



ARCHITECTURE PLANNING & PRESERVATION

Design Process: *Versioning*

Michael A. Ambrose

Assistant Professor of Architecture




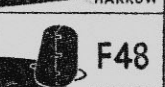
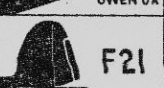
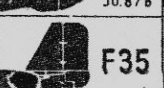
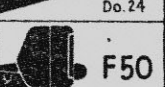
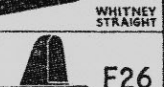

University of Maryland

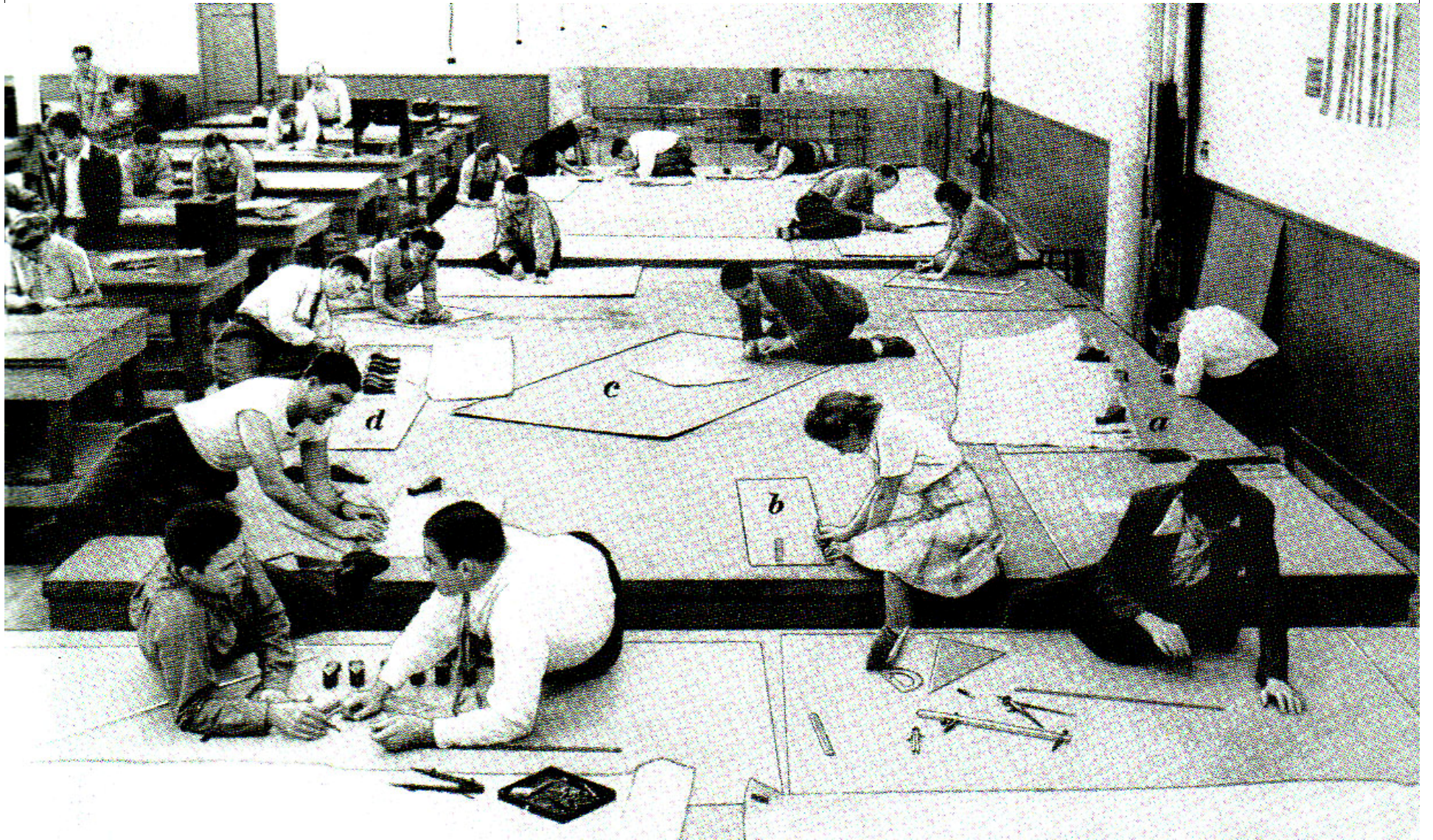
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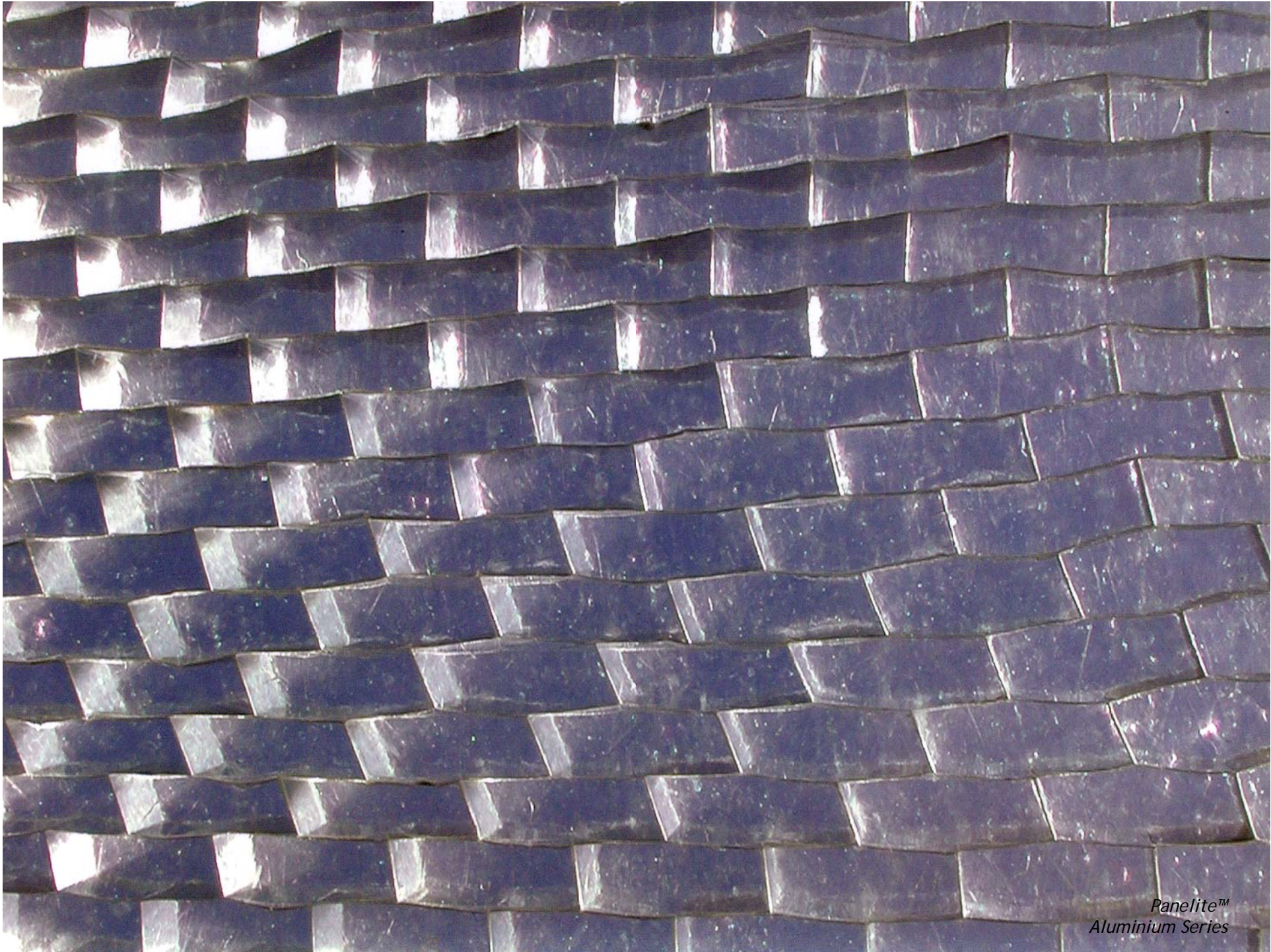
"I have often conceived of projects in the mind that seem quite commendable at the time; but when I translated them into drawings, I found several errors in the very parts that delighted me most."

- Leon Battista Alberti

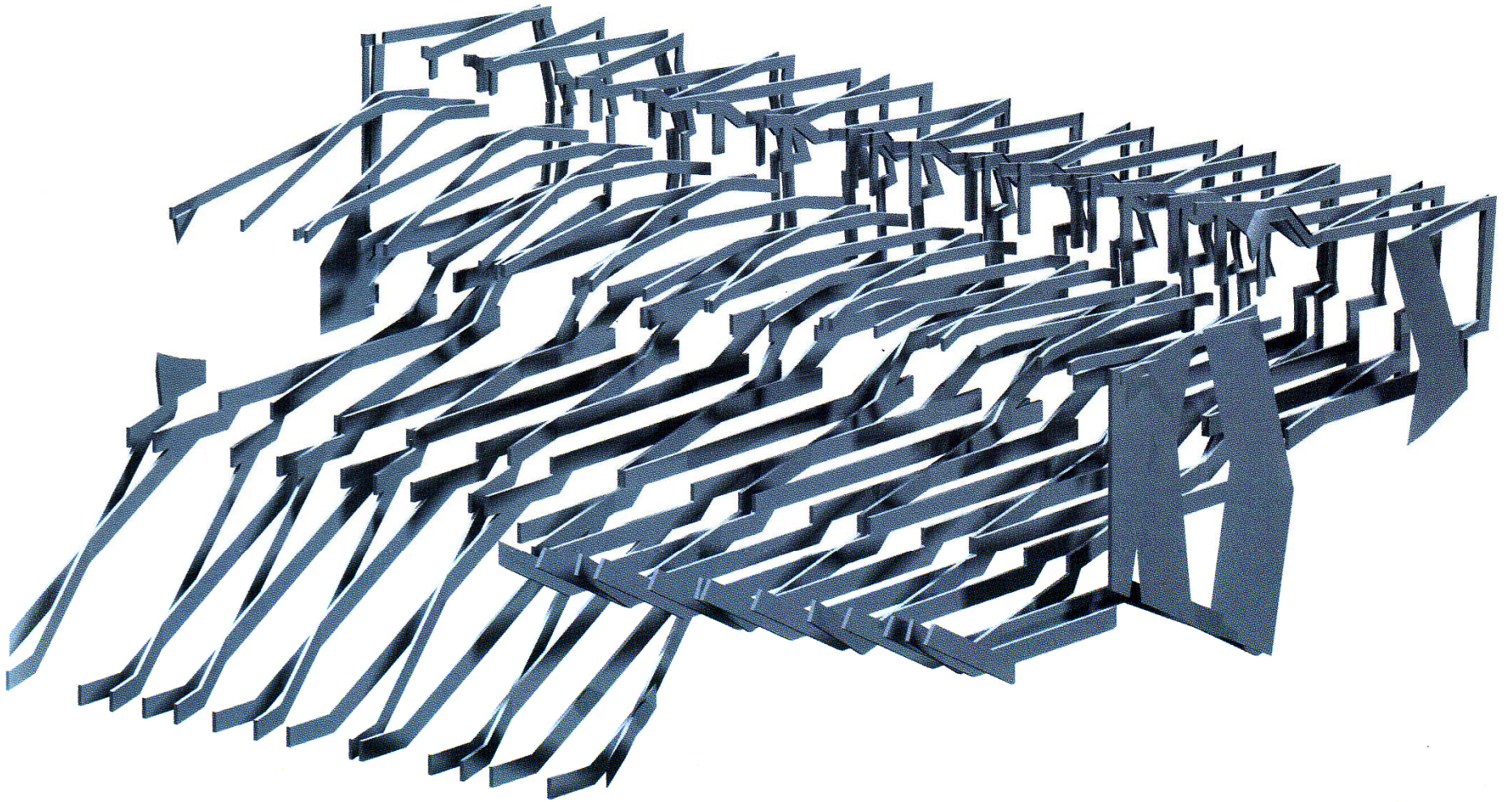
FINS & RUDDERS

 F1 HURRICANE	 F15 MASTER	 F29 STRANRAER	 F43 HALIFAX
 F2 GLADIATOR	 F16 Do 18K	 F30 LONDON	 F44 Do 215
 F3 BLENHEIM	 F17 F.W. 200K	 F31 He 113	 F45 BOMBAY
 F4 WELLESLEY	 F18 OXFORD	 F32 SINGAPORE	 F46 WHITLEY
 F5 SWORDFISH	 F19 BATTLE	 F33 He 115	 F47 HARROW
 F6 JU. 88 A6	 F20 CUNLIFFE OWEN OA	 F34 JU. 87 B	 F48 MITCHELL
 F7 Me. 109 F	 F21 He. 111 H5	 F35 JU. 52/3	 F49 Do. 24
 F8 DOMINIE	 F22 LYSANDER	 F36 S.M. 79	 F50 JU. 86
 F9 ANSON	 F23 DEFIANT	 F37 LIBERATOR	 F51 D.H. 86 B
 F10 CATALINA	 F24 Ar 196 A	 F38 HUDSON	 F52 BOEING 314
 F11 ENSIGN	 F25 WHITNEY STRAIGHT	 F39 HAMPDEN	F53
 F12 BUFFALO	 F26 STIRLING	 F40 MANCHESTER	F54
 F13 HOTSPUR	 F27 SKUA	 F41 ALBATROSS	F55
 F14 HS 126	 F28 SUNDERLAND	 F42 JU. 90	F56





*Panelite™
Aluminium Series*



*SYSTEMarchitects
Paris House Design*

1. The first step was to 'see' how it would feel to touch a three-dimensional keyboard surface. I used a prototype 3-D 'printer' in a basement lab at MIT to create a 3-D model of the contour. The result is a solid block of material that allowed me to touch the idea, and to imagine how the keys might feel if they were to move.



2. The next generation was to use traditional machining methods to create keys that moved in a spring-loaded mechanical sample. The 'spring-loading' was provided by a block of foam. The idea still seemed plausible and showed that I needed to make a working unit.



3. The first working unit was based on the desktop [QWERTY] format because two-way paging was becoming popular. This version had no tactile feedback, awful graphics, bad ergonomics and didn't work very well.



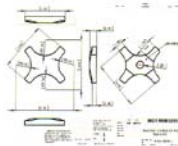
4. The first working phone unit had the traditional phone layout, but was very hard to read. It worked slightly better than the QWERTY version, but people with small fingers experienced many errors. The tactile feedback was extremely low and unsatisfying to use.



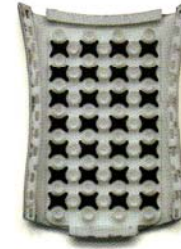
5. To address the poor legibility and small-finger problem, I tried a new keypad structure, a mobile moulded mat with immobile plastic centres. New scanning algorithms were implemented. Metal domes provided a high level of tactile feedback and the graphics were slightly improved. It still didn't work very well.



6. The combination of a new sense technology with the algorithms of the last version provided excellent operation and the beginnings of good tactile feedback. This was the first version that worked reasonably well.



7. Next came a manufacturability experiment to mould components previously made separately.



8. This was an experiment with a new format – wider and shorter with more punctuation available. Higher contrast and better graphics allowed the keypad to be read more easily.



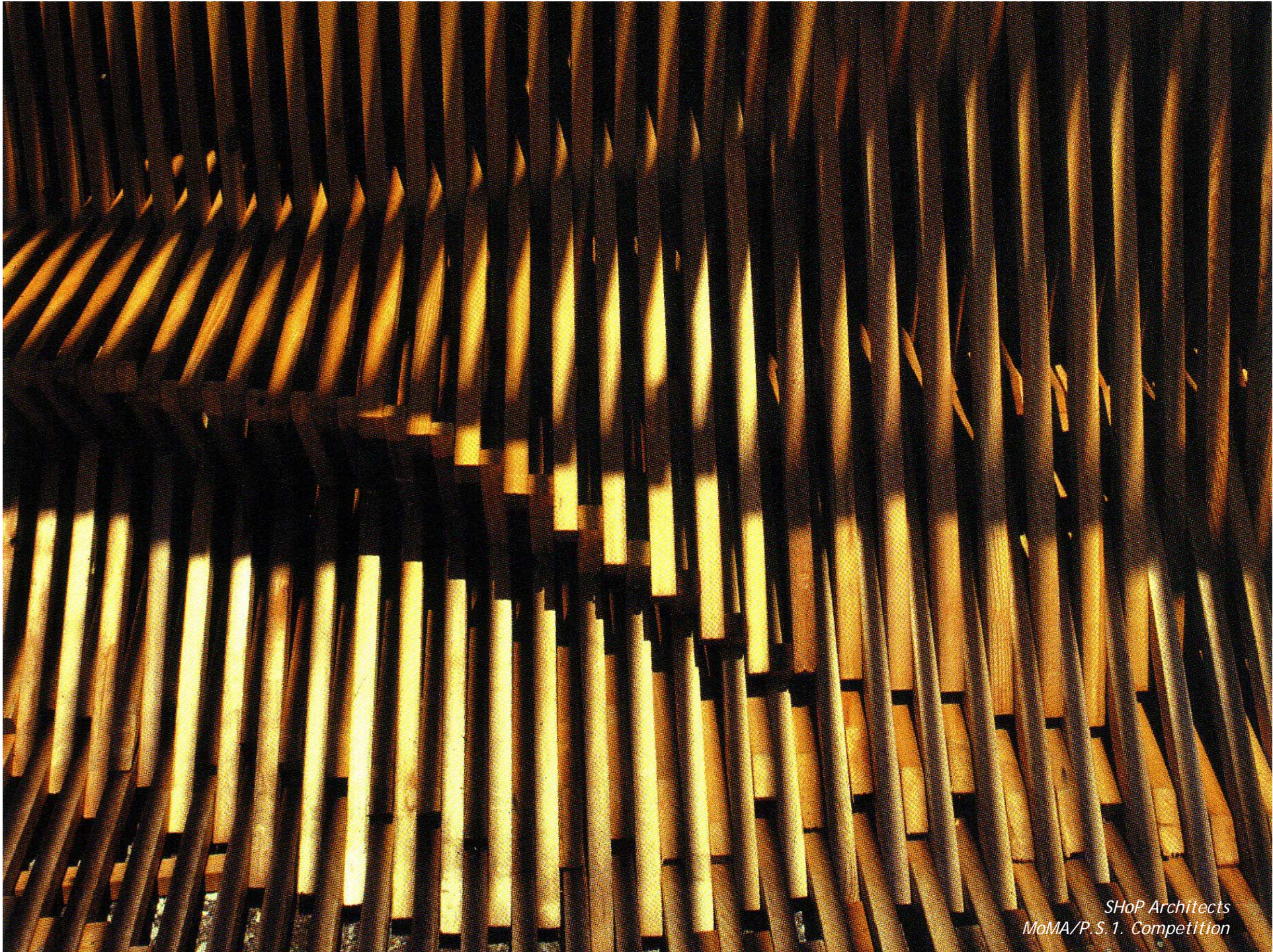
9. This version had the ability to provide backlight and tried to integrate the cursor and phone controls – steps towards full integration.



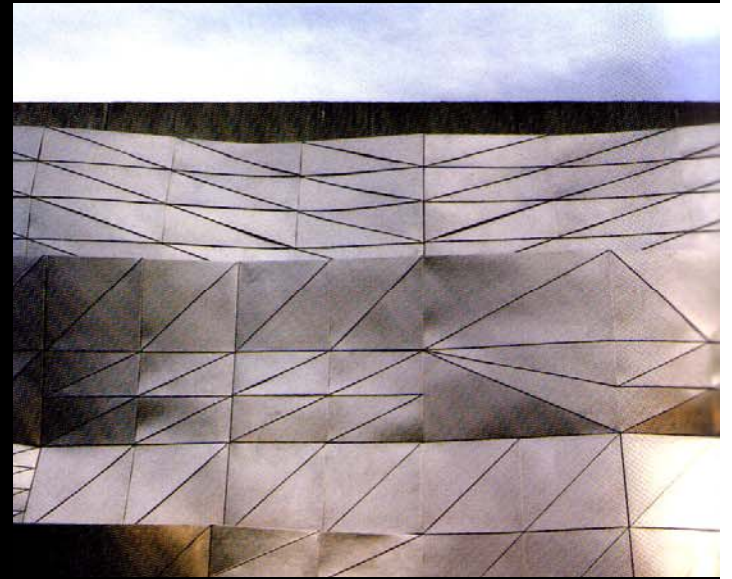
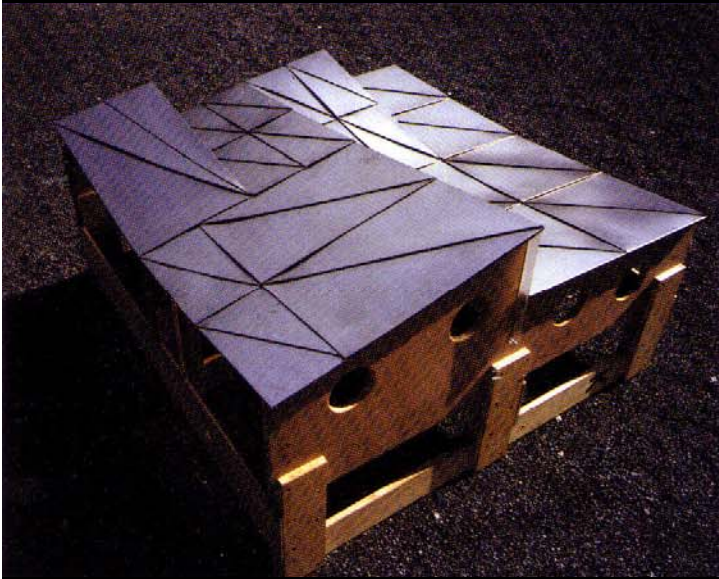
10. The current state of the art. Great tactile feedback.
Reliable operation. Low manufacturing cost. Durable
and ready for the first customers.

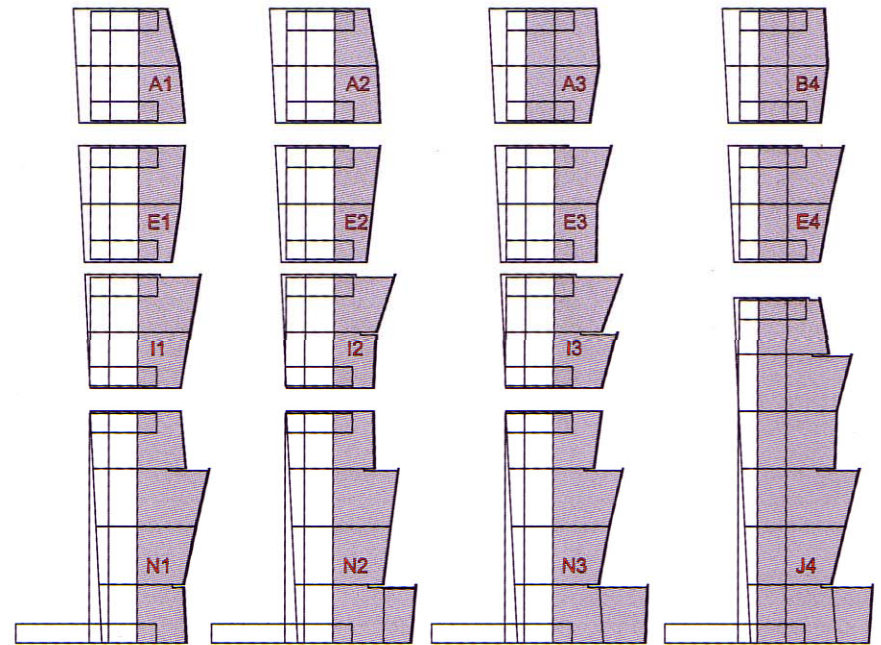
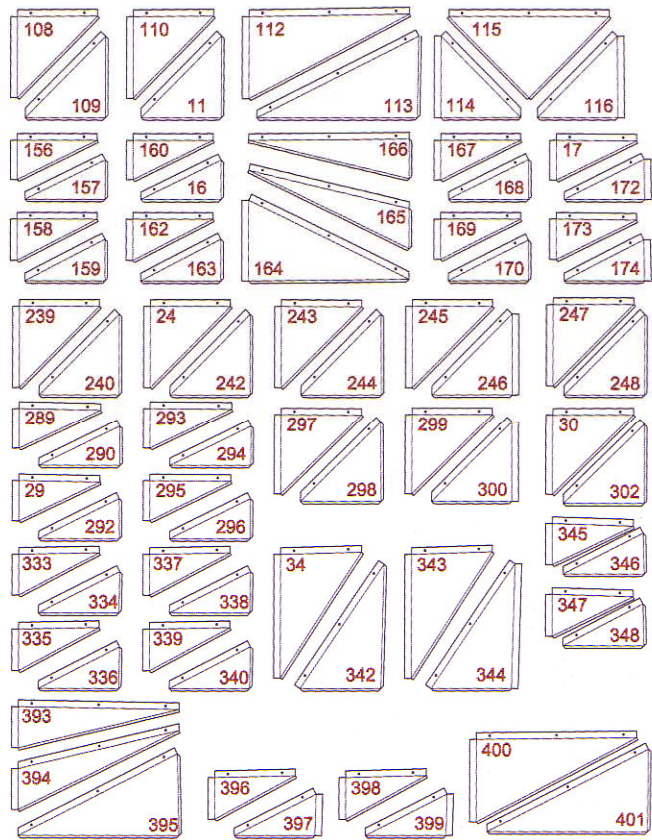


Fastap™ Keypad
David Levy - Inventor



*SHoP Architects
MoMA/P.S.1. Competition*



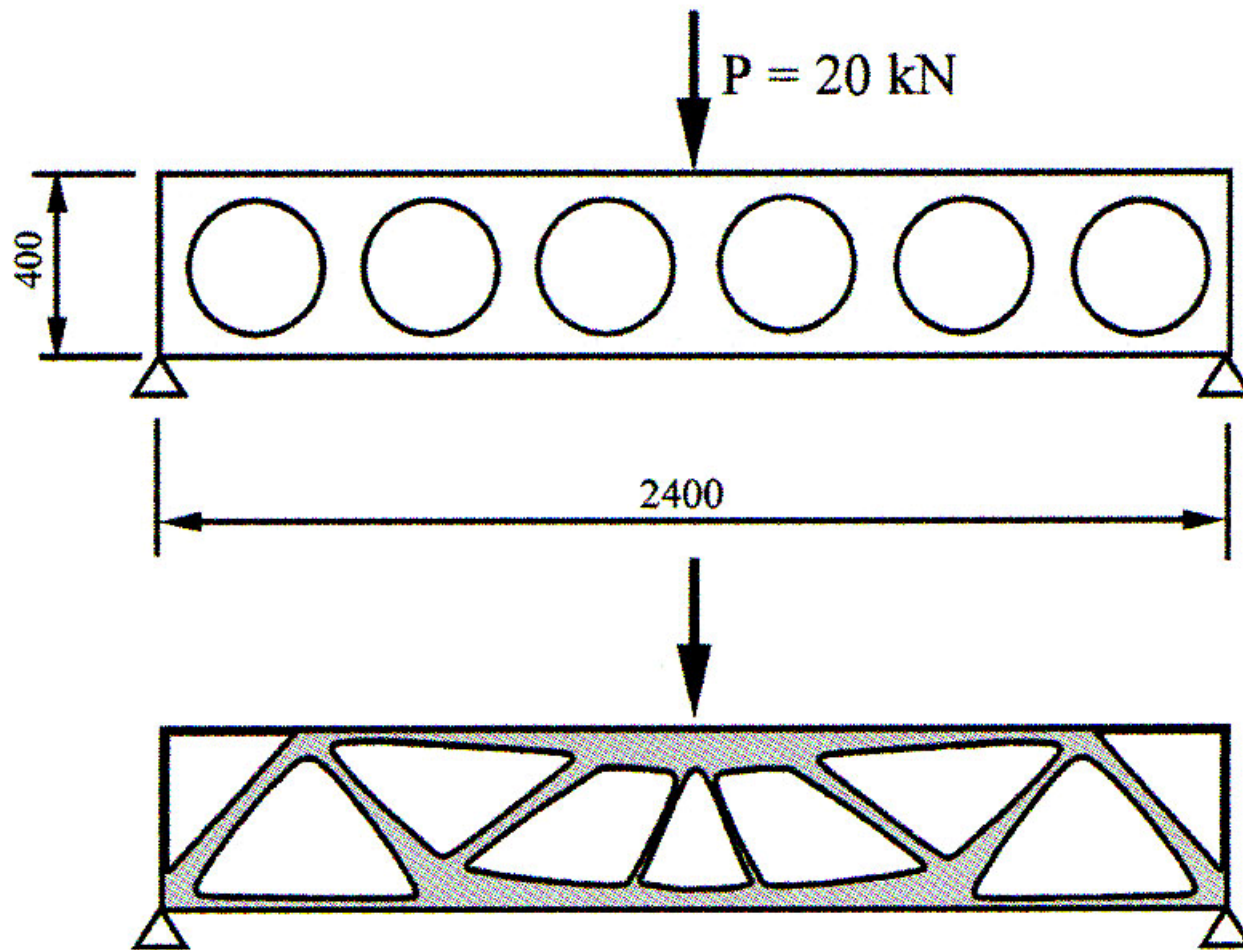


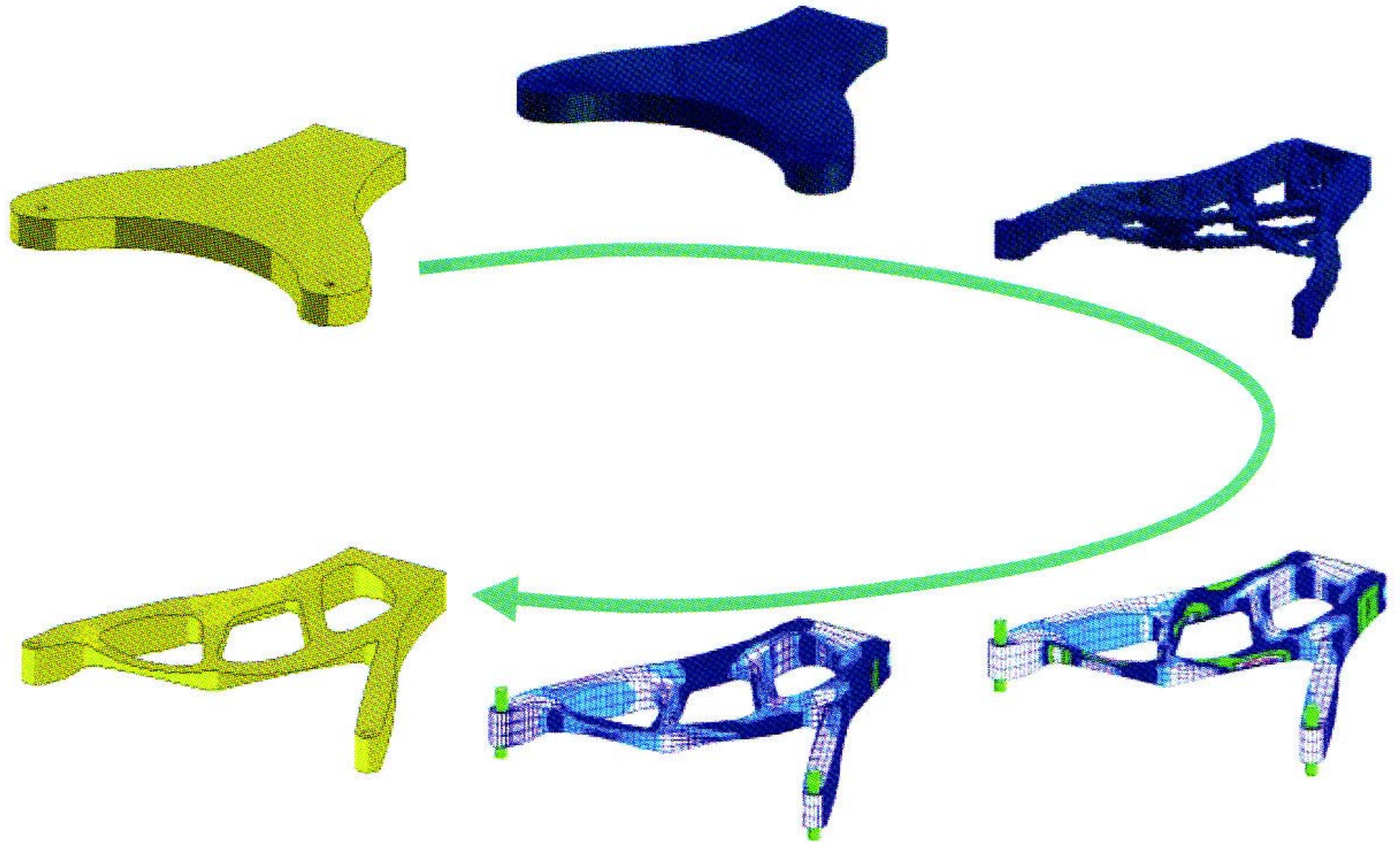
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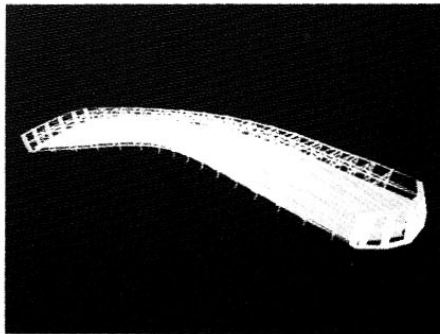
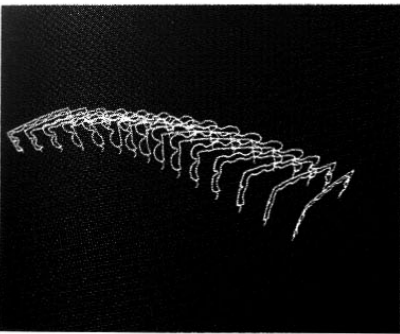
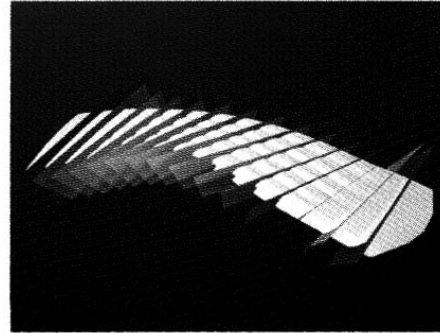
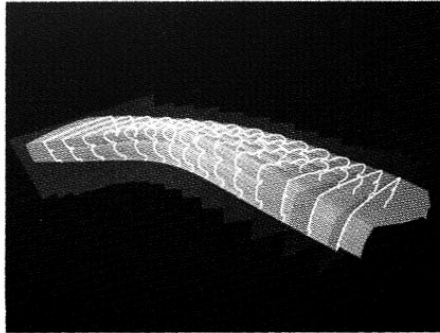
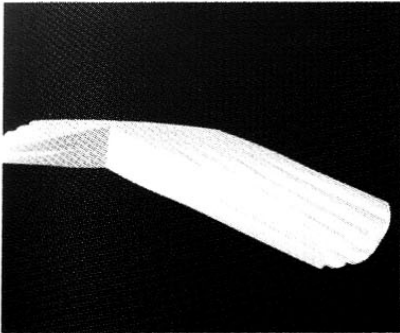
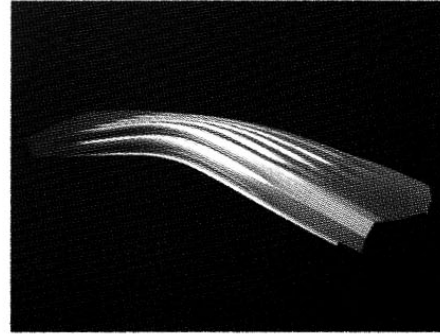
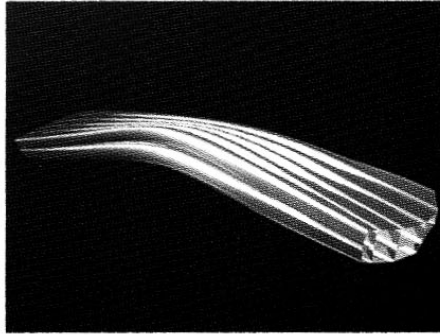
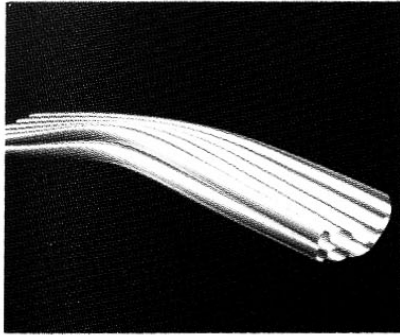
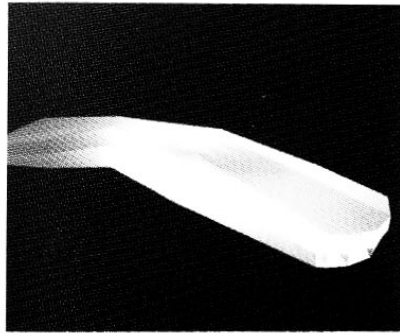
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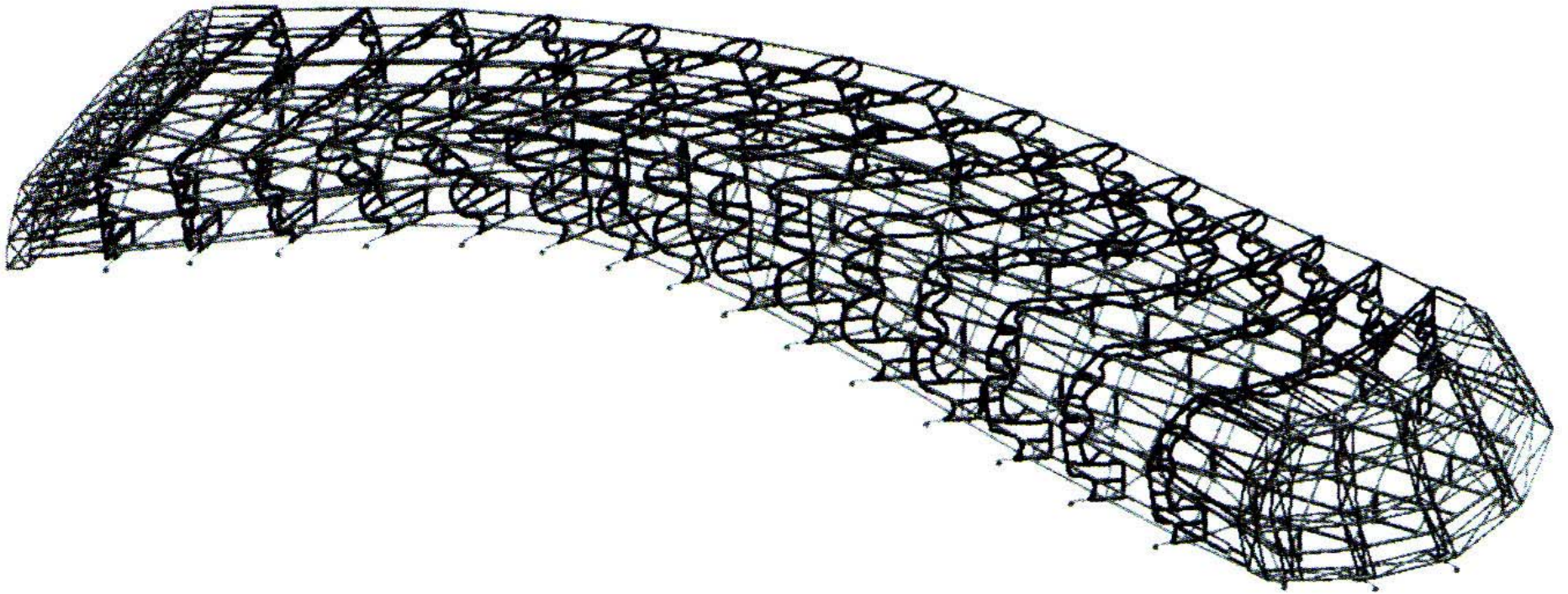
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template 04 left

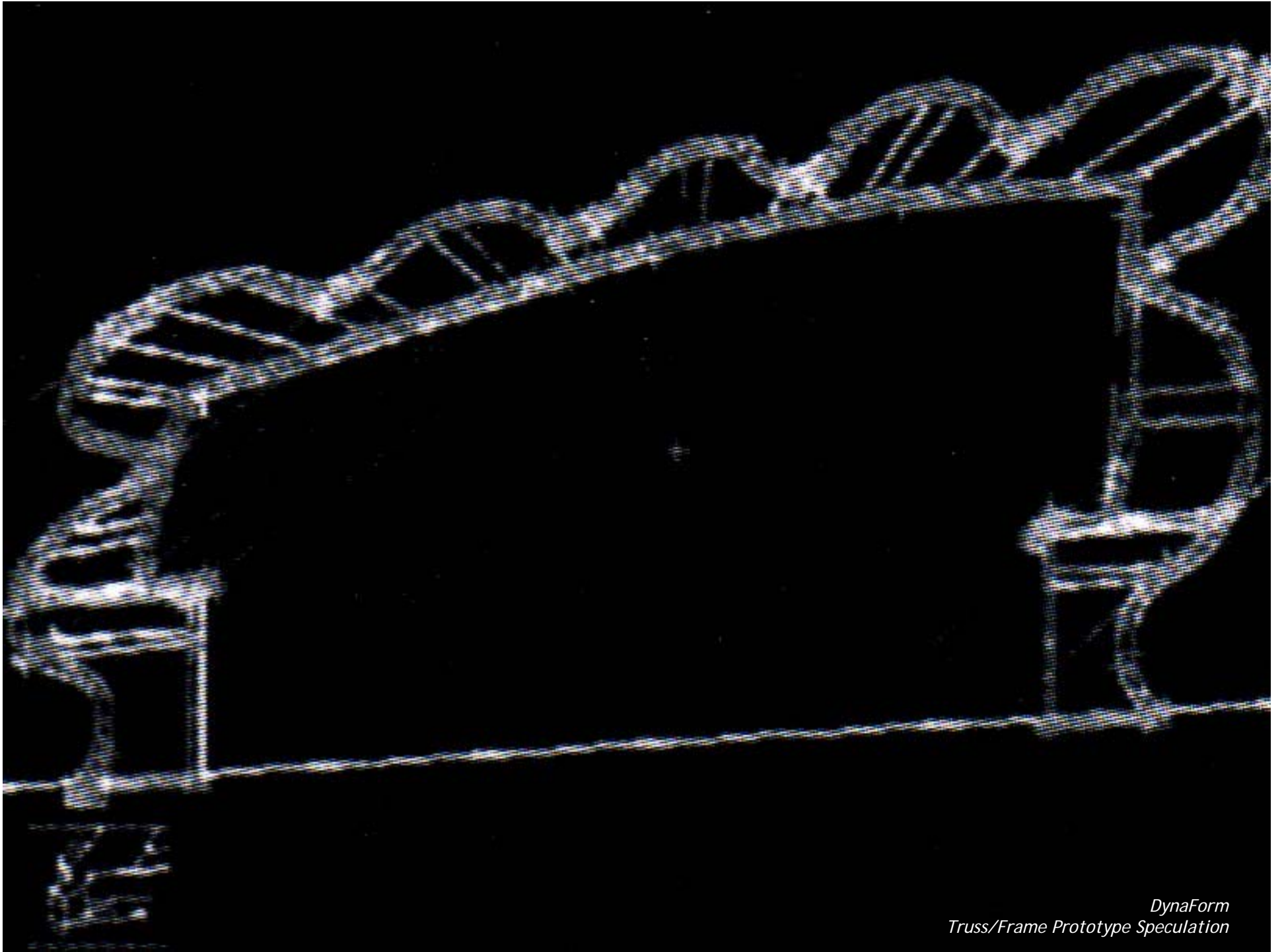




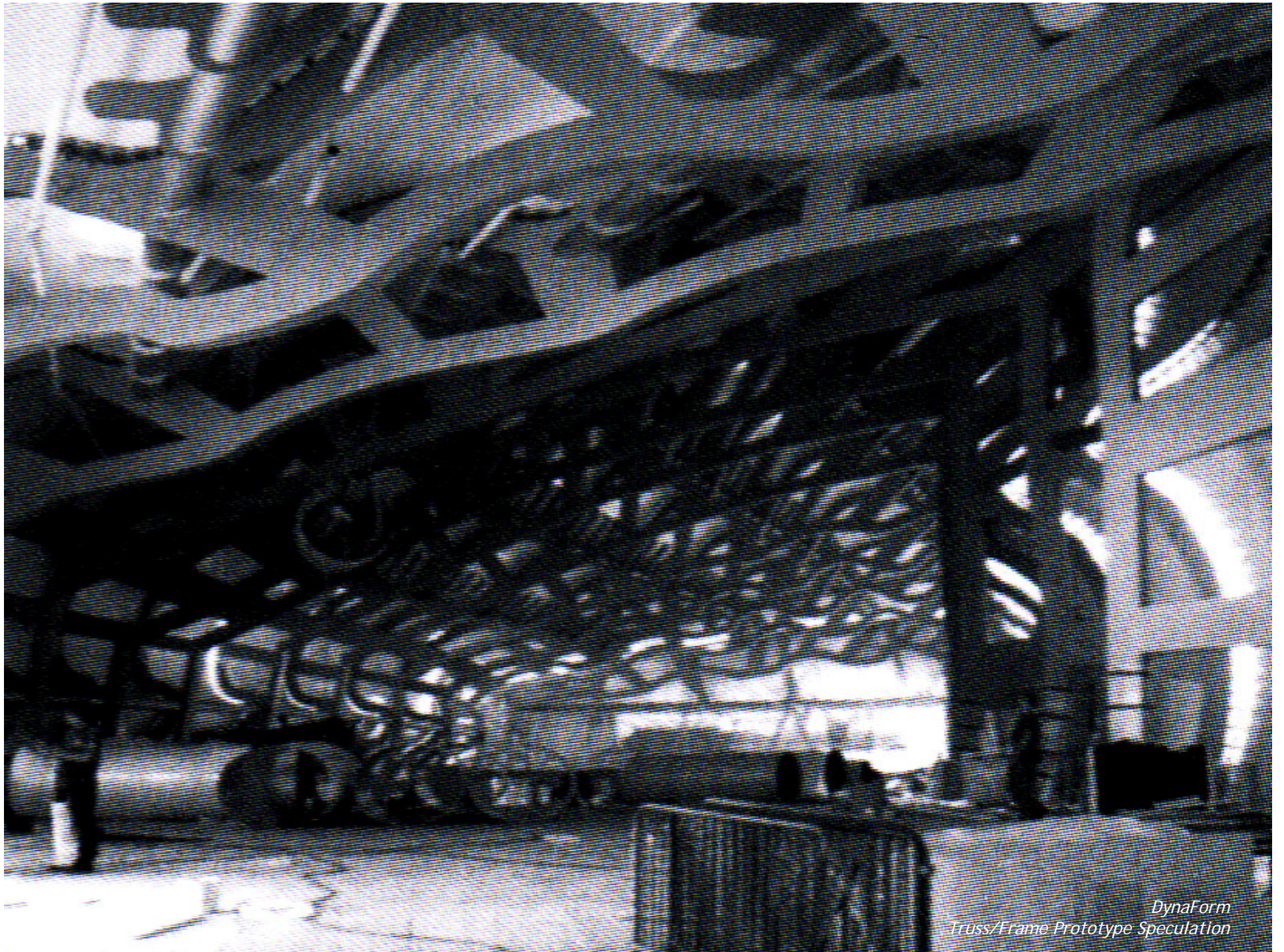




DynaForm
Truss/Frame Prototype Speculation



*DynaForm
Truss/Frame Prototype Speculation*



*DynaForm
Truss/Frame Prototype Speculation*

arch_678d

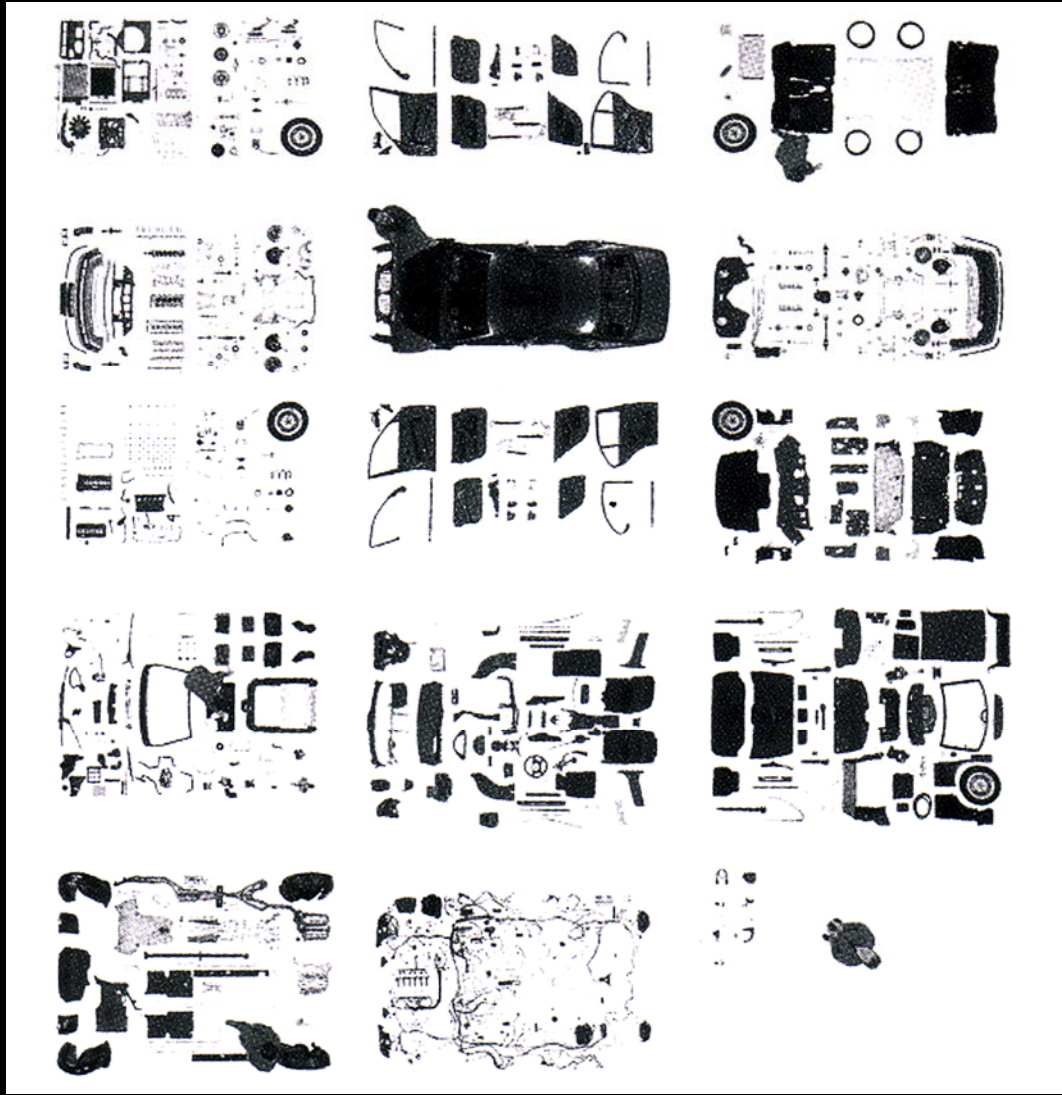
Digital Architectural Design

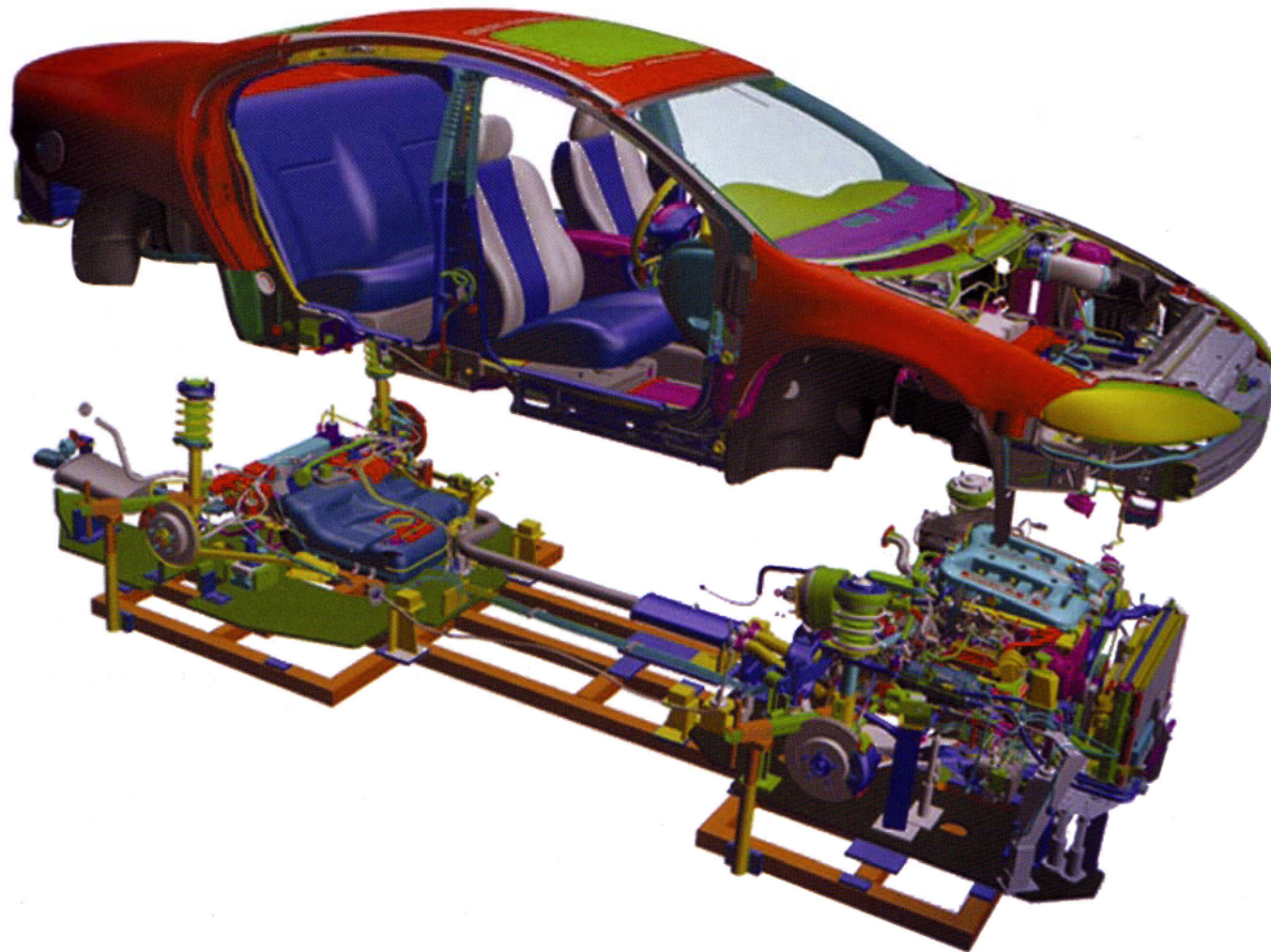
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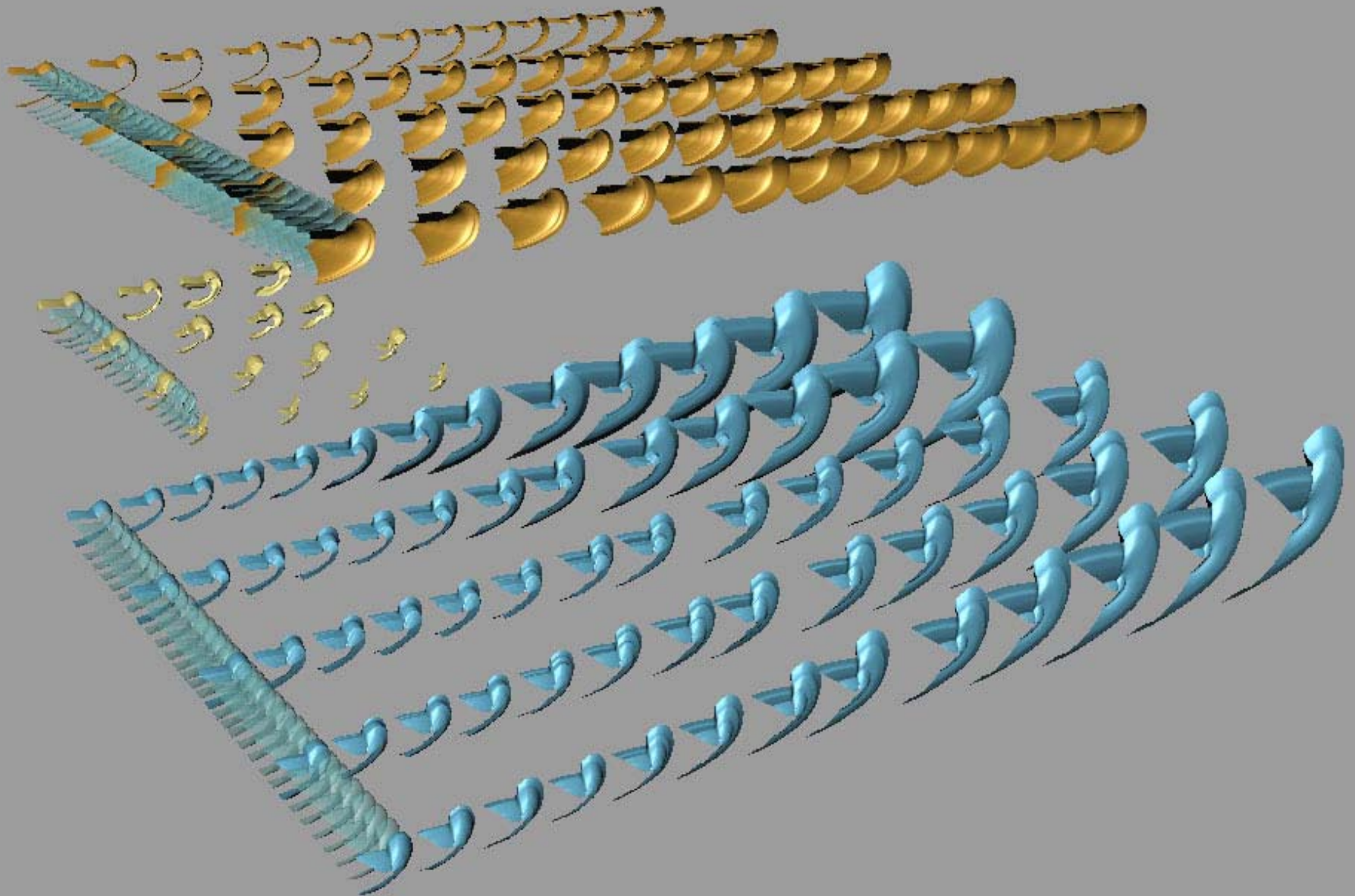
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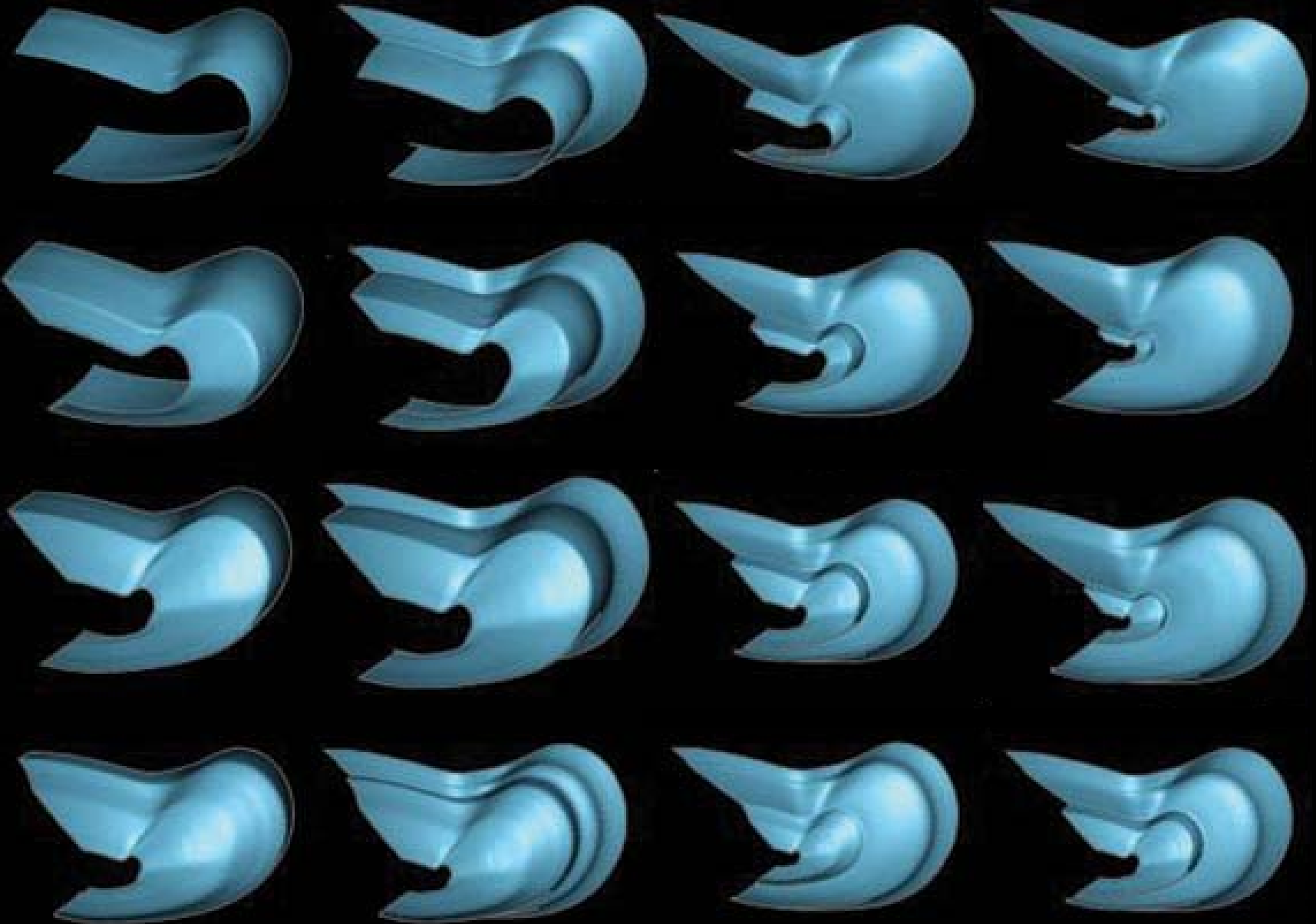




Ingeborg Rucker
CATIA: Digital Design of a Vehicle



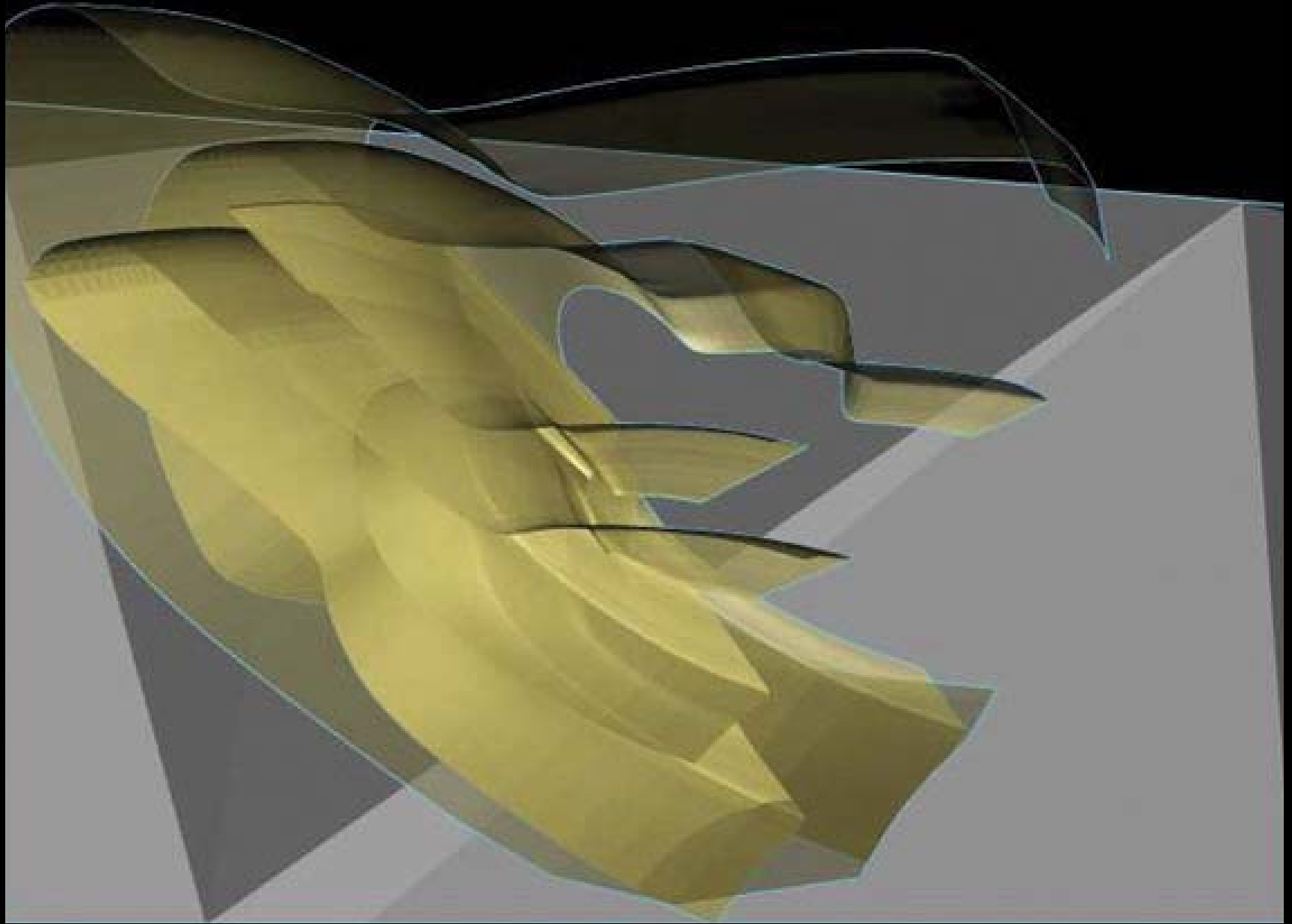
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arch_678d 2005*



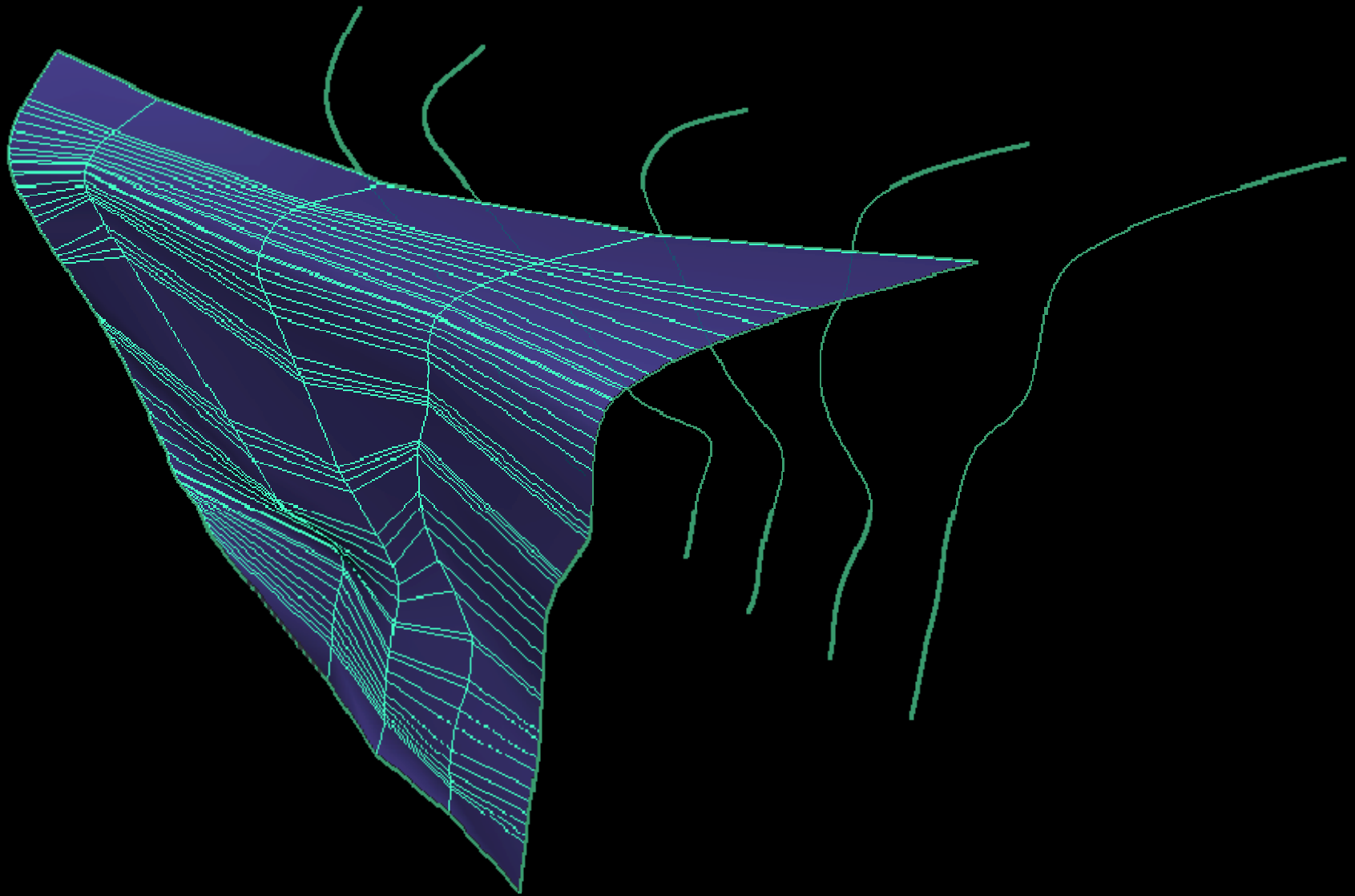
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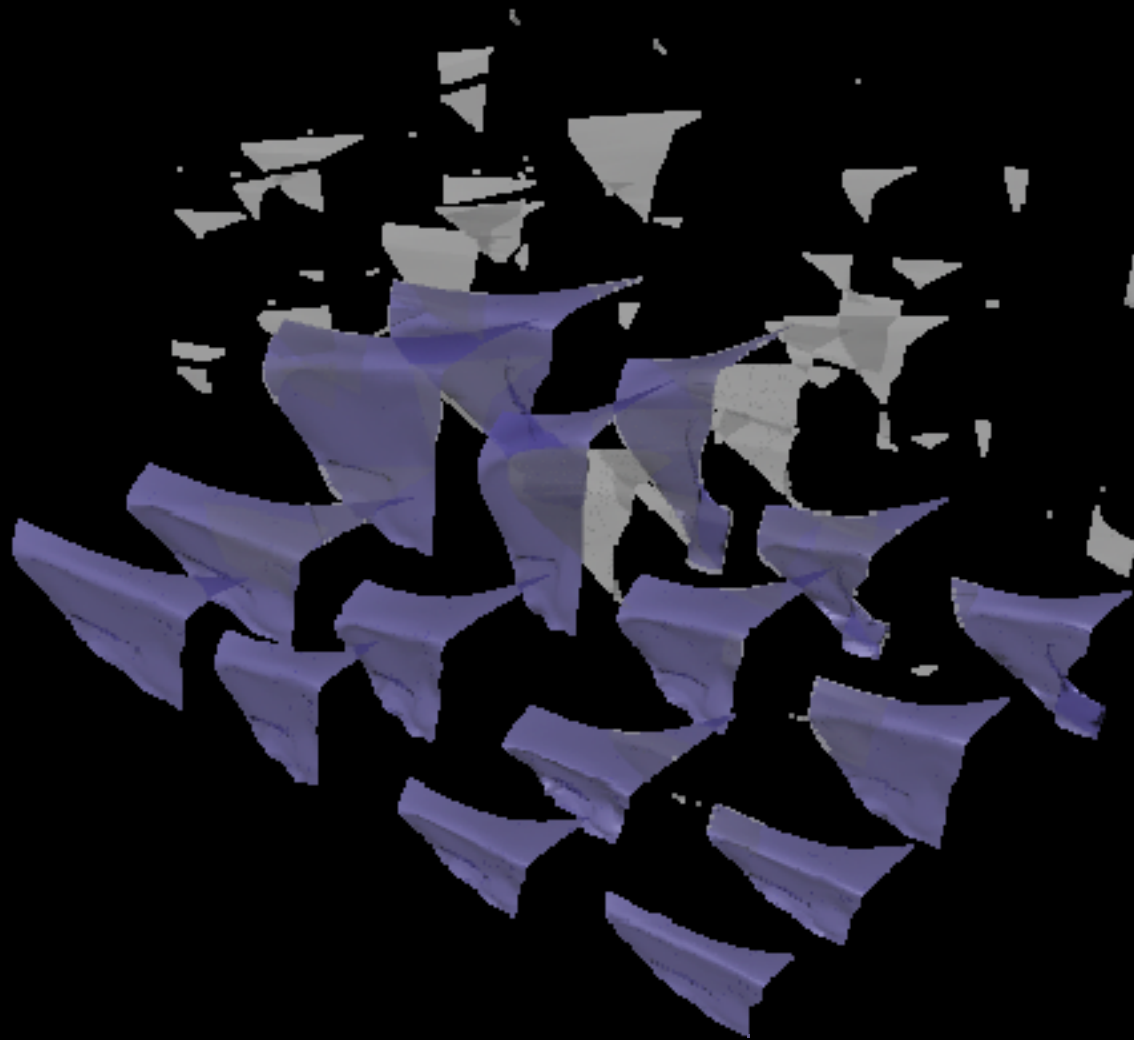
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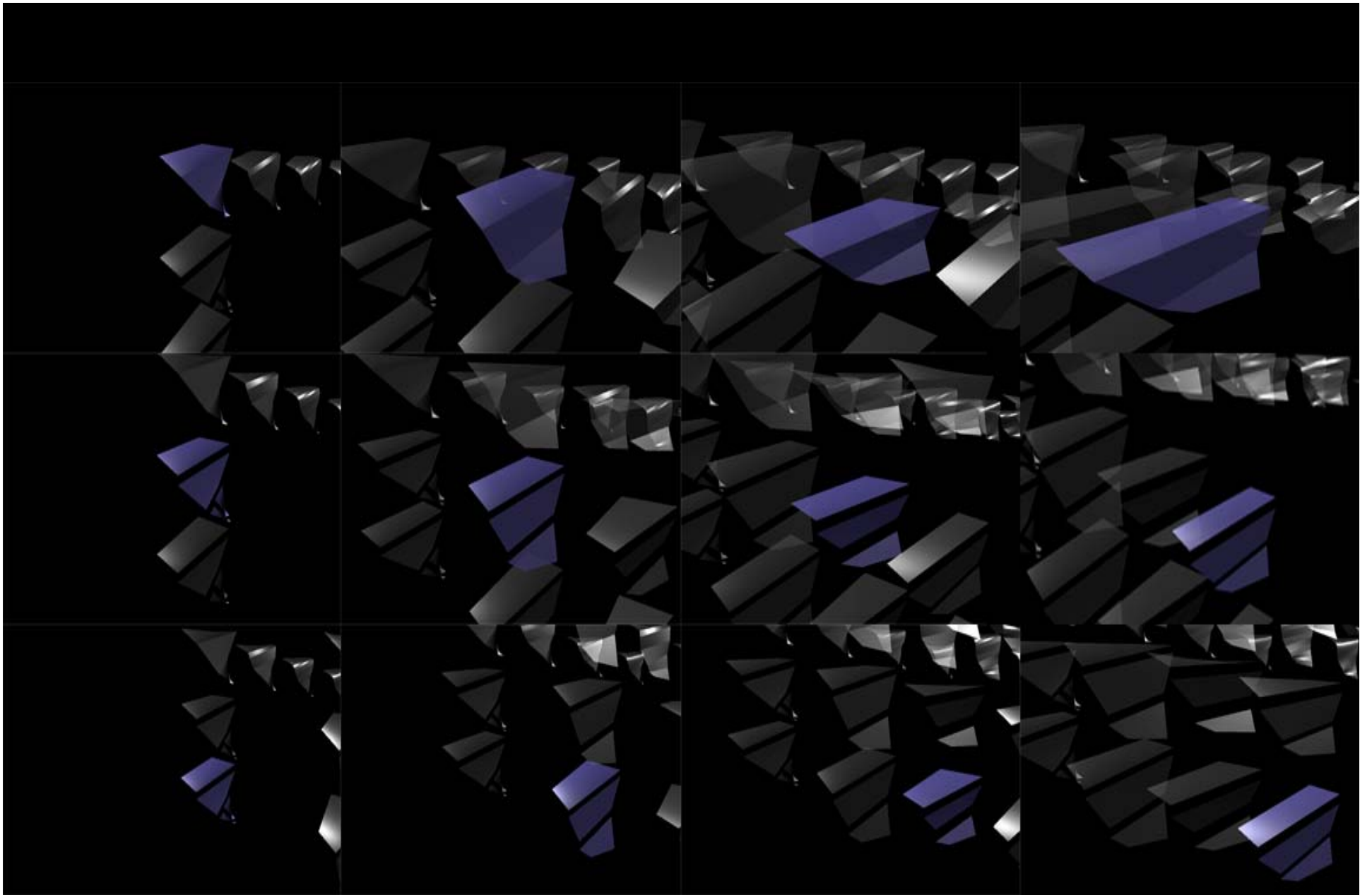
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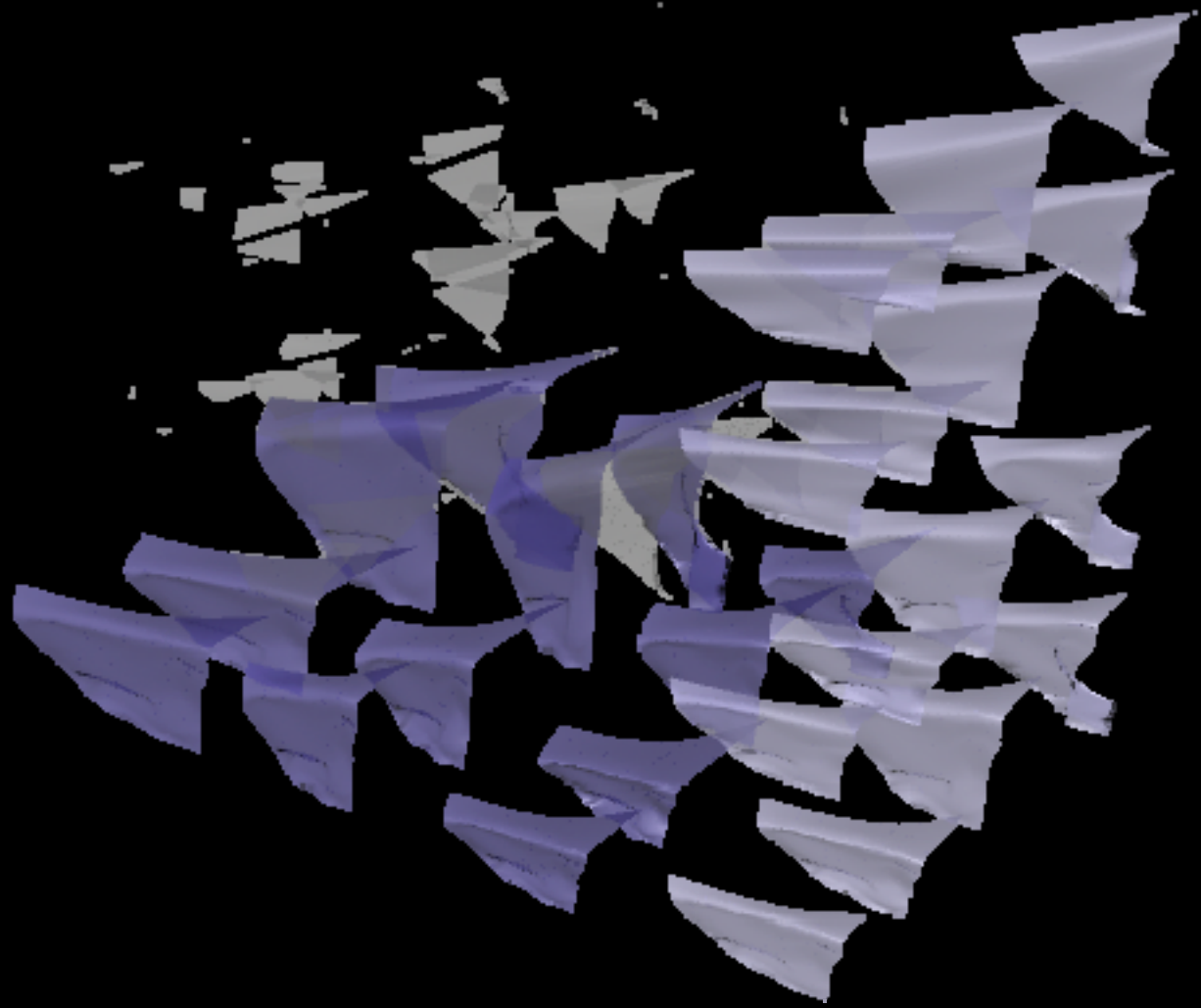
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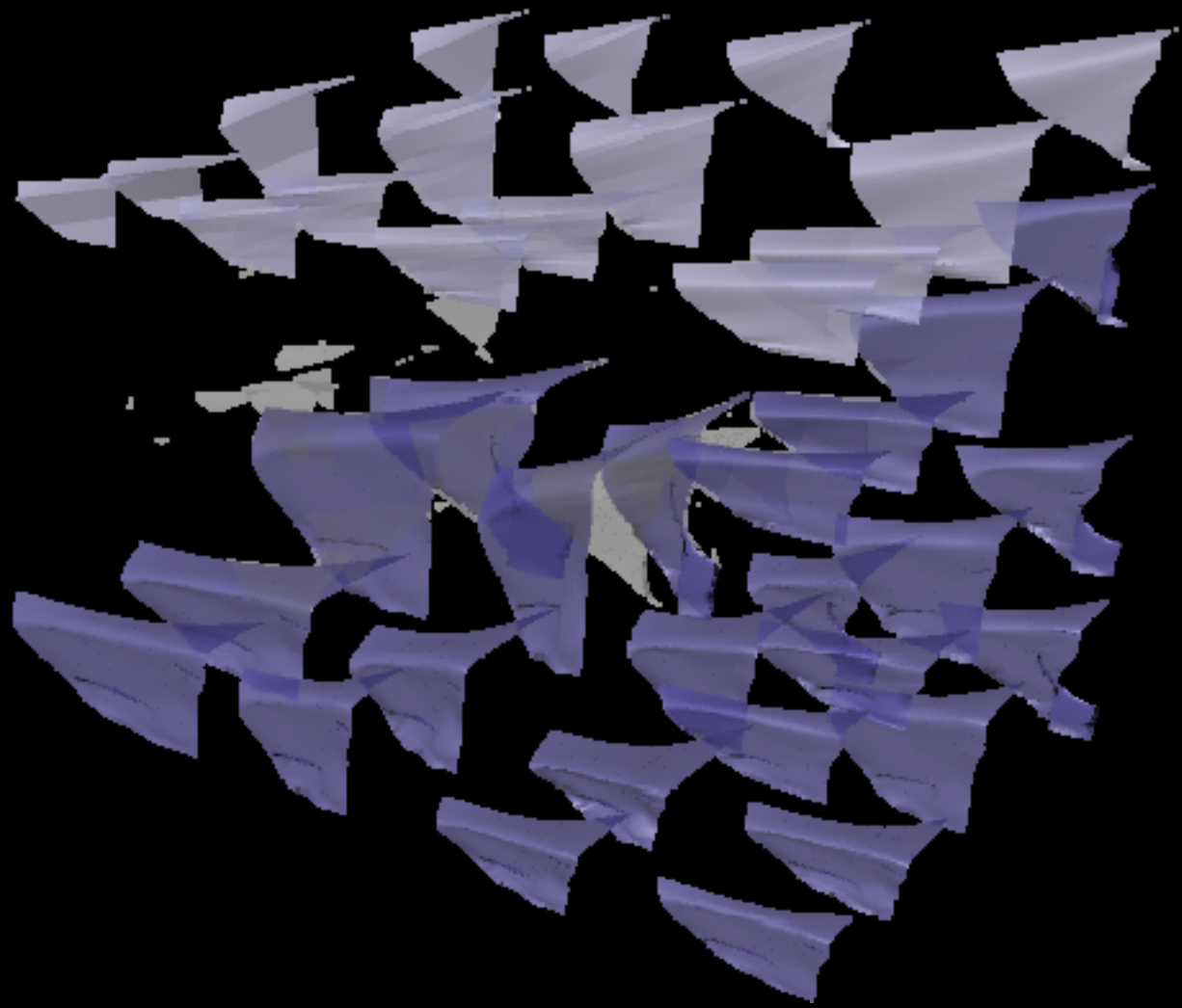
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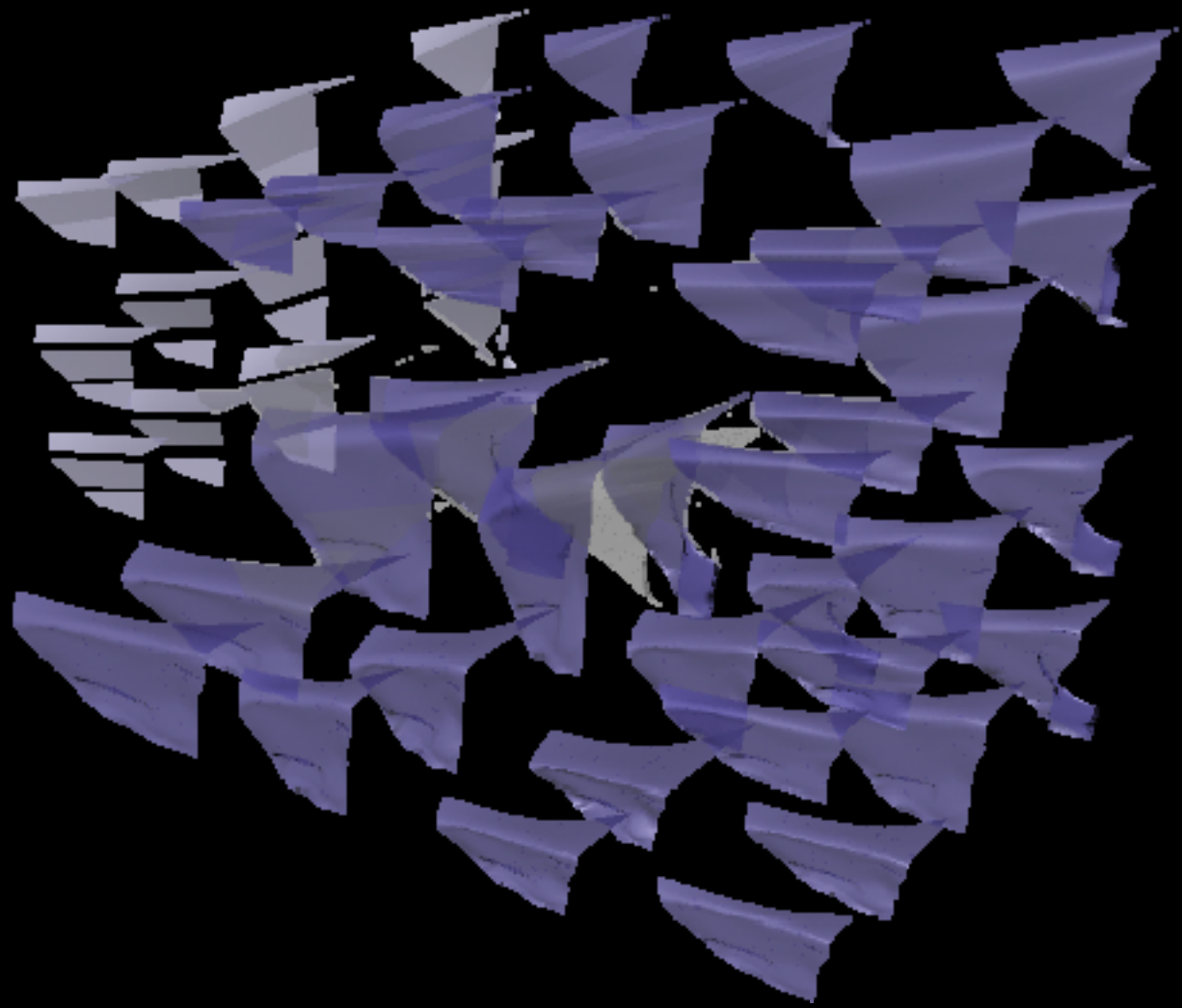
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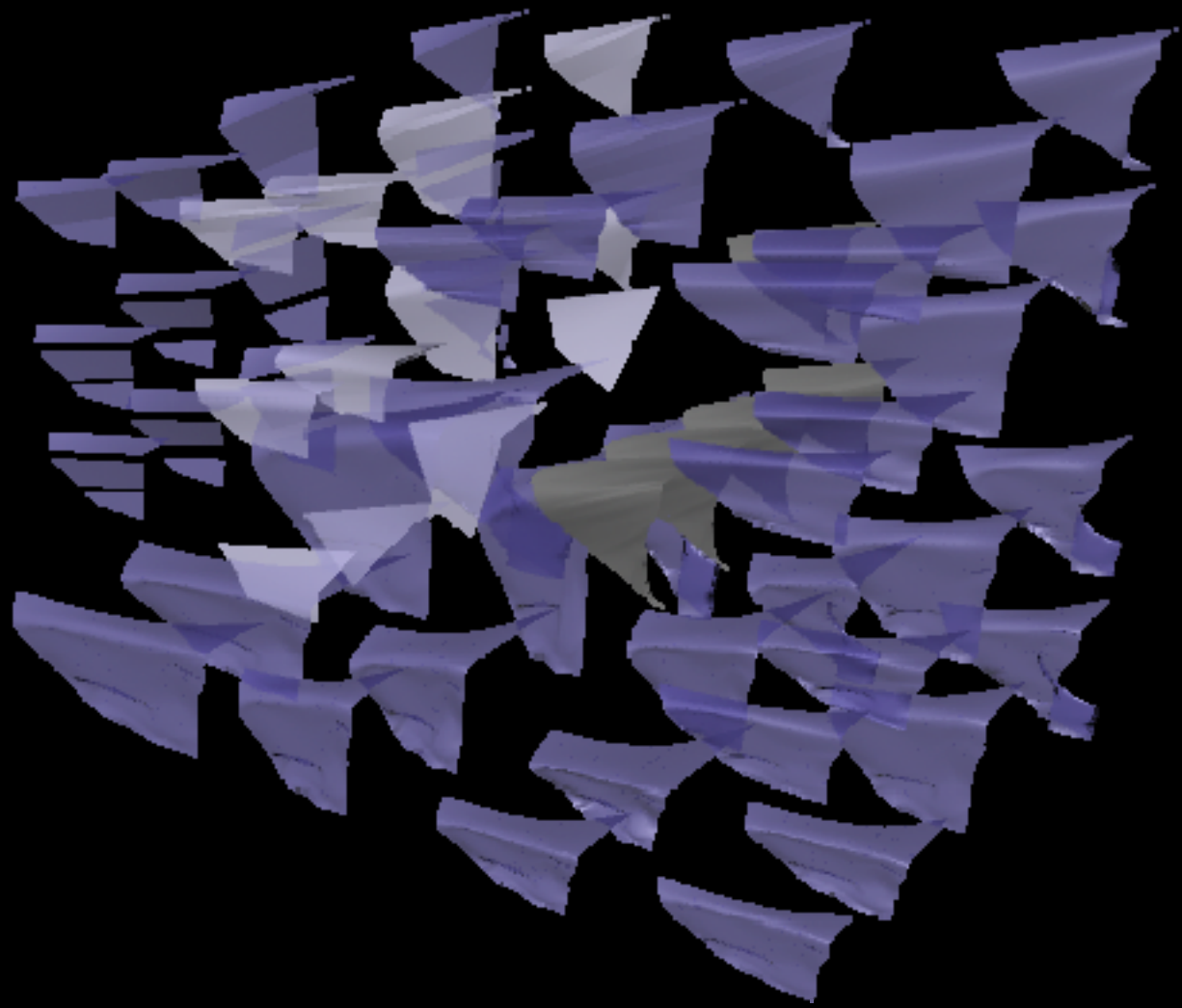
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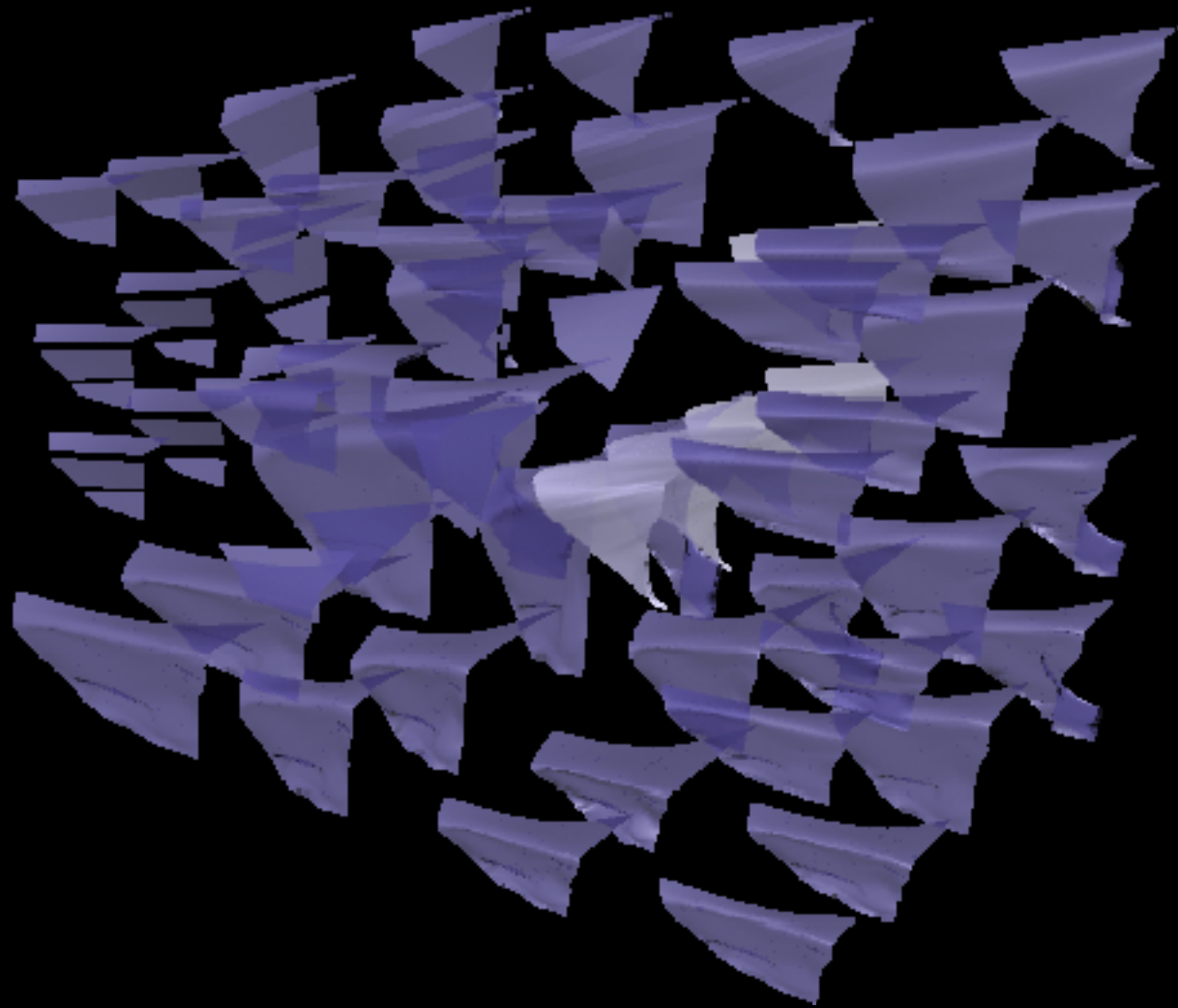
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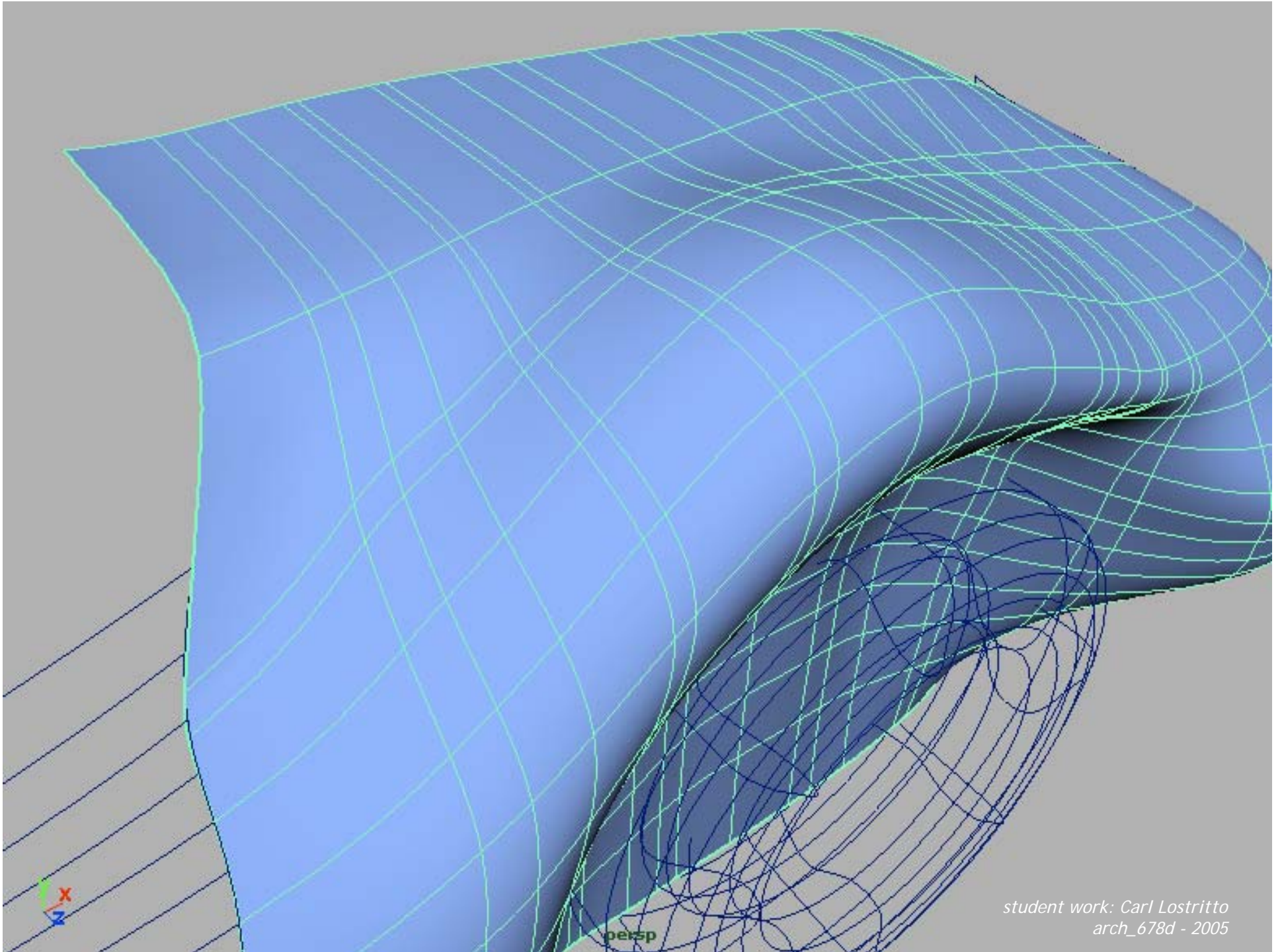
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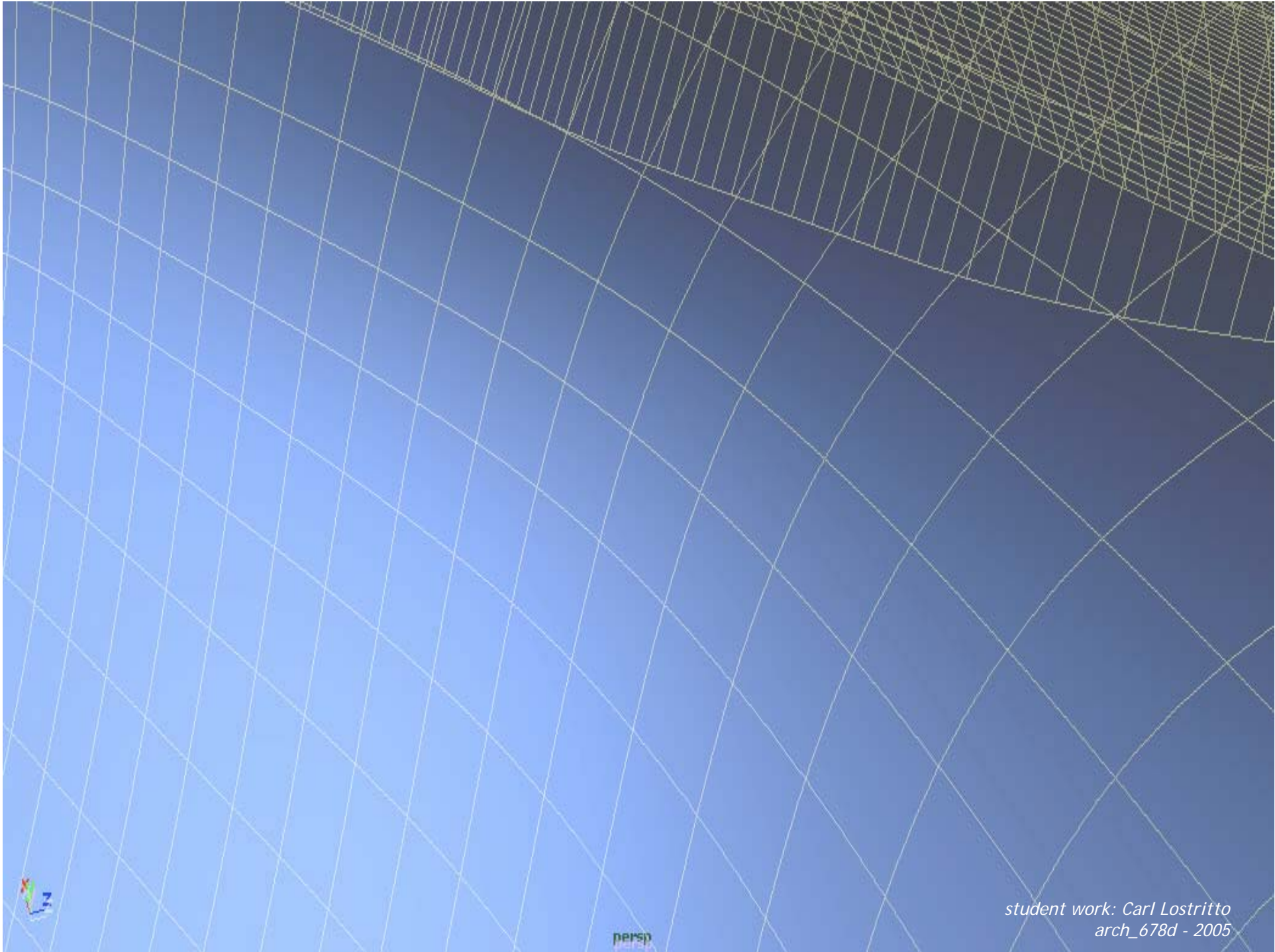
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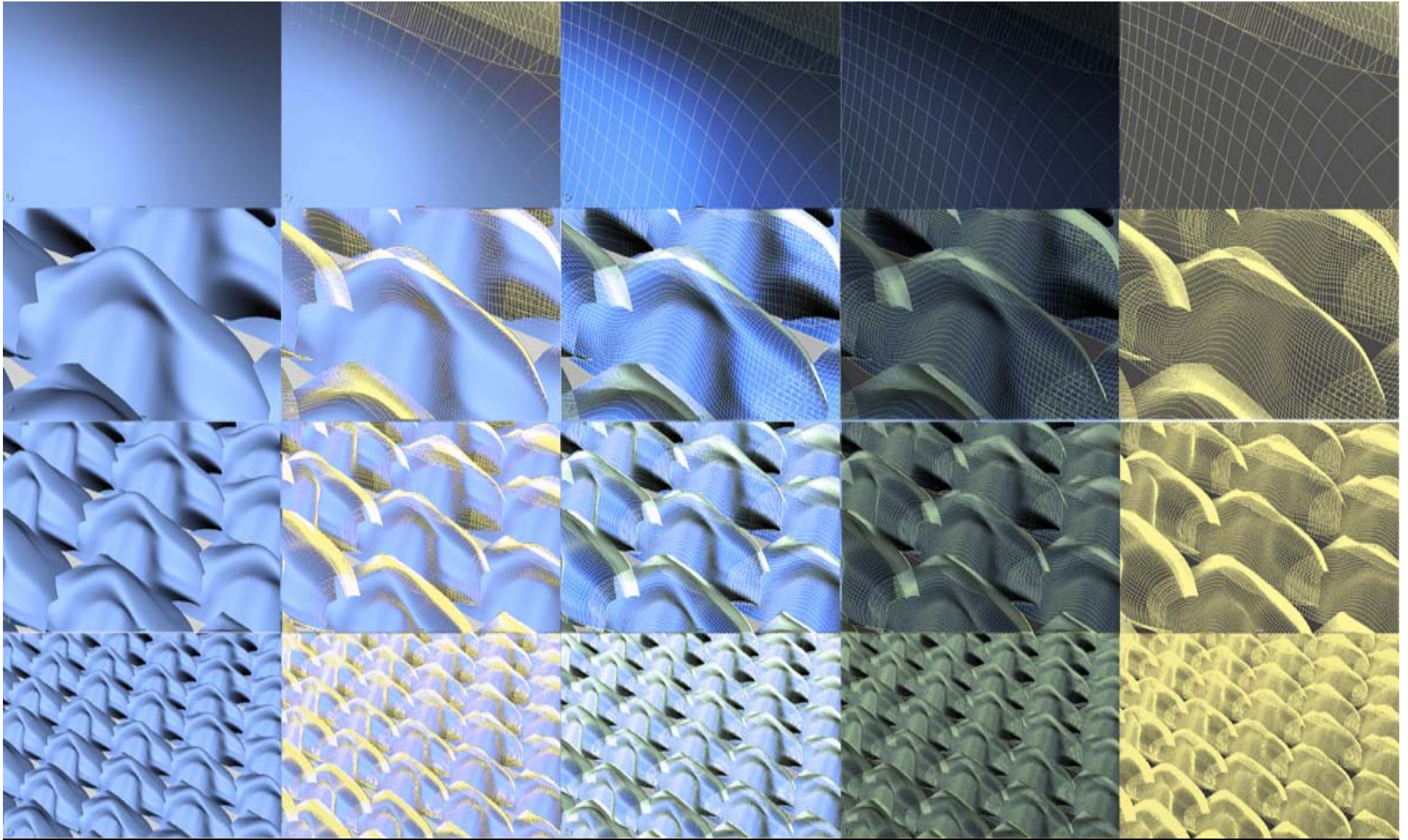


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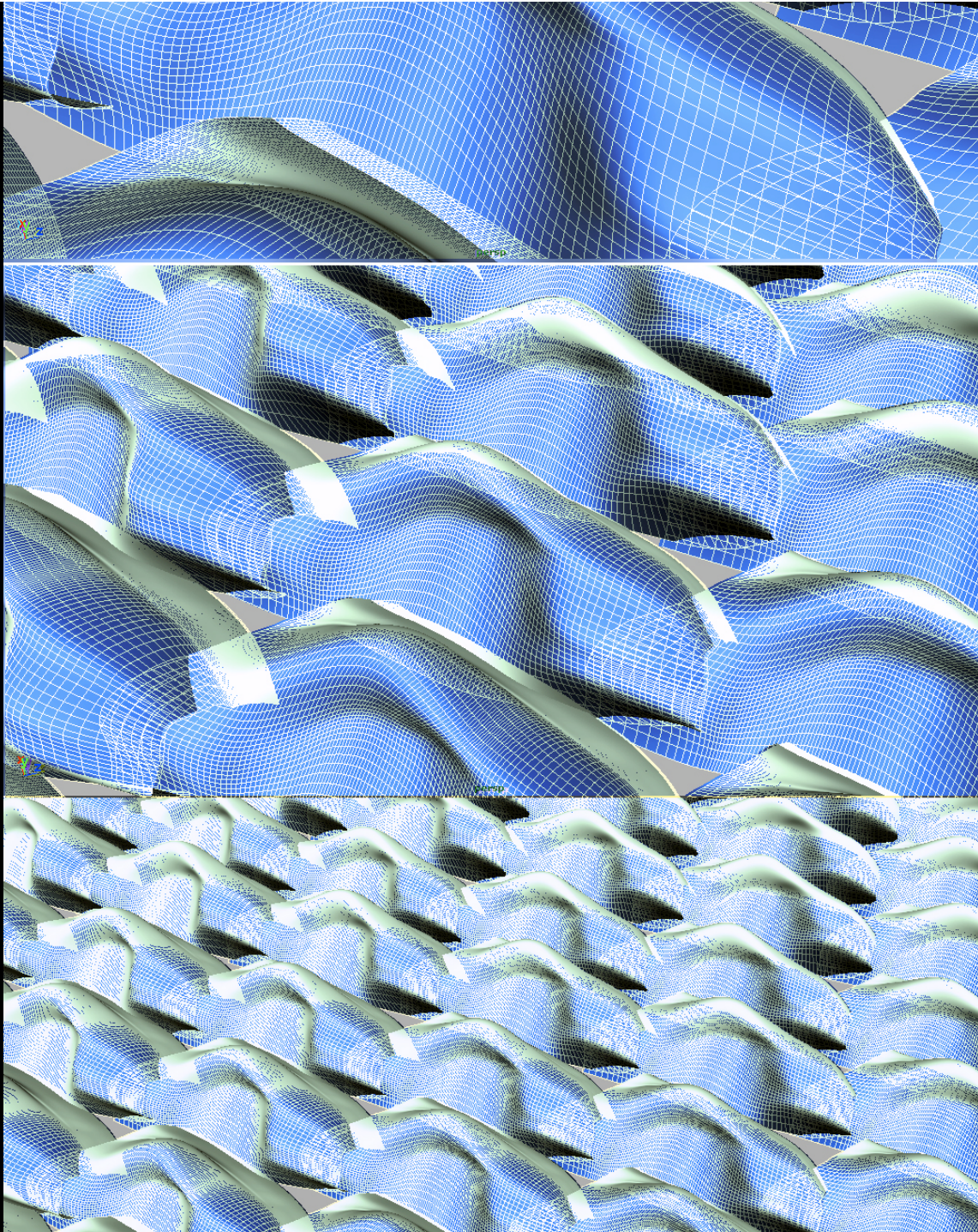


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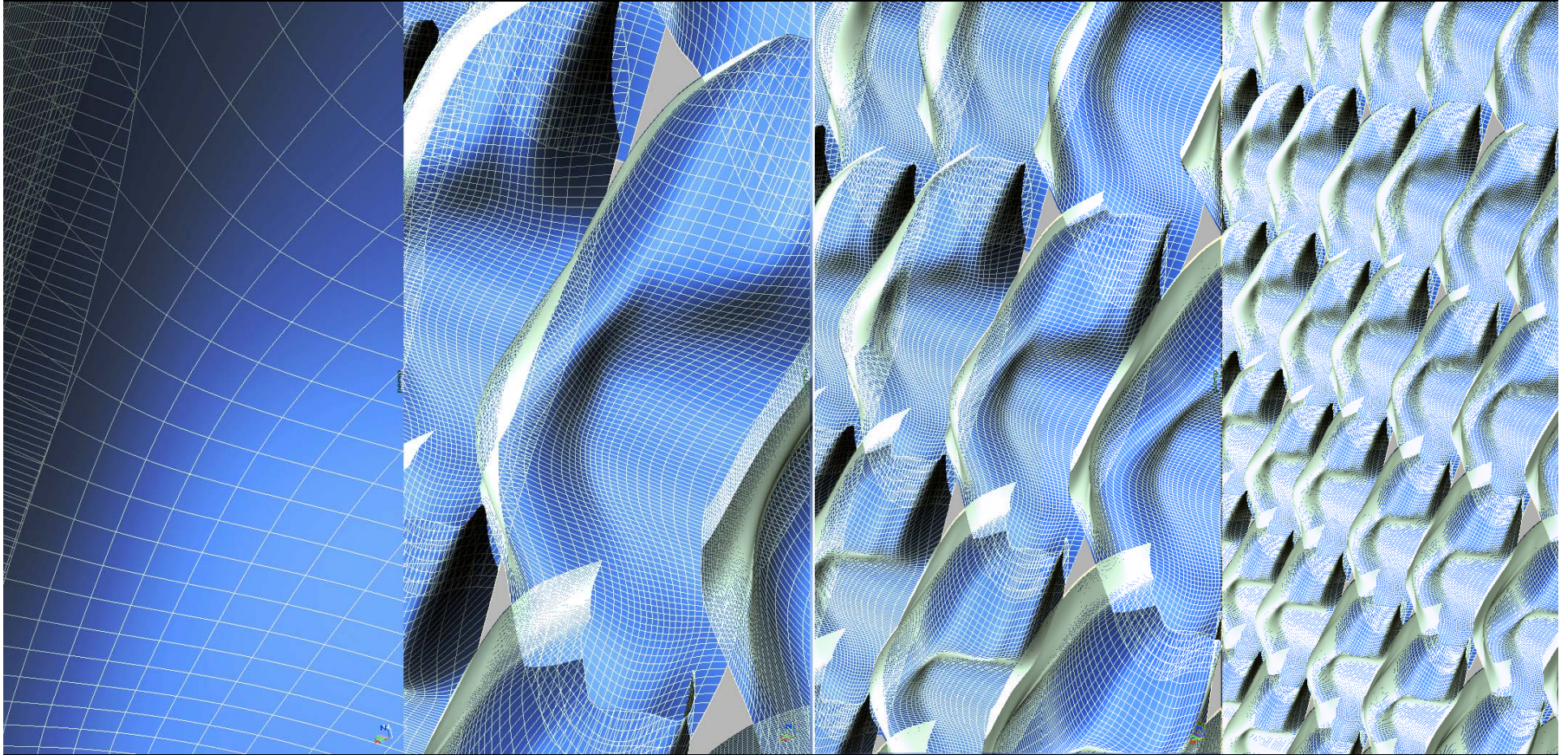
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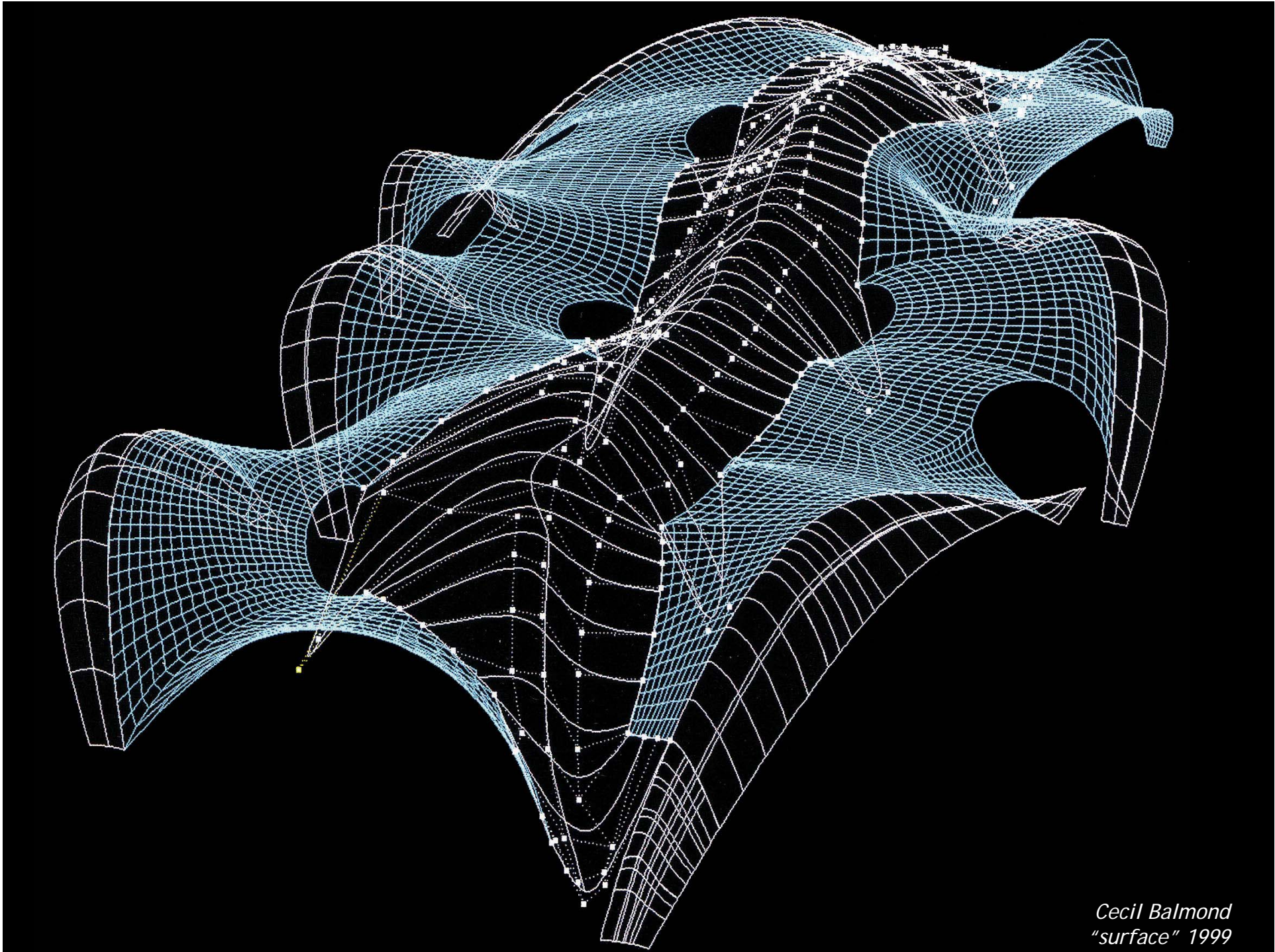
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Cecil Balmond

Arup

L

University of Pennsylvania N 50

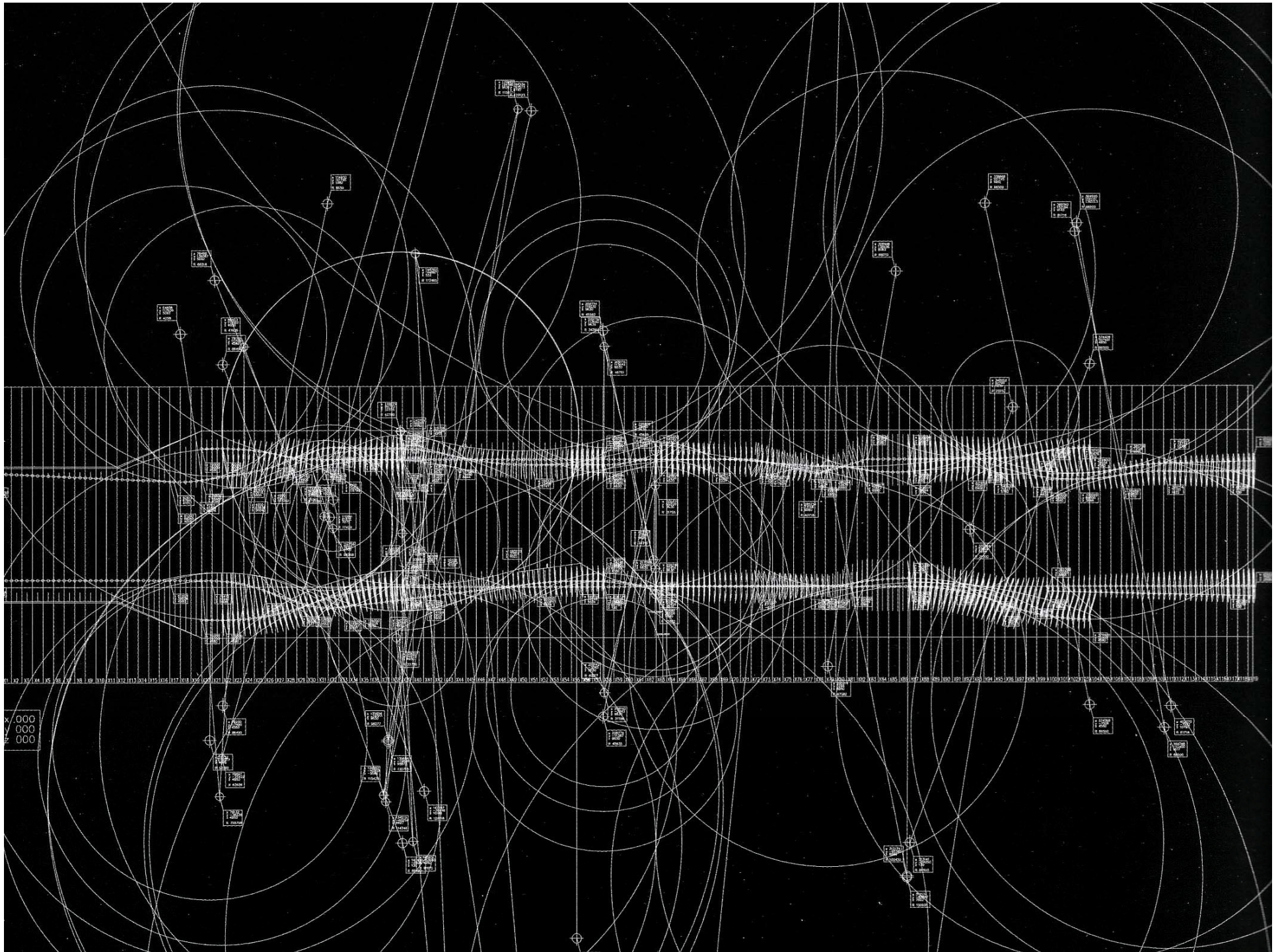


Cecil Balmond
"surface" 1999

Foreign Office Architects

Farshid Moussavi

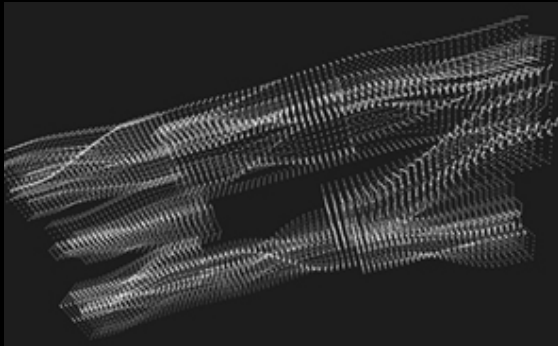
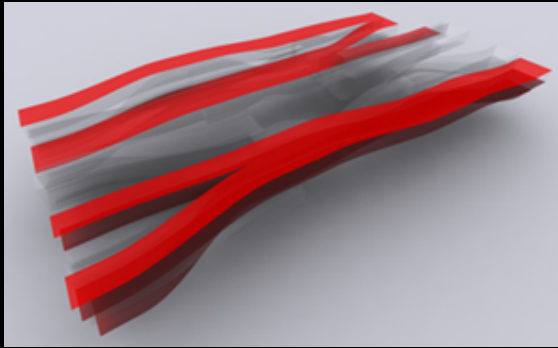
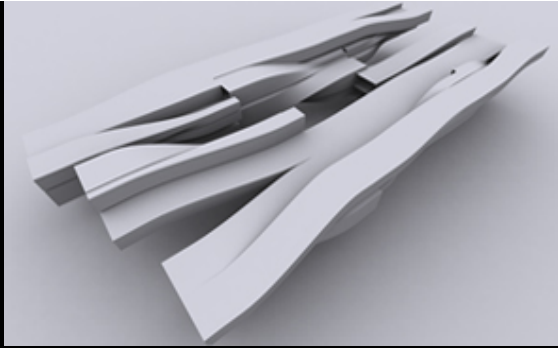
Alejandro Zaera Polo



Zaha Hadid

Zaha Hadid Architects

Yale University



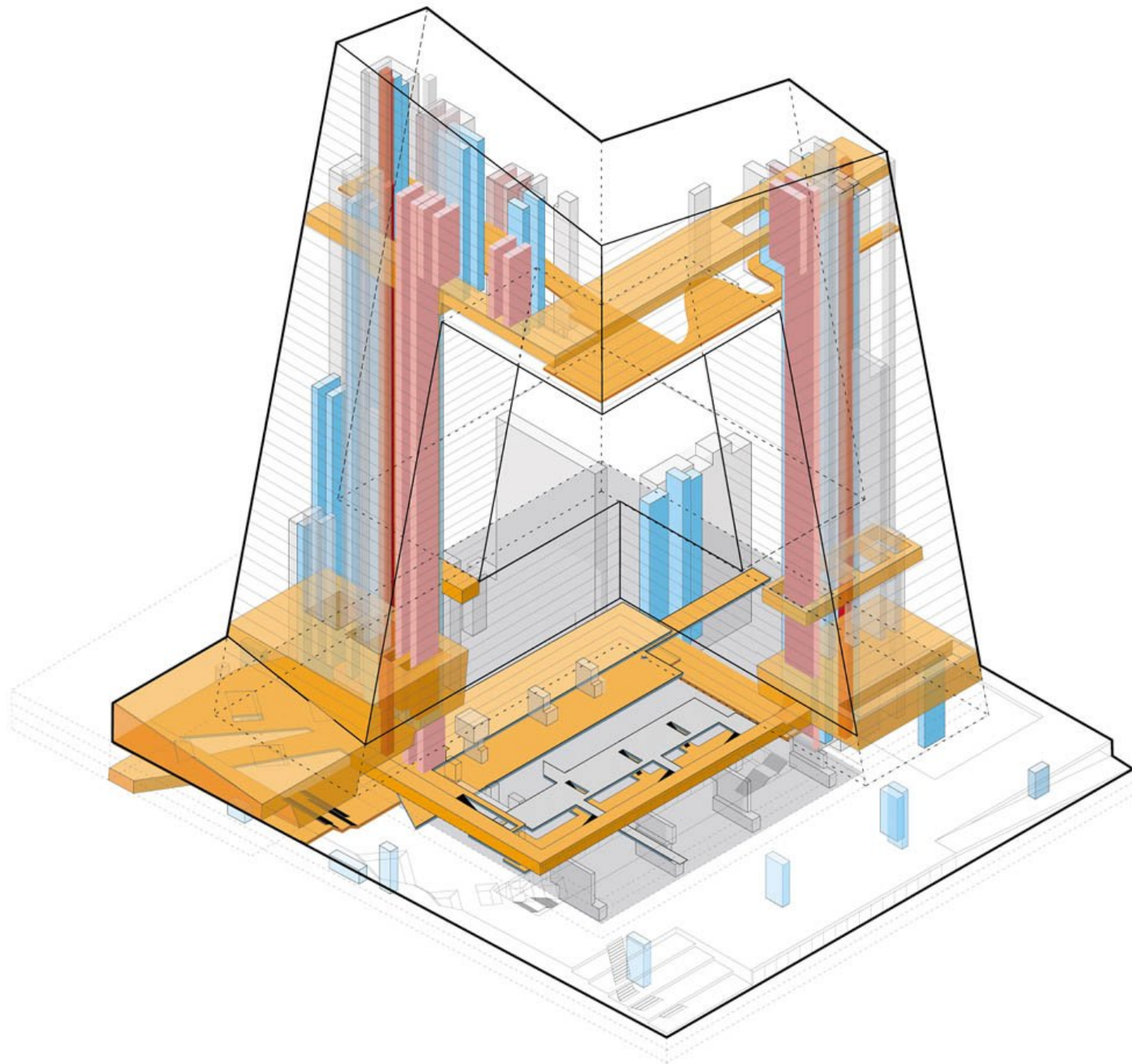
Zaha Hadid
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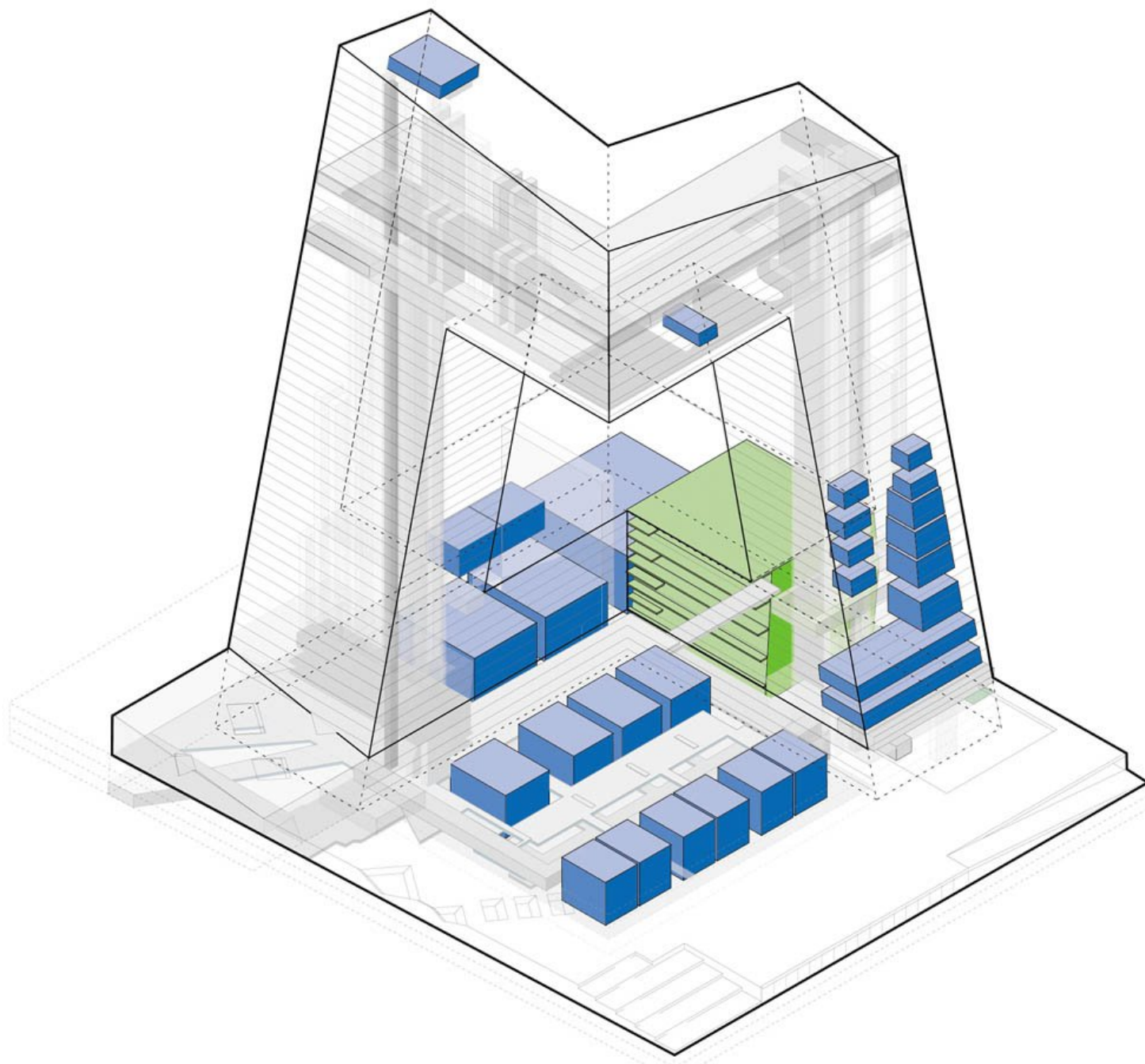
Rem Koolhaas

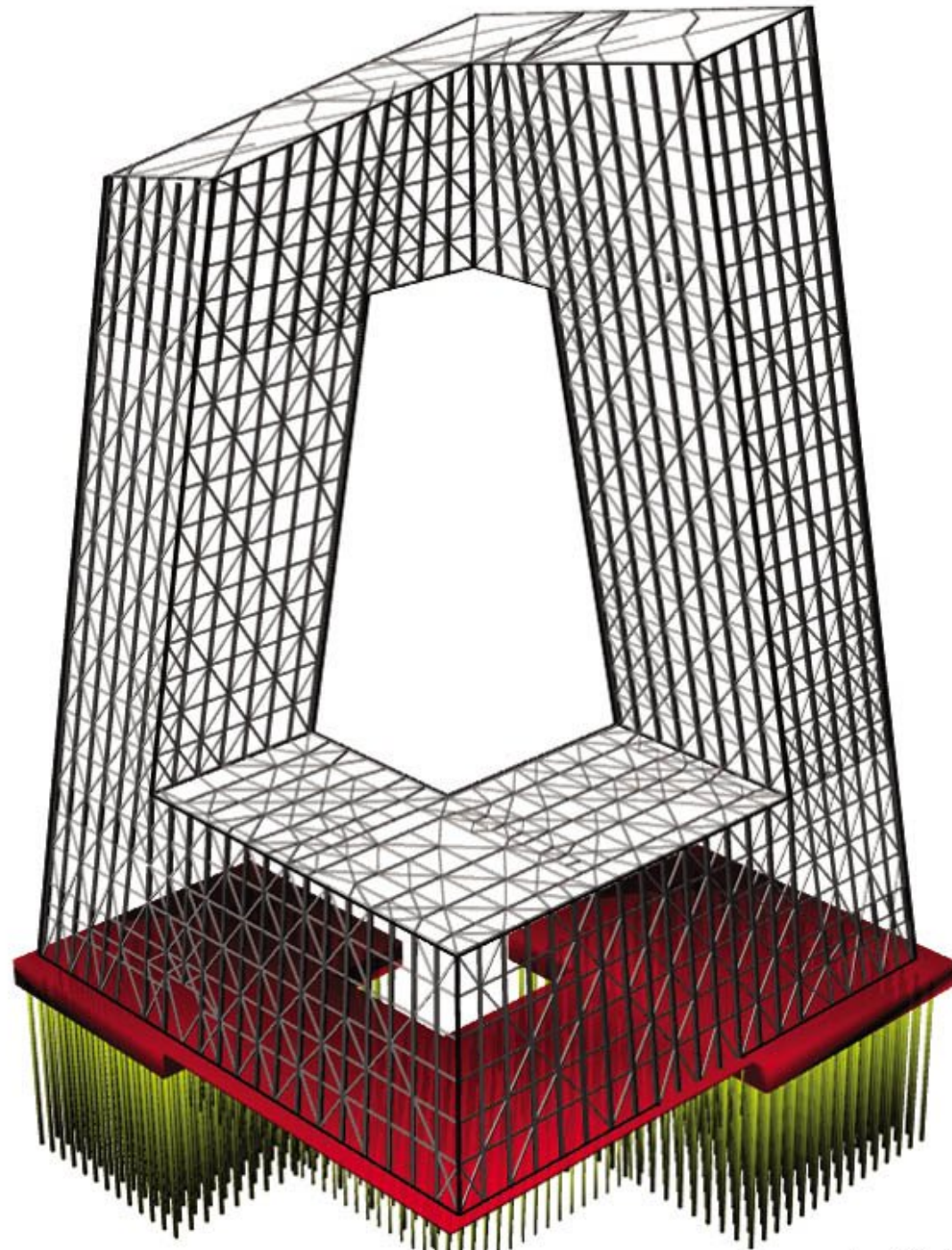
Office of Metropolitan Architecture
Harvard University

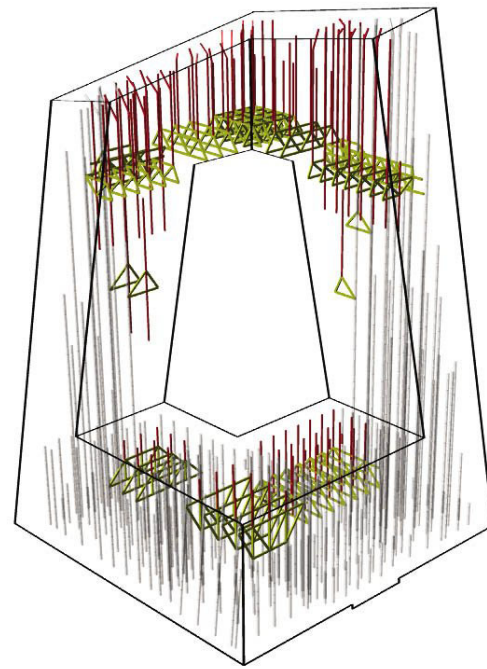
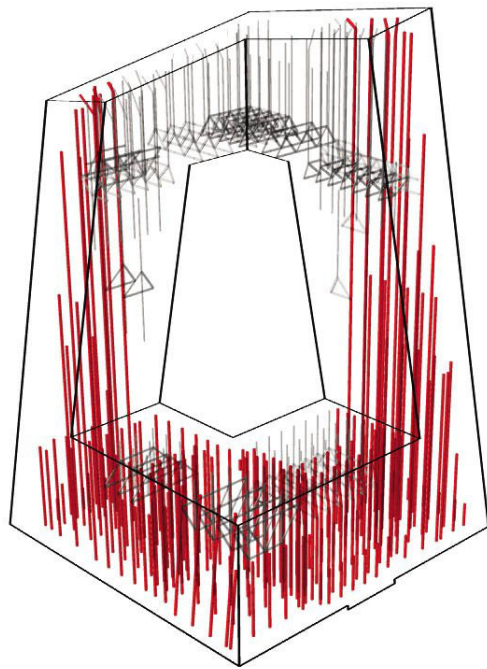
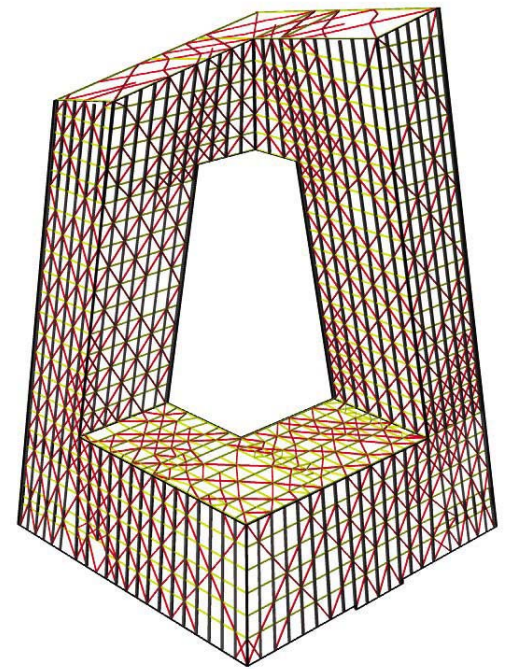
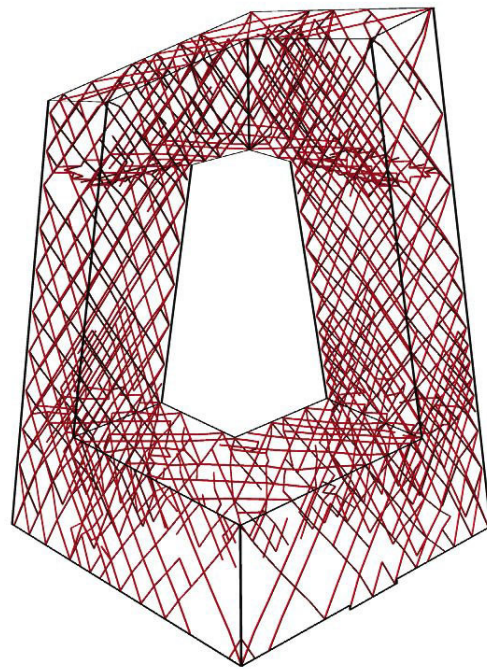
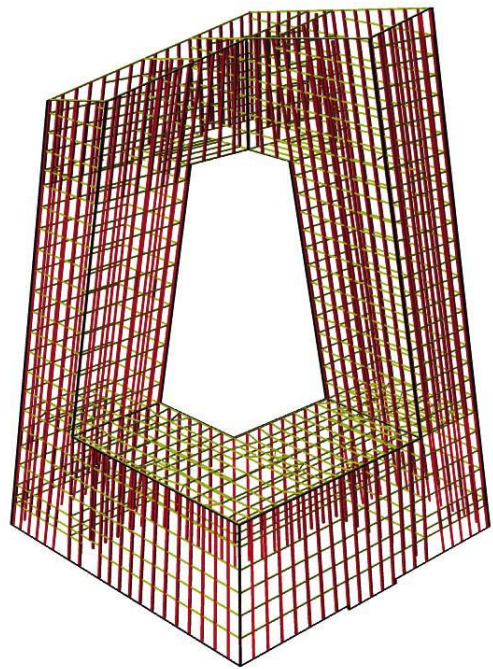


Rem Koolhaas
CCTV Building
Beijing, China 2008





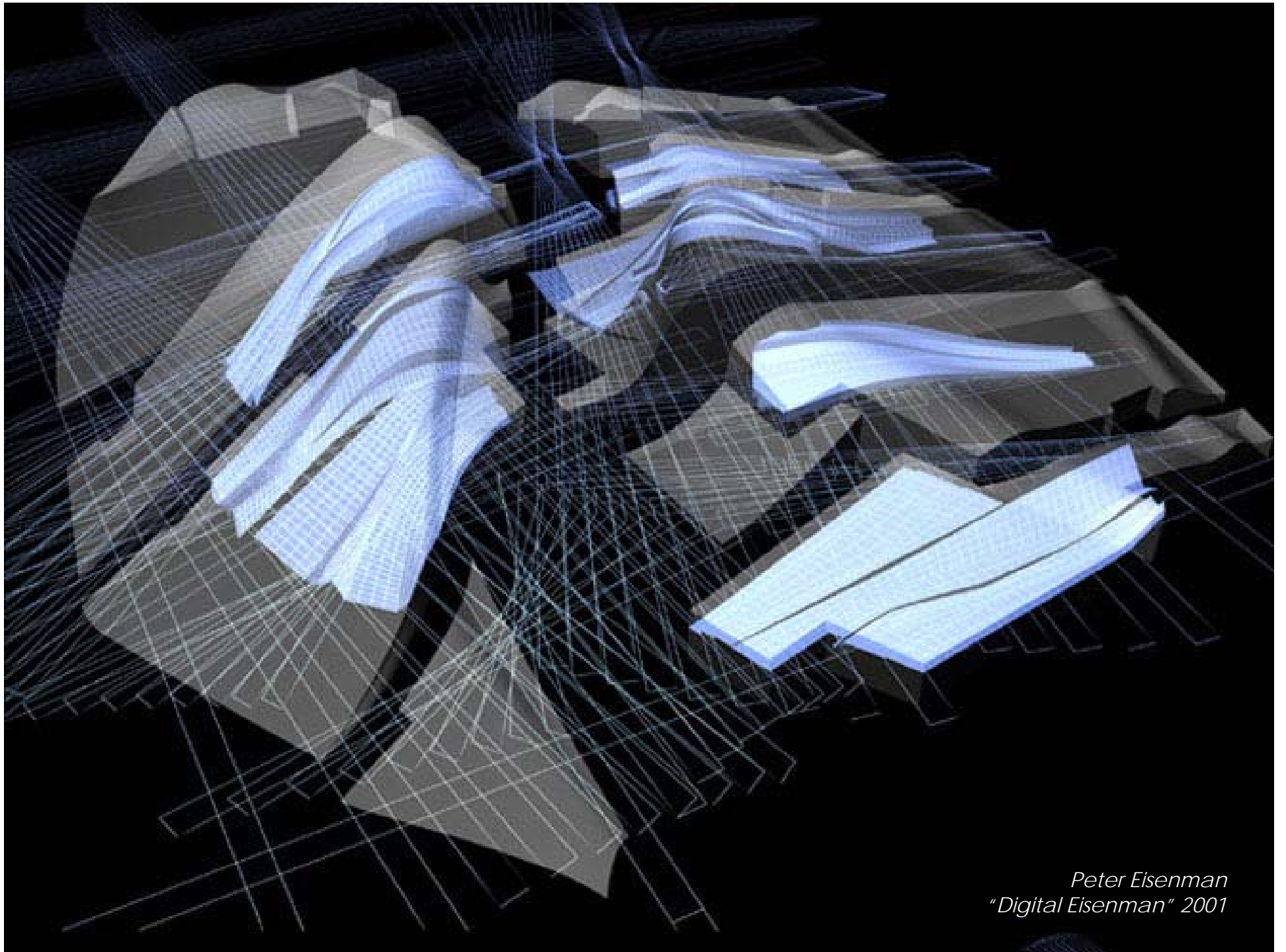




Peter Eisenman

Eisenman Architects

Yale University



*Peter Eisenman
"Digital Eisenman" 2001*

