



Steven Holl Architects, Museum of Fine Arts Houston Central Plant, Houston, Texas, 2020. Photo: Sean Fleming. Courtesy the architect.

Climate “As Found”

The faintly glittering monolith almost disappears against the overcast sky. Its hard lines and heavy massing seem improbable, distinctly *other*. The object’s material palette – concrete post-and-beam supporting CMU block panels – could be considered brutal were it not for its shimmering silver paint finish. The elevated mass is roughly 80 feet deep, 80 feet wide, and 40 feet tall: a halved cube resting on nine set-back pilotis atop a 12-foot-tall concrete perimeter wall. The mass sits two stories above the street, hovering over Houston’s 500-year floodplain.

At grade, the concrete perimeter wall hides the open-air ceramic studio beneath the volume, breaking only to allow a narrow vehicular access gate. From the street, a passerby can just glimpse the carefully threaded exhaust pipes, conduits, and vents hugging the coffered underbelly of the volume. The building’s mechanical thrum is drowned out by passing car traffic. The only indication of the monolith’s internal function is a pair of industrial garage doors puncturing the north facade, indexing two distinct levels inside. On the south facade, a fire egress ladder spills from a single door to lightly touch the ground. The west facade, the building’s primary face along busy Montrose Boulevard, is blank, which gives the object an uncanny presence and scale. It *appears* to be utilitarian, but its monumentality – and coat of silver paint – places it in the realm of the civic. It flickers between architecture and infrastructure – a banal landmark devoid of symbol or meaning.¹

This monolith, the Museum of Fine Arts Houston (MFAH) Central Plant, designed by Steven Holl Architects and completed in 2020, occupies the northern tendril of the museum’s campus. The campus is an assembly of architectural icons, including the dark curving fan of Ludwig Mies van der Rohe’s Caroline Wiess Law Building renovation (1974), the cyclopean massing of Rafael Moneo’s Audrey Jones Beck Building (2000), Carlos Jiménez’s barrel-vaulted Central Administration and Junior School Building (1994), and Isamu Noguchi’s Lillie and Hugh Roy Cullen Sculpture Garden (1986). The latest additions to the museum district include the green-roofed ramp of the Glassell School of Art (2018) and the luminous cloud of the Nancy and Rich Kinder

1. See Josep Lluís Sert, Fernand Léger, and Sigfried Giedion, “Nine Points on Monumentality,” written in 1943, first published in Sigfried Giedion, *Architecture, You and Me* (Cambridge: Harvard University Press, 1958), 48–52.

Building (2020), both designed by Steven Holl Architects. Quietly supporting this constellation of characters is the MFAH Central Plant – part of the \$476 million MFAH Campus Expansion – which provides power, heating, and cooling for the Kinder Building and Glassell School, emergency energy for all operations at the Kinder, and life safety at the Glassell. The plant houses boilers, water tanks, mechanical and electrical systems, and four 750-kilowatt generators providing three megawatts of power to the campus, enabling the museum to maintain a constant temperature of 70 degrees Fahrenheit and 50 percent humidity for art conservation, storage, and display.²

While the Central Plant appears as a levitating mass, it is in fact tethered to the subterranean infrastructure of the campus. Connecting the cube to the ground is a cylindrical CMU trunk packed with ducts, conduits, and piping that link the air handling units and chillers to the mechanical sub-basements and parking levels below grade. Beyond supporting the campus's energy and HVAC requirements, the Central Plant maintains the required environmental conditions for the artwork during extreme weather events (hurricanes, floods, and freezes) and subsequent power failures. In a sense, it is an architectural insurance policy for the art in the adjacent buildings.

The role of the Central Plant is to liberate the architectural objects that comprise the MFAH campus from the technical requirements of energy generation and environmental conditioning, enabling the museum to achieve metaphorical meaning through its form and material. Describing the Kinder Building, Holl's website states: "Concave curves, imagined from cloud circles, push down on the roof geometry, allowing natural light to slip in with precise measure and quality, perfect for top-lit galleries."³ The museum's cloud-like ceilings and luminous glass half-tube facade, and the school's sloped green roof are unencumbered by mechanical systems. This separation of the museum from the machines required for its constant conditioning enables the spectacle of the MFAH.

Yet the architectural articulation of the Central Plant itself is also interesting. The building reads as both a designed object and an as-found industrial shed. Although it hosts a utilitarian program, its use is concealed behind its concrete casing and bare-bones detailing. The only visible trace of its function is the penetration of two small exhaust pipes on its north facade and the smallest glimpse of ventilation pipes on

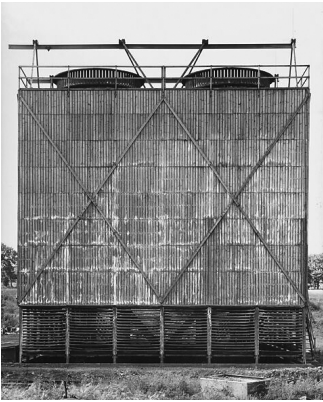
2. According to conversations with Saman Ahmadi (PE, AIA, principal at Kendall/Heaton Associates, Inc., the associate architects for MFAH expansion project), Olaf Schmidt (senior associate, Steven Holl Architects), and Vernon Wells III (head of engineering and facilities, MFAH), and Winston Hesch (project senior superintendent, McCarthy Building Companies, Inc.), held between October–November 2021.
3. "Museum of Fine Arts Houston Campus Expansion (MFAH)," Steven Holl Architects, <https://www.stevenholl.com/project/museum-of-fine-arts-houston/>.
4. Reyner Banham describes Alison and Peter Smithson's Hunstanton School: "Much of the impact of the building comes from the ineloquence, but absolute consistency, of such components as the stairs and handrails." Reyner Banham, "The New Brutalism," *Architectural Review* 118, no. 708 (December 1955): 357.



the roof. The ineloquence of its detailing underscores the ambivalence of the object.⁴ The brutal logic of its trabeated structure and blank infill reinforces the absolute abstraction of the building.

In this sense, the MFAH Central Energy Plant enacts a double mystification. First is the mystification of the technologies and systems required to achieve the architectural pagentry of the museum's buildings. The physical dissociation of the Central Plant from the MFAH campus and the underground concealment of its infrastructural tethers suppress an understanding of the energy-intensive conditions demanded by the spectacle of the architecture – as metaphorical cloud, as autonomous object, as conditioned container, and as insurance policy for art. Second is the mystification of the relationship between energy and architecture through the aesthetic erasure of the function of the Central Plant itself. Its blank facade forestalls understanding of the building's specifically utilitarian role and the machines housed within. Yet the object's presence, monumentality, and *aura* suggest that it must serve a critical function. We are drawn to its strangely catatonic image.

The MFAH Central Plant calls to mind Bas Princen's 2009 photograph *Cooling Plant, Dubai*, not only in the shared function of the two energy plants, but also in their power as images. Princen's photograph captures an imposing black cubic building, seen from the oblique, seemingly emerging from a recently cleared building site. Construction workers in blue coveralls stand amid piles of sand and rubble in the



Bernd and Hilla Becher, *Cooling Tower*,
Caerphilly, South Wales, Great Britain,
1966. © Estate Bernd & Hilla Becher,
represented by Max Becher.

foreground, dwarfed by the featureless presence of the cooling plant. Minimal details are visible on the surface – a faint grid of concrete formwork and panel infill punctuated by access panels and construction lifts – all painted black. As Geoff Manaugh describes, the *Cooling Plant, Dubai* photograph “foregrounds a black structure that, at first, seems indistinguishable from geology. It is a weirdly featureless black box, like something milled from a quarry, sitting in the middle of an excavation site. For all we know, it could be part cliff, part architecture. Uncanny, it almost seems to hide from view despite its intimidating scale. It offers no reflection, no real detail, and only the barest hint of what its true function might be.”⁵

The foreground sand and rubble render the building as an archaeological site, recently uncovered. Indeed, Manaugh’s association of the building with the geological points not only to the seemingly inevitable quality of the object but also to petrocultural aesthetics that shroud the oil-black cube. Unlike the more neutral and frontal framing of Bernd and Hilla Becher’s *Kühltürme / Cooling Towers* series from the 1960s, the Princen image exaggerates the almost menacing aura of the object by explicitly foregrounding the relationship between labor, fossil fuels, and development. While the black box of the cooling plant nearly fills the photograph’s frame, in the distance beyond, a row of recently constructed luxury towers springs up from the desert, revealing the cooling plant’s ultimate purpose: to maintain a constant interior temperature of this spectacle of development. In today’s paradigm of climatic comfort, one could argue that this monolith – and the cooling infrastructures housed within – is a precondition for architecture. Yet, while both the Dubai Cooling Plant and the MFAH Central Plant are tethered to extensive energy networks, the aura of these power plants rests in their seeming autonomy as objects – their sheer *not-of-this-place*-ness.

So why are we drawn to the MFAH Central Plant? While the footprint of the cube (approximately 6,500 square feet) is relatively small compared to adjacent campus buildings, its platonic massing creates a feeling of immensity. Although it withholds all but a hint of its utilitarian function, it is clear that this architecture is a piece of critical infrastructure. Its monumentality and “uncompromisingly frank”⁶ detailing suggest not only the sheer scale of the building’s energy requirements but also the brute necessity of these support systems. In a way, it produces an awareness of our own precarity as users of buildings and inhabitants of climates. It

5. Geoff Manaugh, "The Building Has Always Been There," in Bas Princen, *The Construction of an Image* (London: Bedford Press, 2016), np.

6. Banham, "The New Brutalism," 357.

7. Alison and Peter Smithson, "The 'As Found' and the 'Found,'" in *The Independent Group: Postwar Britain and the Aesthetics of Plenty*, ed. David Robbins (Cambridge: MIT Press: 1990), 201.

8. Ibid.

9. Jesús Vassallo, "Picking up the Pieces," in *Epics in the Everyday: Photography, Architecture, and the Problem of Realism* (Zurich: Park Books, 2020), 101.

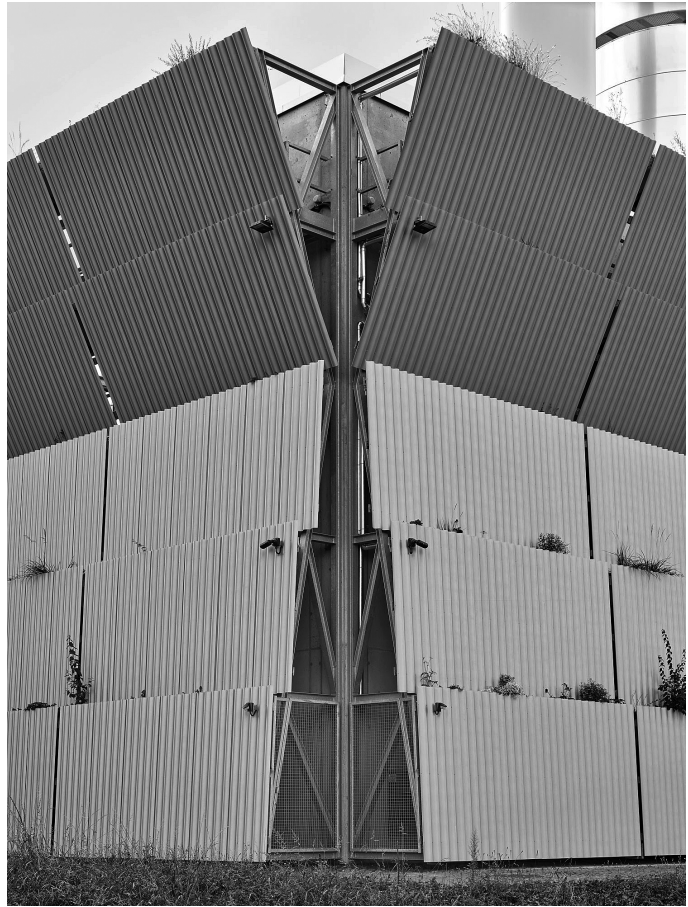
10. Banham, "The New Brutalism," 357.

represents a present and future when all buildings will require this scale of machinery to function: a bunker hovering above the coming flood, optimistically painted silver. Despite its ambivalence as an object, we argue that it offers a more authentic – albeit brutal – image for today than the spectacular icons that make up the MFAH campus.

If such authenticity makes visible our environmental relations, how can we leverage these entanglements to develop a new aesthetic sensibility for architecture today? In their essay "The 'As Found' and the 'Found,'" Alison and Peter Smithson articulate the relationship between architecture and the ordinary, developing an aesthetic approach to the "as found" conditions of everyday life that would become one of the tenets of New Brutalism. Immersed in postwar London – where the scars of aerial bombing campaigns still pock-marked neighborhood blocks – the Smithsons and other members of the Independent Group found an authenticity in the material qualities of the rubble, the heaps, and the fragments that littered these sites. The Smithsons argued for an architecture that celebrated "the woodness of wood; the sandiness of sand" and expressed a "distaste of the simulated."⁷ According to them, "the 'as found' was a new seeing of the ordinary, an openness to how prosaic 'things' could re-energise our inventive activity."⁸ Critically, as Jesús Vassallo observes about the Smithsons' design ethos, the combination of the found conditions of a postwar city juxtaposed with the legible application of new building technologies created an intense material realism that resisted a purely vernacular reading of their work.⁹ Thinking through the call to consider the relation of New Brutalism to today's architecture, can we consider an update to the New Brutalist tenets developed by Reyner Banham? Beyond (1) producing a memorable image, (2) clearly expressing structure, and (3) valuing materials for their qualities "as found,"¹⁰ we propose to expand the third point to include the climate itself "as found." By treating the climate as found, the architecture does not consider the external environment as a medium to be resisted and actively reconstructed. Instead, it searches for opportunities for climatic visibility and collaboration between a building and its everyday milieu as both an embodied and aesthetic experience, reveling in the breeziness of breezes and the shadiness of shade.

Two contemporary projects, the Unterfeld Energy Center by Zurich-based Lütjens Padmanabhan Architekt*innen and the Public Condenser by Paris-based Muoto Architectes, make

Lütjens Padmanabhan
Architekt*innen, Unterfeld Energy
Center, Zug, Switzerland, 2024. Photo
© Philip Heckhausen. Courtesy the
architects.



legible their relationships to energy and environment. While the Public Condenser is infrastructural as an aesthetic strategy and the Unterfeld Energy Center functions as actual infrastructure, in both projects the climate itself becomes a medium of construction. The Unterfeld Energy Center, completed in 2024, is a commission to clad a heat pump power station in Zug, Switzerland. The new facade creates a climatic layer over the concrete box of the original utility station, which enables the building to operate as an active participant in the water, soil, and plant cycles of the site. Angled galvanized-steel vertical trusses mounted to the plant's concrete walls support a series of large, corrugated, fiber-cement Eternit panels that compose a monumental, shingled facade. This stepped and layered surface transforms the building into an open funnel, channeling rainwater through rows of planters installed behind the panels. The building's water-filtration process forms part of a series of hydrological loops: one pulls water from Lake Zug to the heat

11. "Unterfeld," Lütjens Padmanabhan Architekt*innen, <https://luetjens-padmanabhan.ch/en/projects/unterfeld>.

12. Muoto, "How to Skin a Rabbit," *e-flux Architecture: After Comfort: A User's Guide*, November 2023.

13. Ibid.

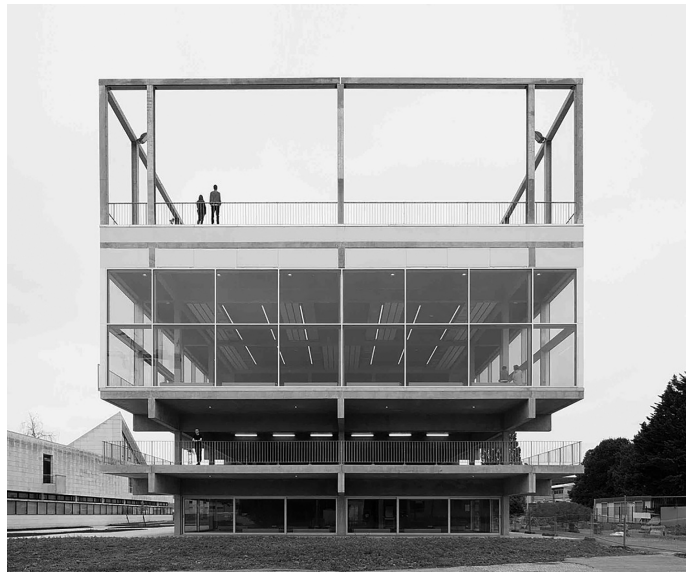
14. Ibid.

pump inside the building, and the other captures rainwater from the roof and filters it through the facade panels to deliver it to the lake. According to the architects, the facade panels produce a surface ecosystem responding to the building's microclimates: "Over time, lichens and mosses will settle" and "leaves and organic materials will collect and turn into humus in the grooves of the Eternit covering."¹¹

Critically, these battleship-gray panels are not the lush grow walls found in a corporate lobby. Their fractured surfaces and harsh angles function instead as an exposed cliff face, cultivating a (somewhat) reluctant garden in collaboration with the found ecologies and climates of the site. Rather than creating a verdant mask of tropical foliage, the cladding accentuates the reading of the building as a utility shed. Instead of "greening" the energy center, the severe facade resists naturalizing its position in the landscape. Not only are the enormous exhaust chimneys still visible, erupting from the plant, but the robust and over-scaled shingles heighten the monumentality of the building and sharpen the machinic realities of its functions.

The 2016 Muoto project at the Paris-Saclay University campus is a stack of open-air, semi- and fully enclosed terraces containing outdoor playgrounds, sports and fitness facilities, and a 600-seat cafeteria. The exposed concrete structure, crowned by a monumental open-air basketball court on the roof, is designed to act as a "shelf containing a series of independent heat bubbles, each corresponding to different activities."¹² Adjacent zones of indoor and outdoor spaces create a climatically hybrid environment. As conceptualized, the building takes into account the heat produced by occupants during mealtimes, reducing the amount of energy required to warm the interior throughout the day.¹³ Describing their design, Muoto writes that "the building resembles a structure without an interior; a transparent body confidently exhibiting its organs."¹⁴ Such corporeal exposure recognizes that bodies themselves produce climates. By mobilizing the heat exchange between ambient bodies – acting quite literally as a *condenser* – the building becomes a new type of power plant, capturing and reusing the energy of its inhabitants. This confident exposure, or exhibition, of the building's organs is rendered in a bare tectonic of concrete, glass, and steel. The playful and top-heavy stacking of programmatic frames is in dialogue with the material brutality and geometric dryness of the structural frame. From the short east facade, the project appears as two compressed floor levels supporting two

Right and opposite page: Studio Muoto, Public Condenser, Paris, 2016. Photos: Maxime Delvaux. Courtesy the architects.



monumental floors above. Yet from the north and south, it reveals a more complex massing logic of mezzanines, cantilevers, and alternating enclosed and open-air spaces. An outdoor vertical circulation zone bisects the building off-center from its midpoint, allowing users to walk from the street to the rooftop basketball courts without transgressing the building's thermally controlled zones. Instead of offering lush and ameliorative roof gardens, the exterior spaces are austere hardscapes for social interaction. More than exposing the inner life of the building, the project's expression of concrete and ductwork demonstrates the underlying frugality of gestures necessary to demarcate enclosure and to capture heat.

These two projects mobilize aesthetics and material assemblies to demystify the relationship between a building and its environment. While the MFAH Central Plant and the work by Lütjens Padmanabhan and Muoto exhibit the aesthetic characteristics of today's Newer Brutalism tendencies, they articulate radically different technical positions through enclosure and energy. The closed box of the MFAH Central Plant controls off-site interior atmospheres, not only concealing its function, but also binding us to the immense yet hidden energy infrastructures deployed for the functioning of the campus. By contrast, the Unterfeld Energy Center and the Public Condenser articulate a climatic toolkit for architecture: one through an ecology of skins and layers, the other as a system of heat-exchanging organs.

These case studies offer a possible methodology for reimagining architecture's image, not through metaphorical



spectacles (like the MFAH “cloud”), but through an awareness of the built environment’s entanglement with broader planetary conditions. Without considering these relationships as part of architecture’s aesthetic project, we risk further obscuring the brutal logics of extraction that underlie architecture’s use of energy and materials. Despite its mystifying tendencies, the MFAH Central Plant remains a powerful aesthetic object. Its blank facade creates a radical dissonance between the utilitarian function of the object and the environmental realities it obscures. Reminding us of the menacing aura of Princen’s photograph, perhaps it is the fact that we can no longer hide the realities and costs of climate control that draws us to this enigmatic object. While these arguments suggest a way of seeing the utility shed as a powerful image for architecture, we must also acknowledge the energy landscapes required for its production and use. By treating the climate “as found” rather than “as produced,” we argue not only for the demystification of our energy infrastructures but also for a reenchantment of these everyday structures by exploring new forms of climatic mediation. We find in these final examples a cautious optimism about the relationship between architecture and environment. Avoiding both spectacle and redemption, these projects create an architectural image that begins to match our sense of the world.

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