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Urban Crafting: Making a Connected City

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1 ABSTRACT

A shift from the traditional 'City of Lived Experience' to the present day 'City of Consumption' has seen the emergence of a disconnection between people and their city environments. This is becoming more apparent in cities dealing with identity-crisis, crisis of consumerism and with social polarization. In today's global city we are seeing new geographies of rich and the poor being created and urban space has become a space of contestation (Sassen, 2001).

Can an approach of 'Urban Crafting' be developed that makes connections between different spatial geographies of the rich and poor within our cities? Searching and identifying opportunities within the local context, offering alternate architectural technology that uses and interprets local materials and local skills and involves the community may result in a built environment that not only connects the main stream with the marginalised, but connects the inhabitants with spaces that they inhabit.

Currently almost 3 billion people live in cities. Of these, about a third live in slums. According to the UN-Habitat report, that number is likely to double to 2 billion in 30 years' time unless serious action is taken.

In Indian mega-cities, nearly 30-60% of city dwellers live in slums. 93% of all employment comes from the informal sector of which slums are a huge part (NSSO, 2002). This informal economy re-introduces neighbourhoods and households as spaces for the production of goods and services while strengthening community relations in these districts. Yet, the people who live in slums are completely marginalized by the mainstream of the city. Where do they belong? Since they develop and operate beyond the formal control of the state, they are not legally part of the city, neither do they belong to other organised structures such as villages.

With fast growth of slums it becomes critical to address and explore these existing and new geographies of the marginalised and the main stream - of urban poor and rich - in our cities. Is there a way to utilise strengths of the technological 'hardware' and human 'software' of the marginalised and the mainstream to create a City of, for and by the people that responds to issues of rapid urbanization and migration.

2 INTRODUCTION

A shift from the traditional 'City of Lived Experience' to the present day 'City of Consumption' has seen a disconnection between people and their city environments. This is becoming more apparent in cities dealing with identity crisis, a crisis of consumerism, and with social polarisation. In today's global city we are seeing new geographies of the rich and the poor being created; urban space has become a space of contestation (Sassen, 2001).

An interesting example of this contest is the trade-off that happens for the well off of the city – between the inner neighbourhoods where they work and the peripheral suburbs, where they live for reasons of safety and social insulation. Examples of this can be found all over the world (Lagos, Bangalore) where vast corridors are cleared through densely populated slums to create expressways to connect the suburbs on city peripheries to the city centre. In the process, the displaced slum communities are pushed to the periphery as well, and now they are juxtaposed against the wealthy suburbs once again. Here emerges an 'architecture of fear' (Agbola, 1997). High walls, fences, and the use of surveillance cameras advance the existing social polarisation. Thus construction of 'nice' places such as suburbs and other imagined places of privilege depend heavily upon the production and construction of 'other' kinds of places: ghettos, slums, public housing complexes, and notorious neighbourhoods, etc. (Low 1996). Issues of race, caste, occupation, and notions of order and cleanliness are intertwined in this polarised process of creating privileged and stigmatised places. While the 'gated development' comes into existence for the rich, the poor struggle to find the means to access their jobs, which they have left behind in the inner cities.

One way to measure this polarisation is by way of population. We are urbanizing at a very fast rate and most of this is happening in the less developed world. Globally, almost 3 billion people live in cities. Of these, about a third live in slums. According to the UN Habitat report, that number is likely to double to 2 billion in

30 years' time unless serious action is taken. In Indian mega-cities alone, 30-60% of city dwellers live in slums. Ninety-three per cent of all employment comes from the informal sector, of which slums are a huge part (NSSO, 2002). Yet, the people who live in slums are completely marginalised by the mainstream population of their cities (Davis, 2006). With the fast growth of slums it becomes critical to address and explore these existing and new geographies of the marginalised and the mainstream – of urban poor and rich – in our cities.

What are slums? And who are the slum dwellers? Slums are characterised by poor and informal housing, minimal or complete lack of infrastructure (water, electricity, sanitation), very high population densities and insecurity of tenure (UN, October 2002). Along with this, there are the important social and economic dimensions of slums, which include education, health, the status of women and children, crime rates, etc. There is a tendency to see the slum dwellers as 'others', either with a romanticised view or to try not to 'see' them at all because of the attached stigma of inhabiting a specific location – 'the person with a stigma is not quite human' (Goffman, 2006, pp 131-132). Thus there is a tension inherent in the word 'slum'. Another word that needs defining is 'community'. This is a highly debated term, but for the purposes of this paper, 'community' is a group of people who are users of a particular defined space.

Since slums develop and operate beyond the formal control of the state, they are not legally part of the city; neither do they belong to other organised structures such as villages. They inhabit a liminal zone that can be spatially characterised as existing between order and chaos, and between permanence and impermanence. As it is a challenge for the authorities to wipe slums out, the symbols of permanence (religious structures) sprout sporadically and randomly, and temporal growth occurs around these structures, evolving and developing in a rhizomatic fashion.

A very basic division is between slums located in the centre or the core city and those that are located on city peripheries. These two typologies arise from a trade-off between better living conditions, housing costs and land security on the one hand, and the proximity to job locations and transport to work on the other. Further typologies evolve within these two based on micro-geographies – such as whether the land is a wetland or an escarpment, whether it is on the margins of transport infrastructure, or abandoned intersections, or rubbish dumps – and its ownership pattern: whether it is privately or publicly owned or rented, etc.

This paper will respond to core issues of the central and peripheral slum typology (See Figure1)

Typology	Issues	Questions
Central Slums	1. Proximity to Work & Socio-spatial Organization	1. Are there ways of identifying the genuine **opportunities** that slums provide?
	2. Affordability & Quality of Built Form	2. What are the **architectural technology tools** that will help in providing better urban environment for the urban poor?
	3. Basic Public Infrastructures & Land	
Peripheral Slums	4. Transport Issues	3. What are the **city design tools** for a better urban environment for the urban poor?
Bi-Polar City	5. Where to from here?	4. What are the design tools for creating **connected cities**?

Figure 1: Framing the questions

2.1 Issue One: Proximity to work and socio-spatial organisation

Closures and evictions of informal businesses and settlements in the name of infrastructure development, for city beautification and for making a 'world-class' city is quite a common occurrence. Examples can be seen right from the 'Haussmanisation' of Paris to the 2008 Olympic Games in China (Davis, 2006). Such actions show no consideration towards the livelihood strategies of the urban poor who use their homes as workshops

and small shop outlets, and the streets for their everyday survival. In Indian cities, these informal spaces for the provision of services and goods (pottery workshops, barber shops and beauty salons, groceries and food outlets, tailoring, craft-work etc.) are labour intensive and provide a livelihood to many. Of course, there are the immense associated issues of fire-hazards, environmental pollution, real estate pricing and so on that need resolution, but actions like closures and evictions, which are driven by process rather than foresight, demonstrate a reactive instead of an interactive approach. The challenge for urban developers is to have a framework for mixed land-use principles within which there is a flexibility of application based on local context.

Many schemes of slum redevelopments that introduce a completely different morphology of mono-zoned, high-rise residential blocks do not recognise the potential that existing slum typologies have to offer. The mixed-use nature of these settlements clusters organisation based on community structures (See Figure 2), hierarchy of open spaces that encourage a seamless flow of activities from public space to private, the organically-evolved network that promotes an integration of clusters within the neighbourhood (See Figure 3, 4), and an accumulative house typology. There is a close relationship between extended family networks and their spatialisation. Hutments of families and their relations accrue over a period of time around a shared common space, which also is a common workspace involving all members of the family and a space where hierarchical relationship between different members is reflected spatially.

Some public space within the settlement is used in the morning for cooking, in the day for working, in the evening for children's play or tethering animals and at night for sleeping. Studies have shown that the effective communal space (that includes all areas of the public space where washing and laundry, cooking, toilet areas, summer open air sleeping, children's play, cottage industry, cattle grazing and tethering, etc.) per household is several times the area of the individual household. Although the dependency of small and poor families on the adjoining public space is greater than large affluent ones that require more private space, this relationship of small individual plots with high efficiency communal spaces is a clue to maintaining a complex and coherent social organization (Payne, 1977). Apartment style development removes people and their activities from the communal space, thus destroying the intricate social organisation.

The gradual evolution of shelter from a 'house to home' based on growing family needs and income levels is a crucial aspect of the house typology of these settlements (Figure 5). It affords flexibility to the family to upgrade its dwelling depending on when and how much money it can save. Because of rigidity in their physical layout most apartment-style redevelopment plans can only offer structured loans and instalment schemes, which in the end prove difficult for the family to repay and lead to them selling the apartment and moving out, thus leading to gentrification (Davis, 2006).

In the new morphologies of high-rise residential apartments, it is not recognised that remarkably high population densities and a good open space network are achievable by developing medium-rise housing and keeping the traditional typologies intact. Resorting to high-rise residential apartments is not a way out. It is critical to recognise the strengths of the existing spatial pattern and convert them into opportunities. The key is to accept the built forms of the informal city, but to shape them in the direction of sustainability.
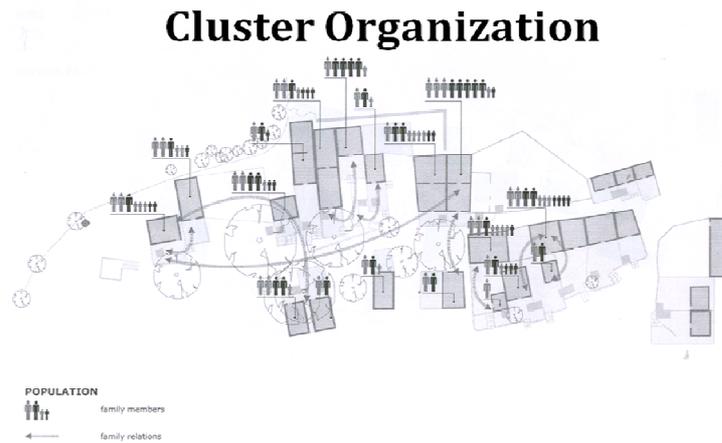
Cluster Organization

POPULATION
family members
family relations

Figure 3. Source: Survey by Manav Sadhana – Vadyari Vas Settlement, Ahmedabad, India

Potentials

POTENTIALS
existing clusters, community structure
existing hierarchy of open spaces:
general pathway - public
community spaces - semi public
plinths - private

existing path network, integration in neighbourhood
proximity to garbage segregation: access to recycling materials

Figure 4. Source: Survey by Manav Sadhana – Vadyari Vas Settlement, Ahmedabad, India

Street as a Social Space
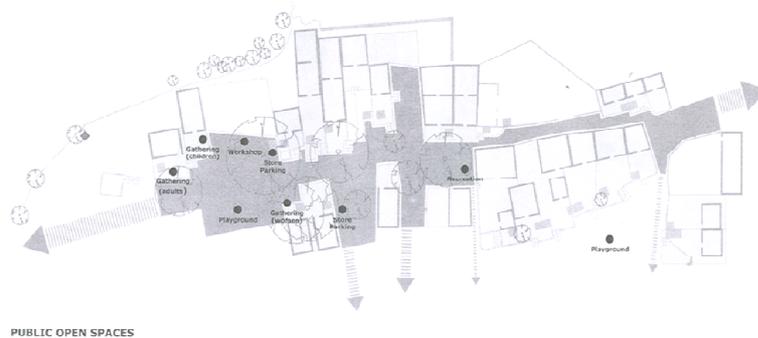

PUBLIC OPEN SPACES

Figure 5. Source: Survey by Manav Sadhana – Vadyari Vas Settlement, Ahmedabad, India

Figure 6: Evolution from 'house to home'. Pictures by the author.

2.2 Issue Two: Affordability and quality of the built form

The opportunities discussed above were recognised, and many in-situ strategies (for example 'sites and services' and 'slum up-gradation'), were introduced from the 1970s onwards by the World Bank, where Turner's vision of empowerment, self-help, and incremental construction was thought to be a cost-effective approach (Turner, 1968). Instead, due to less quantity of materials required at each stage because of the incremental nature of project, standard materials purchased in small quantities increased construction costs or were substituted by second-hand building materials leading to very poor quality construction. Self-help was denounced as a myth. But is it really a myth? Innovative construction practices, use of alternate materials that reinforce the incremental construction process while engaging the community, and an approach that uses local skills as well as introduces new skills to the community is enabling and leads to capacity building.

An example of such an approach is a community action project for a slum community of 150,000 people in the city of Ahmedabad in India. This project was run by Architect Yatin Pandya with Manav Sadhana, an NGO with a strong local base and global connections. Since a huge waste recycling industry flourishes within the settlement, the main objective of the project was to develop innovative building components that use waste, simple hand operated tools and local resources know-how (See Figure 7).
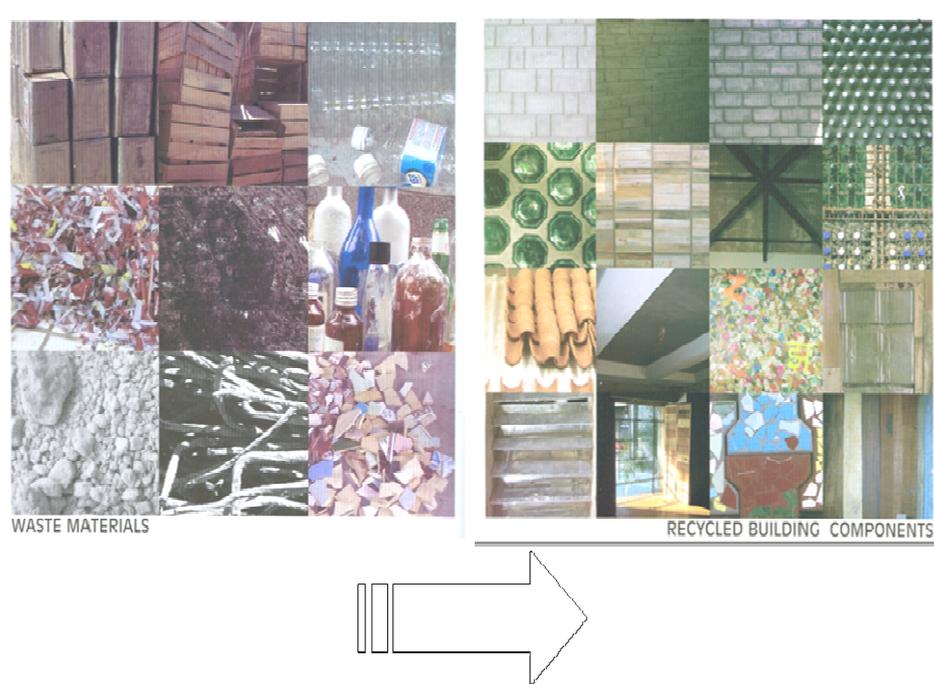

Figure 7: Waste materials recycled and used for individual building components in the project. Source: Yatin, Nirmit (2006) Manav Sadhana Activity Centre 2005 – 2006, India: Vastu-Shilpa Foundation for Studies and Research in Environmental design.

Examples:

Walls: cement bonded fly-ash bricks; mould-compressed bricks made from landfill site residue; recycled glass bottles,	Floor and roof slabs: filler slabs with glass bottles; plastic bottles and bricks; cement bonded particleboard with clay tile cover.	Door panelling: shredded packaging, wrappers and coated paper waste as reinforcement substitute for fibre reinforced plastic;

recycled plastic bottles filled with ash and waste residue; and vegetable crate wood panelling in the inner partition walls.		vegetable crate wood as framing; tin oil containers as blades make the ventilation louvres in toilets.

A less-polluting environment, affordable built forms and economic empowerment have been the three key outcomes of this initiative. Using municipal waste for building components reduces waste as pollution and since the recycled building components are 20-60% cheaper and of higher quality than conventional materials, they provide affordable and superior quality building alternatives for the urban poor. (For the particular project mentioned above, the materials were produced in small quantities as a demonstration; if they were mass-produced in a decentralised way they would render further economy.) The hidden value of economic empowerment for the community is one of the most important outcomes. The community learns skills of re-interpreting waste materials and techniques and, with guidance, is capable of using these skills when the next phase of individual housing development begins. The potential of the building becoming a cottage industry for economic autonomy offers ways out for the slum dwellers.

Direct involvement of men, women and children in the construction process of the communal facility brings a sense of ownership, which is critical for the formation of personal and collective identity. Involving active participation of local communities in all stages of the project becomes essential for its success: 'the people know their community and its issues, have to live with the results, and can, want and have the right to participate' (Cities Alliance 2003, p. 21). This participatory strategy starts right from a realistic needs assessment and becomes a precondition of each stage of the project. This is where the NGO's role as networkers, with their long-standing local associations, becomes important. The neo-liberal environment has also seen an NGO influx trying to fill the gap left by the State, that Davis calls 'soft imperialism' (2006). There have been questions raised on the approaches and personal objectives of NGOs, but since slum rehabilitation strategies heavily invest in and rely on networking, the role of NGOs cannot be overlooked.

2.3 Issue Three: Basic infrastructure and land

Be it peripheral slums or central slums, the effectiveness of the approaches discussed above rests on the status of the land on which slums sit. Studies have shown that the urban poor are capable of providing and upgrading their own shelter according to their needs and resources, as was discussed in the Ahmedabad case study, but the critical issue is that of access to land and services.

A phased infrastructure development with slow upgrading becomes central to avoiding the pitfalls of investing too much too soon, especially for the communal infrastructure. It circumvents the cycle of increased demands for housing relative to the supply, which risks pushing out the poor and causing gentrification of the area (Hall, 2000).

In Turner's model (1968) there is a migration from rural areas to the city and since work is the first priority, migrants tend to settle in the centre, right where the jobs are. But this land, being in a prime central location, is highly valuable. Hence its efficient use and return becomes a key determinant for decisions on its ownership and titling. Under rapid urbanisation, when land as a commodity is getting scarce in the city, it is very unlikely that land market mechanisms will permit the resolution of this issue. But city administrators and policy-makers are making efforts in this direction, for example in the state of Maharashtra in India. Jan Nijman's study (2008) of the Slum Redevelopment Scheme (SRS) at one of Mumbai's slums elaborates on the slum community's role as the developer with guidance by the local NGOs. The local government played an enabling role of providing land and private banks funded the project. The project had a 'sales component' where units that exceeded the number required by the community were sold off and which financed the new construction. Here the concept of 'self-help' did not stop at the housing component, but was expanded to include the settlement redevelopment (see Nijman, 2008 for further details).

The question of land remains critical and will be reviewed in the ways we plan and design our cities.ext text

2.4 Issue Four: Transport challenges faced by peripheral slums

The majority of the world's urban poor no longer lives in inner cities; since 1970 the larger share of world population growth has been absorbed by slum communities on the city peripheries of the developing world.

566

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Even the developed world is affected by this polarisation (in fact it has become a critical issue), although at a different scale. (The Western Australian Government ordered review of public housing stock in Perth's affluent suburbs, and it was indicated that the returns from selling these expensive inner city lots would be used to buy properties for the poor in cheaper suburbs, of course located in the peri-urban areas (ABC News, October 3, 2008)).

Currently, in Indian cities, the densest nodes, comprising the urban poor, have minimal connectivity, while vast corridors of expressways are being created to connect wealthy suburbs (See Figure 8). A reversal of best practice in city design is at play.
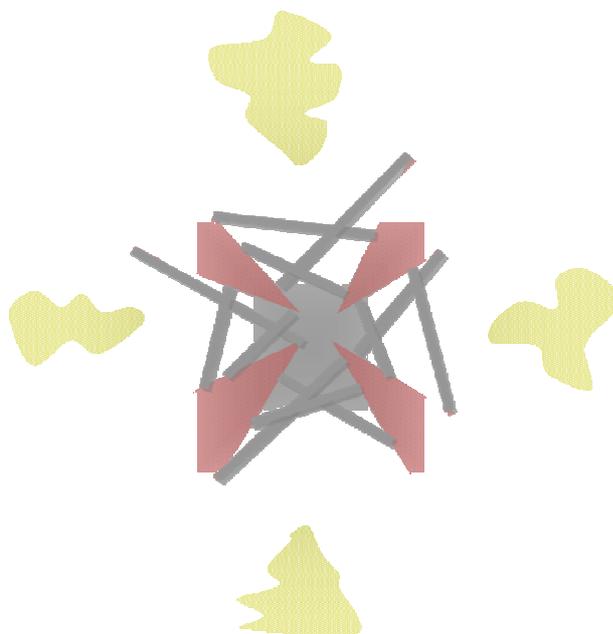

Figure 8: The low density gated enclaves (pink wedges) are well connected as compared to very high density informal settlements (green figures).

Eviction and resettlement policies at the city peripheries have had an adverse effect on the urban poor. Firstly, the relocation decreased the average income of the relocated families by 30-50% (which now goes towards transport). Secondly, now that the new locations are 10-15 km away from the job locations there is a resulting shift from walking to motorised transport. In Indian cities, bicycling and walking account for 65% of the community trips for those in the informal sector, while the rest are dependent on public transport (Tiwari, 2007). Hence concern for cyclists, pedestrians and public transport users should become a key objective for road design.

Historically, we have seen a transition from a non-motorised, unregulated road to a motor-only transport corridor. Now, cities the world over are thinking about and constructing multi-modal corridors where public transport can be given priority and there can be place for pedestrians and cyclists. This has given rise to an interesting debate in Delhi where a multi-modal corridor stretch (with Bus Rapid Transit (BRT) lanes in the centre, two lanes for motorists, and cyclist and pedestrian lanes) was experimented with and opened to the public in 2008.

Delhi BRT was pronounced a 'failure' by the media. The main reason cited was that the bus ways had taken away lanes from the already congested private vehicular road width. The following quote is an example:

'Delhi Abandons Failed BRT … One of the major failures of this transport model in Delhi has been to take away seven metres of road width from the already inadequate right of way of the road … the stretch needed to be widened to handle the traffic volume even before the BRT idea was implemented, the report says. But instead of adding width, two lanes were taken out of the corridor.' *Express India*, Dec 17, 2008, Esha Roy

This statement speaks of where the priorities lie. In this case, do the 10-14% private motorised vehicle users get a better deal than the remaining 85-90% that travels mainly by public transport or non-motorised modes?

Insufficient and inefficient public transport is an outcome of an automobile-oriented city design and infrastructure development. It excludes the weaker sections of society, which remain disadvantaged by its

mobility needs (an issue of equity). Patterns of development and scale that are more sympathetic to the needs of pedestrians and cyclists, and a balanced transportation model that gives due importance to public transport becomes essential to respond to the woes of the peri-urban slum dwellers. Again, in projects of such nature and scale, it is important to involve the users of the space – all stakeholders – right from the beginning and make them aware of the long-term objectives of the project.

3 CONCLUSION

Are there any universal principles that can be drawn from the local variants of polarised geographies discussed in this paper? Are there any fundamental tools that can be interpreted and applied contextually?

An efficient and intensive use of land becomes a key objective of any design strategy for the future city. Hence, a built form that achieves high densities while not compromising on the quality of living will be important to achieve the full potential of the land.

Dispersal of employment-generating nodes within the city and recognising the importance of informal economic centres will lead to a multi-nodal city. This will provide more local opportunities and easier access to jobs for the urban poor, in turn reducing the cost and time of transport. Hence, an integrated land use distribution and transport strategy will be essential for well-linked, compact urban nodes that have the capacity to generate employment for people while reducing unnecessary journeys.

Built-form typologies (saying no to an 'architecture of fear') will be vital in bridging the divide between rich and poor. 'Break the Big Boxes' is not just about finding alternative typologies to the big malls that address issues of equity and safety, but is also about breaking the boxed, gated enclaves and having a balanced demographic pattern.

These are the Universal Principles that need to have localised applications.

Identifying opportunities within the local context, and offering alternative architectural technology that is low-capital intensive, and which uses and interprets local materials and skills and involves the community results in an urban 'Craft'. Key ingredients of such a craft are local context and the human hand. The Urban Craft so produced by the people has the potential to release artistic energy, which brings a deep sense of identity and ownership. It encourages creativity among users while empowering them to reclaim their space in the city and remove the stigma associated with their surroundings. This is important for making successful cities.

It is critical to encourage social entrepreneurship so that the city inhabitants – mainstream and marginalised – are involved in the decision-making, and empowered to take responsibility and resolve their problems. This is vital in negotiating the urban space as a civic space instead of a territory of conflict between the mainstream and the marginalised.

This paper began by describing the shift from a 'City of Lived Experience' to a 'City of Consumption' and how in the process there has been a loss of people's connectedness with their built environment. An approach of 'Urban Crafting' is fundamental to make a Connected City – a city that not only connects the mainstream with the marginalised, but which also connects the inhabitants with the spaces that they inhabit.

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