



Standardising Heterogeneity

Bell/Seong:
Visible Weather
Simultaneous City
Temple Terrace
Florida
2012

Utilising underdeveloped property and zoning setbacks, a 5.6-hectare (14-acre) site becomes a newly hybridised city hall, incubator office, retail and housing development.

Public Housing and the Absent(ed) Architect

Does the decentralisation of housing provision by government necessarily lead to a less standardised and more diverse approach to design and planning? Can targeted financial programmes effectively trigger the forces of the free market to deliver more innovative and varied solutions to housing? **Michael Bell**, Professor of Architecture at Columbia University in New York, reviews the impact of the introduction of tax credits and other initiatives, brought in to encourage public/private partnerships and the involvement of speculative developers in the 1980s and 1990s, on the quality of public housing in the US. In doing so, he puts out a call to architects to acquaint and engage themselves with the complexities of the financial markets.

In the early 1990s, as the US federal government was increasingly incentivising the development of low-income, affordable and public housing within public/private partnerships, architectural discussion of these changes centred on design and planning initiatives instead of on financial or economic transformations of the development means. A goal was to break down the standardised housing blocks emblematic of the early decades of public housing and engage the entrepreneurial logic of the market as a driver of new housing solutions. At the root of the changes was an architecturally formless instrument – the Low Income Housing Tax Credit (LIHTC) – created by Congress in 1986 and intended to fund subsidised housing by deferred revenue rather than direct expenditure. It was also intended to shift ownership of affordable and public housing to investors who theoretically could deliver an antidote to the monolithic housing blocks and essentially customise subsidised housing development to local contexts and needs.

The shifts were monumental in scope, but were barely registered in architectural discourse: the formerly centrally funded, planned, developed, owned and managed public housing schemes that emerged since the 1937 Housing Act would over time be reborn as products of smaller-scale non-profit developers seeded by the sale of tax credits against profits they did not have. The actual credit, sold to a for-profit company that makes use of the credit, provides the initial equity to start a project. The changes have had an inverse effect on architecture, leading to a new mass standardisation of market housing construction techniques; an architectural heterogeneity applied atop a very uniform set of financial practices. This has also dramatically altered how and when architects engage with the design and social questions central to housing.

Bell/Seong: *Visible Weather, Simultaneous City, Temple Terrace, Florida, 2012*

Courtyard housing units made of fibre-reinforced concrete provide the ballast that instigates tension in a cable-stay/tensegrity structure. Private dwellings are grouped tightly, but with private outdoor spaces. The living space harvests the prevailing winds for dehumidification as bedrooms are seated low in the courtyard and protected from direct heat gain.



Deconcentrating Poverty: Topological Housing Policies

At the federal level the creation of LIHTC and an array of subsequent programmes to reduce direct federal ownership of public and low-income housing were in large part taken as a step to diminish concentrations of poverty in public housing developments and were instigated under two left-to-centre Clinton-era federal programmes. Funds made available by the Department of Housing and Urban Development (HUD) for Public Housing Administrations (PHAs) during this period were also designed to address decades of deferred maintenance in PHA developments. Unable to take on debt, ageing public housing sites in the US long suffered a deficit in funding maintenance from rent rolls. Under HUD's new HOPE VI programme, funding streams were targeted for renovation and repair, but the policies also required the demolition of a portion of each development's 'hard units', and the funding was only available if the PHA also agreed to remove actual ageing apartments developed and managed since the PHA's inception by the New Deal legislation introduced in 1937.

New housing built to replace these hard units, beginning in the 1990s and only recently abated, was intended for those on a higher income (not the original tenants) and paralleled a wider move by HUD towards using vouchers and other subsidies to alleviate rent – as 'soft units', these new dwellings (or now subsidised quasi-market apartments) have an attached yet

portable subsidy (a voucher), but outwardly they were intended to appear as part of the wider and generalised housing market. Similarly, the Quality Housing and Work Responsibility Act (QHWRA) of 1998 offered means to 'deconcentrate' poverty concentrations that had become endemic in much public housing by allowing PHAs to more actively distribute their populations, but also to effectively become participating public owners within a non-profit corporation created to realise the new public/private housing within HOPE VI redevelopments.

Changes in the development mechanism meant that public housing, centrally funded, planned and managed since its origins 60 years earlier has increasingly been built since the 1990s within the same building logics – labour, material, financial means – as speculative housing. The often referenced and broad declaration of a decline in welfare-state funding was actually more accurately a shift of that funding from direct expenditures to a myriad of deferred-income instruments (such as LIHTC programmes) intended to instigate diversity or heterogeneity in public housing developments. At the architectural level, this included a mandate to create a more heterogeneous building design – a veil of difference in the building facades to mask the otherwise large scale of the new housing. New quasi-public housing developments were realised within the same means of building that speculative housing in the US has long relied on – a market that has long been broadly acknowledged as inadequate at serving lower-income communities, and also lacking any capacity for innovation.



Programme types are layered and form thermal as well as economic support: private housing units sit atop a second-level incubator office and a ground-level city hall. The energy requirements of each programme sustain each other during the daily cycle. Housing forms thermal barriers over offices that harvest their heat gain in the evenings.

Core sample model: the diamond cropping of the model vertically and horizontally reveals the extension of space.

The narrow building wing to the right offers two types of floor-through apartments. All building types fuse structural, environmental and material engineering in a wider network of systems that make up the overall development.

Architect: Removed

Tax credits and the entrepreneurial mechanisms they were intended to incentivise would ideally carry a reflexive capacity, tipping this market into an innovative milieu. Yet in many ways the opposite has been true. A case study of Houston, Texas, in 1998, as HOPE VI programmes were taking hold, found speculative houses (in this instance, single-family homes typical for the area) were built with virtually no architectural engagement. In one case of several hundred standardised houses, it was found that the overall design fee paid for architectural services was less than US\$5,000, or an average cost for design services per single-family house of \$12. Architects in the US routinely seek 15 per cent of construction costs as a design and architectural service fee; in this case the market had provided a professional fee of 0.028 per cent.¹

In US housing markets, mass-standardisation has of course meant low, if not nonexistent, design fees, but also little, if any, investment in research and development. While the debate of New Urbanism's relation to the transformation of public housing drew major attention in a range of ideological stances, it ultimately deflected the more urgent question of architecture's role in housing when the market is the denominator, and how the federal government, in seeking to disaggregate concentrations of poverty and incentivise the entrepreneurial aspects of capital markets, had also diminished architects' part in the deeply social and material aspects of housing.²

Tax credits and the myriad of financial instruments invented in the US since the early 1980s created a new strata of affordable and low-income housing development, but when coupled with a somewhat normative building industry and a latter-day form of syndication and distribution of the credit allocations (a narrow market), a new, generally non-innovative genre resulted that essentially sought to occlude the presence of these funding streams – the past modelled on the mode of neo-vernacular architecture here makes it difficult to see the actual financial, social and, ultimately, economic history of what is being worked on.

Standardising Mass-Heterogeneity

During this same period, other genres of architectural inquiry were often focused on dismantling the modes of mass-standardisation that were at the root of public housing. From conceptual work on the calculus of continual change to new fabrication methods and their capacity for individuation, a double project was at hand in the 1990s. Increasingly focused on reflexive behaviour and unique and one-off final products, this sprung from technical innovations that required large aggregate sums of money for research and development and the factories capable of complex production. If the conditions (the building industry in speculative housing) are not optimal or the example of public versus private housing seems unfair, the question remains: at what point does the drive for customisation that today is often seen as a game changer alter the role of the designer in the development market? Is mass customisation a way to allow deep market logic and yet sustain innovation – originality? New Urbanism has in many



ways been a mandated form of heterogeneity; certainly not mass customisation, but intended to provide difference and often mask the monolithic aspects of housing development (formally and financially). But today new computational control in design (even low-cost software) provides new levels of digital coordination with development practices, and a more precise way to define and stage risk and its management (of all types). These means often constitute the basis for a move towards an individuated landscape – a mass-customised environment. The normative way to discuss the transformation is to invoke a post-Taylorist or post-Fordist economy, to describe a new way to build or fabricate as an attribute of a new economic paradigm. In this realm, the reflexive capacity of a new architectural posture and a customised product has advocates, but what has been missing in this debate is a drift away from the social aspects of economics in production, and what could be seen as a shift towards more immediate forms of finance as a localised practice and the generative basis for a more local and therefore customised product (a building, a car, clothing).

Has the faith in mass customisation unwittingly made it difficult to discuss the wider project of economics, and more so to address the deeper strains of inequity that are enabled by enriched computational capacity in finance and banking regimes – capacity coupled with a lack of regulatory means to address a new milieu of transactions and their effects? In public and low-income housing, the customisation of financial practices has found a new means of standardisation – one that architectural heterogeneity leaves less evident or transparent to the public, but also the design world who sought change. In short, could mass customisation somehow short-circuit a critical engagement with the mass modes of economics and social capacities that are only possible if one seeks to understand that scale of collective wealth and capacity? Here, the architectural or urban focus on specific forms of reflexive or customised works often has the effect of diminishing a compensatory knowledge of the wider environment. A real-estate developer need not be an economist to be successful at housing (or office buildings), but they do need to enter and exit a market with some control over their investment – the ‘return on investment’.

Decapitalising Innovation

During the past 20 years, low-income affordable and public housing policies have sought to diversify and disaggregate the funding streams that originate at the federal level. One goal has been to reinforce housing as a local territory, but also to create layers of financial innovation and market-like entrepreneurial development that (ideally) serve lower-income housing. Such efforts are still dependent on immense sums of money, and wide as well as deep federal resources, but the distribution means are now state- and city based by way of block grants, and often break down to the grain of a single voucher that in the hands of



left: The ‘tensegrity deck’ forms a network of public passages and gathering places above the city hall. Access to the deck is by way of elevators to parking below, but residents can walk in shaded areas to the retail or other housing types in the development, or along a wider zoning area in the city.

opposite: Courtyards visually fuse the diverse programmes and allow an immediate conflation of experiences – working at home is in immediate proximity to offices and government bodies. The Florida sky is seen through the tensegrity cables laced through the collective. Each house is an individuated form of mass and ballast in the wider network.

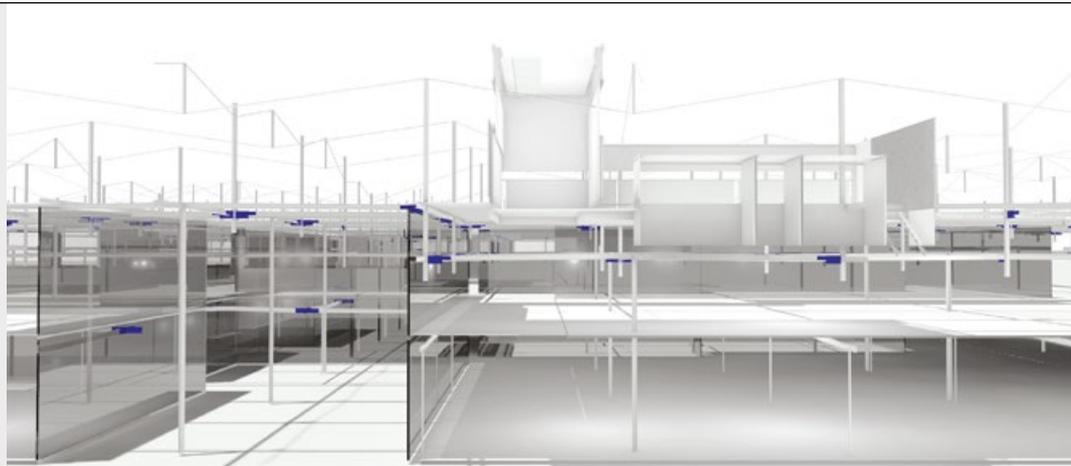
a homebuyer or renter is then attributed to a market house/apartment. This means that innovation in housing has to rely on less direct funding, but more so that it has to be realised within the same markets that produce housing for the whole of the US. The effect has been a dramatic loss of access to the deeper changes in housing economics; from the bundling of mortgages and tranches of debt to the widespread use of collateralised debt obligations and credit default swaps. A market fuelled by complex and time-based financial derivatives bet against a very normative and rudimentary building construction process. Perhaps more critical is a dramatic shift in the way in which architects, planners and engineers engage with the social questions that lie at the root of their work. On one hand it seems that mass customisation and other forms of coordinated or parametric control in design can indeed assist in creating a more advanced building industry (and surely will), but not necessarily in the reflexive aspects – the ergonomic zone of immediate need – that they often display an affinity for. Instead, the parametric capabilities in design by way of computation could bring architects into a more comprehensive relationship with the reflexivity of the market, in terms of the range of specific markets – from the pricing of materials to the orchestration of labour. But also in terms of the wider economic ability and capacity to envision new means of research and development or how a project is capitalised, altering the scope of parametric imagination and thereby the social potential of work.

Simultaneous City

Bell/Seong's Simultaneous City, commissioned for the 'Foreclosed: Rehousing the American Dream' exhibition at New York's Museum of Modern Art (MoMA) in 2012, followed the curators Barry Bergdoll and Reinhold Martin's mandate to seek a new form of public housing in the post-foreclosure US landscape. Exploring the potential of a public role in housing development, the project avoided (as untenable) direct government expenditure on housing, and instead focused on steering the small city of Temple Terrace, Florida towards using its local and immediate economic capacity to hold the land it had begun to assemble with tax revenue. The land purchased by the city was originally intended for release into a public/private partnership. However, instead of subsidising the private market (a developer), the project proposed the city re-zone property setbacks as well as purchase under-utilised private property and then reorganise these areas into a unique zoning and land use for the development of new housing types for previously underserved communities. The architecture in this zone would be realised

right: Working with Transsolar, Bell/Seong developed the 'Cool-Core' concept. The conditioning of the dwelling units was carried out in stages, from no air conditioning at the upper levels to a fully dehumidified and air-conditioned lower-level bedroom area. The programmatic layers reinforce each other financially and thermally to form a coordinated overall development.

opposite: Development plan. The site adjacent to North 56th Street serves as a model for a scale of engagement that could sustain housing, offices, retail and governmental uses. If realised as a unified structure, the aggregate funding could sustain a high level of structural and environmental engineering, and innovation.



at a scale that sustains high levels of capital investment, but more so is imagined within the wider economic capacity of the citizens. A 90-hectare (225-acre) redevelopment zone that would have been subsidised for a private developer is instead held by the city, creating a new urban density that takes as its economic basis the collective capacity of the aggregate income of the households. Within this scheme, the architecture is reverse engineered, adding as many as 10,000 new residents to a city of 24,000 and seeking a development model that optimises the aggregate financial resources of those residents (approximately 4,000 new households).

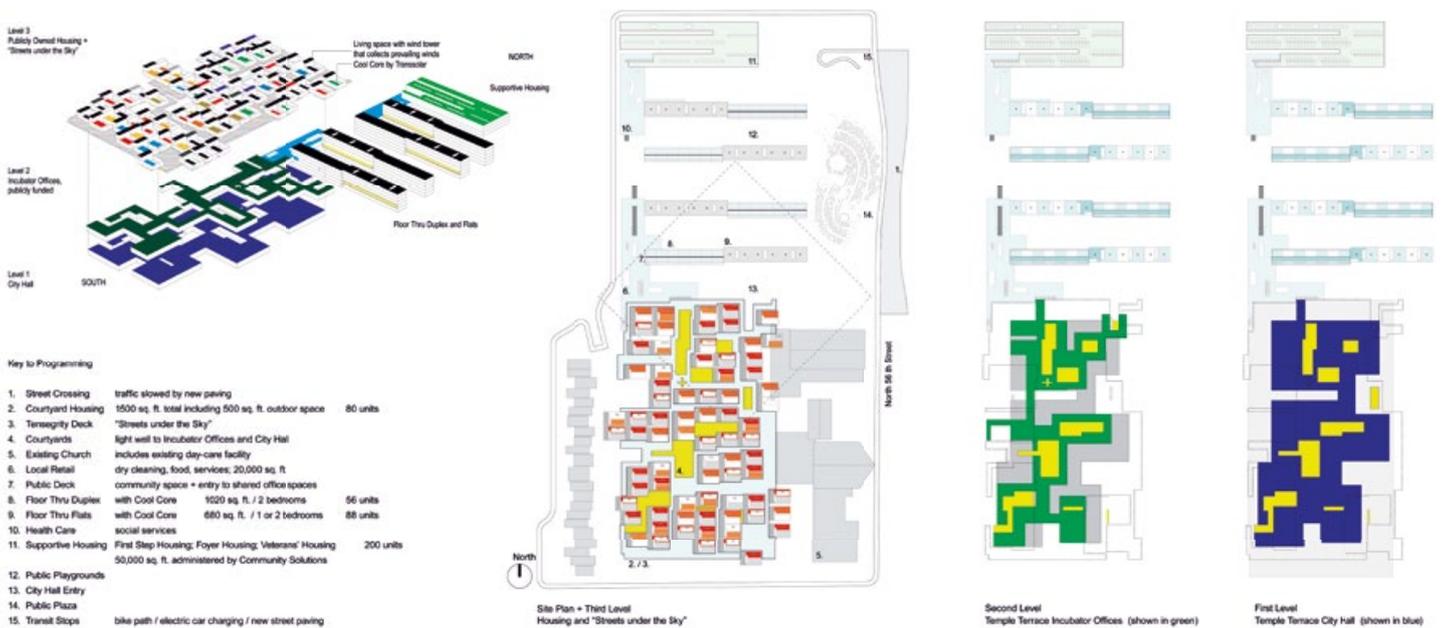
Building to the collective income of the households meant that innovative material, structural and environmental engineering resources could be engaged, and also gave access to advanced building technologies and better quality control. The privacy and other aspects of suburban living could thus be sustained in a much deeper well of experimentation, modelling and coordination than suburban housing has historically provided. In effect, Simultaneous City is a new form of public housing on publicly held land, but it also relies on the aggregate private wealth of its inhabitants to generate the buying capacity necessary to fund a highly capitalised, R&D-laden and centrally conceived yet spatially distributed new architectural work.³ It would not be possible to build with this level of engineering or material innovation without such capitalisation.

Much of the mass customisation we see today seems focused on immediate circumstance. Instead of analysing the breadth of financial resources as a long-term economic project, an immediate form or (micro) equity is granted (or sought after), paid by way of an ergonomic or responsive product (be this architecture, a TiVo-like experience, programmatic exchange). There is no doubt that customisation is powerful and has been so for some time, but it seems a crisis is brewing in the form of an amnesia of mass, standardised means of didactic value. In the US, the drive towards vouchers as a disaggregated and individuated type of former monolithic state support for low-income housing has had an inverse effect on architecture, leading to a mass-standardisation of market techniques and the dis-admission of architects within the social

equation. Side effects and unintended consequences aside, one could be wary of a world so customised it masks real and necessary conflict, or worse keeps it from occurring. This has long seemed to have become a kind of anti-ideology – a way to avoid taking a stance.

Custom Finance, Social Economy

As housing and urban planning in the US continue to operate under the tremendous pressure of a prolonged process of foreclosure, the immense scale of federal subsidy that has underpinned a deeply uneven recovery has left one thing clear: speculative housing development as we know it and have allowed it to be realised for half a century is unstable, and has undergone wrenching forms of transformation that leave the idea of a responsive market under extreme duress (and without an alibi). In raw numbers, the foreclosure crisis that has unfolded since 2007 remains staggering. More than 15 million homes in the US have entered foreclosure proceedings since 2007, with more than 6 million having been completed and/or repossessed. This is approximately 11 times the number of public housing 'hard units' built since 1937. Discrepancies in the foreclosure market are regional, and also based on who has made new investments; that is, purchased houses out of foreclosure. Private equity funds account for as much as US\$25 billion invested in foreclosed houses (with more than 200,000 homes purchased and re-securitised as rental income streams). Can architectural and manufacturing customisation techniques alter the economics and delivery of housing in the future? So far we have seen a wildly complex customisation of markets by way of financial instruments, and it could be said that architects have done little to acquaint themselves with, yet alone challenge, this strata of authority. The mathematics of customisation and the use of time in so much of the experimental architectural work today constituted under these auspices promise a new sophistication and entrée to the time-based scene of money. Δ



Notes

- For an analysis of quasi-market aspects of affordable and public housing development and federal shifts in housing policy during the 1990s, see Michael Bell, *16 Houses: Designing the Public's Private House*, Monacelli Press (New York), 2004.
- For analysis of the geographic transformations in federal funding streams for housing, affordable housing and public housing development during the rise of tax credit programmes, voucher and other forms of localised public/private redevelopment, see Pascale Joassart-Marcelli, Juliet Musso and Jennifer Wolch, 'Federal Expenditures, Intrametropolitan Poverty, and Fiscal Disparities Between Cities', in Jennifer Wolch, Manuel Pastor and Peter Dreier (eds) (with a foreword by Michael Dear), *Up Against the Sprawl: Public Policy and the Making of*

Southern California, University of Minnesota Press (Minneapolis, MN), 2004, pp 195–224.

- For context on MoMA's 'Foreclosed: Rehousing the American Dream' exhibition and the Simultaneous City, see Barry Bergdoll and Reinhold Martin, *Foreclosed: Rehousing the American Dream*, The Museum of Modern Art (New York), 2012.

Text © 2015 John Wiley & Sons Ltd. Images: pp 40-2, 43(l), 44-7 © Bell/Seong; Visible Weather; p 43(c&r) © James Ewing/OTTO