

Turning East: Design Research in China in a Global Context

Standfirst to come: Murray Fraser

After a lengthy period in which seemingly the only new projects one ever heard about in China were those by international 'starchitects', the situation in recent years is greatly transformed. A very different type of building now features far higher on the radar, designed by innovative Chinese practices, and perhaps exemplified by Atelier Deshaus's Long Museum in the far West Bund of Shanghai, which opened in 2014. It is a brilliantly inventive piece of design, not least in retaining a landscape of old coal hoppers and loading cranes to offset its smooth, white intersecting vaulted ceilings.

[IMAGE 1]

[IMAGE 2]

Something else is particularly striking from visiting the Long Museum. Here is a China of retrofit, not virgin urbanization, and of carefully considered design, not lash-it-up-fast crudeness. What, then, has happened to the fabled speed and destructiveness of Chinese building production that Rem Koolhaas and others had been banging on about for years? For instance, in the *Harvard Design School Project on the City: Great Leap Forward* (2001), which highlighted the rapid development of the Pearl River Delta, Koolhaas claimed: 'A maelstrom of modernization is destroying everywhere the existing conditions in Asia and everywhere creating a new urban substance.'¹

Of course, there had already been inklings of a change that was taking place in China. As an example, the London exhibition in April 2012 at the Building Centre in Store Street, organized by *Urban Environment Design (UED)* magazine and titled 'From Beijing to London: Sixteen Contemporary Chinese Architects' – whose opening was attended by many in the know, including the late Zaha Hadid – revealed glimpses of an up-and-coming generation of highly talented, highly educated younger Chinese architects. Wang Hui of Urbanus gave a fascinating introductory lecture. A new phase was clearly in gestation, with the *RIBA Journal* commenting: 'The message from the show ... is that all Chinese architecture is not hell-for-leather urban development. There are many different and subtle sides to it.'²

This is precisely where this current *AD* issue fits in. Architectural practice in China is splintering and growing in diverse ways, and to those of us looking through Western-tinted spectacles, it is the intellectually engaged practitioners pursuing innovative avenues of design research that are leading the way. These younger Chinese architects are no longer hidebound by the restrictive practices of design institutes or large state departments, as has been pointed out recently

by Charlie Xue and Guanghui Ding.³ What, then, are the evolving principles and practices in China, and what might we expect to see in future?

A Brief Recap of Design Research in Architecture

Before looking at what is happening in China, it is worth recapping the idea of architectural design research. As a broad term, it refers to those particular forms of knowledge and insight that only those engaged in speculative design can produce – albeit always operating symbiotically and dialectically with other, more traditional methods of research.⁴ Design research is open-ended, rigorous, lateral, iterative and creative, and as such cannot be conflated with scientific, historical, sociological or technological approaches.

While it can be argued that architects have engaged in ‘design research’ for a very long time – in the Western tradition, some say back to the Italian Renaissance, when *disegno* became an abstract intellectual conception distinct from the building trades – the first recorded use of the term I have found is in Eliel Saarinen’s *The City: Its Growth, Its Decay, Its Future*, published in 1943 in America.⁵ Clearly anticipating postwar reconstruction, and set within a climate of intense military research at a time when the secret ‘Manhattan Project’ to build the atomic bomb was underway, it identified an innovative ‘two-fold movement’ within design research. Saarinen’s diagram showed, as one line along the bottom, the architect being engaged in conceiving specific buildings to create a new city, staggered in 10-year intervals over a period of 50 years. Along the top was another line, this time heading backwards from 50 years in the future to the present day. For Saarinen this represented the other part of design research, where architects are able to imagine a completed future city and then work out the steps needed to arrive at it. He thus argued that any act of design involved this two-fold movement: one projecting buildings into the future and the other analysing them as a mode of research, with the readjusted result being the city, or building, that was designed.

[IMAGE 3]

It was an astonishing formulation, yet one which Saarinen – originally an exponent of National Romanticism in his native Finland, before winning second place in the 1923 Chicago Tribune Tower competition, emigrating to the US, and designing notable structures such as the Kleinhans Concert Hall in Buffalo, New York, and the Cranbrook School of Design outside Detroit in Michigan (which he also ran) – could never implement. He died in 1950, by which point he was already being eclipsed by his more talented son, Eero Saarinen, who treated all of his projects, until his own untimely death in 1961, as original research investigations into new materials and technologies such as stainless steel, Corten steel, mirror glass, cable-slung tensile roofs and so on.

Design research developed hugely from the 1960s through seminal works such as Koolhaas’s *Delirious New York* (1978), Bernard Tschumi’s *Manhattan Transcripts* (1981), and the complete oeuvre of Lebbeus Woods, which in retrospect should not be treated merely as ‘paper’ architecture, but as a

phenomenally intense and productive stream of innovative exploration. Today, many architects around the globe have seized the design research baton, a trend supported by PhD by Design programmes at the Bartlett in London, RMIT University in Melbourne and elsewhere. It is a shift that has also been pursued by two waves of Chinese architects of slightly different generations.

Initial Changes in the Chinese Approach

The figures usually credited with forging a revitalised vision for Chinese modern architecture are those born during the 1960s who were able to study and work in Western countries – even becoming successful heads of architectural schools in the US, such as Qingyun Ma (University of Southern California/MADA) and Yung Ho Chang (Massachusetts Institute of Technology/Atelier FCJZ). China's growing wealth and power now positions it as the world's second largest economy, behind the US, and so perhaps an increasing awareness of Chinese architecture in North America was inevitable. Certainly many American firms like Skidmore, Owings & Merrill are operating extensively in China while also employing a good many Chinese graduates in their US offices.

However, the architects that probably did most to break the mould internationally – and who appear to suffer a lot of professional jealousy in China as a consequence – are the husband-and-wife team of Wang Shu and Lu Wenyu, following a very different route. Together they have practised in Hangzhou since 1997 under the banner of Amateur Architecture Studio, while also presiding over the architectural school at the China Academy of Art in Hangzhou. Wang Shu has bemoaned the fact that he usually gets singled out for attention without proper recognition given to Lu Wenyu – as when, in 2012, he became the first Chinese architect to be awarded the Pritzker Prize. Together, their ongoing scheme for the Xiangshan Campus of the China Academy of Art, now with over 20 extremely different structures, has become a veritable showpiece, creating an array of buildings that mix functionally specific with unprogrammed spaces in a scintillating manner.

[IMAGE 4]

The Amateur Architecture Studio project that most hit the button outside China, however, is the rock-like Ningbo History Museum, opened in 2008, which deploys the concept – originally termed *spolia*, referring to the reuse of Roman Classical remains, and featured perhaps most stunningly in Jože Plečnik's National and University Library in 1930s Ljubljana – of recycling existing materials to construct the new. In this case the heterogeneous array of stones, bricks and tiles for its surfacing were collected from many local sources. Elsewhere on the museum's facade, concrete-cased bamboo is used, referencing another traditional Chinese building method.

[IMAGE 5]

The result is a patterned masonry structure that speaks poignantly of the new China struggling with how to deal with its older ways of life, and seeking to fuse past and future together. The sheer massiveness of the museum, and the apparently random aesthetic of its asymmetrical forms and materials, makes it a badge that begins to speak critically of recent socioeconomic transformations in China, particularly of what thoughtless commercial architecture has inflicted. As Wang Shu argues, 'we must not demolish history in order to develop'.⁶

A Further Step-change

Yet the work of Wang Shu and Lu Wenyu still represents an older continuity that is rooted in the Chinese academies. Today a fresher and younger generation – those born from the 1970s onwards – is introducing a different sense of energy, again with an eye on architecture in the West and elsewhere, but with its own particular marks.

The aforementioned practice of Atelier Deshaus in Shanghai (see their article on [pp xx-xx](#)) is an interesting node among this new generation. Founded in 2001 by three young talents – Liu Yichun, Chen Yifeng and Zhuang Shen – the former pair have continued to run the practice since Zhuang Shen left in 2009 to set up Atelier Archmixing, another of the contributors to this issue of *AD* (see [pp xx-xx](#)).

In the case of Atelier Deshaus, the Long Museum in Shanghai demonstrates well the types of design research the practice is engaged in. Although the actual finished construction is a bit rough – one can only imagine if Japanese or Swiss contractors had been able to cast those ambitious vaults – the sense of volumetric and visual interconnection as one walks around points to the sheer amount of modelling and testing that went into the design. The final effect is memorable, mixing rugged industrial steel with the smooth concrete, plaster and glass of the new insertions. Sitting within its new park, the Long Museum offers generous public space exemplified on the riverfront by reusing some of the old crane towers, animating that space through public inhabitation.

[IMAGE 6]

As in effect a splinter from Atelier Deshaus, Atelier Archmixing is another practice now pursuing closely observed design research into urban contexts alongside formally and structurally innovative schemes. Among the latter projects is the Xishi Grand Theatre in Zhuji – completed in 2017 – in which a larger and lower outer ring around an elliptical auditorium creates a curving courtyard that is to be used for outdoor film screenings and similar events. Other Chinese practices, many included in this *AD*, could equally be cited.

[IMAGE 7]

Fertile Ground

What is inherently different about the design research being carried out by this younger Chinese generation? In Europe, design research frequently tends to revolve around some form of relationship to past traditions, whether from the Renaissance, Neoclassicism or Modernism. In the US this appears particularly fixated on the impact of digitalisation. In China, with its very different lineage, these historical and technological references are more general and diffuse: instead the concern is more about dealing with the exigencies of the present, both in addressing the ultra-rapid rates of urbanisation and modernisation, and, from that analysis, anticipating future needs and directions. While design research in Western countries often involves speculations and representations of alternative worlds, as critiques of the status quo, in China there seems an acceptance of the task of conceiving new possibilities from within the existing socioeconomic conditions.

[IMAGE 8]

One gets the sense that having transformed their mode of practice this much, and now with the bit between their teeth, Chinese architects are likely to be setting the pace in design research in the coming decades. With much of the country's urban development still to happen, the act of breaking away from soulless generic, energy-guzzling buildings would be a godsend not only for Chinese citizens, but also for the environmental and ecological health of the planet. Smarter, lower-energy and reduced-carbon developments is the goal of this new trend towards architectural design research in China. No one can predict where exactly things will head, but Chinese architecture will certainly be one of the most fertile grounds for thinking and practice for the foreseeable future.

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Notes

1. Rem Koolhaas, 'Introduction: City of Exacerbated Difference', in Judy Chuihua Chung *et al* (eds), *Harvard Design School Project on the City 1: Great Leap Forward*, Taschen (Cologne), 2001, p 27.
2. Hugh Pearman, 'China Syndrome', *RIBA Journal*, 18 April 2012: www.ribaj.com/culture/china-syndrome.
3. Charlie QL Xue and Guanghui Ding, *A History of Design Institutes in China: From Mao to Market*, Routledge (London), 2018.
4. Murray Fraser (ed), *Design Research in Architecture: An Overview*, Ashgate (Farnham, UK), 2013.
5. Eliel Saarinen, *The City: Its Growth, Its Decay, Its Future*, Reinhold Publishing (New York), 1943, pp 370–77.
6. Quote from Wang Shu in Amy Frearson, 'Key Projects by Wang Shu', *Dezeen*, 28 February 2012: www.dezeen.com/2012/02/28/key-projects-by-wang-shu/.

Captions

1. Long Museum exterior.tif

Atelier Deshaus, Long Museum, West Bund, Shanghai, 2014

This partial view of the front elevation at dusk captures the museum's atmospheric qualities, with its generous public square in front and elegant vaults seeming to embrace the retained coal hoppers.

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2. Typical Chinese urban development.tif

Typical pattern of Shanghai's recent urban development, Huangpu, Shanghai, please give date of photo

As in other Chinese cities, three levels of urbanism now prevail in the Huangpu district of Shanghai: low-rise dwellings in the foreground, mid-rise apartments and offices in Xiaodongmen behind, and the globally facing skyscrapers of Pudong across the Huangpu River.

3. Eliel Saarinen diagram.tif

Eliel Saarinen, Design research diagram, from *The City: Its Growth, its Decay, its Future*, 1943

Saarinen's inventive conception of design research in which the architect's idealised vision along the top row is modified by the various adjustments, as shown in time sequence along the bottom, needed to bring the design to fruition.

4. Amateur Architecture, China Art Academy.tif

Amateur Architecture Studio, Xiangshan Campus (Phase 2), China Academy of Art, Hangzhou, Zhejiang province, 2007-

Construction of the university campus has been ongoing for almost two decades, and now includes some 25 structures. All are different, as seen in this refectory interior, its window arrangement having the feel of Chinese logogram characters.

5. Amateur Architecture, Ningbo Museum.tif

Amateur Architecture Studio, Ningbo History Museum, Ningbo, Zhejiang province, 2008

The mountainous mass of the museum is cleverly subverted by the irregular prismatic geometry of its angular walls, and by the delicate patterning of the as-found masonry pieces that surface its concrete structure.

6.????????????????? ANDONG TO SUPPLY IMAGE AND PERMISSIONS FORM

Atelier Deshaus, Long Museum, West Bund, Shanghai, 2014

In this worm's-eye axonometric that seems more complex than it is, the intersecting nature of the museum's (partial) concrete vaults, often set at right-angles to each other, is projected particularly vividly.

7. Atelier Archmixing.jpg

Atelier Archmixing, Xishi Grand Theatre, Zhuji, China, 2017 (model from 2011 competition-winning entry)

The sinuous protective ring around the theatre auditorium is cleverly left open in certain parts and made solid in others, enabling views through the structure while providing sufficient enclosure to form a courtyard for open-air film screenings and other events.

8. Urban street systems in Shanghai.tif

Urban street systems, Huangpu, Shanghai, 2014

Overlapping networks in the ordinary domestic areas of Chinese cities revolve around daily necessities such as clothes drying, electrical supplies and air-conditioning units, and create an elegantly ephemeral aesthetic. This kind of anonymous urban condition underpins much of the design research by younger Chinese firms.