INFORMALISING ARCHITECTURE
The Challenge of Informal Settlements

Kim Dovey

About a billion people now live in 'informal' settlements or 'slums', a figure from the UN that is difficult to affirm.[1] This is, however, clearly the major morphology through which cities have absorbed the massive urbanisation of the past half-century. This is where the action has been in urban development, but what about architecture? We define such settlements as 'informal' because they transgress the formal codes of the state in terms of land tenure, urban planning, design and construction – they are transgressive by definition. Informal settlers transgress formal rules because they have few choices. The label 'informal' is also used to avoid terms like 'slum' and 'squatter', with which it is partially synonymous. Alongside climate change, the problem of informal settlements is the most significant urban challenge facing the planet; there is a sense in which we are becoming a 'planet of slums', as Mike Davis puts it.[2]

So what are the roles of architects in addressing the challenges of urban informality? Is this a form of transgressive architecture, or mere 'buildings' that need to be replaced with 'architecture'? Informal construction transgresses some definitions of architecture, and our engagement with it requires modes of practice that transgress normalised boundaries of architectural practice and ideology. These transgressions are multiple: towards research-based participatory practice in multidisciplinary teams; towards the design of dynamic adaptive assemblages as well as the shaping of formal outcomes; towards a truly 'critical' architecture and a radical informalisation of architecture as socio-environmental art.

The wholesale demolition and dispossession of the urban poor without replacement housing is now widely seen as a state crime. Yet the longer-term challenge is to develop strategies to avoid wholesale demolition entirely, with or without replacement. This is a strategy of acknowledging the prevailing informality and proceeding incrementally. Instant formalisation strategies of demolition and replacement are both undesirable and unworkable for a range of reasons – economic, social, environmental and aesthetic. Here, the arguments for incrementalism will be explored, followed by discussion on informalising architecture.

The Case for Incrementalism
Informal settlements occupy land that is interstitial and of marginal use – the terrain vague of the city.[3] Primary sites include urban waterfronts and escarpments, but also the interstitial easements lining transport infrastructure of freeways and railways. They can infiltrate ex-industrial and ex-institutional enclosures and flourish in the backstage spaces behind formal street walls. Large slums such as Dharavi in Mumbai, Rocinha in Rio, and Kibera in Nairobi are important exceptions to this interstitiality where informality saturates a larger district.

Figure 1 about here]

While urban informality is often invisible from the formal city and may seem marginal, it is enmeshed in a politics of urban place identity and global place branding – hence the desire for erasure. Such settlements, however, are not marginal to these cities in economic terms; they are located where they are because they have access to jobs and public transport. Slum-dwellers service the formal city where they are often a third of the workforce. Any strategy that suggests they be moved to cheap land on the urban fringes will fail because it exacerbates poverty and strips the city of its workforce. With few exceptions, informal settlements need to be upgraded in situ.

Informal settlements embody informal practices of sociality and economic production that are not easily retained in a transformation to formal housing. There is a particular dependence on the street and laneway network, particularly the capacity for domestic production to spill into public space with high levels of intensity and efficiency. Formalisation often standardises private space in tiny apartments that are separated from street networks, producing access spaces that are less flexible and productive.

[Figures 2 & 3 about here]

Public housing can play an important role in the case of slums that cannot be rehabilitated to a liveable standard, or where the location cannot be rendered safe and sustainable, but any model where the poor simply become welfare clients is not viable. While land tenure in informal settlements is generally ambiguous, the houses are mostly built and owned by residents who may also become landlords. In the case of Dharavi, many residents own houses of up to four rooms, some of which are rented for either housing or industry. Plans for wholesale formalisation meet stiff resistance because it often entails a loss of jobs, converts homeowners into tenants, and leaves the former tenants homeless.[4]

High levels of informality enable micro-flows of information, goods, materials and practices that produce income and make life sustainable under conditions of poverty. These practices are integrated with the micro-spatial adaptations that flourish under conditions of informal urbanism – particularly incremental construction processes. Informality is not to be confused with poverty; it is indeed a resource for managing poverty.

Informal settlements are relatively high density, walkable, transit oriented and car free. They are often constructed from recycled materials with low embodied energy and passive heating/cooling. The ways that high densities have developed adjacent to transit nodes and with walkable access to employment gives these cities a level of structural sustainability that urbanists in the formal city can only dream of. While any effective upgrading will increase consumption, to upgrade a billion slum-dwellers to our levels of consumption, or move them away from transport and employment, would be catastrophic. One lesson of urban informality lies in how to integrate an incremental upgrading process with designs for the low-carbon city.

There are also aesthetic reasons to retain the basic morphology of informal urbanism – a difficult issue to deal with briefly while avoiding the charge of an aestheticisation of poverty.[5] Favelas were the subject of aesthetic interest (for Le Corbusier and others) from the early 20th century, and much of the interest in 'architecture without architects' from the 1960s was based on potent images of a vernacular aesthetic. Stripped of any evidence of poverty, such images demonstrated how an informal order emerges from a repetition of types and materials variegated by an incremental adaptive process, as evident in Rio de Janeiro, Mumbai and Bangkok.

[Figures 4–6 about here]

As the emergence of slum tourism shows, urban informality can be picturesque with elements of nostalgia and a quest for authenticity, for example the canal-side informal settlements in Bangkok. It also brings elements of the sublime, the shock of the real, a spectacle of hyper-intensive urbanity and an uneasy voyeurism.[6] Informal settlements often embody the mysterious intensity of the labyrinth – a place that is impenetrable and disorienting to outsiders, but permeable for residents. These are multi-functional spaces where every scrap of sunlight, material and space has a use. Walter Benjamin identified the slums of early 20th-century Naples with the urban quality of 'porosity', where the spatial and social segmentarity of the city dissolves; where the interpenetrations of buildings and actions 'become a theatre of new, unforeseen constellations'.[7] The labyrinthine street networks of informal settlements can be considered as part of the heritage of the city, embodying a history of each neighbourhood that should be upgraded rather than erased. Indeed, some heritage zones of formal cities, including tourist attractions, have street morphologies that are remnants of informality and squatting.

Having made this case for incrementalism, there is no shortage of good thinkers who attribute the global growth of slums to the excesses of neoliberal capitalism under conditions of a weak state, and suggest that slum eradication is impossible without macro-political and transnational transformation. There are important arguments against incrementalism in this regard. As summarised by Mike Davis, they are that self-help schemes so often fail or exacerbate the problem; that funds leak to corrupt operators; that owner-built housing is shoddy and incremental construction inefficient; that NGOs can co-opt the interests of slum-dwellers to their own; and that self-help programmes divert slum-dwellers from political struggle.[8]

This is a long list and all of these arguments have a degree of truth, but they do not add up to a convincing case against incremental upgrading. Informal construction is less efficient in some ways, but has flexibilities that balance diseconomies of scale. One estimate in India is that formal housing costs about three times the price of informal upgrading per square metre. Corruption is of less consequence in informal construction because flows of cash are a small proportion of those in a formal construction process. Construction standards are often initially shoddy, but in many settlements the majority of buildings can be effectively upgraded in situ rather than replaced. Informal settlement is always already a form of social and political insurgency; incremental upgrading occurs in alliance with macro-political change.

To harness the productivity of informality to the upgrading process is not to suggest that slums are to be preserved; rather it is to make a distinction between slums and informality. A slum is a symptom of poverty; informality is a transgressive practice through which residents manage the conditions of poverty. There are limits to the role of architecture in this context. Upgraded housing alone cannot stop overcrowding any more than architecture can stop poverty. Many slum families rent out space for purposes they deem to have priority over the relief from crowding – their children's education is often primary.

There are important exceptions to the case for incremental change. Some settlements are constructed to such low standards and at such densities that they cannot be upgraded without wholesale demolition. Many are on land that needs key infrastructure to be rendered safe, accessible or liveable. Some have emerged in locations where it makes no sense to upgrade in situ because threats from flood or unstable land cannot be mitigated. Others are located so close to railway lines that either the railway or the housing must be relocated. Such decisions, however, are highly political as well as technical, and there is a key role for architects as creators of, and advocates for, innovative solutions that do not involve surrender to the narrow logic of displacement to the urban fringes. What is needed are forms of spatial thinking that link an understanding of incremental change and existing morphologies to a larger-scale strategy of transformational change.

[Figure 7 about here]

Informalising Architectural Practice
The call for architects to engage with issues of incremental upgrading of informal settlements is not to suggest that architecture alone can solve social problems. Yet the range of issues here call for precisely the kinds of innovative spatial strategies that architects are best at. The challenge for architects is to enter into the complexities of incremental urbanism. Here is where the transgression really starts because the normal expectations of a formal architectural project and its associated fees (based on the cost of the building) are turned on their head. To engage with the architecture of informality is to undertake the task of informalising architectural practice and a rethinking of professional ideology, architectural theory and education.

The primacy of form is a central tenet of the field of architecture, and the production of symbolic capital is a primary market niche. Informalising architecture does not mean the erasure of formal concerns, but it does entail a move onwards from both the fixity of form and the fixation on form that dominates the profession. Engagement with informal architecture involves understanding the dynamics of form within an enlarged professional field with a responsibility for all architectures,

including those where formal outcomes are uncertain and where makeshift forms play important roles.

Our understanding of the urban and architectural morphology of informality is relatively undeveloped and often misunderstood. To understand how they can be transformed, incrementally or wholesale, we need to understand how informal settlements work – how they are formed, emerge and grow, how they are inhabited and used. Since this will differ from place to place, engagement calls for forms of practice where research takes a much more integral role in the design process, incorporating morphological and diagnostic mapping and modelling. Informal settlements are generally quite literally off the map of the formal city; community-based mapping has become a key task in building the knowledge base for incremental change.[9] The work of Prassana Desai Architects in Pune, India, involves community-based mapping as a diagnostic tool for incremental upgrading, where some dwellings are replaced and others renovated with only minor adaptation to building footprint.

[Figure 8 about here]

The imperative for an informalised architecture can be seen as a reiteration of the social approaches of the 1960s and 1970s. The work of John Turner and others was influential in the design of 'site + services' schemes as a basis for self-help incremental housing.[10] This is an approach, however, that requires cheap land and has proven unsuited to higher densities and upgrading of existing settlements. The 'supports' system developed by John Habraken, involving three-dimensional serviced frameworks that require resident infill, is an approach that deserves to be taken further.[11] The informal colonisation of the unfinished office tower known as the 'Tower David' in Caracas shows the potential of such an approach. There is a need for the innovation of a range of spatial types at different densities that enable high levels of internal adaptation, subletting and spatial trading whereby houses and enterprises expand and contract with changing circumstances.

Existing informal settlements have a relatively consistent typology of room-by-room increments, based on limitations of access for long span materials. There is also an urban design typology of laneway networks that are relatively permeable at the local level, but impermeable from the outside. This is a typology and morphology that works in many ways (which is why it proliferates and is sustained), but may be dysfunctional in other ways (light, ventilation, sanitation, open space). There is a need to invent new construction types that incorporate recycled materials, incremental process, adaptability and multi-functionality with greater efficiency, safety and built density.

One important conceptual shift is to move beyond binary thinking and to understand that 'informal' settlements are only relatively informal. What one really encounters is a double condition that is both formal and informal at the same time. This is not a hybrid, but a split condition that lends itself to the kind of schizo-analysis proposed by Gilles Deleuze and Félix Guattari. The most useful theoretical frameworks here are those of assemblage, emergence, complexity, adaptation and resilience.[12] The prospect is for architecture to move from object-oriented formalist thinking towards new understandings of complex integrations of formal/informal and order/disorder.

Informal settlements are not chaotic, but embody an emergent informal order or code of the kind that all cities need in order to work.[13] Under conditions of poverty, however, such informal codes are often insufficient and we see the result of a nasty version of the 'tragedy of the commons' where incremental encroachment starves the public realm of space, light and air, as can be seen in Dharavi, Mumbai. The challenge is to develop such existing codes into a more formal code where the escalation of encroachment is contained or reversed. Any newly formalised codes that emerge need to sustain the productivity, amenity and sociality that is already embodied in the place, and acknowledge the dilemma that formalisation inevitably eradicates some of the scope for informal adaptation.

[Figure 9 about here]

Effective engagement with informal upgrading is an inherently transgressive and critical form of architecture. We need to move on from what has long passed for 'critical architecture' in architectural theory – architects using their limited autonomy over form as a means to raise a symbolic finger to the establishment and announce their lack of complicity.[14] Architecture is a socio-environmental art form rather than a fine art – its criticality is at once aesthetic, environmental and social. The renunciation of the fixation on form, however, needs to be tempered by a critical engagement with the role of built form and place identity in practices of power. Informal settlements have negative symbolic capital, and a key task of the upgrading process is to incrementally erode distinctions of status that announce informal settlements as slums within the conceptual field of the metropolis. The well-known Gondolayu project in Yogyakarta, Indonesia, led by architect Romo Mangun from the 1980s, incorporated arts projects that transformed the urban image of the community and helped avert eviction. The recent favela painting project of artists Haas&Hahn, in Rio, seeks to do this in another way – the transformation is dramatic, but the imagery is formal rather than informal.

[Figures 10 & 11 about here]

Informalised architectural practice becomes inherently transgressive when it engages critically with issues of power – both practices of empowerment at the community scale and regimes of class-based disempowerment at larger scales. Informality is not an excuse for a dumbed-down architecture limited to provision of minimal standards while locking in urban class distinctions. The transgressive task is to scramble such class distinctions. An effectively upgraded informal settlement can become an attractive place to live and work, not through a formal camouflage, but by celebrating and developing the diversity and dynamism for which the seeds are already present in the existing morphology. These are the same attractions that characterise the best of mixed-use, socially and formally diverse inner-city neighbourhoods of Western cities – many of them former 'slums' that are now identified as creative clusters.

If and when substantial funding becomes available to address this massive problem of housing the global urban poor, will the architecture profession be prepared to deliver? Will we repeat the mistakes of the past by producing large public housing estates with a population socially and symbolically segregated into ghettos that reproduce poverty? Or will we be prepared to engage with the incremental redevelopment of existing informal settlements as formally, socially and functionally mixed districts of a more spatially just city?

There are reasons for optimism in that the two stand-out exhibitions at the 2012 Venice Architecture Biennale were both high-level engagements with urban informality. The installation/cafe curated by Justin McGuirk, Urban-Think Tank received the Golden Lion award for best project, and Spontaneous Interventions: Design Actions for the Common Good by the US Institute for Urban Design showcased a brilliant range of incremental and temporary urbanism mostly initiated by architects. All of this work transgresses the core definition of the architecture profession and suggests a willingness to hold up incremental architecture and urban design as a valued model. The crucial issue in practice is one of integrating social, spatial, economic and aesthetic issues within an expanded design framework, and there are many good examples of this emerging.[15] However, an informalised and transgressive architectural practice will not come soon or easily. It needs to be research based and community based, requiring transgressions in architectural education and theory. It is a form of critical architectural practice whereby architects become identified by the style of their thinking more than by the style of their buildings.

Notes
1. UN-Habitat, The State of The World's Cities, Earthscan (London), 2006.
2. Mike Davis, Planet of Slums, Verso (London), 2006.
3. Kim Dovey and Ross King, 'Forms of Informality', Built Environment 37(1), 2011, pp 11–29.
4. See Kim Dovey and Richard Tomlinson (eds), Dharavi: Informal Settlements and Slum Upgrading, Research Report, Melbourne School of Design, University of Melbourne, 2012: edsc.unimelb.edu.au/sites/default/files/docs/DHARAVI_report_web.pdf.

5. Ananya Roy, 'Transnational Trespassings', in A Roy and N Alsayyad (eds), Urban Informality, Lexington (New York), 2004, pp 289–318.

6. Kim Dovey and Ross King, 'Informal Urbanism and the Taste for Slums', Tourism Geographies 14(2), 2012, pp 275–93; Fabien Frenzel, Ko Koens and Matte Steinbrink (eds), Slum Tourism, Routledge (London), 2012.

7. Walter Benjamin, Reflections, Harcourt, Brace & Jovanovich (New York), 1978, pp 166–8.

8. Mike Davis, op cit, chapter 4.

9. Sheela Patel, Carrie Baptist and Celine d'Cruz, 'Knowledge is power', Environment & Urbanization 24(1), 2012, pp 13–26.

10. John FC Turner, Housing by People, Marion Boyars (London), 1976.

11. John Habraken, Supports, The Architectural Press (London), 1972.

12. Gilles Deleuze and Félix Guattari, A Thousand Plateaus, Athlone (London), 1988. See also Kim Dovey, 'Informal Settlement and Complex Adaptive Assemblage', International Development Planning Review 34(3), 2012, pp 371–90.

13. Stephen Marshall, Cities, Design and Evolution, Routledge (London), 2009.

14. Kim Dovey, 'I Mean to be Critical But …', in J Rendell et al (eds), Critical Architecture, Routledge (London), 2007, pp 252–60.

15. Edgar Pieterse, 'Building New Worlds', in Cynthia Smith, Design with the Other 90%: Cities, Smithsonian Institute (New York), 2011, pp 40–53.
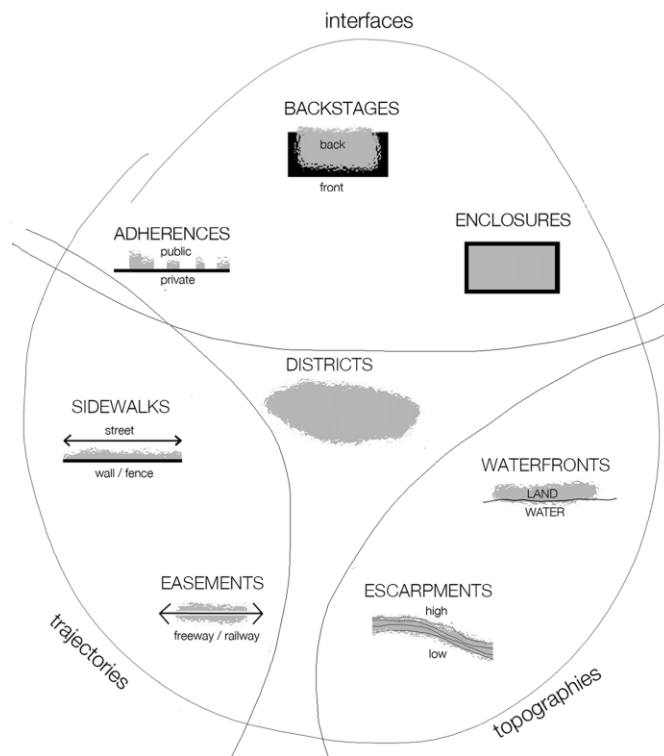
Figures:

Figure 1: Informal settlement typology
Informal settlements are mostly interstitial or marginal to the topography, morphology and transport infrastructure of the city.
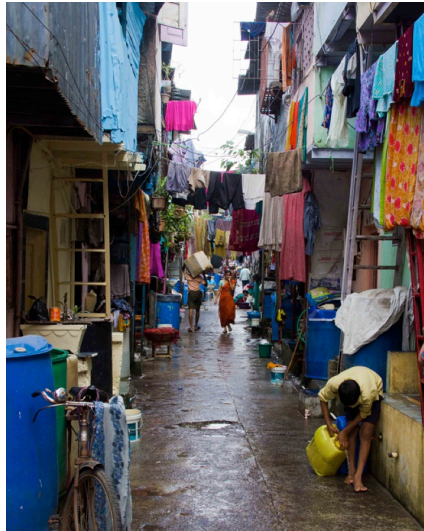
Figure 2: Dharavi, Mumbai, India, 2011
The sociality and productivity of informal settlements is highly dependent on the capacity of public space to absorb domestic and economic functions.

Figure 3: Replacement housing, Dharavi, Mumbai, India, 1990s
Informal settlements are often replaced with apartments that are separated from street networks, where newly designed semi-public space loses efficiency, productivity and sociality.

Figure 4:
Santa Marta favela, Rio de Janeiro, Brazil, 2012
The informal urban vernacular is supplemented here with the recent addition of a funicular and formalised housing to the right; note the gentrification spreading upwards and banners showing resistance to eviction at the top.

Figure 5:
Dharavi, Mumbai, India, 2011
An informal order emerges from a repetition of types and materials, variegated by an incremental adaptive process.

Figure 6:
Khlong Saen Saeb, Bangkok, Thailand, 2008
Informal settlements line many khlongs (canals) in Bangkok where they are subject to the gaze of tourists seeking the authentic Thailand.

Figure 7
Tondo, Manila, Philippines, 2008
Some informal settlements cannot be upgraded without wholesale demolition.

Figure 8: Prassana Desai Architects with Mahila Milan, the National Slum Dwellers Federation (NSDF) and the Society for the Promotion of Area Resource Centres (SPARC), Yerawada, Pune, India, 2012
In this project, morphological and diagnostic mapping has led to selective replacement of some dwellings and upgrading of others on original footprints with incremental gains to public space.

Figure 9
Dharavi, Mumbai, India, 2011
The 'tragedy of the commons' emerges where room-by-room encroachment escalates under imperatives of poverty and starves the public realm of space, light and air.

Figure 10: Gondolayu, Yogyakarta, Java, Indonesia, 1980s–90s
This upgrading project involving the integration of new housing types and community-based public artworks transformed the negative image of the slum and eviction was averted.

Figure 11
Santa Marta favela, Rio de Janeiro, Brazil, 2012
This makeover of the formal image of the favela by artists Haas&Hahn transforms the place identity and mediates the gaze from the formal city, but was unintegrated with the architecture or community process.