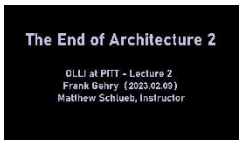
2023.02.09 Notes 

10am

Favorites: "snakes, spiders and fish"

Last week, **End of Architecture** (**wall**), end of division between wall, roof, ground. Today, continuation of **Zaha**'s work, dissolving traditional architectural form.

Architecture is a slow artform (years to design & construct a building): fixed. Unlike all the other arts that can literally be executed in a single sitting: fluid. Gehry is drawn more to the arts, not just for speed, but for ease of change, flexibility, exploring new forms, materials, methods to create.

George Ohr (**1857-1918**) influenced Gehry 'Mad Potter of Biloxi' (Mississippi)

Gehry studied pottery, working with **clay** as a material: soft (architects use bricks), amorphous (w/o defined form), entropic (w/o order), plasticity (easily shaped).

Many architects begin / experiment with furniture.  

Casa Batlló Chairs (**Antoni Gaudí**, 1904-**1907**) lost intrinsic properties of wood, as if clay warped by body weight sitting, seat surface deformed, legs buckling, wood stiffness giving way to softness of molded clay, life breathed into chair by capturing gesture, creator's hand. Soft architecture of amorphous surfaces, liquefaction removing tectonic qualities of the materials, fluidity of form. 

Robie house (**Frank Lloyd Wright**, Chicago, **1909**) Plasticity of material, turning corners, wall becomes ceiling, Dining Room chair, defines the space of the table, open corners as in Fallingwater corner windows.  

Marcel Breuer's Wassily Chair (Bauhaus, Dessau, Germany, **1925-26**), Model B3, painter **Wassily Kandinsky**'s Bauhaus apartment, **Charlotte Perriand** wearing an **Oskar Schlemmer** mask, soft leather in tension, conforming to anatomic body.  rocking when off base

Le Corbusier and **Charlotte Perriand**'s Chaise Longue B306 > **LC4** (**1928**)

Familiar with **Michael Thonet**'s bentwood rocking chair (**1860**),
Perriand: "While our chair designs were directly related to the position of the human body (sleeping) …they were also determined by the requirements of architecture, setting, and prestige."

Wiggle Side Chair (**1969**)

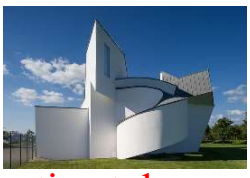
Frank Gehry's Easy Edges furniture designs (**1969**-1973), experimenting with corrugated cardboard, layered in alternating directions creates structural strength.

■ Gehry house (Santa Moncia, CA, **1977-1978**) , chain link fence questioning architectural materials, corrugated metal sheeting, construction grade plywood, concrete block, exposed stud framing (unfinished), safety glass skylights, asphalt.
For **Gehry**, democratic materials, low-cost affordable, vernacular, every-day, making a statement on the politics of architecture, the psychological impact from the pervasiveness of harsh materials making up the urban environment.
"I am interested in finishing the work, but I am interested in the work not appearing finished, with every hair in place, every piece of furniture in its spot ready for photography."
"I prefer the sketch quality, the tentativeness, the messiness if you will, the appearance of in-progress, rather than the presumption of total resolution and finality."
Geometric volumes dynamically out of square, deconstructing traditional box.

Little Beaver Chair & Ottoman
(Vitra, edition of 100)

Gehry's eased / softened into Experimental Edges in (**1979**), never manufactured.
Gaudí's clay chair deformed to the human body; (**Dennis Hopper** collection)
Gehry was interested in exploring quality found in sketches, raw, course, natural.

Zaha / Eisenman's serpentine forms



■ Vitra Museum (Weil am Rhein, Germany **1989**) serpentine tubes; plaster;

Zaha's Fragmented, distorted perspective

Zaha's Vitra Fire Station (Weil am Rhein, Germany, **1990**-1993)

Search for form…

Chiat/Day Building, (Venice, CA, **1990**-1991)

artists **Claes Oldenburg** and **Coosje van Bruggen**'s binoculars; search for form

Change in form, from use of CAD (beginning 1991)…

Michael Thonet's Bentwood Chair No. 14 chair, first (&biggest) mass produced, 1867 Paris International Exposition, steamed beechwood 212 degrees in molds, **Le Corbusier**: "Never was a better and more elegant design and a more precisely crafted and practical item created."

Continuous line of the sketch.

Frank Gehry's Bentwood furniture, mass produced by Knoll Group (**1989-1991**), Working directly with wood, weaving linear strips from lines of sketch, glued joints

Deformed, softened form in sketches 10:25



■ **Gehry**, Walt Disney Concert Hall, softened curved surfaces (**1987**-**1991**-2003)
CAD

Donors' wall: experimentation with new materials,
(**Santa Monica house**: chain link fence, corrugated)
Appearance of granite, but **felt**, softened, impermanent

Originally stone (too costly).

Designed in models (more sculpture, in clay, than traditional 2D on paper)

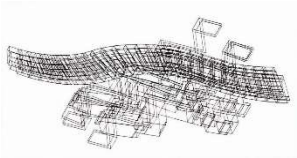
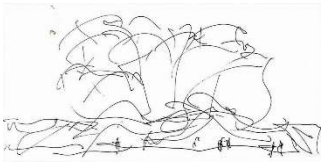
acoustic model (1/10 scale)
not 3D CAD/VR

Minoru Nagata's acoustical studies and **Gehry**'s research of the world's most honored concert halls from Boston, Amsterdam, Tokyo's Suntory, and Berlin Philharmonic: the Disney Concert Hall's "interior and form are a direct expression of acoustical parameters, resulting in both visual and acoustic intimacy."

Philip Johnson, American pavilion at Venice Biennial (5th International, **1991**)
Philip Johnson: "Eisenman's image as East Coast intellectual extraordinaire and Gehry's role as the intuitive, anti-intellectual West Coast savant"

Peter Eisenman's addition to College of Design, Architecture, Art and Planning (DAAP) at University of Cincinnati (**1988**-1996)

Zaha's MAXXI museum
(Rome, **1998-2009**)
serpentine forms & landscape


 drafted CAD-like ink  freehand sketch

Gehry seeks "the architectural possibilities of unexplored shapes and untried materials, and his muse is Art. **Eisenman**, on the other hand, is convinced that architecture is primarily a matter of meaning. He takes his chances on questions of text, and his muse is Philosophy." Architecture future: Sculptural or Contextual?
Frank Gehry begins every project by sketching, quick gesture drawings, often a single continuous line, a race against decay, quicksilver play to capture the fleeting idea, the feel, the essence. The quality found in sketches, raw, course, natural.

"I love the texture of this paper and I love the fact that you can do this. That I can just go, I never take the pen off. So, I would make shapes like this… tactile…"
"You have to hold the image in your head while you're doing it, and I can't hold the image for longer than 3 minutes, I think I made 3.4 minutes once, I clocked it."

The continuous line parti became a snake motif, a metaphor for the irregular, rough, unfinished quality of a sketch, as opposed to the drafted line / CAD drawings.

Traveling exhibit Contemporary Arts Center (Cincinnati, **Zaha**, **2003**) April 3 **1992**, Riffe Gallery of Ohio Arts Council (Columbus) June 4 – August 8, 1992 (>Pratt).

Carp in grandmother's bathtub. Study in movement.
Eisenman's historical (contextual) reference:
"why not go way back, 300 million years ago, to fish?"

■ El Peix 'The Fish' (Barcelona, **1992** Olympics) woven gilded stainless steel strips supported by a metal structure. Interplay between the rays of the sun and skin creates the impression of scales, depending on the intensity of the light.
First use of CAD to design a complex structure with compounded curves.
Increase sophistication of structural design, connection details, smoothing of surface envelope, curving in two directions, slumped envelope forms.


Zaha Vitra Fire Station (**1993**) dramatic gesture of cantilevering projection

■ Fred & Ginger (Prague, **1996**) gestured forms (anatomic) with CAD bldg. Scale, not human

10:45

[10 MINUTE BREAK]

10:55

Gehry: "The computer is a tool, not a partner. An instrument for catching the curve, not for inventing it."

"The more we can migrate the physical world into the computer, the more we can set it free, reconsider reality from a new perspective."

■ Guggenheim Museum **(**Bilbao, **1993-1997)**

Philip Johnson described as "the greatest building of our time"

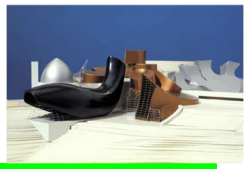
Titanium plates, arranged in fish scales, laminated on a galvanized steel structure in Pittsburgh, the rolling allowed to obtain titanium plates only 0.4mm thick, (oil can) which is much thinner than steel plates. Quilted rather than undulated shape to resist the wind, to avoid vibrations during storms. **Flat lock seam panel**: roof into wall.


Constructed on time and budget. Detailed, realistic cost estimate before proceeding, collaborating closely with trades during construction to control costs.

Guggenheim Bilbao stands at the transition into the computer age of architecture.

Computer visualizations by **Rick Smith** Dassault Systemes' CATIA V3 software (first experimented on **Walt Disney Concert Hall** in **1991**) digitized the exterior of a scaled physical model, calculating material stresses, point by point in a 3D digital model of the steel structure, titanium cladding, and concrete foundations (precursor to BIM, 7 years later, Revit 1.0 in **2000**: parametric components in graphical 'family editor' rather than programming language; 3D components linked to propagate changes simultaneously).
Automated cutting and fabrication of decorative stone and titanium plates. (precursor CNC machines). "Guggenheim Bilbao was the first building for which computer software (CATIA) played a role in almost every aspect of the design and construction process" (Paul Goldberger, 2015).

Richard Serra's 8 Torqued Ellipses (1996-99) & Snake (**1996**)
Maman 'mum' (Bilbao, Spain), **Louise Bourgeois** (**1999**) her mother, a weaver.



1992
> El Peix

Process Models
slumped lead

■ Peter B. Lewis house (Cleveland, OH, **1984** lecture -1995)
Pushed Gehry to innovate, Rem's Big: $1M budget > $82M, 18Ksq.ft. > 42K sq.ft.
Gehry: "Lewis House was the most important thing in his life, that it was the equivalent of a MacArthur grant." 100s of models / drawings.

Frank Gehry placed a piece of fabric over a study model, inspired by the marble figures of **Claus Sluter** (Dutch, **1340-1405**, Northern Realism sculptor) and what **Gehry** calls the 'dip', trying to create the sense of softness with hard materials, as the historic sculptors and painters have done.
Fabric waxed, digitized (scanner), smoothed (CAD), modeled (CNC).

Collaborated with **Frank Stella**, **Richard Serra**, & **Philip Johnson**: Guest House

DZ Bank (Berlin, **1999**) interior conference room object, as Chait/Day binoculars

Conte Nast cafeteria, glass material experiment (NY, **2000**)

Zaha Hadid's Z-Scape Furniture, mass produced by Sawaya & Moroni (**2000**)
Derived from geological formations of glaciers and natural erosions.
Zaha's Ice Storm **(**Vienna**, 2003)**

Frank Gehry's Molded Easy Chair, Model# 1020 mass produced by Heller (**2004**), single piece roto molded polymer (durable resin), originally in silver.

■ **Experience Music Project**, blob, NURBs (Seattle, **2000)** stainless steel

Millennium Park (Chicago, **2004**) Cloud Gate (**Anish Kapoor**, 'mirrored bean')
invisible mound, great oval/circle, serpentine bridge

IAC/InterActiveCorp West Coast Headquarters (West Hollywood, CA, 2005)

Marqués de Riscal Hotel (Elciego, Spain, 2006) blurring inside/outside

Lou Ruvo Center for Brain Health (Las Vegas, 2010) Decon. > Demolish

New York by Gehry at Eight Spruce Street (2011) mirage

Cloud metaphor
Bilbao metal panels > Glass panels

Louis Vuitton Foundation for Creation (Paris, 2014), invert inside/outside (trees)

Michael Webb (Project Arch.)

Facebook West Campus (Menlo Park, CA, 2015)

Parking in area is limited, so raised the building off the ground, **Le Corbusier**'s Villa Savoy using pilotis, the parking under using the ground to enter.

Atop, the second ground plane, the roof top garden is the main event, full size trees, rolling hills, and even buildings in the landscape. "We have a grilled cheese shop out there, ice cream vendor. And people do yoga classes in the grove. You really feel like you are in a park. It's so much to just take your laptop and work out there. A family of red foxes somehow found their way up there and now live on the roof, no one knows how they got there- 50' up." (Chuck Hoover, Meta Reality Labs General Manager).

The interior is intended to reflect Facebooks "move fast" and Facebook's work is just starting- so the finishes are raw and unfinished, unfinished concrete with marine grade plywood to warm it up. The tech in the building is fancy (polished), the building materials and finishes all feel like a building half under construction. A big push from **Zuck**(erberg) was for it to be the opposite of Oracles HQ, which is all marble, gold, expensive wood tables, etc.

Rem Koolhaas' Junkspace: "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. Landscape has become Junkspace. We have added nothing, just reconfigured. Color has disappeared to dampen the resulting cacophony. Architecture is dead by this terminal hollowness."

and 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" Endless space without division under a single roof, supersized rooms.

Zukerberg asked for one big open building (**FLW**: Open Plan) (**Tech**: democratic) **Gehry** created continuous interior street with clusters of smaller buildings (rooms)

Not tied to **Frank Gehry**'s design, but the main sign to the campus, the iconic 'thumbs up' sign is actually the same sign that **Sun Microsystems** used there, before they had to downsize. **Facebook** just turned the sign around, they wanted to "remind everyone that this can all end if we are not careful".

■ **Gehry residence renovation** (2017-2019) with son **Sam Gehry**,

to the original (**1977-1978**) addition.

>

Gehry's original chain link / corrugated cladding > **Phillip Johnson**'s Glass House

Exposed studs / plywood > douglas fir; asphalt floors > PJ's herringbone brick tile

Polished / Finished, no longer the feel of unfinished / state of flux.

4K sq.ft. > 10K sq.ft. (**Rem**'s Biggness) family rm & bedroom remained same size.