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Abstract

Why study the city through objects? As we will argue below, material objects are analytically important but until recently they have largely been marginalised in urban studies. Thus, our aim here is to bring them to the centre of the analysis of the city. In Part I, after first reviewing how materiality has been taken up in the work of key urbanists, we propose a conceptual and methodological orientation that draws on these and sets out a way for following and analysing city objects. We then articulate two sets of questions that arise from this orientation: how are different political rationalities embedded in the material objects and infrastructures of cities and what is the relation between city objects and their materialisation and ordering in inscriptions and abstractions such as maps, charts and plans? In Part II we provide preliminary sketches of two city objects—those associated with street cleaning and city benches—and from this identify some key themes and topics that arise from thinking through these objects.

Thinking Cities Through Objects

PART I

Introduction

Typically in urban studies the materiality of the city, the buildings, the infrastructure, the plethora of objects to be found in the street, the drains and pipes and all the other things that together made up the city, are figured as inert. Particularly for the engineer, constructing the city out of steel and pipes, wires, and concrete, but also for the planner and urban designer, 'man', as it were, makes the city, according to 'his' will. In the case of the architect or urban designer in particular, this is man as hero, man as visionary, who draws up plans to match his vision and impose order out of chaos and complexity. Le Corbusier is probably the most well known and influential figure here, with his comprehensive and rationalistic plans for the modernist city, the city as a machine. What concerned Le Corbusier was order, since without it humans were adrift: 'The house, the street, the town, are points to which human energy is directed: they should be ordered, otherwise they counteract the fundamental principles round which we revolve; if they are not ordered, they oppose themselves to us, they thwart us, though we have striven with it, and with it begin each day a new struggle' (1929: 15).

Le Corbusier's central thesis was that such a vast and complicated machine as the modern great city could only be made adequately to function on the basis of strict order. His designs advocated a bold and drastic reconstruction of the entire city based on the construction of a series of skyscrapers a considerable distance apart with large open spaces in between- these were the 'streets in the sky'. Within his work, as with all urban design, there is the notion that particular forms of design influence the way that humans interact and behave, and the material city which is figured here is complete, not in process, and as distinct and separate from the bodies that move through it. As Vidler points out Le Corbusier's planning was a 'view from above', an aerial view, which was central to his representational and conceptual technology and which through distance increases its 'assumed objectivity and of course its inherent manipulability devoid of the difficult and intractable or social subject' (2000: 95).

For the planner or urban designer then, the material city has been conceived as connected to the social through its potential to be manipulated, formed and reformed according to preconceived notions of the better good, meeting social needs and objectives as well as material ones. This may be at the level of improving the distribution of resources or the movement and flow of people and goods, or more profoundly at the level of changing and improving social practices and behaviours. Thus, for example, in the Victorian period, slums were cleared and infrastructure was put in place, in order to improve the moral and social fabric of cities—implicitly spaces associated with the working classes and urban poor, and to mitigate the potential ill effects of social unrest and dissatisfaction. Just as Le Corbusier's streets in the sky were designed to produce orderly populations, so post war British council housing was deemed to solidify working class family life.

Matter then, in much urban analysis, has traditionally been figured as inactive and produced, constitutive of the social but also separate from it. Students of urban planning, design and architecture are trained to think of the material city and its objects as at their disposal to manipulate and control. Marxist influenced urban analysis, where historical materialism has been an important guiding framework, has provided a contrasting perspective. Both Marx and Engels analysed processes of capitalist urbanisation in the mid nineteenth century—in particular Engels' *The Condition of the Working Class in England 1844* in Manchester and London—identifying material qualities of the city that have remained important to urban analysis over the subsequent century. In this volume Engels went into close details of the material life of factory workers in east Manchester —the poor quality of their dwellings, their

clothes, their employer-provided foodstuffs adulterated with non-food materials. Engels is also informed by Marx's arguments about how materials and commodities are imbued with the wider social relations of their production and the class exploitation and profit extraction from these materials. Objects as commodities are congealed forms of labour and that labour expresses the social relations of its organisation and exploitation—literally materialised in the woven cotton produced in the factory but also evident in debased commodities, in the bulked-out food and the thinness of partition walls in the terraced housing in which the workers had to live. Here too bodies are brought into play, in terms of the processes of production that Marx was so concerned with, as Engels shows how he is able to read off from the distortions of body shape and limb development the particular interminably repeated task in the factory production process that the body was involved in. Objects, machines and bodies are brought into a destructively intimate relationship. The detailed divisions of labour that were found in the factory system describe a narrow, instrumental and tight relationship between objects and bodies. In this we see a precursor to more recent thinking, on which this paper draws, of how objects can assemble human relations in ways that are not just embedded and implicit (or mystified as Marx suggested) but more active and evident.

In analyses of the market, we see another different focus on city materiality, which in this instance is not just about the relationship between materials and humans but also materials and the seemingly more dematerialised elements of the global economy. Urban historian Willam Cronon's landmark study of Chicago (*Nature's Metropolis)* is one such exploration. In fascinating detail Cronon shows how changing transport technology (boats to trains) meant that the volume of grain to be traded at the Chicago market, coupled with another technical innovation (the grain elevator) resulted in general grading of the quality of wheat the consistency of which had to be guaranteed by the newly formed Chicago Board of Trade. With these guarantees, paper contracts for quantities of different grades of wheat could be traded and with the invention of the telegraph this trading expanded across the US and increasingly across the globe. Furthermore paper contracts could be issued for quantities of grain 'to arrive' at a certain date in the future. This gave traders opportunity to speculate on the future trajectory of grain prices. If they thought the price of grain would rise between their purchase of the paper contract and its completion they could sell the contract on later and make a profit simply on the movement of prices. Thus, the physicality of the commodity itself (in this case grain) combined with technical developments over its handling, movement and categorisation, along with technical developments in communications and with institutional arrangements that supported a market for exchange and exchange over future states of the physical world (giving the price of grain in the future), creating a futures market. Thus the materiality of this process was intimately related to the more abstract and speculative trades that occurred in markets far away from the grain silos, the physical environment and objects in which the grain was processed. But those abstract trades required physical infrastructure of communications, offices and networks of human contacts for the market to operate. The expansion of this 'market' also acted back on the urban fabric of Chicago both in the immediate environment of the market, but also in terms of Chicago's rising position in a developing urban hierarchy across the US. The growth of markets and ever more remote and complex forms of abstraction over the trading of commodities has been one long-term trend in capitalist urbanization. Rather than being inert, Le Corbusier, Marx and Engels and Cronon conceive of urban objects as active forces in social engineering projects, assembling human relations and materialising markets.

A different kind of tradition in urban studies has developed over the last decade which centrally interrogates objects and materiality in their own right, though earlier traces are to be found in such work as Daniel Miller's study 'Material Culture and Mass Consumerism' (1987) which innovatively explored the physicality of the material world and its relation to culture. More recently the growing influence of actor network approaches (Farias and Bender, 2009) suggested the notion of urban assemblages as a way of rethinking the city, while others have called attention to the world of objects and materiality and their relation to subjectivity

and social relations. Thus, for example, Nigel Thrift (2007) writes of the ways in which tools and objects literally forge the body and vice versa, or cars produce particular embodied practices and urban forms (2004). Similarly, Matthew Gandy (2002) unravels the relations between the water system, the public realm and urban form, and the technical and political complexity of the post Fordist waste economy, while Molotch (2011) considers how subway turnstiles 'make' and 'mark off' different publics, and Jacobs and Cairns (2011) focus on the building technologies embedded in housing systems. These, and other such studies, represent elements of this new line of enquiry which this paper aims to extend, through an exploration of several themes related to two key questions: how do city objects assemble, materialise and act back upon social, spatial and economic relations of the city?; what do city objects imply for human behaviour and how is conduct in the city afforded and ordered by object-subject relations?

Following city objects: theoretical and methodological orientations

> It's to objects that we must now turn if we want to understand what, day after day, keeps life in the big city together: objects despised under the label "urban setting", yet whose exquisite urbanity holds the key to our life in common (Latour and Hermant, 2009: 63).

Bruno Latour (2009) seeks to make visible the heterogeneous array of objects, networks and relations that make up the city of Paris. Objects are more plentiful than humans and so he gives them their due recognition as inhabitants of Paris. Why? Not just because they are populous but because they anticipate and format the behaviours of humans by authorizing or prohibiting, promising or permitting. Bollards prohibit cars from driving onto the pavement and tree protectors allow cyclists to chain up their bicycles and protect tree bark from damage. Objects do these things and inhabit cities in multiple but standardized forms that we encounter every day.

This method of investigating and making Paris visible follows an actor-network approach, which understands objects as effects of more or less stable arrangements of relations between myriad entities (people, technologies, materials, rules and so on) (Law, 2002; Law and Hassard, 1999). There are numerous possible arrangements of such networks and so objects are contingent enactments. Bollards come in various guises and are sometimes transgressed, and so too are tree protectors. But each and all of them format experience of the city, afford possibilities, and transport the action given to them by humans across time and space. For this reason Latour argues that to know a city requires following the material trail that functions in the absence of those for whom they serve.

Almost a century ago Walter Benjamin (1978) followed the material trails of nineteenth century Paris to explore such absences. His *Arcades Project*, consisting of a collection of essays and unfinished reflections, explores the connections between material forms and capitalism, commercialism, and commodity fetishism. Iron, glass, arcades, boulevards, thresholds, door handles, old signs, mailboxes, poster pillars, signboards, stairways mirrors, and lamps are all microcosms of bourgeois society and hold the keys to history. For Benjamin, the arcades are miniatures of the city and the world, an approach which he developed from Leibniz's concept of the monad: 'The idea is a monad - that means briefly: every idea contains the image of the world' and in relation to objects it is 'the trivia, the trash' that are of interest and that the 'crystal of the total event' can be detected in the analysis of a small individual moment (cited in (Paltonen, 2001: 355)). Or as Sezneva (2007) expresses it, an artefact contains the 'absent whole' of a culture.

Jane Bennett (2010) draws from these Latourian ideas to think about how material objects can do things, make a difference, produce effects, modify other entities and that all of these possibilities cannot be deduced in advance but only through the performance of the object.

Thus, material objects are part of distributed agencies that demonstrate multiple degrees of effectivity. She takes this up in an effort to account for nonhuman actants within political theory, which has by-and-large ignored nonhumans because of its focus on active human subjects and their confrontations with passive objects. Instead, she seeks to understand the vitalities intrinsic to materiality, of the aliveness, independence and agential properties of objects (Bennett, 2010). This is also an approach that has been taken up by some anthropologists who conceive of the object as an analytical strategy by exploring how encounters with objects in the field might provide the terms of their own analysis (Henare, Holbraad, and Wastell, 2007).

Following and tracing objects for clues is an approach Eyal Weizman (2010) documents in quite a different context but with similar methodological orientations. He describes how forensic experts investigate international war crimes using the material remnants found in sites of military bombings. Materials such as the bricks and mortar of destroyed buildings are evidence of the strategies and tactics of attacking forces. Weizman suggests that forensic practices focused on excavating and interpreting objects are gradually replacing human witnesses and leading to an object-oriented juridical culture. In this culture, materials and things are not just objects but contain forces, wills, relations, subjectivities and powers and are treated as 'objective' witnesses.

There is yet another tradition of tracing minor details and fragments for evidence of a bigger picture or larger story. Carlo Ginzburg (1980) demonstrates how this method of knowledge making emerged in the nineteenth century. He exemplifies the method by starting with three narratives. The first concerns the 'Morelli method'—introduced by art historian Giovanni Morelli in the late nineteenth century—that challenged the traditional way of attributing paintings. Instead of focusing on the most obvious and prominent features of a painting, Morelli concentrated on minor details as most relevant in signifying particular masters. Ginzburg then turns to the art historian, Enrico Castelnuovo, who drew a parallel between Morelli's method and that of Sir Conan Doyle in his fictional creation, Sherlock Holmes. In this case the detective discovers and solves a crime based on unnoticed clues such as footprints and cigarette ashes. Finally, Ginzburg quotes Freud who noted that Morelli's method of inquiry is closely related to the technique of psychoanalysis, which seeks to divine secrets and concealed things from unnoticed features. Ginzburg concludes these accounts by noting that, 'in all three cases tiny details provide the key to a deeper reality, inaccessible by other methods. These details may be symptoms, for Freud, or clues, for Holmes, or features of paintings, for Morelli' (11). Tom Inglis (2010) has followed Ginzburg to propose what he calls a 'sociological forensics.' While not focused on material objects, he proposes that a case study approach also seeks to 'generalize from the particular to the whole' by 'looking for clues, pieces of evidence, that will help illuminate and explain why things happen the way they do; why people behave a certain way' (510).

Weizman and the other authors cited above are not ignorant of the interpretive problems and issues that an object-centred method raises. In various ways they ask, who speaks for the object? While this is a question that can and has been raised in relation to subjects, the granting of agency to objects makes this evermore an issue. But this objection assumes that the object 'stands alone' and is independent of the assemblage of actors, both human and non-human, that are both present and absent. Instead, the city is made up of relations and associations between objects and humans and thus agency and action are distributed amongst them.

A genealogical perspective is one way to account for presences and absences that make a city object possible, both temporally and spatially, the many 'voices' that make up the object. Genealogy in social and political thought is a perspective that emerged with Nietzsche but is most well known in relation to Foucault's studies of asylums, prisons, and hospitals (Sherrat, 2006). Instead of tracing a single continuous and unbroken line of development or finding a

single origin of an object, one traces the ideas, practices, techniques, and tactics that emerge in different situations to address different problems and which can be reassembled to address yet another set of problems. At a particular place and time we can ask, what is the assemblage or chain of relations, both present and absent, that get materialised in objects and come to act in relation to humans?

In another text Latour (2005) suggests one method for identifying the relations of which objects are a part. He argues that objects have to enter into accounts to be accounted for and one way they do so is during moments of innovation and controversy. When objects become matters of concern or controversy then both the present and absent actors and actants of an assemblage come to the fore; traces are left behind in the activity of forming, dismantling and reconfiguring (Latour, 2005). We see the 'variegated, uncertain, complicated, far reaching, heterogeneous, risky, historical, local, material and networky' qualities as people and things are debated, challenged and contested. It is around matters of concern—be they material or immaterial—that we can trace the genealogy of a city object.

In sum, the proposed method begins with a conception of city objects as materialisations of the actions of humans (designers, stakeholders, engineers, street cleaners, citizens) and non-humans (rules, laws, standards, prescriptions, plans) that are both present and absent. City objects—bollards, benches, bins, alarms—are understood as minor 'actants' in the city yet microcosms that contain the whole city and are witnesses to the forces, wills, relations, subjectivities and power that make it up. By working through controversies and events—such as the moments of their making or remaking—we can identify and make visible those relations that are materialised in and through city objects. While all of the approaches summarised above are useful for analysing how power is not exercised over but is an effect of relations that include materiality, they provide little insight into how we can rethink questions of city politics and policy in relation to objects. We only pose this as a crucial question here and suggest that this be needs to be taken up in relation to empirical studies based on the proposed method sketched out above.

This conceptualisation of how the city can be analysed and understood by studying the minor objects that make it up is not only a research method. It is also a way of understanding how objects are methods themselves for governing and ordering the city, as technologies for the strategic ordering of cities. But rather than a functionalist interpretation of the object, it opens up questions of the relations, effects, indeterminacies and politics of object interventions. It raises questions about how our conceptualisations of a method interact with how we come to 'know' the city. To put it another way, we can ask: what is the relation between this method and the city we seek to know?

In addition to these general methodological questions, thinking cities through objects also gives rise to many substantive issues and below we highlight two.

The Object Politics

Alongside their importance for tracing the genealogy of certain assemblages of objects, Foucauldian approaches to genealogy have generated a second, more substantive perspective on the relationship between objects and the socio-political world. Tracing the discourses, plans, people, designs, rules, materials and so on which make up the urban environment involves taking into account the different political rationalities embedded in the material objects and infrastructures of cities. Is it possible then to ascribe particular political rationalities to specific objects? Or, to put it another way, how are city objects enrolled in political projects of governing?

Patrick Joyce's *The Rule of Freedom* (2003) is an attempt to understand the technological and material dimensions of 'freedom' and 'liberalism' in the nineteenth century. Joyce's focus is not on the social order, in the manner of traditional social history, but on social ordering, and

particularly the agency of the material in this process, being concerned less with what things mean and how they are represented and more with how they work, how they are, in John Law's words, performed (Joyce, 2003: 6). A second emphasis is drawn from the work of Chandra Muckerji and others, particularly scholars of colonial India, on the ways in which the modern state was territorialized, engineered and made operable (Joyce, 2003: 7). Extending this work Joyce's argument is that what is distinctive about the liberal state is the extent to which it develops infrastructure projects which are embedded within the modern city to facilitate certain forms of life. This is not to say that they do not put forward particular validations of good forms of living or establish norms of behaviour: quite the contrary, they embed these norms in the city itself in material form. However, they also operate to facilitate flows of people and things, to remove the impediments of dirt, darkness, dangerous people and traffic and so on, providing the conditions of possibility for a certain kind of self-directed life (Joyce, 2003: 11-12).

This theme is taken up in Chris Otter's recent work (2007, 2008). In 'Making Liberal Objects' Otter (2007) lays out a schema for conceiving of the relationship between politics, materiality and technology. It is argued that certain technologies – devices, networks and machines – were devised and deployed with the aim of making possible a particular kind of human agency, and thereby a particular mode of government. In *The Victorian Eye* (2008), this is given more specificity. Here, Otter is generally concerned with the embedding of this liberal infrastructure in the city. He sets his argument up explicitly against accounts of modern 'surveillance society' which is dominated, he argues, by the concepts of the panopticon and the flaneur (Otter, 2008: 3-8). Instead, he sees the establishment of new visual technologies as a fundamental part of the infrastructure of freedom as it emerged in the nineteenth century city. His emphasis here is on the establishment of technological networks and the nitty-gritty of making them operate in a practical, piecemeal way, rather than on the implementation of a particular concept like the panopticon. He nonetheless argues that the implementation of gas, and later electric lighting, and the technologies of plate glass display, established new scopic regimes in which different ways of seeing and being seen in the city, and new ways of living, were made possible, but in a piecemeal way, specific in each circumstance and with distinct effects. Key elements were the capacity of individuals to control their own light through switches and so on; greater ease of inspection through new glass and lighting technologies; and attempts to establish 'pure' vision, cut off from sounds and smells (Otter, 2008: 254-8).

The potential problem such accounts of 'object politics' face is that such infrastructure is treated as 'liberal'; there is good reason for this, as much of it emerged in Britain as part of a programme of liberal government which deployed material objects to meet specifically liberal ends. However, much of this became technology that was transportable and could be taken up and implemented by regimes of any kind. For example, although, as Thomas Osborne (1996) points out, there was a direct link between sewage programmes and liberal government, this kind of public health infrastructure was also taken up and used by authoritarian regimes: there were drains in the Soviet Union. There is more to liberalism than just the infrastructure then. Nonetheless, it's also fair to say that some infrastructure can be more liberal than others, at least in the way that it's implemented. Take domestic heating for example. In the Soviet Union no one had control over their own heating system. This was not just at the level of the individual block of flats (which is common pretty much everywhere); in the Soviet Union this was, and in many post-Soviet states remains, the case at the level of the whole city. Soviet cities possessed a giant heating plant, just like a power plant, on the edge of the city; the civic authorities made a decision about when to turn on the heat once a certain number of cold days had passed, just like in an institutional heating system. Individual homes could then regulate their own heating from their radiators, but they could not initiate it. Likewise, there were different visual regimes in place: there were comparatively few shops, cafes and bars in Soviet cities, in contrast to the liberal urban environment specifically engineered for display and consumption, described by Otter (2008). How, then are we to resolve the question of the nature of 'liberal objects'? Otter (2007: 572, 578-9) addresses this question directly: there is

nothing materially essential about the politics of objects. Rather, the 'liberal' nature of the objects he describes is a feature of their relation to a particular mode of government, dependent on the way they enable, delimit and shape certain kinds of political subjectivity. It is this relationality, which is neither a hard technological determinism, nor a complete social constructivism, which renders objects 'liberal' or otherwise.

Inscription-Object Relations?

It would be relatively uncontroversial to say that political projects inevitably involve seeing, planning and ordering the city and its parts in their entirety. It is on this basis that Mayoral offices around the world gain their legitimacy to govern city spaces. But this then begs the question as to what is the relation between city objects and their ordering in material inscriptions such as those found in maps, charts and plans? Latour's (1998) virtual sociological investigation of the materiality of Paris also attends to the transformative relation between inscriptions such as maps and the materiality of the city. To allow city life to be re-made on a daily basis requires that the city, and its localities, are represented in various ways—whether one is talking of students finding the right room for a lecture or city dwellers finding a correct address in an unfamiliar part of the city. But the idea of a move from the material 'reality' of the city to 'symbolic' representation of the timetable or street map is largely illusory. Rather bits of the material get moved and transformed from one context into another—the transformation may take many steps but ultimately maps and timetables are still material objects. This does not however deny that there is still a vast gulf between the school and the timetable or the city and the map. This also reminds us that the collection and organisation of information about objects within the city does not lead to a diminution of detail but rather involves the transformation of material objects.

Thus we can begin to see that in order to grasp the entirety (e.g. the panoptic view) of an object (city, university, waste disposal system) only becomes possible when we do not directly look at. Rather the city become known by digesting the transformed material objects that are found in maps, charts, and indexes. Latour also points out that these material transformations are both 'complicated' and 'complex': complicated transformations may involve contingency and dealing with multiple processes and variables but they are essentially knowable and predictable; and on the other hand complex transformations involve factors and eventualities that are unstable and require constant performativity and vigilance to manage.

Thus we can begin to see that knowing and managing even a small fraction of a city, such as how to keep its streets clean, involves many transformations, representations and material abstractions that are both complicated and complex. In order to understand the ways in which the city is governed and managed these material transformations need to be closely followed as they dynamically move back and forth between material inscription and city object.

The foregoing by no means exhausts the theoretical and methodological issues and concerns that arise in relation to the study of city objects. We suggest these as a starting point. It is through empirical studies of particular objects that we can elaborate, modify and add to these concerns and explore their relevance to the urban policy and planning arenas. In Part II we provide preliminary sketches of two city objects—street cleaning bins and city benches—to indicate how such studies could proceed. Based on this we identify some key topics that arise from thinking through these objects.

PART II: Preliminary Sketches of Two Material Objects

Street Cleaning, Bins and Public Space

Every year the UK generates and disposes of around 100 million tonnes of waste—the vast majority of which comes from households, businesses and industries located within cities.

However a significant proportion of this waste is collected from the public spaces within cites, such as public waste disposal bins, street and park cleaning and from the cleansing of other open city spaces. The waste generated in public space is itself highly varied in form and type. For example:

1. The waste deposited in street bins: this will typically be similar to household waste being mainly composed of packaging materials, newspapers, fast-food materials and drink containers. However some specialist bins will contain hazardous organic materials in the form of dog faeces deposited by responsible owners into specialist bins.

2. Street cleaning will itself produce or remove large quantities of waste lying in streets and public city spaces including litter, broken glass, discarded food packaging, and also hazardous organic matter (dog faeces not placed in bins, vomit, and urine).

3. Recently the issue of dust removal from streets has been highlighted as a serious problem in control of fresh water quality (EPA 1983, Pitt et al 2004). Only the coarsest forms of dust are removed from streets by conventional sweeping. Those ultra-fine dusts, in the so-called PM10 range, largely made up of 'soot' from vehicle emissions, carry a substantial portion of the storm-water pollutant load. Only the most recent generation of vacuum assisted mechanical street sweepers are capable of removing the PM10 dusts.

So the cleansing of streets and public space involves the removal of both aesthetic and hazardous contaminants. But is also depended on the enrolment/disciplining of street users into placing waste products into the correct receptacle, a process made more complex by the provision of street sorting in bins prior to recycling. Hence, in Latour's terms how 'public' dirt and waste is known within the city is both 'complex' and 'complicated'. 'Complicated' in the sense of the knowable transformation processes around the mapping and collection of dirt and waste, such as: mapping and scheduling the emptying of bins; knowing where to most effectively place bins and litter receptacles; and organising the cleaning of streets to coincide with the city rhythms (e.g., increased litter and human waste on weekend nights, collections of litter/waste after street markets, etc). But the cleansing of streets is also 'complex' in the sense that many transformations are fluid and unknowable in advance, such as: the ways in which users can be disciplined to comply with recycling and dog waste bins (e.g. how to enrol dog owners into collecting faeces and putting into bins, how to educate users about street recycling); how to respond to unexpected waste accumulations and illegal dumping; and how to map the ethnography of specific and changing street landscapes.

In addition it is important to consider the very emergence and assembly of dirt and waste as categories needing civic intervention, especially in relation to city politics and policy in relation to objects. The work of Enzenberger (1968) on 'smut' ('Größerer Versuch über den Schmutz') may be useful here. For Enzenberger dirt as a category was co-produced in the modern period together with the idea of the person as a 'tidy insularity' that could be corrupted. Here dirt is primarily to do with transformations as boundaries are crossed, such that infinitesimal quantities of soil can cause frightening contaminations but, on the other hand, immense quantities of dirt begin to shift into altogether different categories (e.g., an economically recyclable commodity, a fuel for an incinerator, a mass for landfill). Enzenberger argues that the first boundary established in the modern period was between the inside/outside of the person and the increasing inclination to control this surface – anything that can ambiguously cross this boundary (either materially or symbolically), which maybe both part of the and not part of themselves, becomes unclean, undesired and disgusted. This is most obvious with body fluids and excreta but could also be applicable to much of what ends up as street waste, for example the packaging that is an intimate and often fetishized part of our consumption becomes repellent and disgustful once discarded.

Thus any typical city street will have a micro landscape that requires a variety surveillances, material objects, and abstractions in order to manage its cleanliness. For example the provision of street bins may seem like an unproblematic measure to ensure the absence of street litter but it will rely on a largely hidden infrastructure of 'complex' and 'complicated' procedures to ensure the correct performativity of depositing waste into appropriate bins and that these bins are emptied in a timely fashion. Further the street itself may contain significant quantities of 'invisible' contaminants that threaten the clean water of the city itself but for these to be made 'visible' relies on a series of elaborate laboratory and fieldwork studies. These in turn then imply the production of new material objects, such as mechanical street sweepers, in order to clean these newly discovered contaminants.

Street Furniture: the example of benches

There is a long tradition of writings on the city and its public spaces which extols the potentialities of the city for social interaction across differences. Iris Marion Young (2000) thus sees cities as a site for the co-mingling and encounter of strangers who are able to express and perform their differences in proximity without discourse or interaction being necessary. This is the notion of the 'unoppressive city…defined as openness to unassimilated otherness'. For Sennett (1990) also, the public realm of the city can be characterized by an idea of the richer types of relationships amongst strangers, an idea developed by Watson (2006) in her argument for the more marginal, less noticed, and symbolic spaces of the city providing possibilities for informal, mundane and everyday encounters between strangers for 'rubbing along'. In much of this discussion of the public realm and public space, the city is dematerialized, it has no physical substance or solidity. Where it does appear, in both Sennett and Watson, for example, it is in relation to urban form and design, the argument here being that more flexible, open and ill-defined spaces afford greater possibilities for random encounters and sociability than those spaces that are ordered and fixed with clearly marked boundaries. These are arguments against the rational and modernist visions of Le Corbusier and his followers. But this is less a narrative about the specificity of objects in the street and how they might order social interactions and sociality, and more a story about the streets and other urban sites and spaces in which such objects may be found.

It is only when one looks to the street furniture industry, not surprisingly, that street furniture appears as a central matter of concern. Here in the manuals and the websites, street furniture comes alive as an object enrolling human subjects into particular modes of action and interaction through its very design. City Squared is one company which prides itself on its sensitivity to the psychology of the users. On its website we find a comment from one of their users:

> Citysquared design urban street furniture and signage, and while there are a lot of companies out there, this was interesting because the firm really go into the psychology behind the users, why and where people sit and rest. What was good was all the research they have done particularly with regard to young kids and where they choose to hang out.

At the forefront of its current list of products is the Hello Stranger bench, rather reminiscent of the kissing chair design of the Georgian period, which has been adopted as the bench of choice by schools across the country (Figure 1). From the website again:

> Citysquared are pleased to have supplied twelve Hello Stranger benches to the recently completed Failsworth School. Providing contemporary products to modern schools is always a pleasure, but the welcome with which they were received here was truly exceptional. It was extremely rewarding to see the product so readily embraced by the children, encouraging different forms of interaction between them.

By creating clusters of the benches, the school has also in effect achieved a traffic calming measure within the expanse of the bustling atrium.

Figure 1: The City Squared Hello Stranger Bench

hello stranger

Hello Stranger's concave form encourages sociability but leaves open the option to sit apart. Used in multiples, Hello Stranger can be used to create interesting layouts that encourage different forms of interaction.

Hello Stranger consists of a tough stainless steel frame together with a seat insert available in a variety of materials, from hardwoods to metals and plastics.

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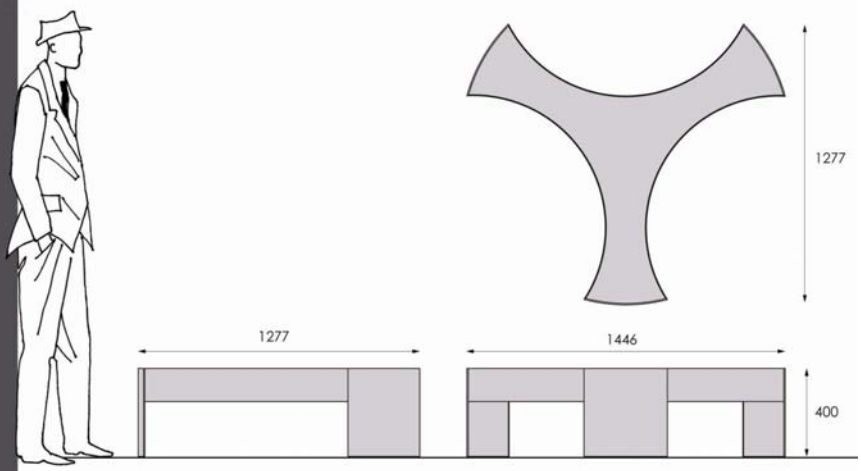
technical specification



product:	hello stranger bench
materials:	stainless steel frame, various materials available for seat
maintenance:	depends on useage and condition, refer to product care section
foundation:	freestanding product
fixings options:	can be bolted to existing hardstanding, please consult for details

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Dimensions are in millimetres, are approximate and do not form any part of the contract. We reserve the right to change the design and specification on any item offered and, where possible, notification will be made.
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Street furniture is also the subject of government reports and design manuals. In 1972 the Street Furniture Advisory Committee for the then Department of the Environment, for example, was similarly fully aware of the ways in which street furniture mobilised particular behaviours and interactions and influences a particular sense of place. Here the individual imagined on the benches is reminiscent of Baudelaire's flaneur in the streets of Paris:

> [T]here is a great deal to be said for individual chairs….they must allow the occupants to indulge in one of the favourite human activities, watching the passing crowd; homo sapiens likes to regard his own kind and finds it particularly agreeable if his seat is slightly above the general level of the surrounding area' (SFAC, 1972; 8).

Central to its advice is the need to understand human behaviour when siting street furniture.

Street benches in Los Angeles have become famous for a different set of reasons. Following social unrest and race riots in the late 1980s, this municipal government made conscious interventions into the urban landscape to marginalise and exclude those considered to be socially 'undesirable' from the city centres and streets. Key here were those made homeless by the high costs of housing, the lack of temporary accommodation or support for vulnerable people, in particular, people discharged from institutions for the mentally ill and rehabilitation centres. In his book *City of Quartz*, Mike Davies (1992) draws attention to the 'bum proof' roll top benches in the street, fashioned to prevent the homeless from sleeping on them, and even for those waiting for a bus, offering little in the way of comfortable seating. These are benches of alienation and hostility, in stark contrast to the 'hello stranger' bench of social interaction.

This brief exploration of street benches reveals a certain recognition at least within the street furniture industry of the potentiality of benches to order and distribute bodies in particular ways with intended or unintended strategic effects. Policy makers have also paid attention to the power of objects to permit or contain social behaviours in specific environments. A more analytical and critical study of the complex political rationalities, powers and relations embedded in street furniture over time and space has not yet been undertaken. Rather the focus has been on the nature and texture of public space as a space of conviviality or indifference, which is remarkably devoid of the objects contained within it. A study of public space which places street objects at the core is thus long overdue.

Conclusion

In this paper we have indicated how an investigation of city objects can give us a different way of understanding and knowing the city, its production and reproduction, and the socio-cultural and political relations which constitute it. There is a range of possible material objects that can be followed—phone boxes, bollards, alarms, bus shelters, bicycle stands/stations ~~locks~~, ATMs, satellite dishes and so on—and the communication, transportation, waste management, commercial and recreational assemblages of which they are a part. There is also a range of ~~several~~ working themes and topics that can be investigated and which arise from the conceptual and methodological issues identified above. Below we provide a preliminary list of these to indicate possible directions for empirical research.

1. Objects as in-process over time and space

   - Appearance/disappearance
   - Continuity/discontinuity
   - Repetition/singularity
   - Changing/stable

- Order/disorder
- Accumulation/dispersion

2. Object/body relations and boundaries
    - Affect/effect
    - Disgust/desire
    - Senses/Absences
    - Civility/incivility
    - Securities/insecurities
    - Health/disease
    - Flowing/stopping
    - Touching/avoiding
3. Objects mediating and assembling difference
    - Permitting/prohibiting
    - Affording/limiting
    - Good/bad
    - Public/private
    - Inside/outside

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