Of Modules and Pixels

Brutalism of a different kind.

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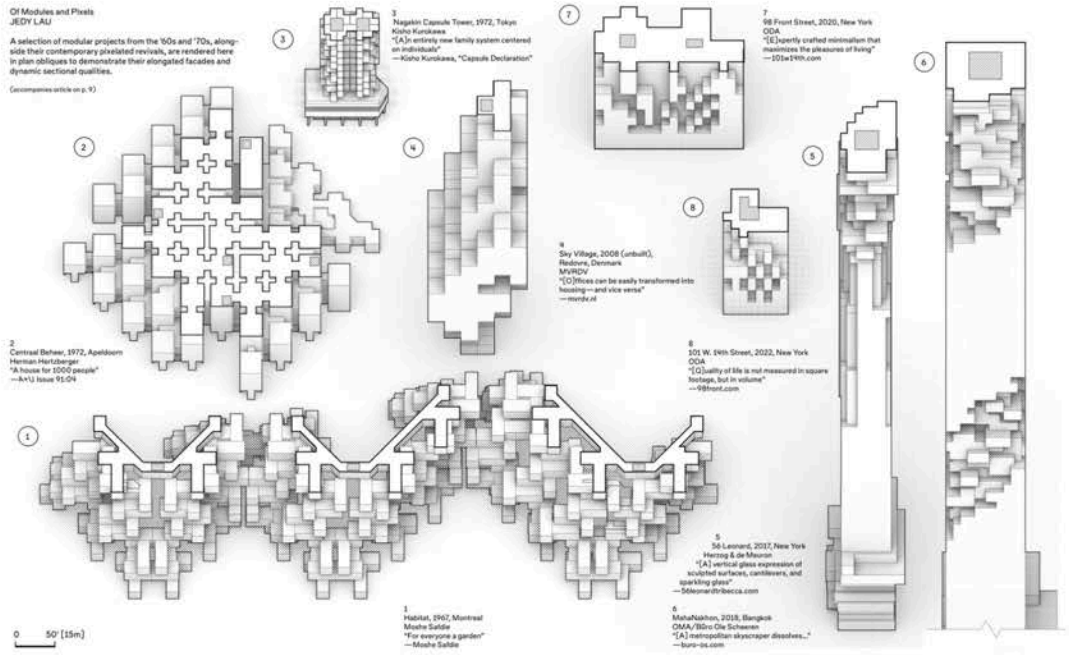

A selection of modular projects from the '60s and '70s, along-side their contemporary pixelated revivals, are rendered here in plan obliques to demonstrate their elongated facades and dynamic sectional qualities.
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Despite being subject to some of the most stringent zoning restrictions in the country, New York's skyscrapers have always exhibited a wide range of formal fixations. First there were the prewar wedding cakes, glued to their zoning-prescribed envelopes. Surpassing them were the Miesian glass extrusions, which leveraged the so-called Plaza Bonus from the 1961 zoning resolution to trade bulk for height. Those towers in turn spurred a postmodern backlash in buildings like Philip Johnson's cartoonish Sony Tower, with its famously broken pediment. Then, in the years after 9/11, came the shards of healing crystals, in the form of 1 Bryant Park and One World Trade Center. The shards have since evolved: there is whatever's going on at Hudson Yards and, of course, the postrecession ultrathins, from whose sights and shadows none but their occupants can escape. To this generational tree we might add a new branch: the pixel building.

Since the late aughts, "pixelated" high-rises have proliferated in cities worldwide, and we have their architects to thank for the metaphor. In Bangkok, Ole Scheeren's 2018 MahaNakhon tower is marked by its "pixelated and carved presence" against the city's skyline; in Toronto, BIG's in-progress King Street condo "rises as sets of pixels extruded upwards"; and in Abu Dhabi, a new cascading mixed-use development by MVRDV simply goes by the name Pixel.

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A hallmark among these projects is a new unit of composition. Whereas the floor was once the generative element of the skyscraper, pixel buildings are composed of discrete rooms or units. Against the smooth, unbroken facades of mid-century slabs, pixel buildings are set off by jagged contours, boastful cantilevers, and blocky *Minecraft*-like massing.

Here in New York, the most visible example of the type is Herzog & de Meuron's 56 Leonard, completed in 2017. At 57 stories tall, the tower looms over Tribeca like a late-game Jenga pile, its stack of cantilevers growing more precarious toward the top. Inside, rooms are staggered in plan and in section to create terraces and balconies, cumulatively transforming the tower's units into "pixels [that] come together to inform the volume," per HdM's description. Elsewhere in the city, a gushing pipeline of pixel buildings are in various stages of completion. The New York–based studio ODA, in particular, has emerged as a leading proselytizer of the type. Their "fractal" buildings (the firm's preferred term) can be found in Queens, Manhattan, and all corners of Brooklyn, offering examples of "modular design that yields dynamic residential experience," per ODA's website.

Half a century before modular buildings had dedicated Dezeen search tags, glossy marketing websites, and descriptions like "a vertical glass expression of sculpted surfaces, cantilevers, and sparkling glass" (56 Leonard) or "expertly crafted minimalism that maximizes the pleasure of living" (ODA's 98 Front), the structures were populist experiments.

While modular projects in architecture date back to the Bauhaus, in a brief window between the late 1960s and early '70s, a burst of audacious modular designs manifested globally. Driven by principles of prefabrication, collectivity, and impermanence, these projects pioneered the formal signature that pixel buildings would inherit, even if their grander societal and technological ambitions were largely unrealized.

Moshe Safdie's Habitat in Montreal led the way. Completed for Expo 67 as an affordable housing prototype, the quasi-Brutalist 13-story complex comprises 158 apartments suspended within an interlocking cloud of 365 modular components, which were prefabricated in concrete and craned into position. The modules shift and stagger to produce various apartment types, while overhangs provide each unit with a private terrace. Safdie's famous axiom "For everyone a garden" summed up the radical proposition.

Acclaim soon followed, as did a flurry of commissions for similar complexes in New York, San Francisco, Puerto Rico, and Jerusalem. Yet none of these Habitat spin-offs materialized. A variety of culprits—economic, political, and technical—were to blame, but Safdie himself faulted architectural culture's slide into postmodernism. "Everybody was busy mimicking history," he recalled in a 2017 essay. But material facts may have proved more decisive: without the economy of scale, Habitat's astronomical cost overshadowed its formal invention. (To fabricate Habitat 67's modules, a factory was first erected on the construction site.)

Five years after Habitat, the Metabolist architect Kisho Kurokawa completed the Nakagin Capsule Tower in Tokyo. The tower's 144 modules were delivered to its narrow site as complete apartments and attached to the core with just four high-tension bolts. The speed of the building's assembly—construction allegedly took 30 days—reflected a deeper ideological ambition: as technology progressed, the capsules would be replaced with upgrades to keep up with the changing lifestyles of Tokyo's nomadic salarymen. Beyond the scheme's conceptual daring, Kurokawa envisioned "an entirely new family system centered on individuals," he wrote in "Capsule Declaration" in 1969—a manifesto equal parts architectural and social.

Yet 50 years on, the regeneration of the Capsule Tower remains a hypothetical. Dilapidated and largely unoccupied, the structure now stands as a haunting "reminder of paths not taken, of possibility of worlds shaped by different sets of value," as critic Nicolai Ourousoff observed. A campaign to retrofit the building foundered, and the tower is set to be demolished: some of its temporary modules have already joined the permanent collections of museums.

Against this history, while contemporary pixel buildings are clearly related to the Habitats of yore (Bjarke Ingels even captioned an Instagram post

unveiling his firm's Toronto project "Habitat 2.0"), they are also clearly very different.

To start, pixel buildings are not prefabricated. "The utopian idea that modular construction would reduce cost and become available to all was proven to be totally wrong," Eran Chen, founding principal of ODA, told me. Instead, pixel buildings go up like most high-rises, i.e., according to the conventional sequence of core, floor, and skin. To achieve its "modular" massing, a pixel building's entire facade is first recessed from the zoning envelope at the start of the design process; select blocks are then pulled out to create its dynamic composition. What appears additive in form (like stacked blocks) is in fact reductive by process (a carefully carved zoning envelope).

And where prefabricated modules imposed a degree of equity through standardization, pixel buildings, by the atypicality of their units, emphasize uniqueness. Just five of 56 Leonard's 145 units are doubled; furthermore, by HdM's own admission, "no two floor plates are the same, giving those who will live in this project their own unique home." Inefficiency is not a quirk but a feature.

Cumulatively, these differences amount to the greatest distinction of all: pixel buildings are expensive, by design. At the low end, a one-bedroom apartment in ODA's 101 West 14th Street starts at $1.3 million (approximately three times the neighborhood median price per square foot); at the high end, a penthouse unit at 56 Leonard recently closed for $50 million.

Without the revolutionary ambitions of their predecessors, narratives around pixel buildings instead focus on the qualities they offer. Despite the shortcomings of the earlier modular projects, Chen credits them as templates for "how we can live better in intense, densified cities." The elongated facade, no longer a by-product of prefabrication, becomes a formal strategy to increase access to light, air, and outdoor spaces in cities where all three have become scarce. A formula for a better quality of life, if only for those who can afford it. To the extent that pixel buildings are egalitarian, they become so by multiplying terraced penthouse units throughout their articulated forms, affording mere millionaires living conditions once exclusive to billionaires.

If progress in urban luxury housing, as exemplified by pixel buildings, has tracked the creative increase of the facade-to-interior ratio, the degradation of conditions at the other end of the housing spectrum is conversely characterized by efforts to cram more and more interior space into less and less building envelope. A controversial proposal for Munger Hall, a dormitory at the University of California, Santa Barbara, takes this trend to its logical extreme. Allegedly designed by its backer, the billionaire Charlie Munger, the 1.5-million-square-foot dormitory packs a wallop of density: 4,500 single-occupant residences are slotted into a rectangular footprint measuring 500 feet by 400-feet; 94 percent of the rooms will not have windows.

If the pixel building is an echo of modular projects of the '60s, in a twist of irony, so is Munger Hall. Following a relentless modular plan, the dormitory will be divided into standardized "pods" to be built in factories and assembled on-site. Only the perimeter components will feature windows—a brutalism of a different kind. ●

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