

The End of Architecture 2

OLLI at PITT - Lecture 1
Zaha Hadid (2023.02.02)
Matthew Schlueb, Instructor

Welcome to The End of Architecture, Part 2

I am Matthew Schlueb, **registered architect**, practicing **residential for 2+ decades**.
7th year teaching at Pitt Osher.

Thankyou for taking this course, a **pleasure for me to present** this material to you.
I **welcome your feedback** to improve the class, as this is primarily **for your benefit**.

Received the email with **syllabus handout**?

**Why is Architecture ending?**

First, **define What is Architecture**.

For me, **Architecture at its root, its essence, in its original form, is the Wall**.

What is a Wall?

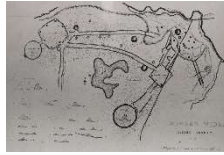
A wall is a form that divides space.

When the wall is **circular**, it creates an **enclosure**,
separates the space inside from the space outside.

The **first walls** may have been built for a physical separation,
...to keep the sheep in, ...or the wolves out.

But, for a wall to become Architecture, it is **more than physical**,
...it is the metaphysical quality of a wall that is significant.

The **'insideness' of space that is created by walls that enclose**,
...define a particular place, ...with a specific feel.



An example, right here in **our region**, in **Eastern Ohio**, from the earliest traces of **inhabitants 2K years ago**, **mound builders**. [**fork** Raccoon Creek & Licking River]

Great circle mound, part of a larger complex of earthworks, the **largest system of geometric earthworks in the world**, Octagon could contain 4 **Roman Coliseums**, Observatory Circle could contain the **Giza's Great Pyramid**.



The circle mound here **enlarged up to 9 ft. in height** (5ft to 14ft.) and **1,200 ft. dia.** Now overrun by the growth of **Newark, Ohio**, an **1855 railroad stop btwn. Pgh. / Chicago / St. Louis**. [...and Moundbuilders Country Club golf course]



The **Moundbuilders** have **remained a mystery to modern archeologists**, still debating **who built them?**, **how they built them?**, **why they built them?**, ...

One of my undergraduate professors used to say, “the **architecture that remains after a civilization is gone, can be read like a book**, the forms telling us about the culture, how spaces were used, for what purpose, revealing their daily lives, ...”.

Architecture is a physical medium. And, the most amazing thing about architecture is that, long after its creators are gone, we might **not know what they were thinking**, but, by **experiencing their spaces in person**, we can still connect with their feelings, **how the space felt** for them as an inhabitant.

To **feel the sensations locked within a space**., it must be **experienced on site**, ...in person, for the **body to perceive the space with all the senses**.

So, when I did this inside the Great Circle Mound earthworks, ...



Sense of crossing a threshold, entering into a distinct space, despite the lack of roof, created by the mounded perimeter wall with an articulated opening.



Once inside, surrounded completely by earthen walls that rise above eyelevel, there is a palpable sensation of enclosure, the original function of walls, when man began to modify the landscape to their needs. The first needs emotional, to feel enclosed, apart from the endless wilderness, now outside by the creation of an insideness.

I believe this was the first need for Architecture, ...for a sense of being inside. ...a feeling created, simply by the relationship to a physical form, ...a wall.

Today, the start of a new millennium, the 21st century, this course will examine the work of five architects, that trace a trend in architecture: elimination of the wall, ...the end of Architecture. Without a separation from the 'outside' world, ...a return to the natural ground, without a clear division of space or form, ...a blurring of the line (wall) between the man-made and the wilderness.

Some more recent context, the architecture of the 20th century, ...a quick overview, outlined by three houses, by three architects, ...how architecture is ending in this modern era we find ourselves in:



First, Le Corbusier's Villa Savoye, Poissy, France (1928-1931).

The Five Points of Architecture (published in L'Esprit Nouveau in early 1920s) Pilotis: grid of slim reinforced concrete pylons, raise the building off the ground.

Free design of the ground plan: by the pilotis, **absence of load bearing walls.**

Here Corbusier has taken **the first step to eliminate the wall,** **beginning of the end.**



Flexibility of design, freedom of movement.



Extended this principle to the vertical elevation, **Free design of the façade:**

Exterior walls no longer bearing, curtain walls hung from the pilotis structure, flexibility and freedom of the design on the façade.

Horizontal ribbon window: along **length of wall,** lighting rooms equally, framing view of the horizon, masking out the ground and the sky.

The most important window in history. **Dissolving the wall,** ...the end...



Last, **roof garden:** **flat roof** affording a terrace, **doubling of the ground plane.**



Raise off ground, **Cubist perception of the third dimension,** **depth,** in a single view.

Obscured (**elimination**) the door, avoid **relation to ground,** function, **idealized,** art, abstract cube, conceptual over practical.

Democratic space, complete **mobility,** **unrestricted space,** no longer confined, without division, **without Architecture as separation,** collective over individual.



Ludwig Mies van der Rohe's **Farnsworth House**, Plano, Illinois (1945-1951).
 Raised off ground, but lowered, closer to ground.



Ribbon window enlarged from floor to ceiling, complete elimination of the wall.



Without walls, third dimension perceived through the space, not under the floor.

Without walls, absence of the corner, space becomes endless, between two planes.



White structure maintains abstraction from natural world,
 Perpendicular approach at a right angle, further abstraction from nature.



oblique approach, informal, natural.

Philip Johnson's **Glass House**, New Canaan, Connecticut (1948-1949)



Fully landed on the ground, architecture's original place grounded, as authority.



Brick cylinder, mass grounding in weight, penetrating the floor and roof planes, ...marking place, significance, authority, of the individual not the collective,



...return to classical form not the modern void of history, subjective, meaningful. Chair rail, base trim along floor. Brick floor (herringbone pattern).



In the absence of walls, art work used as vertical plane dividing space. [Nicolas Poussin's **The Burial of Phocion**, 1648-49]



...positioned in height to align the horizons in the painting with the outdoors. Rug a floating raft, defining the space of Meis' intimate arrangement of seating.



Obliquely opposite painting was a sculpture, **Two Circus Women** (Elie Nadelman), a paper-mâché figural piece of two embracing woman, the generous curves and textured surfaces of their bodies "the foil" which the hard lines and machine smoothness of the house needed. Wright repositioned it during a visit, saying "Philip, leave perfect symmetry to God!"



Corners closed, space confined (without walls).

Highly reflective glass, not clear invisibility of Farnsworth glass, absent as walls. Johnson's glass reflects the trees, the natural surroundings part of the architecture.



Reflectivity not just in the glass, but in reflection necessary to live in a glass house. "It is the thinking time that's important time in architecture."

End of Architecture, we will be examining the dissolution of Architecture (Wall), ...the built structure becoming integrated into a singular element, amorphous, entropic, plasticity, as we will see in the work of Zaha Hadid, a merging that has been coming since the Enlightenment, accelerated by the Industrial Revolution and fully realized by the Computer Age shifting focus toward technology, no longer the individual human's sensations.

The span of Zaha's work beautifully outlines this transition in architecture of our current time, beginning with her first paintings ('paper' Architecture) in 1976 to the moment Architecture ended, as defined by Corbusier, Meis, Johnson, and with her death in 2016.

In that context, begin with Zaha's graduate thesis:



Malevich's Tektonik (London, UK, AA Graduate Thesis, 1976-1977) puzzled Fourteen-level hotel on the Hungerford Bridge across the river Thames, linking 19th century buildings on the north shore with the Brutalist South Bank Complex. Inspired by the Russian Suprematist and Constructivist Avant Garde artists Ilya Chashnik, El Lissitzky, Kasimir Malevich, Alexander Rodchenko, Nikolai Suetin. Exploring ideas of abstraction, distortion, fragmentation and flotation, utilizing the tektonik to create new possibilities for interior space.

“**Painting** formed a critical part of my early career as the design tool that allowed us the intense **experimentation in both form and movement** leading to our radical approach to **developing a new language for architecture**. I felt limited by the poverty of the traditional system of drawing in architecture and was searching for **new means of representation**. I mean everything was done through plan and section. So the paintings really began because I thought the projections required a **degree of distortion** at the time, but eventually it affected the work of course. The work became much **more malleable** because the origin of the work was also about layering – like an **historical layering or archeology**.”



The Peak Leisure Club (Hong Kong, China, 1982-1983) **shards**

Landmark to stand apart above the congestion and intensity of Hong Kong, centered on the creation of a ‘**man made polished granite mountain**’. Excavated subterranean spaces, distinctive horizontal layers and floating voids house the club’s various activities within a unique ‘geology’.



The club itself is a **void** thirteen meters high **suspended between the roof of the second layer and the underside of the penthouse**. Seen from Hong Kong, the **mountain cliffs forms a backdrop to both leisure and intellectual activities**, which are **suspended in the air**. These suspended satellites constitute a modern geology. Offering and symbolizing the pinnacle of the high life. A gentle seismic shift on an immovable mass.

4x



“These **drawings** allowed us to see a project from every possible and impossible perspective. The nice thing about the elaborate drawing is that, because they take such a long time to construct, they **give you the time to develop** and experiment on so many layers.”



“A lot of people didn’t know where it was coming from – those many very abstract layers. I think part of it was **calligraphy**, I mean **fluid** calligraphy like in **Turkish** is very different from **Kufi**, which is very **geometric** and some of the calligraphy is based on certain **mathematical** roots.”



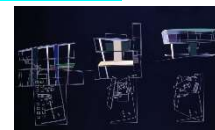
“For me, **fragmentation** came from suprematism. And in the seventies, there was another preoccupation – with breaking things, with putting things in a modern context of shattering. But that all seemed quite disorganized, so I’ve begun looking at things in terms of **fragmentary organization** – as a composition like one of **Kandinsky**’s paintings, with a certain interesting **equilibrium**.”



Tomigaya Building (Tokyo, Japan, 1986) **geometries**

Glass pavilion set above a void or courtyard, curved upwards to provide access to a series of submerged spaces – **continuous floor** or **sequenced platforms** – for use as office, retail space or residence.

This project single-handedly set the **standard for drawings and models** during my years as an undergraduate student.



“There is an issue we suffer from as architects: during the period when we all had no work in the 1970s, we were very productive with drawings. It was always criticized as ‘**paper architecture**’ – as if we were trying to avoid engaging with the real world or didn’t understand how to make a building. But I’m convinced it was a very important period, a very **critical time of investigation**, and they helped the development of all the work that followed over the next thirty years.”



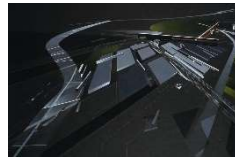
“The **presentation** began to inform the work and gives you ideas. These very difficult drawings where we **saw everything simultaneously in 3D**, at the same time **contouring the site in (clear) plexi** we began to see a **similarity between liquid space and rock**. **What does it mean to see in a transparent way through building?** One of the realizations for us was that we **do not have to have the vertical circulation**

operate like an extrusion or vertical core, but rather **allow the vertical path to shift** from one level to the next. This was discovered because we had the different plans overlaid with each other, to construct a way to **connect the levels in a new way.**”

10:45

[5 MINUTE BREAK]

10:50



Vitra Fire Station (Weil am Rhein, Germany, 1990-1993) **splinters**

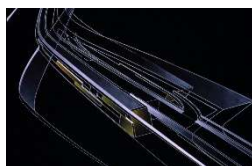
An end note to existing factory buildings. Representation of ‘movement frozen’, an ‘alert’ structure, ready to explode into action at any moment. **Linear landscaped** zone, **artificial extension** of the linear patterns of the adjacent agricultural fields and vineyards, developed as the outer edge, **defining space rather than occupying space**, stretching the program into a **long, narrow building**.



Surrealist. Superimposition of **fisheye perspectives to the literal bending** and melt down of space (and form).

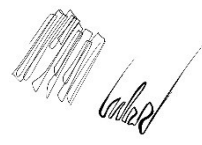
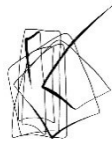


Space-defining and screening functions, a **linear layered series of walls**, which **puncture, tilt, break according to functional** requirements, revealing the interiors only from a perpendicular viewpoint.

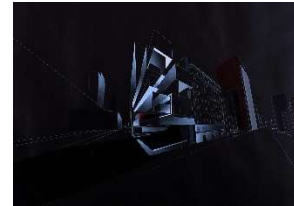
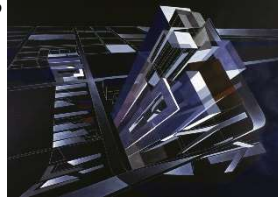


Landesgartenschau (Weil am Rhein, Germany, 1996-1999) **ribbons**

Rejects the concept of building as ‘isolated object’ – bleeding out of and **dissolving back into the surrounding landscape** – a network of **entangled paths and interwoven** spaces to create a structure that contain exhibition hall, café, environmental center.



“**Sketching** is absolutely critical. I privilege the motion of the sketching hand as a **literal option in my architecture**. The **dynamic fluidity** of the sketches has become increasingly possible to manifest due to the advances in digital imaging software and construction techniques.”



Late 1990s, the **computer-aided software** (**parametric splines**, smoothly deformable **meshes**, Blobs, **NURBS** and **Booleans**) was still not convincing, Zaha continuing to use paintings. It wasn't until the completion of **Frank Gehry's Bilbao Guggenheim** in **1997**, that the mood shifted, opening opportunity for more complex built forms.



Lois & Richard Rosenthal Center for Contemporary Art (Cincinnati, USA, 1997-2003) **continuous**

Dynamic public space, an ‘**urban carpet**’ leads pedestrians into and through the interior space via a **gentle slope, which becomes, in turn, wall, ramp**, walkway and even a ‘**landscaped**’ expanse that reads as an artificial park space.



An ‘**urban graft**,’ streams of **parallel walls**, variously converge and dissect, generating **patterns of interior and exterior spaces**. Circulation follows the overall drift of the geometry, vertical and oblique circulation elements are located at areas of confluence, interference and turbulence. Promoting a **disinheriting of the ‘object’** oriented gallery space, **instead ‘drift’** takes on an embodied form, a way to navigate experientially through the museum, a **more pliable and porous organism**.



Wall is the primary space making device, across the site, cursively and gesturally, incidents where walls become floor or twist to become ceiling or are voided to become large window. 2D splines crucially lifted into 3D (3d Max), integration between the primary levels was elaborated by means of voids, terracing galleries and ramps.



MAXXI: Museum of XXI Century Arts (Rome, Italy, 1998-2009) layers

With no firm boundary between what is 'within' and what is 'without', confluent lines – walls intersecting and separating to create interior and exterior spaces.

Those of you who took *The End of Architecture*, 5 years ago (2018)

That course concluded with an essay written by Rem Koolhaas, titled *Junkspace*, foretelling the future of architectural space, as mindless over-expansion, emptiness. (*The Harvard Design School Guide to Shopping*, 2001)

“*Junkspace is the residue mankind leaves on the planet*, what coagulates while modernization is in progress. Junkspace is the sum total of our current achievement, we have built more than did all previous generations put together.

We do not leave pyramids. *Architecture disappeared in the twentieth century.*

The product of an encounter between escalator and air-conditioning, conceived in an incubator of *Sheetrock*.

How can architecture persist when the conditional is the norm, when there is no form, only proliferation, and when spaces search for function like hermit crabs looking for a vacant shell? Landscape has become Junkspace, Architecture is dead by this terminal hollowness.

We have added nothing, just reconfigured. Color has disappeared to dampen the resulting cacophony. We're united in sedation. Why can't we tolerate stronger sensations? Dissonance? Awkwardness? Genius? Anarchy? Trees are tortured, lawns cover human manipulation so like thick pelts, or even toupees. Entire mountains are dismembered to provide ever greater quantities of authenticity.”

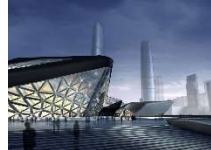
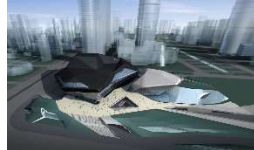
Architecture is just transitioning, away from a Humanist centered architecture, to an amorphous, entropic, plasticity of space, disconnected, isolated, foreign to any natural or meaningful experience for its human inhabitant.

Grand sweeping lines, rendering a space overwhelming in its scale, becoming a mirage optically, delirium, obscuring interface/reference to humans,

This gets to the heart of the matter, what Rem Koolhaas labels a 'Bigness' "Beyond a certain scale, architecture acquires the properties of Bigness. ...the size of a building alone embodies an ideological program, independent of the will of its architects. ...structures taller & deeper – Bigger - than ever before conceived, with a parallel potential for the reorganization of the social world."

(Small, Medium, Large, Extra-Large, 1995) ['Groundscraper', 2009]

Rem Koolhaas was a mentor for Zaha Hadid, one of her teachers when she attended the Architectural Association in London from 1972-77 and later working in his office, where she was according to Rem, "a planet in her own orbit."



Guangzhou Opera House (Guangzhou, China, 2003-2010) cubes

Monument to the new millennium overlooking the Pearl River. Contoured profile, twin boulder design and approach promenade enhances urban relationships, creating a new dialogue between cultural traditions and the emerging town.



Pebbles in a stream smoothed by erosion, in perfect harmony with its riverside location. Twin boulder. River valley, form transformed by erosion.



Bldgs. not
replicate
renders

Fold lines in this landscape, cutting dramatic interior and exterior canyons for circulation. Custom molded glass-fibre reinforced gypsum (GFRC). Fluidity and seamlessness.



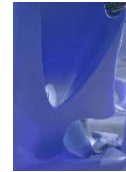
Changes in surface material do not coincide (reinforce) changes in geometry.



Ice Storm (Vienna, Austria, Museum für Angewandte Kunst retrospective, 2003)

Built **manifesto** exploring the potential for a **new domestic language** of architecture driven by the **new digital design and manufacturing capabilities**.

“The new **digital design tools** allow us to integrate highly complex forms into a fluid and **seamless whole**. We like to work a lot with **curvilinearity** because we believe it **visually simplifies the configuration**, and you can then cope with more **complexity without crowding or cluttering** the visual scene.”



Dramatically lit pockets, passageways, niches and projections, appeared **carved or eroded** from a singular mass – an architecture achieved not by construction, but **by reduction**. Fluid form and **smooth surfaces rendered the boundaries** between the pieces of furniture and the structure containing them **ambiguous**.



Carved from a single continuous mass, semi-functional insertions which hint towards the potential for (hard) sofas, day-bed, desk, tables, etc. Complex curve-linearity, **seamlessness** and the smooth transition, technique of **‘morphing’**, **preexisting furniture pieces are embedded** within the overall fluid mass, integrated organs of the overall organism. Loose **fragments that drift**.



New types of living / lounging environments, **latent** rather than manifest. **Neither familiar typologies nor any codes of conduct are yet associated with its morphology**. **Reinvent ourselves** in terms of **posture, demeanor, and life-style**. We do not want to offer optimized and thus predetermined use-patterns, a margin of strangeness and **indeterminacy** is desired, stimulation emerges **between abstraction and metaphor**.

2004 awarded **Pritzker Prize** (despite only four built projects to date).

Mid 2000s, **Building Information Modeling (BIM)** was introduced, bringing structural and mechanical analysis to architectural design (Revit in 2013).

In 2005, **Gehry Technologies** created **Digital Project**, bringing an architectural visual interface to CATIA (V.5, digital information sent directly to manufacture).



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Silken (Hotel) Puerta America (Madrid, Spain, 2005) **mirage**

Thirty guest rooms and common areas, enveloped within **contiguous acrylic surface** in a **monochromatic scheme** of white, black or orange. Interiors flow seamlessly, walls, bed, desk, bath fixtures emerging organically from the continuous curve. Digital designs used by **computerized milling machine (CNC)** that cut the molds used to **thermoform the plastic surface elements**.



ThyssenKrupp Headquarters (Essen, Germany, 2006) **modulation**

“Using **3D visualization software** to define building **forms by logic or algebraic formulas** enables all elements of architecture to be **parametrically malleable** and thus able to adapt to each other and to the environment via **scripted correlations**. This implies an overall intensification of relations both internally within the building, as well as externally with the context.”

As buildings respond more to code, than to humans – resonate? meaningful?



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Heydar Aliyev Centre (Baku, Azerbaijan, 2007-2012) **flow**

Independence in 1991, departing from its legacy of normative Soviet Modernism, breaks from rigid and often monumental, to express **sensibilities of Azeri culture**. Continuous fluid relationship between surrounding plaza and the building’s interior. **Plaza as the ground surface, accessible to all, rises to envelope a public interior.**

Undulations, bifurcations, folds, and inflections modify this plaza surface, welcoming, embracing, and directing visitors, blurs the conventional differentiation between architectural object and urban landscape.

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Non-hierarchical space, calligraphic and ornamental patterns flow from carpets to walls, walls to ceilings. Blurring distinctions between architectural elements.

Contemporary interpretation, reflecting a more nuanced understanding. Surface so continuous that it appears homogeneous.



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Advanced computing. Concrete structure combined with a space frame system, large-scale column-free spaces, fluidity of the interior. Curved 'boot columns' for inverse peel of surface from the ground. 'Dovetail' tapering of the cantilever beams that support the building envelope. Substructure was developed to incorporate a flexible relationship between the rigid grid of the space frame and the free-formed exterior cladding system. Glass Fibre Reinforced Concrete (GFRC) > Glass Fibre Reinforced Polyester (GFRP). (Disneyland's "House of the Future", 1956-7) Plasticity. Seams emphasize implied motion of its fluid geometry, while solutions to manufacturing, transportation, assembly, deflection, loads, temperatures.



+5



Day, building's volume reflects light, constantly altering by time of day, semi-reflective glass arousing curiosity without revealing the fluid trajectory inside.

Night, this character is gradually transformed, washes from the interior onto the exterior surfaces, unfolding the formal composition, maintaining the fluidity between interior and exterior.



Saudi Arabia was selected (Nov.10, 2022) to host the **2029 Asian Winter Games** at the Trojena resort, which is being designed by **Zaha Hadid Architects**, **UNStudio**, **Aedas**, **LAVA** and **Bureau Proberts** as part of the **Neom development**.

The 2029 Asian Winter Games will be hosted at a 60-square-kilometre **skiing** and outdoor activity resort that is set to be completed in 2026 as part of Neom, a **renewable energy-powered region** under development in Saudi Arabia.

"Trojena will have a suitable infrastructure to **create the winter atmosphere** in the **heart of the desert**, to make this Winter Games an unprecedented global event,"

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The resort includes a large, man-made lake

+1

It will include a "futuristic folded-vertical village"



+2

The controversial Neom project includes 170-kilometre-long mega city: **The Line** being designed by US studio **Morphosis** along with a ski resort being designed by **Zaha Hadid Architects**, **UNStudio**, **Aedas**, **LAVA** and **Bureau Proberts**. Eight other regions are planned as part of the overall development.

The Line has been criticised on sustainability and liveability grounds with experts telling Dezeen that the project's claims were "naive". However, Neom's executive director for urban planning Tarek Qaddumi told Dezeen that the project will "revolutionise our current way of life".

(2022.12.12)

Last month, human rights criticized in ALQST reported that Shadli al-Huwaiti, Ibrahim al-Huwaiti and Ataullah al-Huwaiti, who had reportedly **riticized** The Line, had been **sentenced to death** by Saudi Arabia's Specialised Criminal Court.

Last month it was reported that three men forcibly evicted from the Neom site had been sentenced to death.

Frankental argued that while the Saudi government is ultimately responsible for the reported forced evictions, the architecture studios involved will financially benefit from them.

"It's the Saudi government who are responsible for these violations, but [the architecture studios] will be benefiting from them," he said.

The architecture studios designing Neom in Saudi Arabia are facing a "moral dilemma" and should "think twice" about their continuing involvement in the project, says Amnesty International's Peter Frankental in this exclusive interview.

"If they receive contracts for designing architecture for Neom, it's on the back of **forced evictions** and on the back of the threats and punishment that have been given out to people who resisted eviction."