights of the buildings, the activities that take place on the different floors, and other material and social qualities of the vertical dimension.

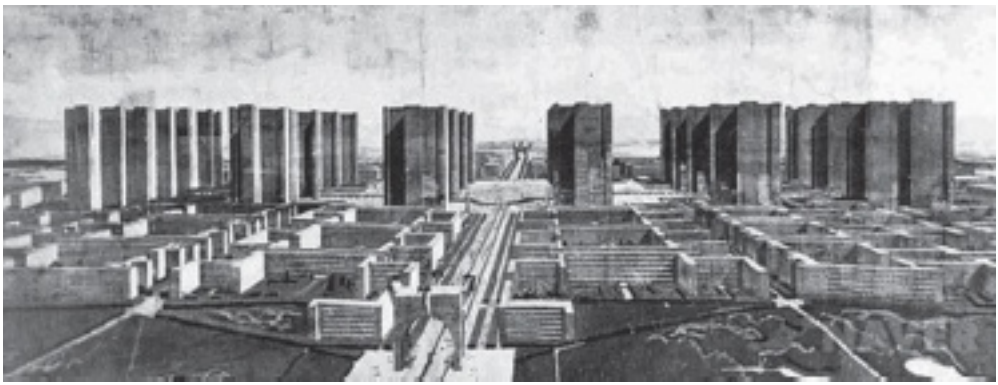


Figure 7: From The City of To-morrow and Its Planning, *by Le Corbusier, 1929, p. 238.*

Architects understand this relationship between the street level, the interior of the building, the different ground levels, and the vertical elements of the building through drawing a *section*. While many architects start to design a building through the floor plan, the design of a building can also start from drawing the section. This is the case with the Seattle Library, designed by Rem Koolhaas's Office for

Metropolitan Architecture. The diagram that originated the design of the building is a section, where the different activities are arranged vertically and the vertical connection between those different programmes generates in-between spaces for public activities. [4]

When an urban designer starts from the section, the focus is not so much on the morphology of the buildings but on the resultant space in between, on the relationship between the different elements and on the experience of people in the streets. Designing the section means looking at the atmosphere [5] that will be created.

All these material, social and cultural dimensions influence how people perceive strangers in the public realm and may encourage people to walk faster or to stay in the public space; they influence how people address each other and interact, through eye contact, greetings, eventual conversations and gatherings. [6] It can also encourage or discourage the emergence of activities – planned or unplanned – in the public realm. For example, the roads that appear in Le Corbusier's drawings for *The City of To-morrow,* which are over 200 metres wide, do not encourage walking through them, developing activities or meeting people. In Gillett Square, on the contrary, the relationship between the ground level and the surrounding buildings is established through the presence of the kiosks, the affordable work units, the Vortex Jazz Club, Dalston Culture House, the containers for storing temporary structures and equipment, and the connection to the surrounding streets. These relationships on the section facilitate social interaction and the emergence of activities.

Architects draw two kinds of sections, depending on whether the cutting plane is parallel to the longest side of the building or the shortest. These two types of drawings are named the longitudinal section and cross section, [7] and they are also used in urban design. When designing interventions in an urban space, the longitudinal section can help us explore and propose new narratives through different urban spaces, looking at the transition between different places and events. On a closer scale, the cross section's strategies can help us to explore how to create an atmosphere that encourages relationships and interactions in the urban space.

Longitudinal Section

Cities are increasingly becoming more fragmented by the overdetermination of functions and the segregation of spaces. This fragmentation does not just happen on the horizontal surface, but also through vertical elements in the urban landscape. The urban landscape is composed not just of its horizontal surface, but also by vertical elements. In opposition to a linear sequence that creates a hierarchy of spaces and isolation from urban life, Richard proposes designing 'narrative spaces' [8] – places that disrupt the linear sequence of the city and allow 'conflict and dissonance'. [9]

What is a linear sequence of spaces and its effect on urban life? This is very similar to Oscar Newman's concept of 'territoriality', [10] which has been applied to many social housing estates since the 1980s. Newman believed that modern architecture leads to crime – the limitless open spaces within these neighbourhoods attract antisocial behaviour. To counter this effect, he proposed delimiting the transition from public to semi-public, to semi-private, to private. In modernist housing estates, he proposed creating this hierarchy of spaces through subdividing the space between buildings, fencing the gardens around tower blocks and implementing surveillance methods. Through this linear sequence, he proposed his concept of territoriality, which makes it easier to identify strangers within a neighbourhood.

At first glance, the transition Newman proposes may seem quite logical. However, the clear demarcations he proposes leave no room for improvisation or disruption. Furthermore, these demarcations result in the creation of enclosed spaces that do not permit access to outsiders and isolate these neighbourhoods from urban life.

Newman's proposals were influential in both the United States and the United Kingdom. [11] , [12] In some of London's social housing estates, public space has now been subdivided and the gardens closed off, reproducing this concept of territoriality. One example of transforming the public space of a modernist estate with a defensible space approach is Loughborough Estate, a social housing estate built by the London County Council (LCC) in the 1950s in Brixton, South London. It has a mix of low-rise houses, mid-rise blocks and high-rise slab blocks inspired by Le Corbusier's *Unitè d'habitation.* The slab blocks were built on *pilotis* with a permeable ground floor.

Initially, the gardens surrounding the slab blocks were completely open, following Le Corbusier's concept of building towers surrounded by nature. From evidence found in the Lambeth Archives, the London Metropolitan Archives and the database of planning applications in Lambeth, I saw how the public space was transformed. [13] Starting in the 1990s, all the surrounding gardens were closed for the exclusive use of residents. Some playgrounds and landscaping were built on these private lands, while other parts were substituted with car parks. The ground floors of the slab blocks were closed off and secured entrances with concierge spaces were created.

Residents are happy with this level of intervention, since the closed gardens with playgrounds provide safe places for their children to play. However, this intervention has also resulted in the subdivision of space through fences. The urban landscape of limitless space has been substituted with an urban landscape of barriers, car parks and towers with secured concierge entrances. This urban landscape does not create an experience of passing through different territories, places and events. It does not invite people to interact and engage in activities in the public realm. While people may feel safer in the closed gardens, the public street remains little used and does not invite people to congregate. This, in time, has created an atmosphere that comes to fear the stranger rather than embrace the unexpected.

In contrast, what would happen if urban space was designed to nurture a succession of narrative scenes? In opposition to Newman's strategy of delimiting the space through walls to protect from strangers, Richard proposes creating permeable borders. [14] This would include an uninterrupted section without divisive walls, as well as a succession of different spaces and events that provide spaces for disruption.

Many neighbourhoods have clear boundaries that create a physical or psychological limit. These limits can have different objectives and outputs; their purpose can be for protection from strangers, for creating a limit between two places of different socioeconomic status or they can be accidental limits that produce isolation and segregation. Boundaries can take different forms: they can be closed walls or fences, which is the case in gated communities or private communal gardens. They can be smaller fences or physical barriers that can be easily trespassed

but create a limit. They can be changes in the topography that segregate two spaces or pieces of infrastructure, such as railways, wide roads, highways or flyovers. A boundary can even be created through emptiness: vacant or large open spaces that mark the limit between two territories.

Depending on the nature of the boundary, a different kind of intervention is needed to turn it into a border. [15] When the boundary is a fence or a wall, the actions will consist of eliminating those fences, walls or physical elements that create barriers and segregate areas. In some cases, when eliminating one of these physical limits is not possible, the limits can be transformed into permeable borders. This transformation consists of equipping the wall with features that support activities. If the wall is a place where activities take place, it can create interaction between two places and create a transition between territories. In the illustrations included in the plate section of this book, I have shown how the fence that delimits the communal gardens around tower blocks in social housing estates could be transformed into spaces for activities and social interaction – turning a closed boundary into a permeable border.

When the boundary involves a change in topography, the action also consists of transforming the boundary into a place for interaction. This can be achieved by building terraced spaces between areas with different elevation, where people can sit and interact.

When the segregation of different areas is produced by a piece of infrastructure, actions may require major engineering works and can take longer in terms of decision making. For making this engineering work happen, it is necessary to implement a temporary solution that turns the boundary into a place for interaction and then claims that such boundaries should be transformed into border. For example, the small interventions by the North Kensington community in London using a space below the Westway as a self-built playground in the late 1960s led to claiming twenty-three acres of land for community use below the flyover highway.

When a boundary is created through emptiness, the actions need to turn these empty spaces into transition spaces. This can be done through adding structures or elements that provide shelter for activities and places for interaction, add continuity to the section and avoid a hierarchy of spaces. Nevertheless, continuity does not

necessarily mean homogeneity and each space should have its own character. The urban spaces in a town centre are different from that of a residential area. However, the transition between spaces with different character needs to be an inviting experience.

Strategies that create continuity need to be combined with strategies that create a diversity of experiences; places for disruption, where different objects and situations overlap, where unpredictable activities take place. Richard defines this as 'places full of time'. [16] The narrative section has a diversity of spaces where activities can start to emerge, where the beginning of processes can take place. To create such spaces in the longitudinal section, interventions can consist of the addition of vertical elements that create these places for disruption and unpredictable activities. These vertical elements can take different forms and be assembled in different ways depending on the existing built environment.

By vertical elements, I mean light structures to host activities in the public space or more solid constructions that provide shelter to activities and more interaction between the buildings and the street. These can be market pods like those in Gillett Square. There can also be other permanent elements, such as lamp posts, sitting areas, different types of urban furniture that provide certain qualities to each space within the longitudinal section. They can also be temporary elements that can be placed in, moved around and removed from the public space, such as cinema screens, play equipment, sport equipment, additional seating, a stage, or additional lighting. In Gillett Square, this allows people to transform the built environment according to the activities that are taking place.

Another way of achieving diversity on the longitudinal section involves different kinds of vegetation, or structures and support for vegetation to grow. The illustration on the longitudinal section (included in the plate section of this book) provides an example of how this changing environment could be created through the addition of a diversity of vertical elements.

These vertical elements can be assembled on the urban surface and provide additional capacities for hosting unpredictable situations: equipment, appropriate shelter for activity, and frontage to the street. They can be assembled against the buildings, particularly where there is a wall with no windows or door and the interaction between the building and the street needs to be improved. As explained,

they can also be attached to existing walls and fences to transform boundaries into borders.

Through the addition of these vertical elements, the diversity of the longitudinal section is provided by a changing urban landscape and not by a fixed hierarchy of walls. This narrative section can blur the lines of segregation that dominate urban environments. Through the assembly of new structures and urban elements, the strategies used in the longitudinal section can, first, construct porous borders that constitute spaces for interaction between different spaces of the city, and second, provide diversity in the townscape. Finally, they will create spaces for disruption and for the emergence of unexpected activities that contribute to more positive perceptions of disorder.

Cross Section

Connected to the strategies in the longitudinal section – which seek to create a succession of experiences – the cross-section strategies explore detailed proposals for each urban experience. They look in detail at how the horizontal surface and the vertical elements – volumes, planes, lines – assemble to create different capacities, generating a diversity of experiences in the built environment. The interventions in this section modify the physical environment, taking into consideration the resultant street space, how people perceive and experience it, and how people perceive strangers in the resultant space. They also pay particular attention to the relation between interior-exterior, public-private, and to the interaction between both sides of a border.

Authors such as Jan Gehl have studied how factors such as the proportion of the street, the relationship between the size of the buildings and the human scale, the sense of enclosure people may feel and the diversity of the urban spaces can influence the way people perceive strangers. [17] The characteristics and proportions of the space between buildings can also influence particular forms of relationship. Narrow streets of European historic cities like the Casco Antiguo (Ancient District) in Seville may lead to particular kinds of perceptions and interactions between strangers, while large open spaces characteristic of modernist

developments, or spaces where different activities are segregated in different vertical levels, may lead to other forms of interaction or isolation.

Segregation and isolation can take different forms. They can happen when the limits are undefined, as happens in some modernist housing estates where the open spaces have no limits and create an alienating public realm. They also occur in the other extreme, when there is too much enclosure and there are strong limits. It can also take place when there is poor interaction between different spaces. Richard has described the plate glass in facades of modern and contemporary buildings as closed boundaries, [18] where people outside might be able to see the interior but not to interact. He has also described different forms of segregation through using elements like nature to separate things, activities and people that should not mix. [19]

To transform these methods of segregation, I propose strategies to create permeable borders that allow social interaction and exchange. The creation of such spaces can contribute to overcoming people's fear of strangers.

How can such spaces be achieved through urban design? We need to think about the space between buildings as the composition of different elements – material and non-material – that can be assembled, disassembled and reassembled. The cross section as a form of drawing, designing and understanding the space can help us understand the relationship between the different elements that compose the urban realm.

Through this assemblage of elements in the section, we can build urban environments that encourage social contact by providing an urban landscape on a human scale. This can be made through constructions that change the distance between buildings and the height of the constructions facing the street. In addition to modifying the proportion of the street considering the human scale, the reassembling of vertical elements and the new structures aims to create an environment that encourages improvisation, providing diversity and shelter for activities in the public realm.

How does this reassembling of the cross section begin? The interventions in the section work in connection with those 'below' and 'above' ground, and they follow a similar process. The first step is to introduce certain disruptions in the section that open up new possibilities for interaction and unlock rigid urban environments. In the case of Gillett Square, this 'disruption' was created by the kiosks placed on the

back of a building next to a car park, which led to social interaction around the kiosks and, years later, to the construction of the square.

Once the initial disruptions start working, the following interventions can add to earlier elements, changing the section in response to different situations and generating a diverse urban environment that encourages the emergence of spontaneous activities. In Seville, during the worst years of the post–2008 recession, when there were few resources for cultural infrastructure, theatre company Varuma Teatro and architect Santiago Cirugeda (Recetas Urbanas) created a School of Circus in an empty plot in a semi-peripheral district in Seville. [20] They first constructed a circus tent and the 'Araña' (spider): a prefab container that had been customised and was standing on four articulated legs made of prefabricated beams. Both structures were self-built and of reused elements. They created a rich diversity of cultural events and activities. This soon led to other collectives working in collaboration to install new self-built structures on the same plot: [21] a photography lab for audiovisual projects, an 'open classroom', a pergola. The space, known as La Carpa (the tent), grew organically through assembling new objects and welcoming new collectives to join them. [22] This was a very good example of initial 'disruptions' that had a replicating effect.

The vertical elements to be assembled in the cross section can follow the same modular system as the infrastructure proposed 'above' and 'below' ground. These elements can be light constructions located on the edge between the private and the public, or in existing 'boundaries', [23] such as fences or walls, so they can be transformed into places for interaction. When placed in 'boundaries', these structures can tackle the different forms of isolation described previously: they can provide a better definition of the street when the limits of the public realm are undefined or they can open up closed walls and overcome vertical isolation.

In modernist housing estates where the public realm has undefined limits, a better definition of the street can facilitate social contact. [24] This can be achieved without rebuilding the street, adding new structures to the existing built environment. When separation is produced by fences, walls or other forms or vertical isolation, additional structures can create places for interaction between spaces that were segregated.

Interventions must avoid executing this better definition of the street through

solid constructions, building walls or destroying the existing buildings. In housing estate redevelopment in the United States, the United Kingdom and other European countries, the tendency has been to demolish the existing buildings and replace them with traditional street layouts with appropriate passive surveillance. This building of 'streets' has justified wholesale demolition, and in some cases social cleansing, of many housing estates. Such 'streets' can be built by assembling various elements in the existing built environment. This can be done by building structures that work as what Richard describes as a 'cellular wall', which is both 'resistant and porous' [25] and permits interaction. Thus, the interventions on the cross section of housing estates should begin with light construction that delimits the street occupying the spaces normally taken by car park surfaces and garden fences. As the kiosks and the containers do in Gillett Square, this light construction can host activities that enhance the spatial appearance and can also serve as storage for other structures. And as happened in La Carpa, the structures can grow organically and be added to in response to people's needs by providing light constructions with the structural capacity to support other activities on top and grow vertically as activities require it. In this way, as shown in the 'cross section' illustration (included in the plate section of this book), these structures would initially just cover the ground while providing the option to assemble other structures on top.

This open system for assembling structures results in a dynamic cross section that is constantly changing, and which, through the flexibility and modularity of the surface, facilitates the assemblage of structures and provides a diverse built environment for supporting various kinds of situations. These associations can also be with other kinds of structures that do not necessarily delimit the street but can be plugged into any part of the surface. As in La Carpa, these constructions can be made through combining prefabricated or ordinary elements that can be joined together to compose more complex structures. Furthermore, the term *structure* can be extended to elements such as lampposts, trees, mobile vegetation or street furniture, which can be plugged into the surface. These elements' presence on the urban surface will depend on the activities taking place in the space. All of these structures will form part of a flexible and open system, where the different assemblages respond to particular moments in time.

Fear of public space has led people, communities, local authorities, developers

and urban designers to establish strong street limits between private and public space, in an attempt to make people feel safer inside their homes. Richard describes this feeling of looking for refuge at home in *The Conscience of the Eye* and examines how this has influenced the way cities are made. [26] This division between private and public is one of the factors that hinders the use of the public space. Strong boundaries protecting the buildings, such as fences, walls or oversecured entrances, create an uninviting public space that does not encourage public gathering and activities. The public space simply functions to move from one function to another.

To counter this effect, interventions can provide spaces of transition and for interaction between the private and the public, offering some plasticity to the rigid relationship between the the private and the public and encouraging people to start feeling more comfortable in public when they leave their homes.

The challenge here is: how should this 'limit' between the private and be public be drawn? How can street space be successfully delimited without provoking isolation? These limits must avoid resorting to building walls, fences and other elements that hinder interaction. They must also avoid interventions that provoke vertical isolation between the buildings and the urban surface. Instead, they should be structures that turn these limits into places for interaction.

These places for interaction between the private and the public should have the following capacities. First, they should be porous limits [27] with different degrees of privacy, permitting hearing, visibility and the enjoyment of the open areas. For example, when delimiting the open spaces and gardens in modernist housing estates, the approach should be to build structures that delimit the gardens but at the same time permit seeing through, participating in activities from the outside and establishing points of access to the open space.

The second capacity that the structures should have is to host activities that interact directly with the street and open spaces, bringing life to the street. The 'cross section' illustration shows how this transition space can host a variety of activities – community spaces, sports, a community kitchen, places for small businesses or covered public spaces to sit and relax together.

The third capacity that structures should have is to facilitate social contact. As explained, urban configurations like those in the historic centre of Seville, with

narrow streets and low buildings, provide more possibilities for social contact than Le Corbusier's Ville Radieuse, with its wide streets and buildings over 200 metres apart. However, this does not mean that modernist developments should imitate historic urban configurations. On the contrary, to continue with the example of delimiting open spaces in modernist housing, introducing these structures can change the proportions of the street and cultivate a human scale by locating lower constructions as a transition space between the street and the tower blocks, as in the 'cross section' illustration.

Understanding and fostering these connections implies thinking of the section as a meeting place for buildings and people. It requires understanding the attachment of people to particular community assets, objects in public space, existing trees, green spaces and other material aspects of the built environment. Through understanding these relationships, new interventions will keep the existing social and built infrastructure and enhance any neglected places. Creating these environments implies concentrating infrastructure around existing community spaces and providing the spaces with further capabilities. This can turn them into alternative spaces that escape the imposition of order and top-down forms of decision making. They become counter-spaces that can deal with conflict and have a changing nature that permits constant reassembly.

Many of these spaces have not been initiated by local authorities, developers or designers – they've come from community initiatives or local activists. The case of the Westway is an example of how these alternative spaces emerge. Nearly five decades after the first protests, the space is still contested. The residents have experienced a shrinkage of community space, the privatisation of community assets and the tragedy of the Grenfell Tower fire. Other spaces of contestation have emerged, such as occupying Bay 56 in Acklam Village, located below the Westway, and turning it into a community space. This space, managed by local activists, is itself a collage of materials from local campaigns, struggles, forms of solidarity, community initiatives and culture. It is a place in constant reassembly – being used to store donations for the victims of Grenfell, and for cultural events, campaign meetings or for conflict mediation. These spaces, which have emerged from local struggles, can teach designers how to build this collage of social and material elements that provides a community infrastructure – social and physical – where

activities and initiatives can take place.

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7

Process and Flux

Building the public realm as an open system – as a process – implies, first, building initial interventions that create conditions for social interactions to take place. This means creating places, collective infrastructure or other physical objects that provoke negotiation, agreements, collective awareness and different forms of interaction – even conflict – in the public realm. From these initial interventions and interactions, people can be better prepared to establish different forms of exchange, use and collective management of the public realm.

Second, building the public space as a process implies designing it for uncertainty. The strategies 'below', 'above' and in 'section' have explored leaving the public realm 'incomplete', [1] allowing continuous upgrade and adaptation to uncertain futures. The strategies have also explored providing different elements with functional capacities rather than fixed functions, where the activities and interactions of the public realm depend on the different associations that take place.

This kind of public space has the capacity to host diverse uses, even those not imagined by the designer. This implies that architects and planners should design for indeterminacy – they should propose a process with multiple possibilities. Designing for indeterminacy faces many challenges when applying it on the ground: Local authorities, clients, the public, architects and planners do not normally accept indeterminacy since they fear losing control of the situation. [2] Uncertainty is seen as a risk.

However, there is a window of opportunity here. Local authorities and other institutions are starting to consider 'co-design processes' in creating public spaces. Although one must be cautious with the branding of participatory processes, since many of them imply forms of tokenism, [3] some local authorities are exploring innovative forms of co-design and are starting to accept the risk of uncertainty.

A good example is the process for designing the Stortorget Square in the

Norwegian city of Hamar. The local authority organised a competition for reactivating the square through art interventions. The winning entry came from the Spanish architectural practice Ecosistema Urbano, who, instead of supplying an urban art intervention, proposed a participatory process for redesigning the square. [4] Their project had no defined outputs, but instead engaged people in defining their visions for the square. In this case, both the practice and the local authority – who selected this entry – accepted and engaged with uncertainty.

Ecosistema Urbano's participatory co-design process in Stortorget engaged people through a series of short-term urban actions and temporary events, which made people aware of the possibilities that the public space had and motivated them to participate in the collective design of the square. [5] This demonstrates how processes can encourage interaction between people and spaces and also a collective sense of awareness. It is likewise a good example of the emerging shift from an interest in finished projects toward interest in an open process that accepts uncertainty.

Architects, urban designers and planners must learn to work with this uncertainty. It is necessary to think carefully about the different stages of the design process and the possible outputs of each step. [6] Furthermore, these steps should not be part of a linear process to achieve a single end, but instead be a nonlinear process that can restart or go back to a previous stage at any time. They can work simultaneously, overlap and assemble with each other. For this reason, rather than presenting them as a sequence, I present them as two overlapping processes: designing for interaction and designing for indeterminacy.

Designing for Interaction

Co-design processes can 'fail' at different stages. But what do we mean by 'fail'? A co-design process fails when people do not engage – or no longer engage – with the interventions in the public realm. This lack or end of engagement can happen in different stages of the process.

The lack of engagement can take place at the very beginning of the process when people do not welcome the initial interventions. This may happen when local

authorities (or other organisations) commission architects or urban designers to develop 'placemaking' interventions in the public realm with the aim of activating these spaces and encouraging people to use them. If these initial interventions do not carefully consider the existing activities, community organisations and local concerns, there is a high probability that these interventions will not provoke the desired engagement. Residents, particularly if they have had previous disputes with the local authority or organisation commissioning the public space design, can see these interventions as alien and feel that they have not been taken into account.

In cases where initial interventions succeed in generating new negotiations, resident engagement and forms of social interaction, the process can still 'fail'. Even after a period of engagement with architects, urban designers, local authorities, funding bodies or other organisations in the co-design process, the initial intervention can lose its momentum if the process does not account for how socio-material interactions will be sustained over time. Negotiations and different forms of interaction can cease, activities in the public realm may no longer take place due to a lack of funding and the initial interventions may fall into neglect. In other words, the public space that was engaging for a period of time will become a closed system.

How can the initial interventions engage with people at the beginning of the process? How can the physical interventions (explained in the previous chapters) provoke negotiation and different forms of interaction? How can the socio-material interactions generated be sustained over time? The following strategies explore how to address these questions.

The first step must be to understand the existing social and physical infrastructure of the place in order to build on what is already there. [7] An example of this is J&L Gibbons and muf architecture/art's 'Making Space in Dalston', which they did for the London Borough of Hackney, LDA and Design for London. The scheme departs from the traditional idea of the 'masterplan' and proposes a process to improve Dalston's public spaces and community infrastructure by building on the existing conditions.

The project proposed a three-step process consisting of the following tenets: 'value what is there', 'nurture the possible' and 'define what is missing'. [8] The majority of their report is an analysis of the existing public spaces, community

infrastructure and activities taking place in Dalston. This in-depth knowledge of the existing social and physical conditions of Dalston enabled a proposal that respected the existing spaces and activities and enhanced them through small interventions.

If the first step of the process is 'understanding', what are the social and physical relations urban designers need to pay attention to? First, it is necessary to grasp people's engagement with the public realm and with the existing community infrastructure. This includes libraries, community spaces, educational facilities, cultural venues, places where people meet (some locations might be private) and places where people have a particular attachment through memories and past events. It is important to comprehend people's attachment to these places, how they use the spaces and their participation in creating them.

It is also necessary to understand the activities taking place in the area. These could be a community kitchen, children's playgroup, community gardening or urban agriculture, religious activities, local events or other forms of social gathering. Connected to these activities, it is also necessary to understand the existing relations of solidarity and exchange. These could be processes in which people support each other for particular things, such as child care, teaching and learning, cooking or companionship, which may or may not imply monetary exchange. It could also be certain agreements and negotiations that people have in place to use certain spaces or resources. All of these constitute existing socio-material interactions that initial interventions can build on.

It is crucial, too, to understand the history of community involvement in planning and activism in the area. Learn which pieces of community infrastructure and public spaces have been the result of local people claiming those spaces for public use. It is also key to know and involve community interest groups, activists and campaigns in the area. Many of these groups may have spent years campaigning for issues related to these public spaces and pieces of infrastructure.

This research is essential before starting the process. By knowing what things, places and buildings hold a particular value for people, the strategies will be able to ensure that these spaces and their value is kept and enhanced. There are spaces that may not seem attractive to the architect's eye, or that some would regard as 'obsolete' before doing in-depth research. However, these spaces may be the

gathering points for certain groups and the loss of these places would leave groups of people and minorities without their place to meet or develop relationships of exchange.

In London, this has been the case with markets, such as the Seven Sisters Market in North London or the Elephant and Castle Shopping Centre – each of which sells very specific food and goods to Latin American communities and functions as a gathering point for them. These places are under threat of being demolished and displaced. [9] Such spaces constitute valuable community infrastructure that proposals should respect and enhance rather than eliminate.

Furthermore, knowledge of the existing activities and relationships of solidarity and exchange in an area can enable proposals that enhance these elements – some of which might be hidden, under-resourced, or not have the necessary facilities to develop their full potential. Nevertheless, it is important not to make assumptions about what is needed in a particular situation. Trying to formalise informal activities by simply removing poor facilities and replacing them with shiny new ones often kills these informal processes. Rather than replacing their facilities, it is essential to work in collaboration with those using these facilities to know their actual needs.

There are places that have a long tradition of community activism, involvement in planning decisions, and creating public spaces and infrastructure from the bottom up. Certain community spaces might be the result of years of campaigning and grassroots initiatives. Other places might be key to running certain activities that support valuable community infrastructure. This is the case of Granville Community Kitchen in South Kilburn Estate in North London, which cooks healthy food for free to the residents of the estate and everyone who turns up to their gatherings. These take place most Fridays in The Granville, a community centre that has been under the threat of regeneration for the last few years. [10] Such social infrastructure – which allows residents to interact with others, have company and access healthy food – is of great value and should be supported rather than face a struggle.

Communities with a strong history of activism, or groups that organise local activities, hold powerful knowledge which is of great value for urban designers. Partnering with these groups for the process of providing new public spaces and

community infrastructure enhances existing socio-material interactions and starts new ones.

However, there are places where such strong forms of connection may not exist or might be latent. People may not be engaged with their public spaces and community infrastructure. The tendency to respond to this lack of collective engagement has been to eliminate public assets, such as public libraries or community halls. Instead of removing these spaces, strategies should focus on enabling new interactions: encouraging people to engage with public spaces, material objects, community assets and other elements of the neighbourhood.

These interactions can emerge when interventions provoke new negotiations on how to use, engage with and manage the shared infrastructural resources, spaces and material elements of the public space. When negotiations are necessary to use the shared resources and spaces, social interaction becomes an essential component of the public realm. The proposed disruptions in the infrastructure and public space require collective management. These disruptions can change people's understanding of what is necessary – moving from an individual awareness of resource consumption to a collective understanding of resource generation, management and consumption.

The new collective components will require people to negotiate use agreements in a similar manner to situations of scarcity or infrastructure breakdown. [11] For example, installing solar panels on the rooftops of buildings in a housing estate for producing community-owned energy can generate these kinds of negotiations and discussions on infrastructure. If residents co-own a valuable piece of infrastructure, such as solar panels, this inevitably will prompt relationships, agreements and dialogue on how to use this energy, who can benefit from it, and what to do with the revenue it generates.

In London, the nonprofit organisation Repowering London promotes community-owned energy projects and has helped residents to raise funds and install their own solar panels in their housing estates. Their first projects were in the previously mentioned Loughborough Estate in Brixton, South London, where they helped to install solar panels on the rooftops of housing blocks. Some of the energy generated is used to power community facilities and the rest is sold to the grid. Part of the revenue generated is placed into a community fund, which is used for

organising activities and for improving energy efficiency. [12]

Other projects, such as the one at Banester House Estate in Hackney, East London, has also set up a co-op with residents as directors. [13] The creation of such community-owned infrastructure not only encourages the generation of cleaner energy and more autonomy from big energy corporations, but also collective awareness of the infrastructure, new forms of association, meetings, discussions and agreements on how to manage the energy generated.

Interventions in public space can also generate such negotiations. For these interventions, engagement may require certain collective agreements, decision making or management. The agreements can outline how the urban surface, equipped with infrastructure and other qualities/capacities, is to be used to develop activities in the public realm. To prompt these discussions, urban designers should incorporate initial conditions for setting up collective agreements and public-realm management systems. Such conditions can be set up in the process of engaging with existing local groups.

The emergence of new negotiations and forms of collective management can be tested through small interventions. Introducing a piece of infrastructure or a collective resource, such as community-owned solar energy or an allotment that needs collective maintenance, can show which agreements people first put in place and which kinds of interaction emerge.

Introducing disruptive elements to spur such negotiations needs to build on existing forms of association and resource sharing. This can involve existing collectives, neighbourhood groups, campaigns to defend or save a community asset, or other groups and individuals. It is also useful to understand the demands or even anticipate needs that such collectivities may have: more public lighting, tackling fuel poverty, or having certain facilities in the public realm that allow for a greater diversity of community activities.

Addressing such collective and public needs through shared infrastructure or a shared urban surface can bring new forms of governance. These initial interventions will require people to negotiate and reach initial agreements on what to do with the generated resources, who can consume them, and the kinds of exchanges implied in the generation/consumption of these resources. They will also require agreements and protocols on how to use and engage with the public realm for community

activities. Initial disruptions are a way of experimenting with openness and uncertainty, of finding forms of collective management and governance. These first experiments in collective management will evolve over time, in the process of opening up the system, and accommodate future infrastructural interventions.

The forms of interaction, association, discussion and agreement that emerge from these initial interventions will establish a system in which there are fluid relationships of exchange.

For example, the municipal grid and collective infrastructure retain a certain relationship, in which the collective infrastructure has the capacity to exchange resources with the municipal grid, which has the responsibility of redistributing resources and ensuring equal access to infrastructure and public spaces. While this may create a hierarchical structure between the municipal grid and the collective infrastructure, there are still possibilities for openness, alternative forms of governance and fluid exchange at a micro scale.

These fluid forms of exchange take place both in the 'below' infrastructure and in the 'above' surface. People may connect to points of the surface that have the capability to develop the activity they want. These will generate fluid relationships of exchange where everyone can join.

Since the collective infrastructure and surface are open to everyone, these exchanges outside of the municipal grid need some kind of management and governance to work. When thinking about how to build, manage and sustain this kind of infrastructure, three questions emerge: Who is it for? Who pays for it? Which are the agreements in place? Addressing these three questions implies reaching agreements on how to achieve this fluid, micro-scale exchange of resources. Collective infrastructure has two kinds of objects to manage: the catchment of resources and the terminal points for consumption.

The catchment of resources will need an initial investment, which can be through co-investment with local authorities, through cooperative/mutual investment and/or through specific funding or financing schemes for renewable energies. Once the initial infrastructure is in place, the resources generated can be used for self-consumption. In the case of energy generation, one of the first agreements to achieve will be to decide what to do with the excess energy generated. When connected to the municipal grid, communities are able to sell it back, which

can recoup the initial investment and pay for energy consumed at other times of the year where self-generation is not enough to pay for consumption.

This is the standard process. However, there is another possibility for a more fluid and informal exchange of resources, which involves distributing the excess energy through 'terminals' on the public space. The terminals would distribute part of the 'excess'; however, once the collective decides how much of the excess goes to the terminals, they must next agree on the 'rules' for this fluid exchange.

In order to make the system open, the exchange should be available to everyone, not just to members of the collective. For example, in a public bike hiring system, people are allowed to release and ride a bike for a certain amount of time. The collective infrastructure can use a similar technology, which gives access to resources to anyone in exchange for something; this makes access easier and faster for those who are members of the co-op and interact with it regularly.

However, if we reduced this to a monetary exchange, the system would not be very different from the many apps and startups that are emerging today. How can this exchange be more open?

In the infrastructure proposed in this essay, collectives can exchange goods, resources and services without needing an intermediary or monetary exchange. Infrastructural resources can be exchanged for different types of contributions to the community. When exchanging resources outside of the municipal grid, collectives can change their 'excess' for services or goods that benefit the co-op and contribute to its continuous upgrade.

One example of such alternative forms of exchange is the 'social currency'. Examples like the Brixton Pound in South London or the Puma in Seville, Spain, are grassroots initiatives to implement alternative currencies, which allow people to exchange goods and services or to buy at local businesses without a regulated monetary transaction. In the case of the Brixton Pound, the objective of the alternative currency is to promote local businesses and protect them from large chain stores. [14]

By having a local currency (where exchange is 1:1 to the pound sterling) that is only accepted by local businesses, they ensure that the money is spent in those Brixtonian businesses. The case of Puma in the north historic district of Seville

(Casco Norte) is different from the Brixton Pound and is closer to the kind of exchange I propose here. It is a local exchange trading system (LETS), where there are no notes or coins. People exchange services, goods and caring responsibilities without the need for money. Instead, they use two digital platforms to know how many Pumas they have or owe and to do the exchange. [15] One of the objectives of the coin is to 'get to know better the people from the neighbourhood and its environment', [16] which happens through these relationships of exchange.

Designing for Uncertainty

How to design for uncertainty? In essence, every urban design proposal is an attempt to deal with uncertain outcomes. It is not possible to predict how people will engage with a public space or behave in public, which activities will take place and whether a public space will be heavily used or not. Traditionally, urban planning has attempted to control this uncertainty by assigning functions to land, buildings and public spaces, or by implementing other design measures that would prevent certain behaviour: railings to prevent people accessing certain spaces, spikes to prevent homeless people sleeping on the ground, or single benches separated from each other to prevent congregation.

Consider a different approach to uncertainty, in which the public realm does not have assigned functions but various functional capabilities. These functions are not predetermined but depend on how people engage with physical elements of the public realm, with particular forms of management, with formal planning policies, or with other informal forms of governance. [17] This is what I meant when I proposed building a public space that is 'incomplete', [18] which allows continuous adaptation to changing circumstances, which permits rectification and upgrade.

Designing for uncertainty is a challenge. Local authorities, third-sector organisations, private clients, planners, architects and often even communities are not comfortable with unpredictable outputs. In general, people fear the unknown. Uncertainty is seen as a risk and risks are to be mitigated in any urban proposal. This is a challenge faced by urban designers willing to propose interventions that leave room for uncertainty and improvisation. On some occasions, these proposals

are discarded in the design process for being too risky or to avoid outcomes that cannot be controlled.

Thus, one of the key questions that urban designers need to address is: how to turn this risk and uncertainty into something positive? Risk can be managed rather than mitigated. An uncertainty can be presented as an opportunity, where the *process* brings benefits that go beyond the benefits of the final output. Where people are actively engaged in a process, one of the main outcomes is that it becomes a learning process for all those involved, from residents and local businesses to designers, planners and local authorities. Urban designers must present this learning experience as an output when proposing this kind of process to local authorities or other clients.

The result of these processes is an expansion of people's awareness on planning issues and an increase in the engagement of people with their environment. In this process, local authorities also benefit from learning how to be responsive to people's demands. Experimental processes for resident participation, such as the digital platform launched by municipalities like Barcelona and Madrid, where people propose, comment and vote on projects for the city, have involved a learning process for local authorities. Architects and planners, every time they get involved in a co-design process, increase their knowledge of how their projects respond to people's demands and how to better engage with the public.

In addition to these learning outcomes, an open process with room for uncertainty is an opportunity to expand and experiment with different forms of democracy where decisions are not fixed but instead flexible to changes according to how people engage with the built environment. An open process allows continuous adaptation, feedback and modification.

The question that needs to be addressed is: how can urban designers engineer this 'disorder'?

Providing the conditions for setting up a 'system for uncertainty' aligns with the strategies for designing the socio-material interactions explained above. More specifically, this strategy works on the part of the process that goes from the initial interventions for prompting new negotiations to establishing a system where there are fluid relationships of exchange. It works on enabling further steps to continue the initial interventions and build a system that can manage uncertainty and adapt

to unpredictable futures. In essence, this system for uncertainty can be achieved by building infrastructure and public spaces that are flexible.

I have proposed building collective infrastructure that overlaps and interacts with the existing infrastructural system. Rather than proposing replacement, I propose adding new infrastructural parts that can easily be modified and upgraded. This new layer of infrastructure goes from a 'black-boxed' [19] infrastructure to one that can be easily understood (and even changed) by collectives and individuals. Collective forms of infrastructure such as community-owned solar panels are an addition to existing infrastructural systems that give people more autonomy and awareness of the energy they use and can produce. These forms of infrastructure allow for upgrades and additions without needing to undertake major infrastructural changes and, as explained, allow new forms of collective action and association.

In connection with the infrastructure, I have proposed building a modular floor that can be assembled, disassembled and reassembled in different ways. I proposed achieving this modularity and flexibility through building a technical floor in a similar manner to those built in office spaces, with easy and direct access to the collective infrastructure. Once the initial infrastructural interventions have prompted the first community negotiations and forms of fluid exchange, the process of building an infrastructural 'carpet' on top of the existing surface can take place. A modular surface can be built on top of the existing one and implemented bit by bit. Since the technical floor only contains collective infrastructure, its pipes and facilities only suppose raising the surface a few centimetres.

I have also proposed vertical elements that can be assembled, disassembled and reassembled to the urban surface: poles that can be plugged into the ground (equipped with holes and foundations), various shelters that are easy to assemble and modular constructions that have the capacity to host activities on top. These elements can be self-built (or require only a little technical support and time to be built) and can be easily changed according to people's needs.

The interventions explained in this book introduce the condition of temporality in the public realm and provide devices, construction systems and facilities that enable its self-management. This temporal condition is introduced through the flexible system explained previously, which allows a multiplicity of uses

of the public space and provides people with the capacity to adapt it to different situations: weather, seasons, weekends and holidays, and events of variable duration and intensity. The resultant open system has the possibility to grow in different directions and evolve according to community actions and negotiations. Self-management can be achieved by providing initial conditions or 'rules' that can be modified according to community decisions. Such negotiations provoke the kind of associations and social relationships that the strategies aim to cultivate.

Every urban intervention explained in this book has unpredictable outputs. This uncertainty makes it necessary for each step of the process to be followed by continuous feedback. Feedback needs to happen after each of the strategies 'below', 'above', in 'section', and on the 'process'.

Feedback is what makes the infrastructure and public space adapt, achieve a good level of repair and maintenance, grow or degrow, add new elements, and rectify, remove, replace or upgrade pieces that do not work well. Historically, infrastructure has been improved and upgraded after major breakage. [20] In the same way, the interventions proposed in this book can be continuously improved and adapted by responding to feedback.

Strategies explained in this essay may not necessarily work as suggested. They provide possibilities, not certainties. Continuous feedback is necessary to see whether the strategies provoke such negotiations, positive interaction, and make people feel comfortable in unknown situations. Continuous feedback is necessary to keep rewriting these pages.

The flexible system proposed in this essay allows for this continuous feedback, and it likewise allows for adaptation and change in response to that feedback. It provides collective forms of governance where people get directly involved in modifying and taking care of the environment as well as making decisions. The system includes its own mechanism for collecting feedback and responding to it.

Collecting feedback can occur through social gatherings, assemblies or digital platforms such as the one implemented in Madrid. Platforms like Decide Madrid [21] – a digital forum where people can propose, debate and decide on improvements, interventions or changes – were implemented in various Spanish cities where municipalist initiatives won the election in 2015. [22] They are still in an experimental phase, and decisions are made through direct online voting and leave little space for

reaching collective agreements. They also work within the scope of large cities like Madrid, which makes direct forms of democracy more challenging. However, in conjunction with other forms of collective decision making and working on a smaller scale, they have powerful potential to provide real-time feedback on how infrastructure and public space can be continuously upgraded. [23]

For enabling any kind of feedback, it is necessary to devote resources to it. Strategies must include mechanisms to enable working groups or gatherings to collect feedback and respond to it, to establish forms of self-management that can be sustained over time, and/or to build digital platforms where feedback can be received (many of these platforms are being developed as open source), [24] and where there are mechanisms and funding to respond to this feedback.

An urban strategy does not finish once the physical intervention takes place but needs to include a mechanism of feedback, repair and maintenance that can be maintained in the future. This is something that local authorities, community organisations, developers and urban designers must take into account: mechanisms, funding and resources for feedback and response are a key part of the strategies.

This essay has explained how to build a public space and its infrastructure as an open system. It has explained that initial interventions that provoke negotiations and new forms of associations have the capacity to open up a closed system and develop into 'fluid relationships of exchange'. These socio-material relations can shape a system with the capacity to manage uncertainty and, composed of the sum of different pieces, where new parts can be added or replaced in response to feedback. Informal settlements, which have an organic structure and whose materiality is composed of a fine-grain construction of multiple elements, have this capacity to be in continuous change. The fine-grain composition of the materials and structures allows adaptability and the replacement of different elements. The pieces of infrastructure, pavement systems, structures and shelter proposed in this essay can learn from this fine-grain structuring.

The system proposed here includes mechanisms for its self-management, which are based on these 'fluid relationships of exchange' and on its capacity to add and replace pieces. The 'below', 'above' and 'disorder in section' chapters have explained these pieces: a technical floor, terminals, a modular surface, vertical elements that can be plugged into the surface, and other components that allow continuous

addition and upgrade. The ‘process and flux’ chapter has explained how these components provoke socio-material interaction and create a system that can manage uncertainty. However, self-management does not mean that no future intervention will be needed. Quite the opposite: building infrastructure and a public space as an open system must take into account that such a system is in a continuous state of flux and we must establish mechanisms and resources for introducing new inputs, plugging in new elements, creating new assemblages and upgrading the public space according to the feedback obtained.

For keeping the infrastructure and the public space on the move and to avoid it becoming a closed system, the continuous repetition of the different stages of the process is necessary. As explained at the beginning of this chapter, the set of strategies proposed here is not a linear sequence, but a nonlinear process in which the different steps overlap, may happen simultaneously, where certain phases might be skipped or swapped depending on the situation, and where the process can go back to previous phases and keep repeating different stages. Since the infrastructures for disorder work as open systems, they cannot reach a state of equilibrium.

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PART III: UNMAKING AND MAKING

Pablo Sendra and Richard Sennett, moderated by Leo Hollis

LEO HOLLIS : *I'm thinking about the political and social context of* The Uses of Disorder, *which came out fifty years ago. It seemed to emerge at this moment of change that, on one hand, was a moment of revolution, and on the other hand it was the dawn of the neoliberal age. So, how does the book fit within this kind of relationship? And how does it then, fifty years later, become so relevant again?*

RICHARD SENNETT : At the end of the 1960s, the local was pretty much superseded by national financing and national construction firms. In the subsequent fifty years, local development has been succeeded by the global. Financing for most urban projects is now a Wall Street operation, and investors are from all over the world.

What's stayed constant is capital's desire to make a city into a product, which can be understood and sold as a package rather than a process. As a result, developers buy and trade specifications. There's no interest under capitalism in investing in places.

So, the scale has changed. But urbanism remains an exercise in monopoly capital, whether it's national or global.

PABLO SENDRA : I can see two parallels here: one is from the political and social movements, and the other one is from a process of urban renewal. On the question of social movements, I can see certain similarities between what was happening in the new left and the post–'68 social movements, and what happened after the global financial crisis with the social movements like the 15-M in Spain and other movements across Europe and the US. After that, certain social movements became political, and other political movements, such as Barcelona en Comú, which I discuss in the book, emerged.

And then, in the urban renewal context, in the 1960s, 1970s, authors like Jane Jacobs or Richard Sennett were discussing how urban renewal processes were taking out the soul of the city by imposing certain orders. Here, modernist urban design aimed to remove the disorder from the city and make it work like a machine, with all its parts working as planned.

Today, the kind of order that is being imposed is different, and it's related to

what Richard was saying. Urban renewal processes are influenced by global financial investors. As a consequence, people living in social housing are seeing themselves displaced and their housing demolished to build new developments for middle-income and luxury homes. Meanwhile many homes are being bought by global investors.

RS : When I was writing fifty years ago, people still had faith in modernist architecture, as they still had that Bauhaus faith that modernist architecture was a way to resist global economic hegemony. If you built a Walter Gropius building, you'd built something that humanised a factory.

At Harvard, where I was studying urbanism in the late sixties, purity of form was still seen as something that had this political impact ... we don't believe this anymore. And what's happened since is, I fear, a growing doubt about that modernist project. Because this project failed in its commitment to experimentation. Thus, the goal of this present book is to develop a city that's much more experimental, whose forms allow a variety of experiments above the ground.

LH : The Uses of Disorder *fits in within an array of different thinkers that were coming up with ideas of what the relationship was between planning, design and the urban form. And so, in the book, you mention Jane Jacobs and Oscar Newman. This was also the same time as the broken windows theory. All of them share a belief that architecture has an impact – that it has [both a] political and a social project to it, but each comes to a different set of results. So, what is at the heart of this relationship?*

RS : The dark side of Jane [Jacobs]'s thinking was Oscar Newman's; both believed in a regime of surveillance. Jacob's notion of 'eyes on the street' is a surveillance regime. The policing of the street makes me extremely uncomfortable, much I have been in awe of Jacobs's work.

The glory of living in the city is that you are free of being controlled by a *nomos* – a culture of proper behaviour. I'd rather have more people messing about in the street than eyes. That's a very different experience of a collective body. The first orders, the second gathers.

If there was anything original in my book, it was the proposal to gather people, no matter how unruly their gathering. This proposal has its origins in Baudelaire's forays into the Parisian night and Walter Benjamin's explorations of Moscow. Both ordering and gathering are local, physical, face-to-face – but the scopic regimes are very different.

LH : *And how does that fit in between the* cité *and the* ville, *the city as a physical place, and the city as a set of practices?*

RS : The distinction here is between the built, physical environment and the ways people inhabit. For Jacobs, and for most radical planners in the sixties, the notion was that you had to free the people from the planners' ideas of how the *ville* should be designed. Building should follow dwelling. This is very sociologically naïve. Then, as now, gated communities were the most popular preference of people. The idea was getting away from difference; and precisely what a city *should* do is put differences together, even if they conflict.

In the decades that I worked for the UN, the most saddening thing to me was to see when people in China and parts of India and the Middle East got money, their first impulse was: who can we keep out?

PS : When I read your book, I thought it was particularly innovative in the way that it differed from Newman's and Coleman's approaches, that they wanted to restrict the use of public space. Their approaches were about preventive measures and the elimination of vicious behaviour – whereas your approach was the opposite: opening up to those behaviours and changing people's approach to the outside; helping them to face the unknown. That inspired me to do the drawings that I started doing, and started to think about when we draw, and when we imagine urban design, how can we imagine urban design in a way that permits unpredictable interaction and helps people to overcome fear toward the unknown?

RS : Remember, the 1960s was a decade of race riots, and that's in the back of planners' minds – although putting 100,000 policemen on the street is no way to deal with racial injustice. And there again, coming up to the present, the Gilets Jaunes movement in France is reviving some of the same tropes. We are hearing

some of the same sorts of things, like: we can't really get too many people who are in places where they don't belong, because violence is the inevitable result. There is always a background fear in such situations.

And what I wanted to do in the book was dispel that fear and say, actually, if there's more interaction and confrontation, there's less of these kinds of violent reactions and overreactions. If Macron had actually descended to the streets of Paris, I'm convinced that you wouldn't have had people throwing trash cans that way.

And I had a very specific thing in my mind about this when I wrote the book, which is this: I worked for a while for somebody named John Lindsay, who was the mayor of New York in the sixties, during all of this period of violence, and occasionally, when there were race riots, he would go into Harlem and I would follow him around, and he'd say: I'm your mayor – speak to me! And, you know, people would start screaming at him. But they didn't kill him, right? They wanted their voice to be heard. And he listened.

It was very brave of him, but the reaction was: nobody tried to throw a tomato at him. And he did something very Mediterranean – when he talked to people, he'd always grab them by the forearm; very un-WASP-like. And of course this was amazing to them, because the mayor of New York made physical contact. And all of those little gestures really made a big difference.

LH : *Well, I think it's putting those little gestures into the big context – it's, in some ways, part of the work here.*

RS : You're right.

LH : *And how do we fit these relationships between the* ville *and the* cité *into the notion of the open city or the complex city? There appears to be a turn toward a more scientific choice of language, but how does this reflect between the planned and the unplanned or more organic aspects of urban living?*

PS : This is one of the key relationships between the *cité* and *ville.* While other authors state: if you do these designs, this will be the output, the approach we both take in this book investigates the interrelationship between what formal planning

does and what happens from the grassroots. And it's in playing with that relationship between the formal and the informal city that there is a window of opportunity for changing people's attitudes toward the unknown. Furthermore, one can, in fact, design those relationships.

RS : In order to open something up, you have to intervene in a system that otherwise would tend to be coherent and in which forms are resolved. To open things up, the DNA of a city has to be able to evolve in different ways or produce ambiguous results. An example in London is Piccadilly Circus, which has shape-shifted though its 200 years. The DNA here is the irregular corners, which can be put to different uses. And that's why this is really a book about experiment. People need to become competent in dealing with indeterminacy. But from the design point of view, intervention is more about making forms which permit their own evolution.

PS : Yes, it's describing and it's suggesting a kind of intervention into a closed system, which opens it up to a certain extent.

LH : *At the heart of the difference between intervention and letting things happen is this idea of experimentation. The architect-planner is acting upon the city in order for something to happen. So, that person, or that team, has to be political in some way. So, as an architect, an activist-architect, what does that mean?*

PS : The activist-architect or activist-planner is a very complex and fluid role, because it depends on many factors. If you come with a very defined idea to a community, you may get a negative reaction. So, you need to establish a relationship with those you are working with. And that relationship depends on many things. It depends on whether you are called as an architect-planner by a community to develop their own initiative or by a local authority to facilitate a participation process. In each of these circumstances, your engagement with the residents has a different point of departure. In both cases, you need to develop a relationship with them and learn how to work with them.

LH : *Does the problem with the architect, and perhaps the planner, start with them*

offering or selling their work as a finished product?

PS : Yes. In all cases, in all the ranges of activist-planner, you need to be very open whether you are called by a community, or whether you were called by a local authority to run a co-design process. And you need to come up late with a proposal once you've listened. Furthermore, you need to be very flexible about working together with the community on the proposals.

And then, another kind of relationship that I've had with activism is through my research and teaching, which is a completely different one. This consists of producing knowledge, through research and teaching, that can be helpful for the communities you are working with. In those cases, the engagement is much more political, and your role as an activist-architect-planner is much more blended, since you are seen by the communities as an ally.

RS : Well, I have a slightly different take than you do on this. I think that an activist-planner mediates between civil society and the state. The planner is trying to mediate what civil society wants or needs and the ethics as well as the power of the state.

In my own planning practice, I have worked rather differently to what you're describing – and maybe your practice is the future and mine is the past. I really believe in coproduction of a particular form. To give another example, when I was working on building schools in Lebanon, I saw the role of people like me as proposing alternative possibilities for making a school, and I understood what the pros and cons of different kinds of forms are. But this project was at the end of a civil war – and the people I was working with were traumatised. So, you have to open up alternatives to them and then you have to disappear. And the community, or parents, had to decide.

Now, these were very small, low-resource schools, so those decisions could be enacted. But I think it's held good in other planning projects that I've been involved in. The idea is: people don't have the expertise to know what alternatives are and so they fall back on what's familiar, they don't know what's possible. The architect-planner has to show what experiment could open up for people, what possibilities there are.

The exit is really important. At that point, it's not up to you to say, 'You should choose this one'. That's undemocratic, that's not coproduction.

PS : My thoughts are very similar. In the project I've been recently involved with a local authority, I've been having meetings with residents and local businesses, coming out with different proposals, discussing with them those proposals, addressing their feedback, redrafting the proposals and that's the end of my involvement. I think it's a similar approach.

RS : It is. That's exactly what I mean. But what it *isn't* is that the planner confuses his or her role with that of being a political activist. We have a different set of skills that we bring to bear in these situations.

PS : It depends. If you are employed by a local authority, you are part of that mediation. But if there is a community group that is resisting, for example, that their social housing estate is being demolished, and they hire you to come out with alternatives that they can present to the local authorities as evidence that something could be done differently, and that it's economically viable, it's greener and more sustainable, then your project becomes an act of activism.

You're using your skills – as a planner, as an architect – to help a local community to contest something; not only to reject something, but to propose an alternative. And that alliance between planners and activists is something very positive, because sometimes councils complain about activists just being people who reject everything, and that alliance proves the contrary. Activists actually, on many occasions, are open to possibilities, to alternatives.

RS : What often happens with planning authorities, particularly in Britain, is that they're not corrupt, but they're corrupted. They're a little like Theresa May – she's listening but she's not reacting. At that point you need a different kind of politics than planning coproductions. You're going to need lawyers and people who run political parties to ensure that you're heard. Because the default position is that people are corrupted. They just don't listen; their egos are involved; they experience alternatives as just blind resistance.

And so, in Delhi, for example, when we were resisting a so-called development

of a slum area, my team saw different ways to make this happen. But nobody in Delhi is listening – they're only listening to people who have arguments that go into the courts. And because there was so much vested interest, the people who [were] really the effective voices [were] people who know a lot about planning law in Delhi. So, that's why I say that we planners are mediators but we are not the only allies poor communities need. Coproduction is a craft and while this craft is important, it is not in itself enough. We need to have a certain modesty about ourselves, about what we can't do as well.

LH : *Many of the cases you're talking about are places where there is a sort of inbuilt community that is under threat ... [that] you need to work with; but what about places where there is no inbuilt community? For example, something like King's Cross, or the Holloway Prison, where we don't know* what *it's going to be?*

RS : There are ways you can build in complexity from the beginning. You wouldn't do what's [been] done at King's Cross, which is make something which is entirely a spectacular place, a space to be looked at. You would have taken the Central Saint Martins art school complex and distributed it all over King's Cross. You would have actually kept some industrial function in the development. Now, it is basically a glorified shopping mall.

The challenge is to create complexity from the start. You can encourage complexity in the existing fabric, but in a new fabric you have to think about what the DNA of diversity will be.

PS : But it's hard to find a city that's built from scratch. Sometimes there are developers saying that they're building something and in their view there's nothing there before. But in London, there's always something there. I mean, if we think about the mentioned examples of King's Cross and Holloway Prison, there are communities [and also industries in the case of King's Cross] around it.

RS : Same thing with the so-called Olympic Park, which was considered at the time 'nowhere'. Now we discover there was lots of 'where' around it, a rich fabric of habitation.

LH : *Can we move onto the question of infrastructure, and in particular the counterintuitive notion of infrastructure for disorder? One expects infrastructure to be an ordering principle, but you're actually developing a network in order to do the opposite.*

PS : One of the clarifications that I make at the beginning of the book is that when we say designing disorder, we don't have a postmodernist approach of designing. Of disorderly shapes that are a reaction to modernism – that's not what this book is about. We're talking about building infrastructure in public spaces that could look very ordered; but it's what they provoke that matters: disorder.

So, in this case, what I am proposing is an infrastructure that people can become more aware of in different ways. One way is how the infrastructure can be visualised on the ground – they can see where the water pipes are, where the electricity pipes are. And then, the other way is an infrastructure that is common, is collective, and can trigger different kind of negotiations. And there are examples of that in London that are already happening.

If we look at things like collective solar energy that have happened in Brixton [Brixton Energy], for example, they are collective forms of infrastructure. They have been crowdfunded or supported by small investors. They have a cooperative infrastructure, in a way that triggers new relationships within the community. Because if you start seeing how the energy is spent, whether the energy is sold back to the grid or is reserved for certain things on the estate, these discussions trigger certain kind of negotiations.

It's not a matter of scaling up – it's a matter also of reproducing. That's why, in a way, this infrastructure for disorder can take different kinds of scales. It could be from one single terminal, for example, tap water that people can share, to something much more ambitious.

RS : I had another way of thinking about this, and I wonder what you make of it. When we look in music at the relationship between the theme and variations, there is a disordering, but one that takes some kind of element from the original and magnifies it. And that theme and variations is one way of creating disorder.

Another way is what Harvey Molotch calls a *type-form.* Which is, for example,

you know what a cup is, you know it has to have a handle and it has to contain liquid; but the type-form itself can take an infinite number of shapes. And it seems to me that both theme and variations and type-forms are contained in your notion of infrastructure.

LH : *When thinking about that process of theme and variation, who owns it and how does it change?*

PS : That's something that I've reflected on in the book a little bit, but maybe it's worth expanding. It's also a question on how the process starts. Let's say a group of people own a piece of infrastructure, and then that group of people, to a certain extent, can leave it open, or can make different arrangements with people, outside their collective, to use it.

So, while doing drawings, I was imagining and trying to think: what would these terminals look like? For example, one community might have an excess of energy, and therefore they might be making some deal with another group of people that have an excess of other things.

RS : Well, it's market exchange.

PS : But the issues of ownership, when it's more collective, blurs a little bit. Collective ownership does not treat infrastructure – or housing, for example – as a commodity. One of the communities that I have been researching in London, Walterton and Elgin Estates in Westminster, managed to bring their housing estate from council to community ownership at the beginning of the 1990s. And this community ownership has proven to be very successful on its nearly thirty years of life.

LH : *And how does it change? In this case, the word* community *is as dangerous a word as it is encouraging. A community always has people who are outside it, or people who are excluded from it. So, how does it remain adaptable, and how does it remain non-exclusive?*

RS : There are many different kinds of communities that you can belong to at once. The important thing to me is that, whatever those relationships are, they are face to face. And that's why a computer screen is not going to be a replacement for a street, because you need that visceral, physical thing, with all the bleeding and the ambiguity and the disordering of senses, which is also an arousal of them.

I played at a concert last night with people I'll never see again, but, you know, they're part of another community I have. That's great – that's what we want. And that was, I think, a ... very unfortunate error of the counterculture, at least in the States in the late seventies – the cuddliness of the local. The face to face does not mean local.

We're losing the ability in modern society for people to feel that they're competent to manage complex situations; there's a kind of reductionist ideology: that I can't handle it. I have to make it more personal, more particular, more, as it were, more *New Yorker*-ish. Which is no way to deal with complexity. You also want to get people out of the community, for very practical reasons. If you're an Iranian immigrant to London, your survival depends on getting out ... you need to cope with what's unfamiliar to you. You're dealing in hostile territory; it's not the territory of community.

LH : *So far, we've highlighted the fact that the family is too small as a way of dealing with the city, and potentially the community has benefits, but it also has limitations. So, if we're thinking about city-craft, both as a physical space that we go through but also how we manage our lives within those spaces, we do have to come back to the question of scale.*

RS : Yes. That's why Benjamin is so interesting. Because he sees that life is lived at two scales at once – one that is very protected and very inward, and another that is very exposed and on a bigger scale. If it's lived just on the communal, family scale, that does us damage. You should think of your identity as more than one thing, and as partial, and as shifting.

PS : In this book, you talk about two uses of disorder – one that is about extending the family circle, exposing it to unknown and unpredictable interactions. And the

other one is the right to solitude, which the city needs to provide. So, in a way, the infrastructure that I propose tackles the first one: how to extend or expand that circle of the family to other more cooperative and collective forms.

This process of extending the family circle to a wider collective also takes place through social infrastructure: when people develop a relationship of care and responsibility between each other. This is something that you explained in your lectures 'Welfare after Beveridge', through the example of Alcoholics Anonymous, which offers mutual support between equals. This is not a support of the rich toward the poor, but more an equal support of care and responsibility about people around you. This social infrastructure is linked to the physical infrastructure I propose in this book.

This social infrastructure is complementary to top-down approaches to welfare delivery that ensures equality on basic needs like health and housing. It is another level that coexists and ensures another kind of welfare, which is more about caring about each other.

RS : So, in other words, your notion of this infrastructure is less like basic income and more like Alcoholics Anonymous?

PS : Yes.

LH : *Or, it's less UBI [universal basic income], and more UBS – universal basic services?*

PS : This notion of infrastructure provides an additional layer of welfare, which goes beyond the basic needs that must be provided by the state. You may want to develop certain activities in the public space. This is not a basic need; this is a social need that you share with a group of people, and that makes you happy and have better social relationships. And it provokes certain kind of interactions.

LH : *But can we talk about this idea of designing disorder having an end, or is this process always unfinished?*

RS : I would say there's a distinction here between the unfinished and the

unfinishable. And it's an important one, because the first is something that's incomplete, waiting to resolve; the second one is an ontological process. Urbanism errs when it looks at change as a kind of completing process. That's not my idea of a city, not even my idea of how to live.

The issue here is also mediated by class and scale. In slum housing, in Mexico City or São Paulo, or in Africa, families will often start with a shack, and see it as a long-term project to finish something, and the notion of termination gives everybody a goal: that you're building something that at the end is going to be complete and whole. And that's a deep aspiration. But it can't be at a larger scale. You cannot build a city in the way that poor people will build housing.

Planning law has got to enable things to evolve, to be unfinishable just as the city itself is an unfinishable project. So, it's a difference in time and process, and an extremely important one, practically as well as philosophically.

LH : *For me these different issues end up with the street, and it's the idea of a social place where bodies come together. What we're really talking about here is people bumping into each other, and actually, this book is about the construction of places where that is constantly happening.*

RS : Right. And that is an intervention, because it's compression. There's nothing natural about compressing. But the thing about compression is that it creates forms for interaction. Aristotle knew this, and although his streets would look to us like little lanes, they were big streets to him. But compression builds sociability and economic activity. You see what other people are doing, in a very practical way, which is why silicon alleys develop faster today than silicon valleys, because people are pressed together, they conspire and compete. Everybody knows what everybody else is doing; they know it face to face, they're gossiping, they're telling lies about each other, they're swapping information and stealing customers. That's all part of bringing people to life.

PS : I see them as a network, where there are points where people can plug, and which generates a meeting place.

RS : The other thing I was going to say about the psychology of streets: they create

the conditions for solitude. You're just one among many, and you can withdraw from other people. The most profound experience of solitude, I think, people have is not inside apartments, but sitting at a two-person café table in the middle of a big city. Because you're surrounded by people, but you're within yourself. This again goes back to the post-revolutionaries who appear elsewhere in this book. They understood the need for contact with people, but also being protected from certain forms of mass behaviour. This is the psychology of the duality of the city – it compresses people together, it makes them interact, but that very density also can make possible a release from other people.

LH : *One can avoid homogeneity.*

RS : Exactly.

LH : *It has to allow difference.*

PS : In my PhD examination, they asked me the question: but isn't [this all just] about density – so just increasing density, you will reach that kind of disorder you talk about? And I gave examples of places where an increase of density does not result in more life in the streets. In London, for example, many new developments do spur a massive increase of density, like in Vauxhall waterfront, and this mere increase of density does not generate that compression. There many other factors that enable spaces for social interaction.

RS : Right. You know, if you were to write your PhD now, you would probably have to address the horrible example of that is Hudson Yards, which just opened in New York. It is a very high-density, low-energy area, because everything's dispersed, dispersed out, there are no streets that have people on them, and already they're having trouble selling the flats, because it's not part of the city. But it's created a kind of ... high-density dead space in the middle of the most vibrant city.

LH : *I think Hudson Yards is the perfect place to end, because it's the absolute opposite of everything we have been discussing here.*

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Notes

Introduction

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50 I have become aware of this situation through the research and activist work of my partner, Diana Salazar, with the London Mining Network, Colombia Solidarity Campaign, and accompanying her to La Guajira in Colombia, where a large open-pit mine operated by a multinational company has displaced several communities and affected the health of children. See more in Aviva Chomsky, Garry Leech and Steve Striffler (Eds.), *The People Behind Colombian Coal,* Casa Editorial Pisando Callos, 2007.

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5. Above

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7. Process and Flux

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