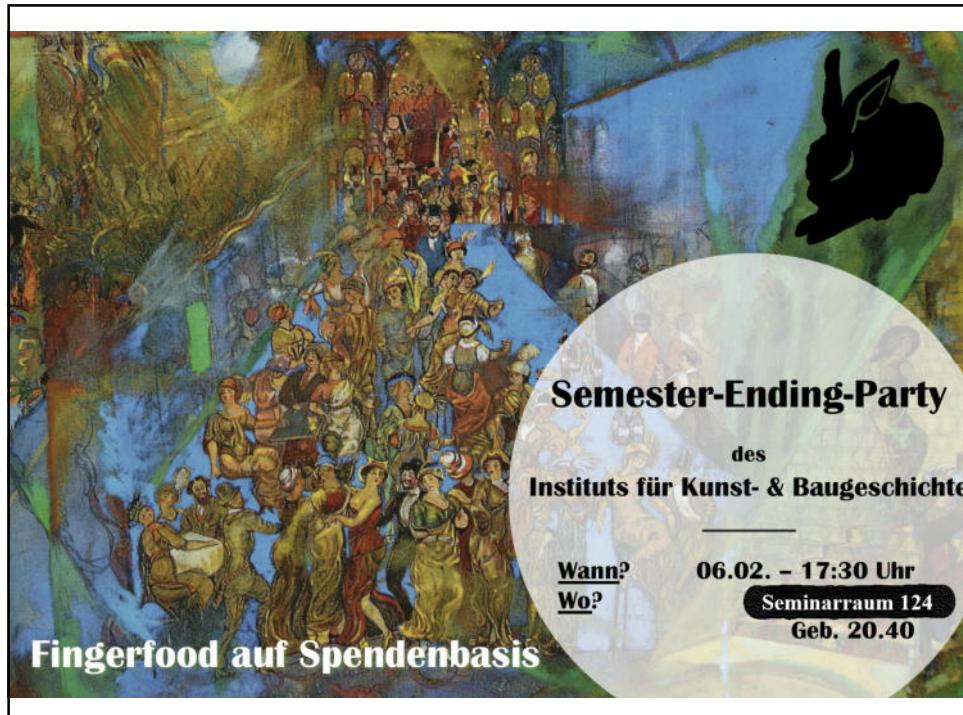




Inge Hinterwaldner
Modelling

VL, Do 30.01.2019, 9.45-11.15: Parametrisches Modellieren – Performanz



**Modellklausur (90 Minuten)****Fragen**

1. Welche Verbindungen sehen Sie zwischen Modellen und Einwegbildern? (5 P)
2. Wie definieren Sie "modulus"/den Modul? In welchen Bereichen gibt es Beispiele dafür? (3 P)
3. In welchen kulturhistorischen Zusammenhängen haben wir miniaturisierte Gebäude angetroffen und welche Funktionen hatten sie jeweils? (5 P)
4. Was erinnern Sie von den Modellen im Bamberger Dom? (6 P)
5. Was versteht man unter der "ägyptischen Methode"? Welche Praxen umfasst diese? (3 P)
6. Was kennzeichnet den römischen Städtebau? Welche mögliche Traditionslinien führt die Forschung an? (3 P)
7. Worin lag die Problematik der Überlieferung architektonischer Entwürfe im Mittelalter? (4 P)
8. Für welche Techniken/Bereiche kamen "Kartons" zum Einsatz? Kennen Sie ein Beispiel? (5 P)
9. Welche Instanzen der Modellierung musste Leonardo da Vinci für die Erstellung des Sforza-Pferdedenkmales Ende 15. Jh. durchlaufen? (5 P)
10. Was wissen Sie von Antonio Canovas Werkstattpraxis? (4 P)



Modellklausur (90 Minuten)**Bonusfragen**

11. Wie muss ein_e Architekt_in den Entwurf neu angehen, wenn die Entscheidung darauf fällt, parametrisch zu modellieren? (5 P)
12. Wie kann diese Vorlesung "Modelling" inhaltlich verbessert werden, dahingehend, dass sie mehr Kontakt- und Interessenspunkte zum Architekturstudium hat? Bitte führen Sie sehr konkrete Beispiele an und begründen Sie diese. (3 P)

Bewertungsschlüssel**43 (plus 8 Bonus)**

0-22 Punkte = 5,0	= nicht ausreichend
23-24 Punkte = 4,0	= ausreichend
25-26 Punkte = 3,7	
27-28 Punkte = 3,3	
29-30 Punkte = 3,0	
31-32 Punkte = 2,7	= befriedigend
33-34 Punkte = 2,3	
35-36 Punkte = 2,0	
37-38 Punkte = 1,7	= gut
39-40 Punkte = 1,3	
41-++Punkte = 1,0	= sehr gut

Übersicht**Parametrismus – Allgemeines****Neuerungen in der Produktion**

- Prozessdefinition und Auswahl eines Moments
- Abstraktion/Definition von Transformationen
- Verwischung von Konzeption und Produktion
- Kleine Änderung – Große Auswirkung

Neuerungen in der Rezeption

- Assoziative Geometrie
- Erleichtern Variation
- Oberflächenbehandlung / Ornamentierung
- Versioning

Parametrismus

Allgemeines

Parametric Design

"Parametric Design is the process of designing in environment where design variations are effortless, thus replacing singularity with multiplicity in the design process. Parametric design is done with the aid of Parametric Models. A parametric model is a computer representation of a design constructed with geometrical entities that have attributes (properties) that are fixed and others that can vary. The variable attributes are also called parameters and the fixed attributes are said to be constrained."

Barrios Hernandez, Carlos Roberto: Thinking parametric design: introducing parametric Gaudi, in: Design Studies, Vol. 27, 2006, 310.

„In a radical departure from centuries-old traditions and norms of architectural design, digitally generated forms are not designed or drawn as the conventional understanding of these terms would have it, but they are calculated by a chosen generative computational method, most of which are based on some form of parametric design. In parametric design, the parameters of a particular design are initially declared, not its shape or form.“

Kolarevic, Branko: The (risky) craft of digital making, in: Kolarevic, Branko/Klinger, Kevin R. (Hgg.): Manufacturing Material Effects: Rethinking Design and Making in Architecture, Routledge: New York/London 2008, S. 121.

"There is a global convergence in recent avant-garde architecture that justifies the enunciation of a new style: **Parametricism**. [...] It succeeds modernism as a new long wave of systematic innovation. The style finally closes the transitional period of uncertainty that was engendered by the crisis of modernism and that was marked by a series of short lived episodes including Postmodernism, Deconstructivism, and Minimalism.
Parametricism is the great new style after modernism. The new style claims relevance on all scales from architecture and interior design to large scale urban design."

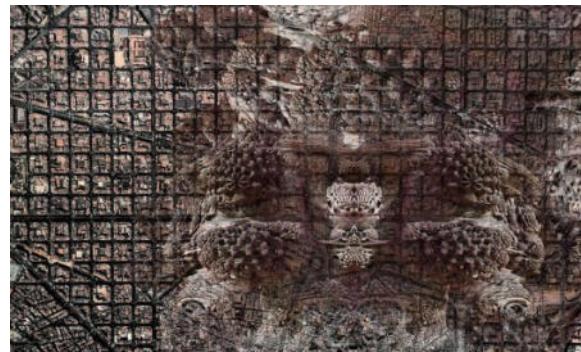
Schumacher, Patrik: Parametricism. A New Global Style for Architecture and Urban Design, in: Architectural Design, Vol. 79, Nr. 4: Digital Cities, Juli/August 2009; in:
<http://www.patrikschumacher.com/Texts/Parametricism%20-%20A%20New%20Global%20Style%20for%20Architecture%20and%20Urban%20Design.html>
(20.11.2011).

Ästhetische Aspekte:

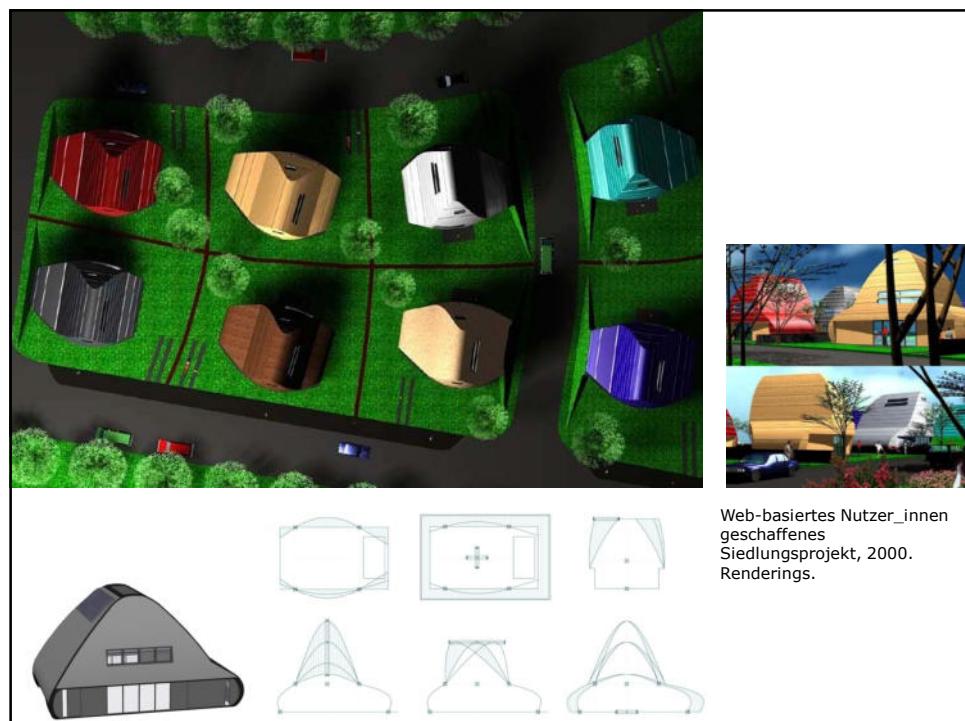
- kontinuierliche Differenzierung
- Versioning
- Iteration
- Massen-Maßschneiderung (mass customization)
- Eleganz geordneter Komplexität
- Anschein nahtloser Fluidität, vergleichbar Naturerscheinungen

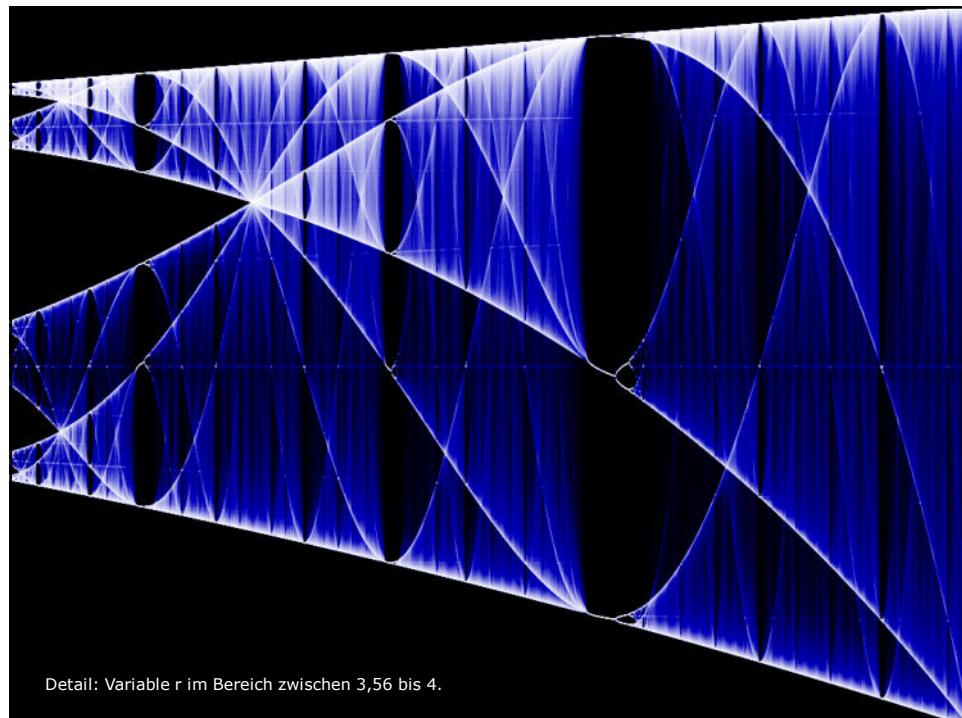
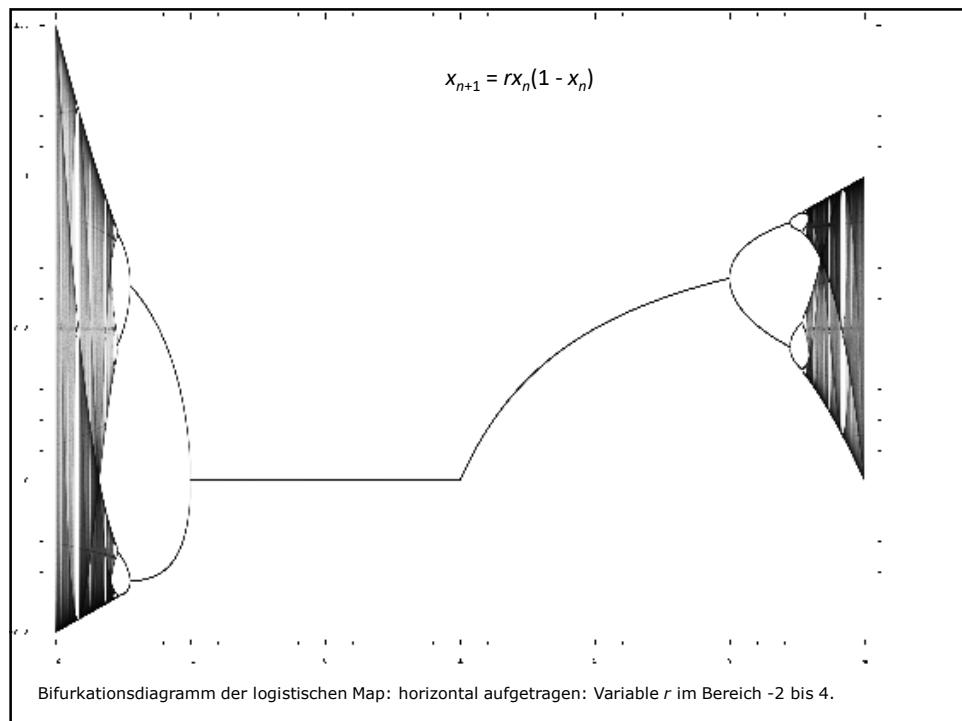
Verbreitete und bereits seit längerem konsistente geteilte Designambitionen und -probleme: Stil als "design research program" mit spezifischer Agenda.

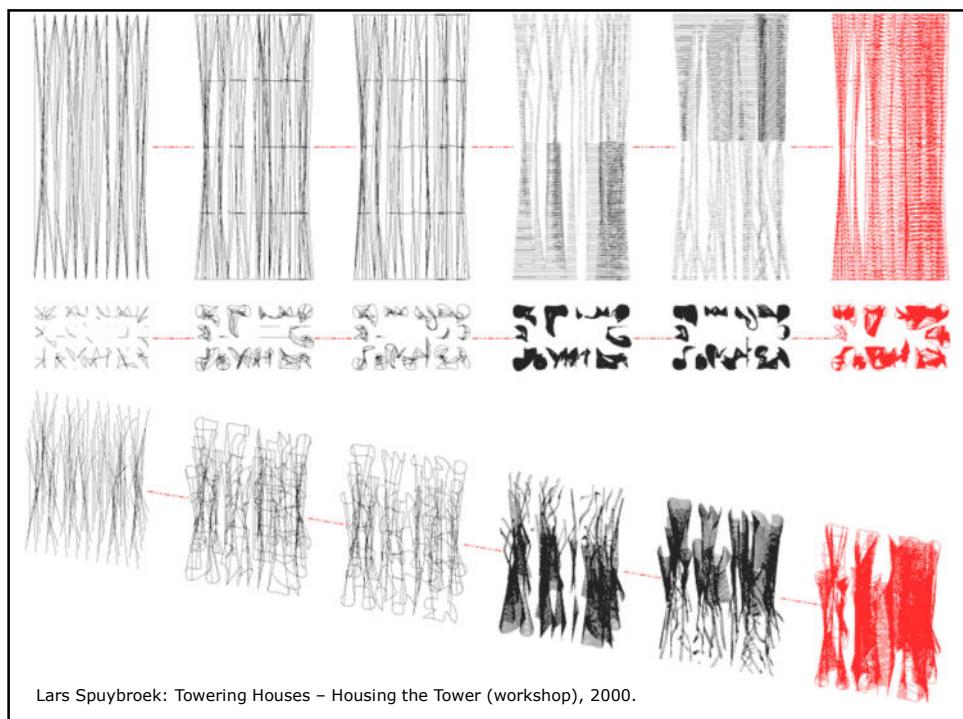
- negative Heuristik (Tabu):
 - rigide geometrische Primitive (wie Rechteck, Dreieck, Kreis)
 - einfache Repetition von Elementen
 - Gegenüberstellung unverbundener Elemente oder Systeme
- positive Heuristik (Dogma):
 - alle Formen (Primitive) als parametrisch verformbar erachten
 - graduelle Differenzierung
 - systematische Korrelation, Verbindungen
 - man integriere Objekt-, Umwelt-, und Betrachterparameter



SPAN (Matias del Campo & Sandra Manninger),
Ausstellung im MAK, 2011.





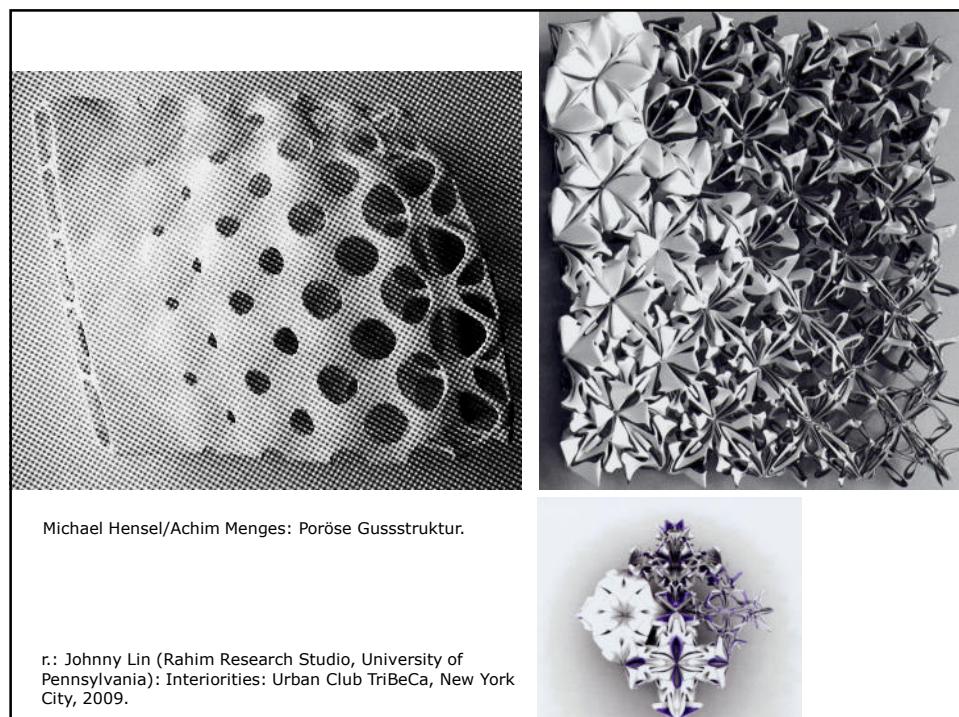
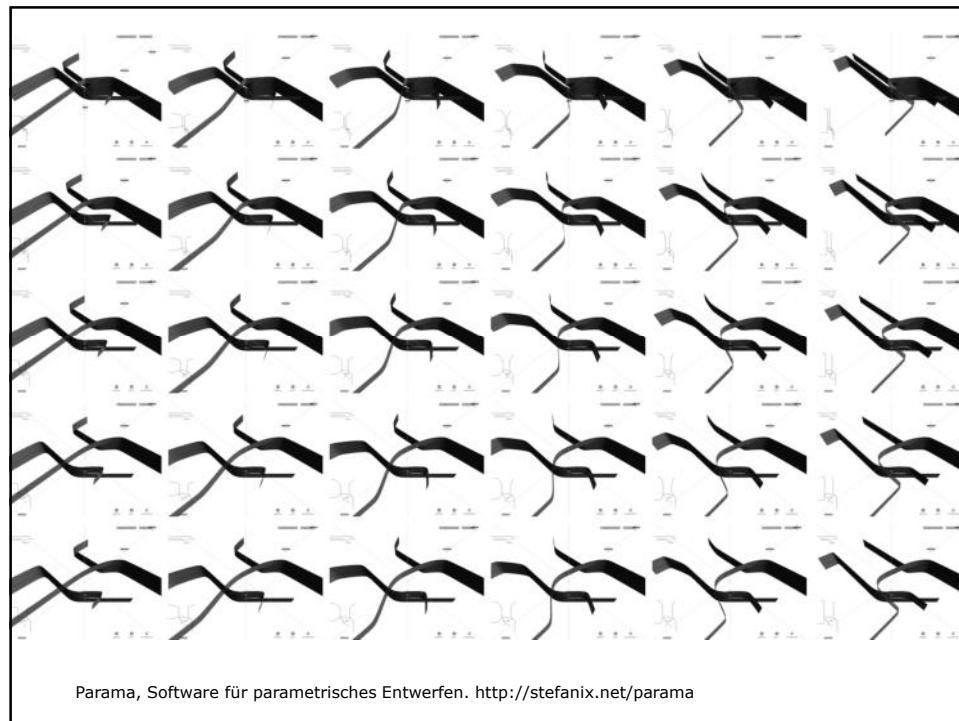


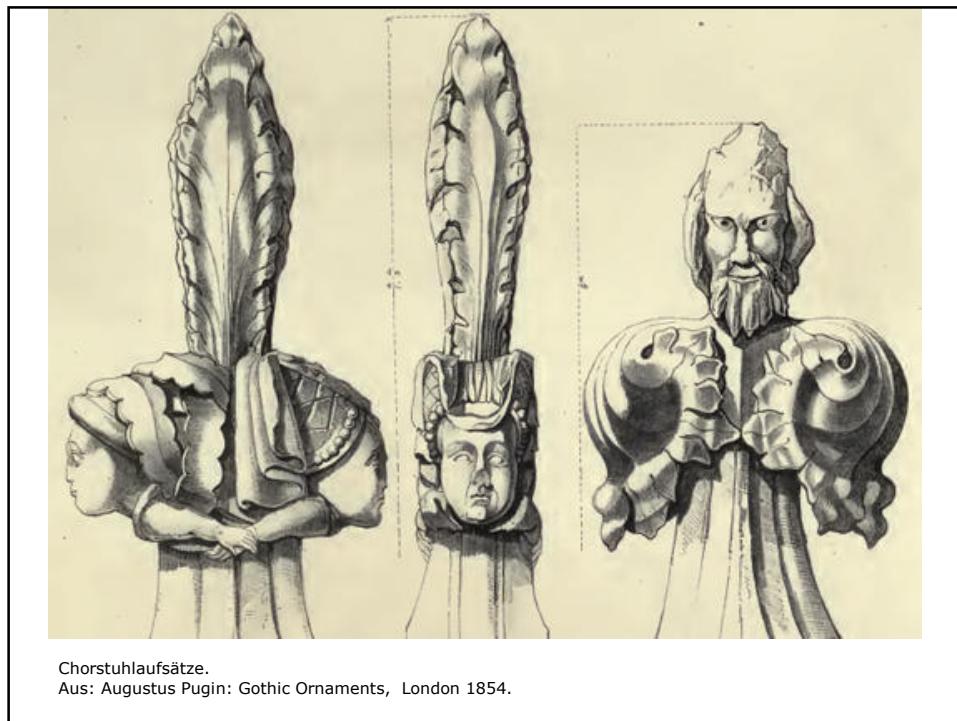
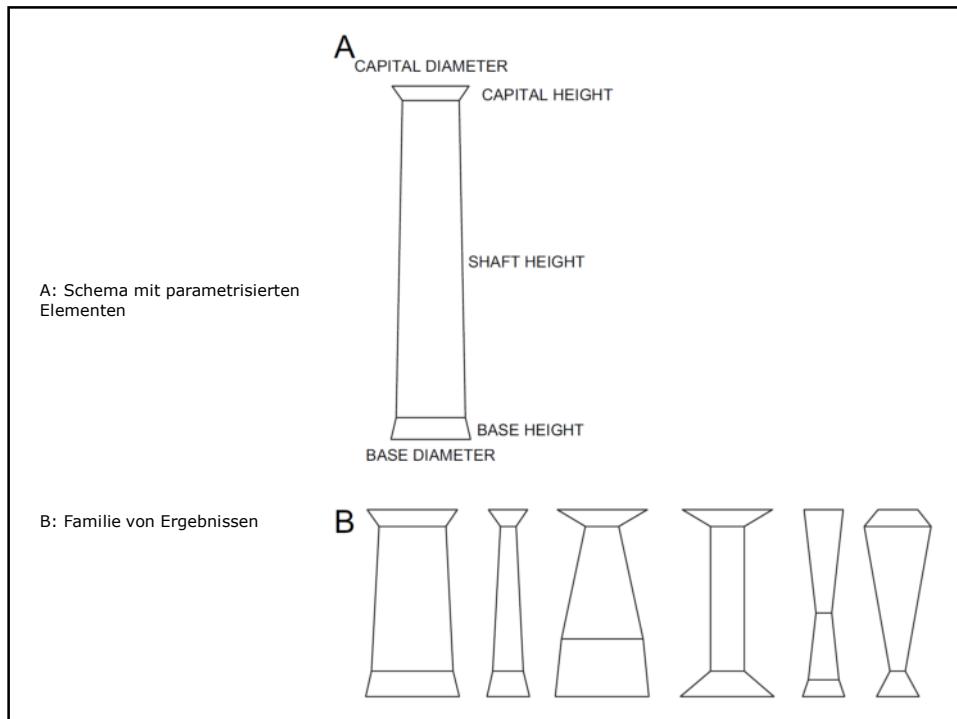
"Software als neues Medium zur architektonischen Exploration".

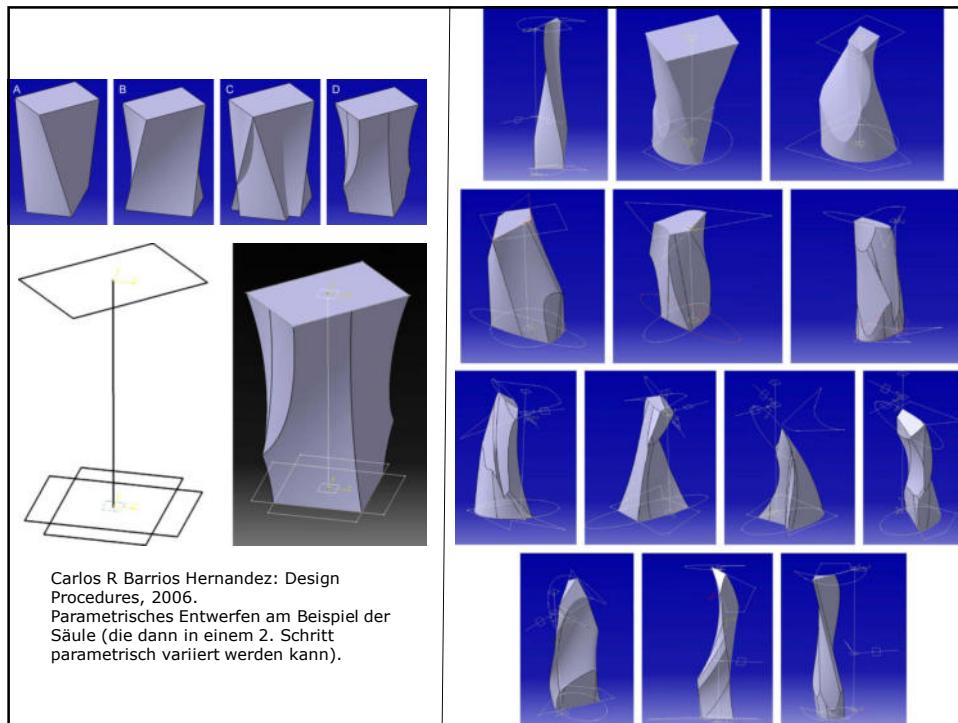
Rocker, Ingeborg: Calculus-Based Form: An Interview with Greg Lynn, in: AD, Vol. 76, Nr. 4, 2006, S. 88-95; hier: S. 89.



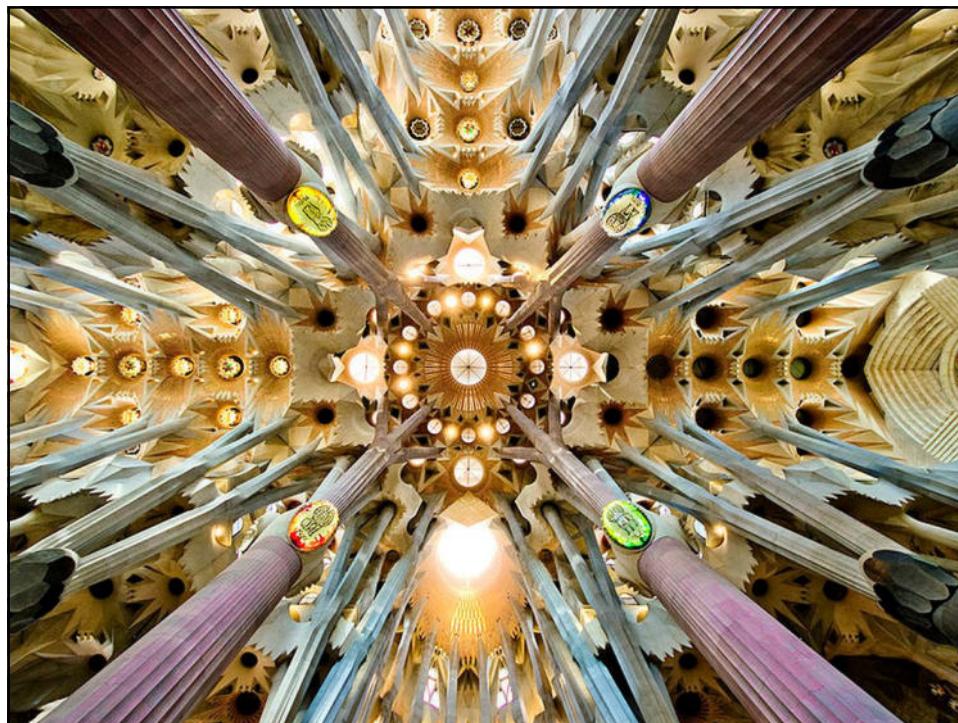
Gramazio & Kohler: mTable, 2002.







Carlos R Barrios Hernandez: Design Procedures, 2006.
Parametrisches Entwerfen am Beispiel der Säule (die dann in einem 2. Schritt parametrisch variiert werden kann).





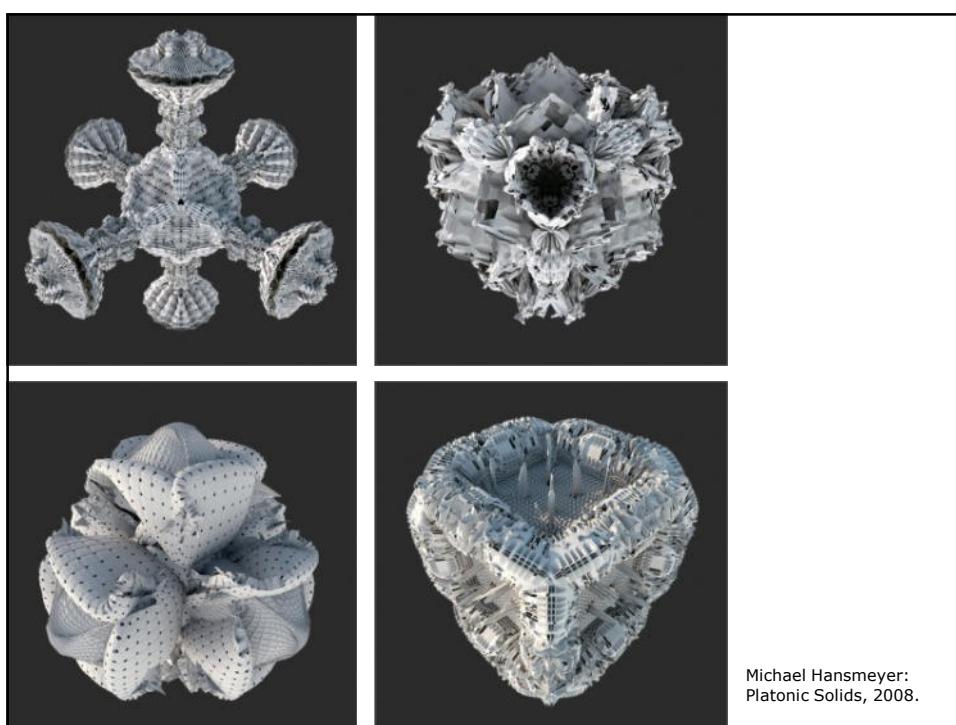
Carlos R Barrios Hernandez: Design Procedures, 2006. Parametrisches Entwerfen am Beispiel der Säule (die dann in einem 2. Schritt parametrisch variiert werden kann).



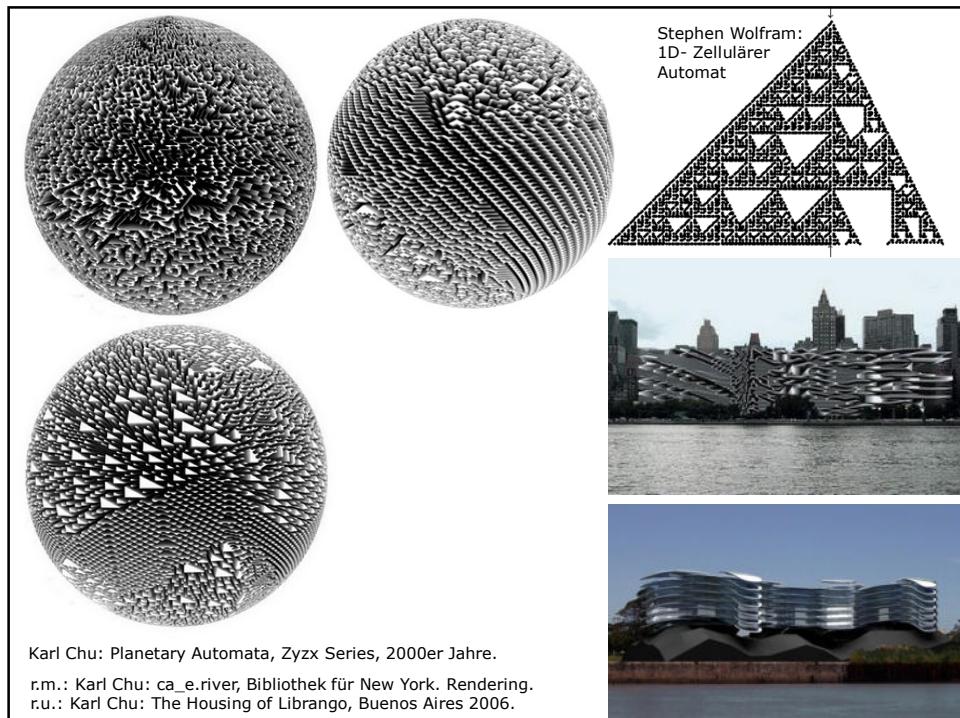
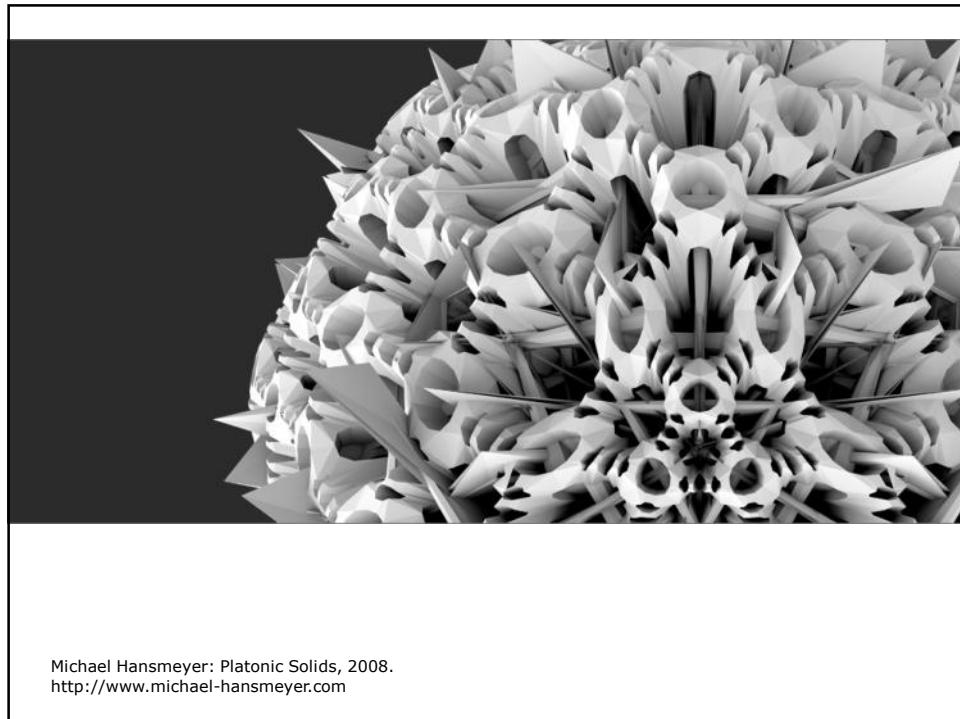
Michael Hansmeyer: Ornamented Columns,
2010.
Rechts: horizontale Schnitte.

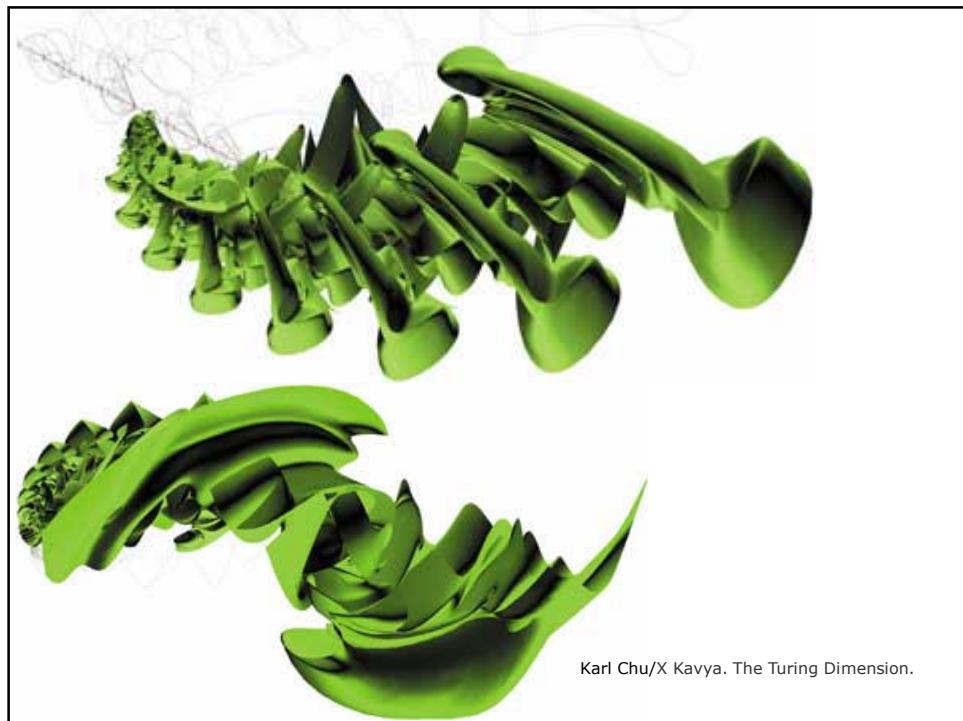


Michael Hansmeyer: Subdivided Columns, ab 2010. Detail vom Inneren der Säule.

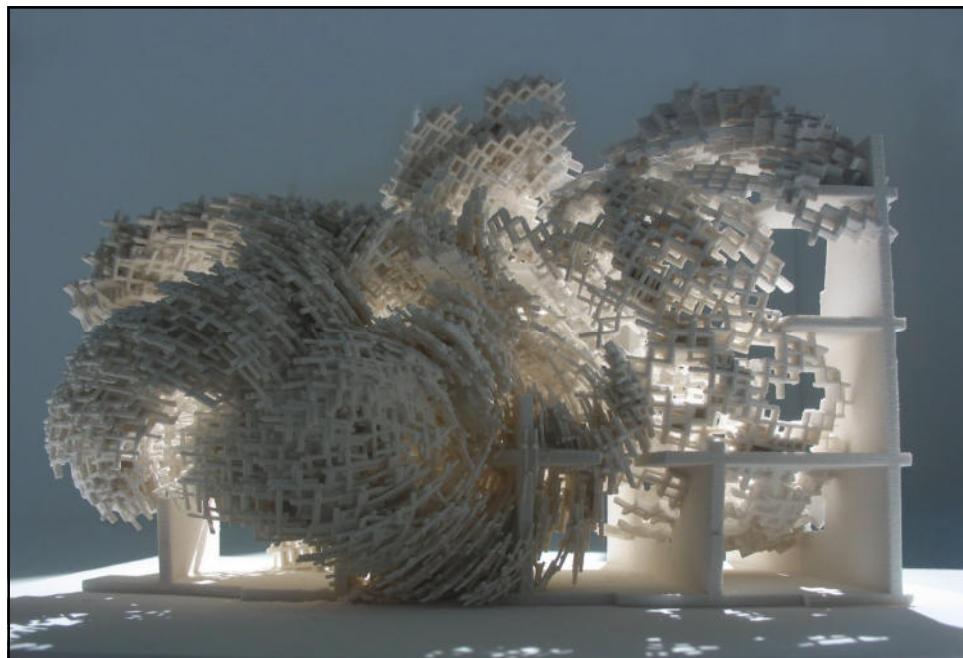


Michael Hansmeyer:
Platonic Solids, 2008.

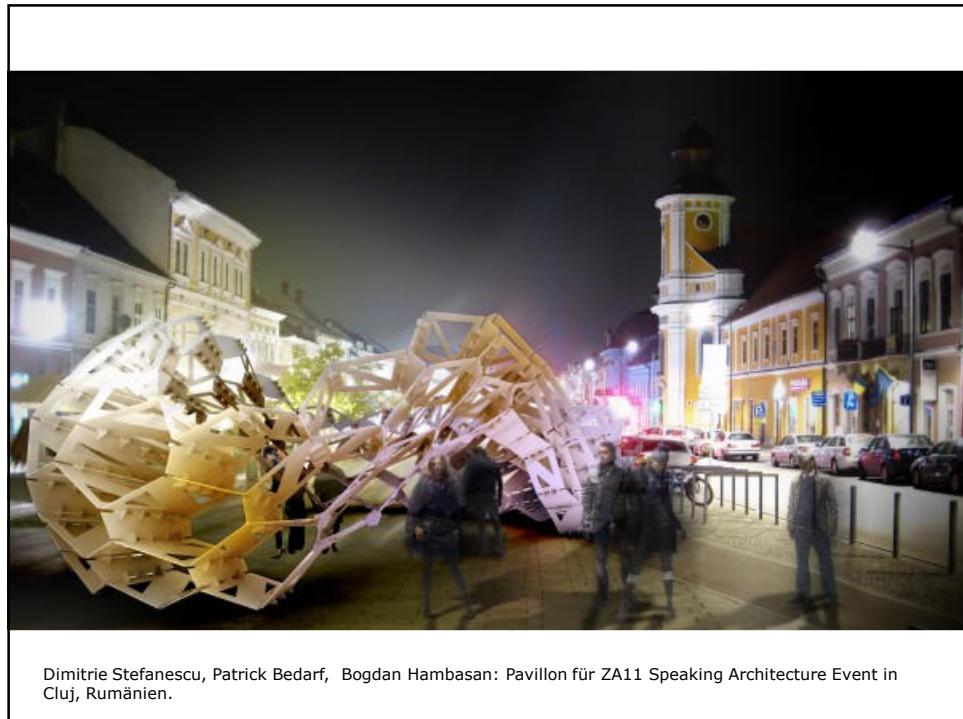




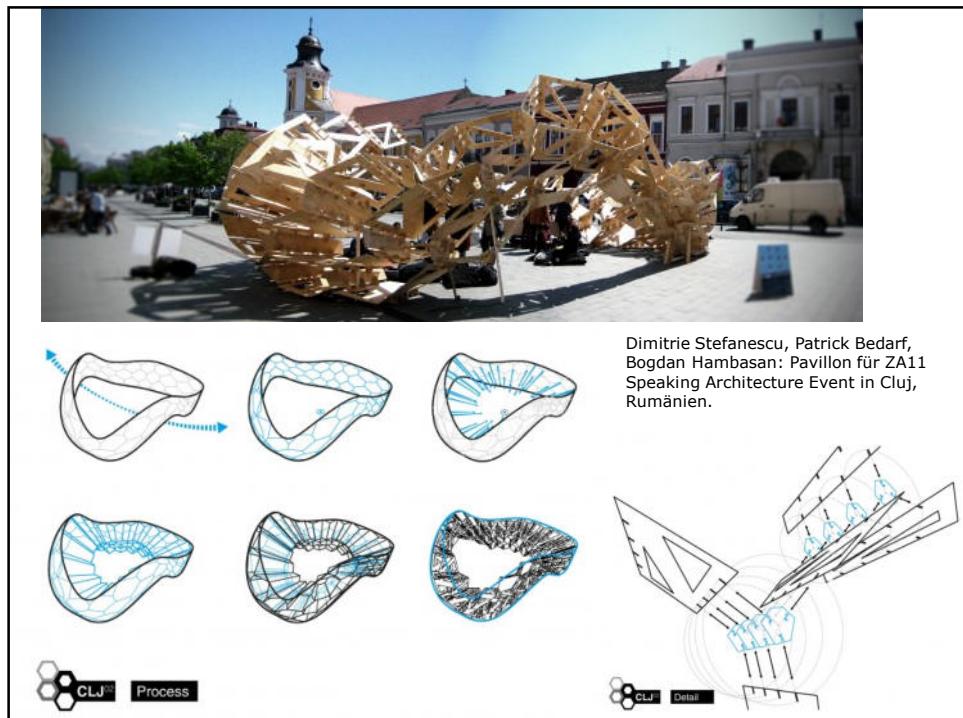
Karl Chu/X Kavya. The Turing Dimension.



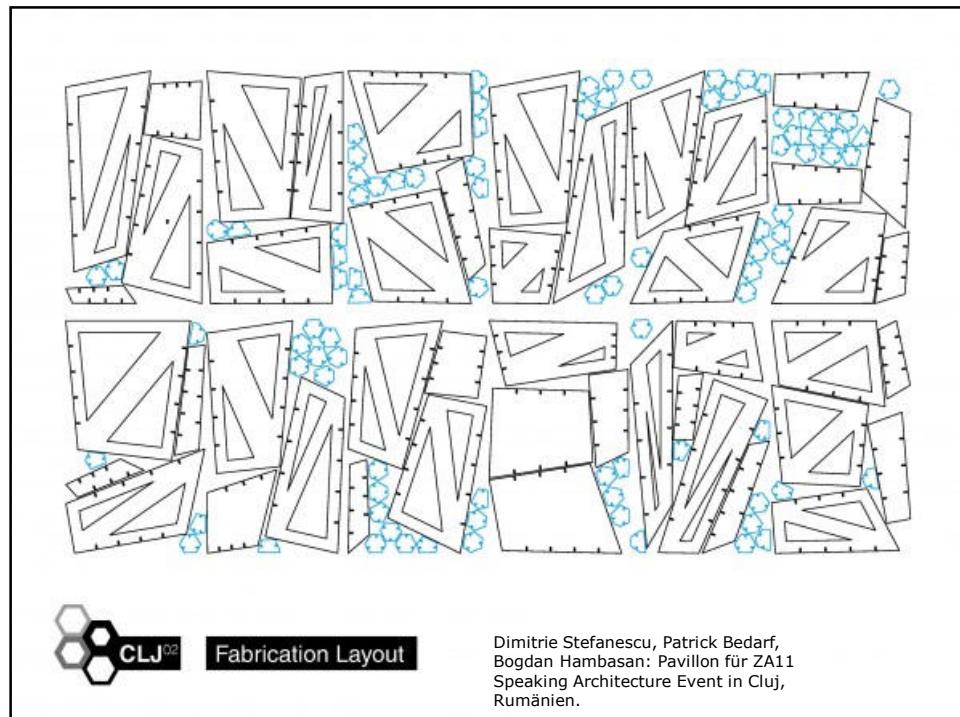
Daniel Köhler/Rasa Navasaityte: Cannibal Flakes project, Modell.
Österreichischer Pavillon, ausgestellt bei der Architektur Biennale 2010, Venedig.



Dimitrie Stefanescu, Patrick Bedarf, Bogdan Hambasan: Pavillon für ZA11 Speaking Architecture Event in Cluj, Rumänien.



Dimitrie Stefanescu, Patrick Bedarf,
Bogdan Hambasan: Pavillon für ZA11
Speaking Architecture Event in Cluj,
Rumänien.



Parametrismus und Neuerungen in der Produktion

Prozessdefinition und Auswahl eines Moments

Abstraktion/Definition von Transformationen

Verwischung von Konzeption und Produktion

Kleine Änderung – Große Auswirkung

„The designer essentially becomes an ‚editor‘ of the generative potentiality of the designed system, where the choice of emergent forms is driven largely by the designer’s aesthetic and plastic sensibilities“.

Kolarevic, Branko: The (risky) craft of digital making, in: Kolarevic, Branko/Klinger, Kevin R. (Hgg.): Manufacturing Material Effects: Rethinking Design and Making in Architecture, Routledge: New York/London 2008, S. 119-128; hier: 121-122.

„The final building is comprised of numerous derivatives of the digital data and is therefore in its sum only one possible image of the nth derivation.“ The architect finds himself – as a designer – controlling a process rather than a design. It is the process that allows ‘the form an opportunity to manifest itself’.

Bauer, Gernot: Architecture as Brand Communication, Birkhäuser: Basel/Boston/Berlin 2002, S. 68.

Parametrismus und Neuerungen in der Rezeption

Assoziative Geometrie

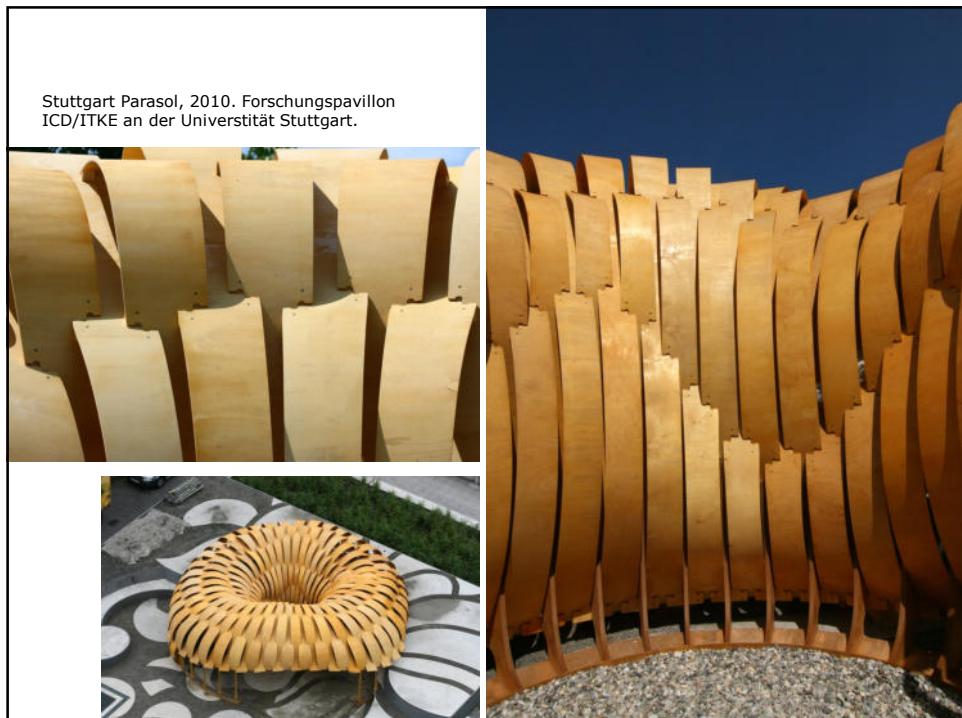
Erleichtern Variation

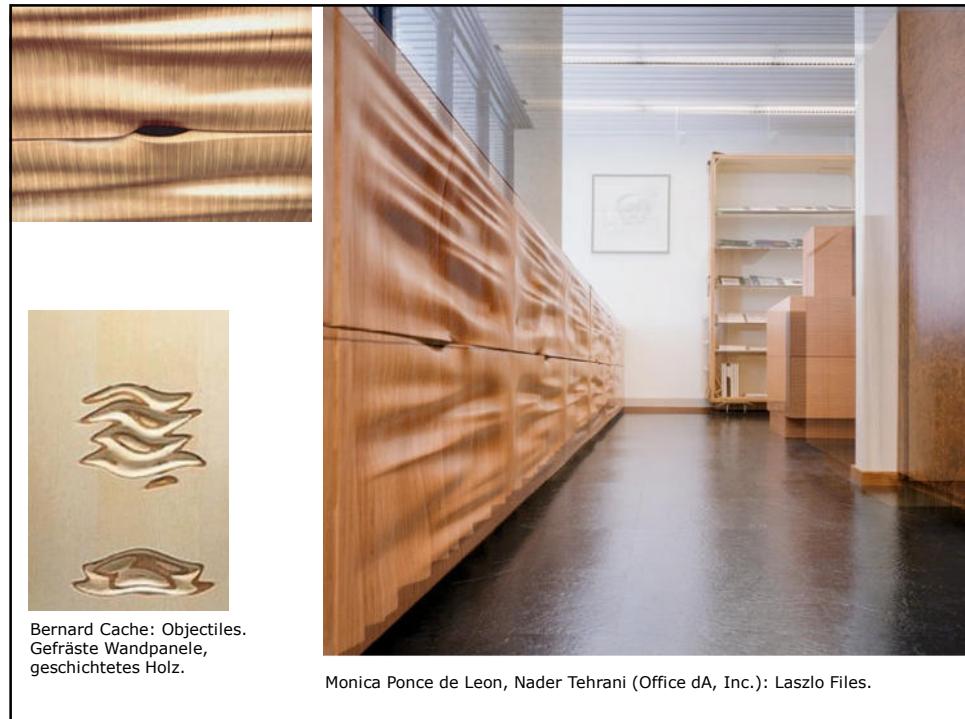
Oberflächenbehandlung / Ornamentierung

Versioning

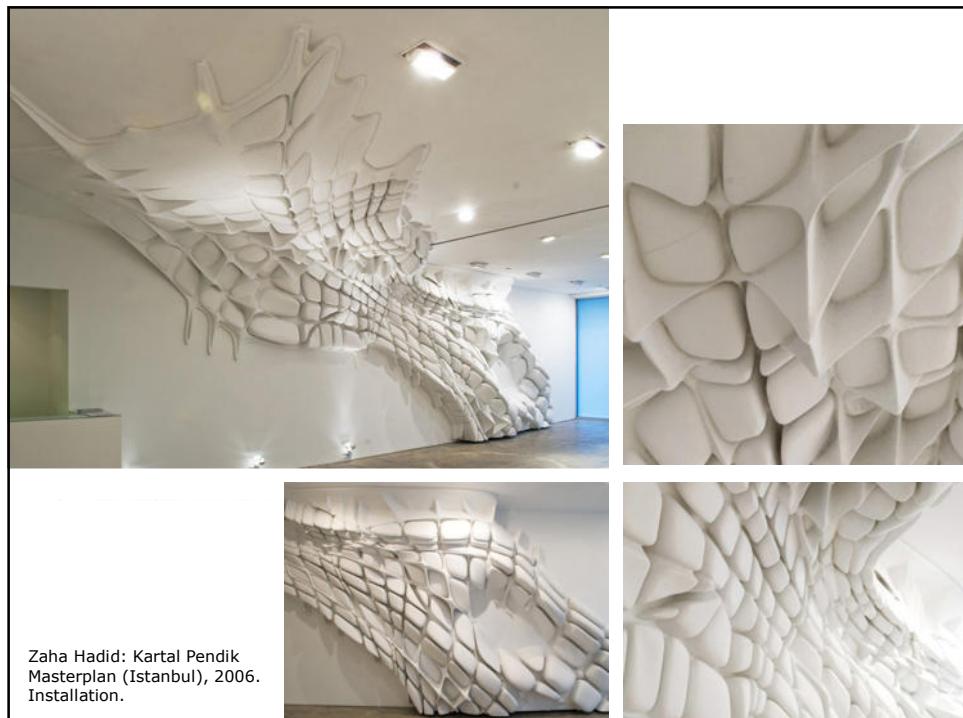
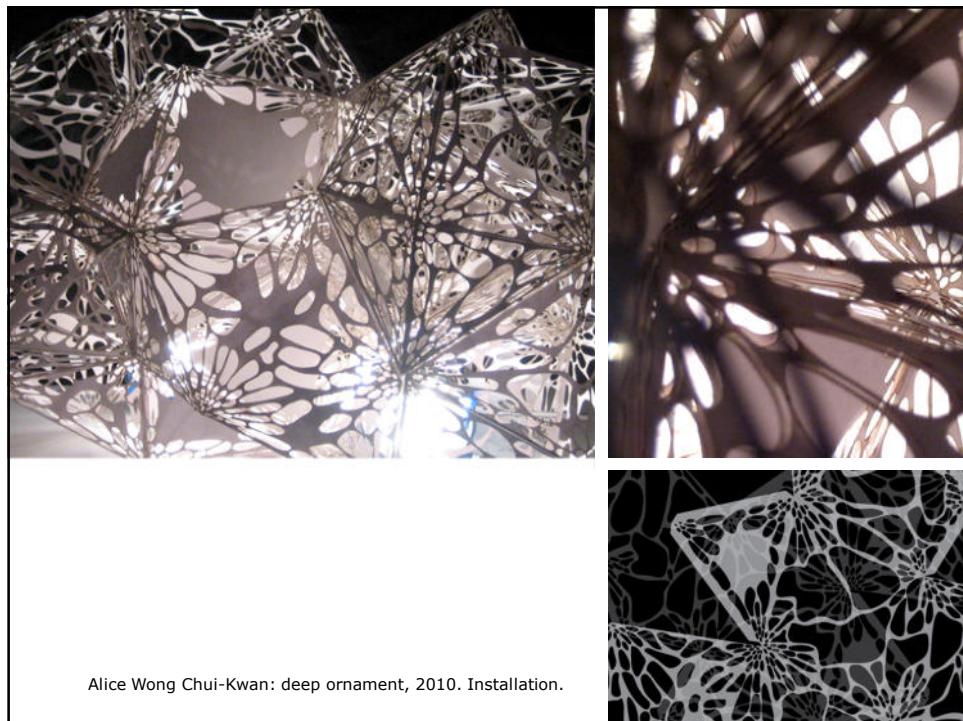
„Variations in design are a fundamental part of the design process in the search for solutions to design problems. Design variations support improvement of design which in turn improves the quality of designed artifacts. Designers constantly go back and forth between different alternatives in the universe of possible solutions“.

Barrios, Hernandez, Carlos Roberto: Thinking parametric design: introducing parametric Gaudi, in: Design Studies, Vol. 27, 2006, S. 309-324; hier: S. 309.



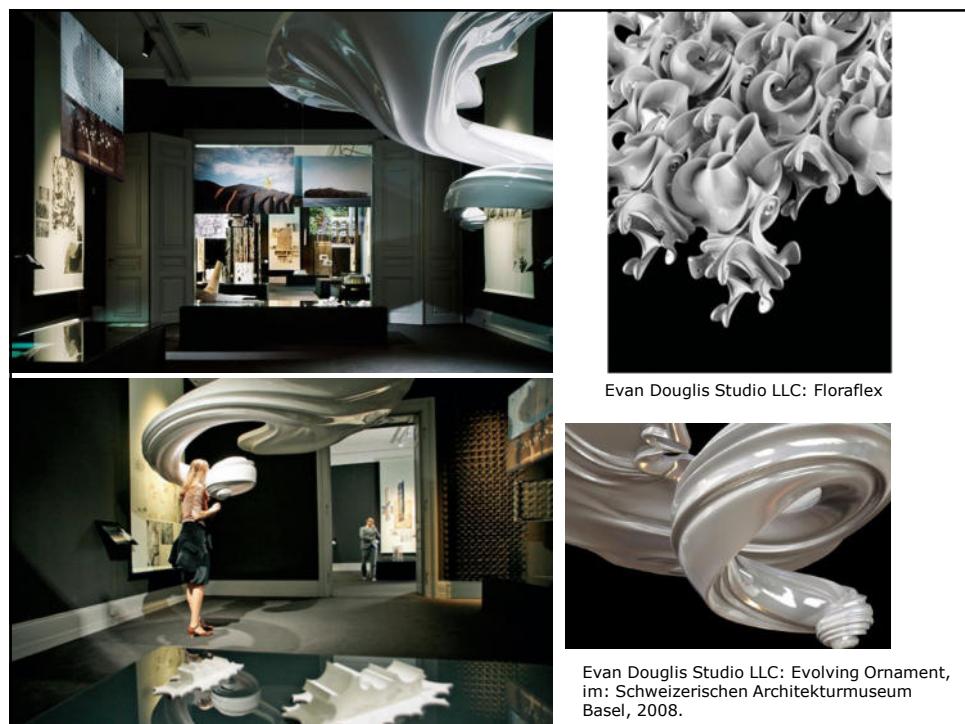






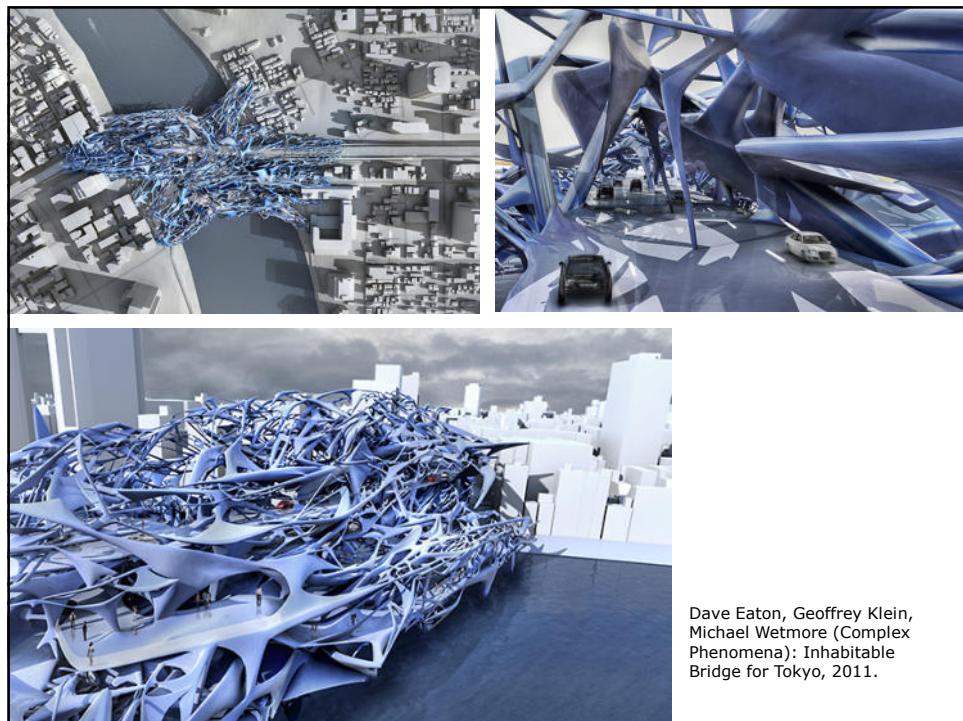
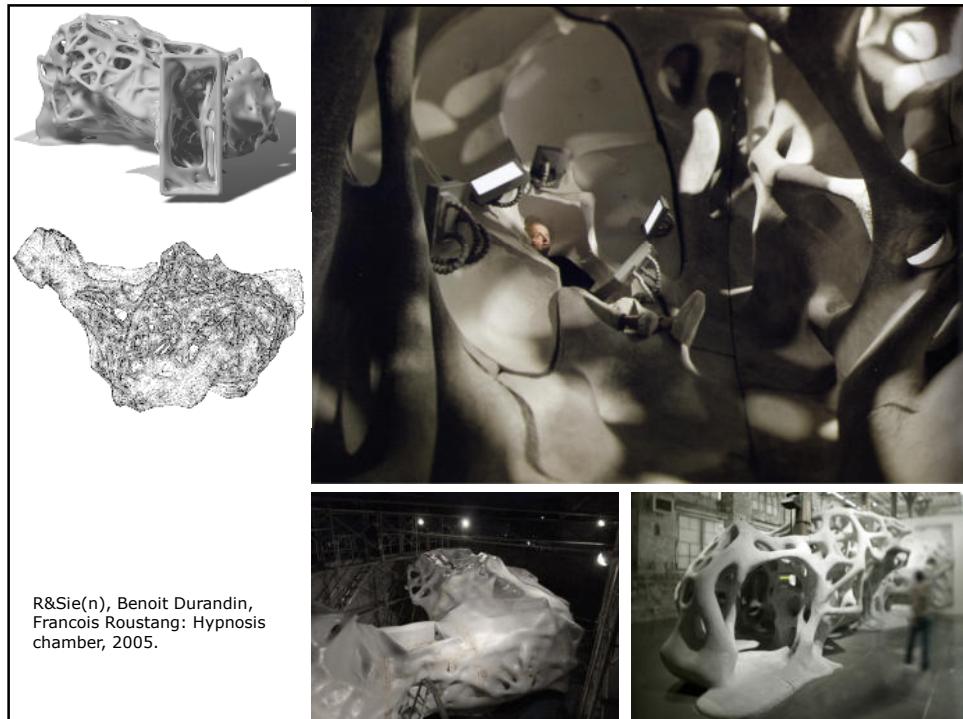


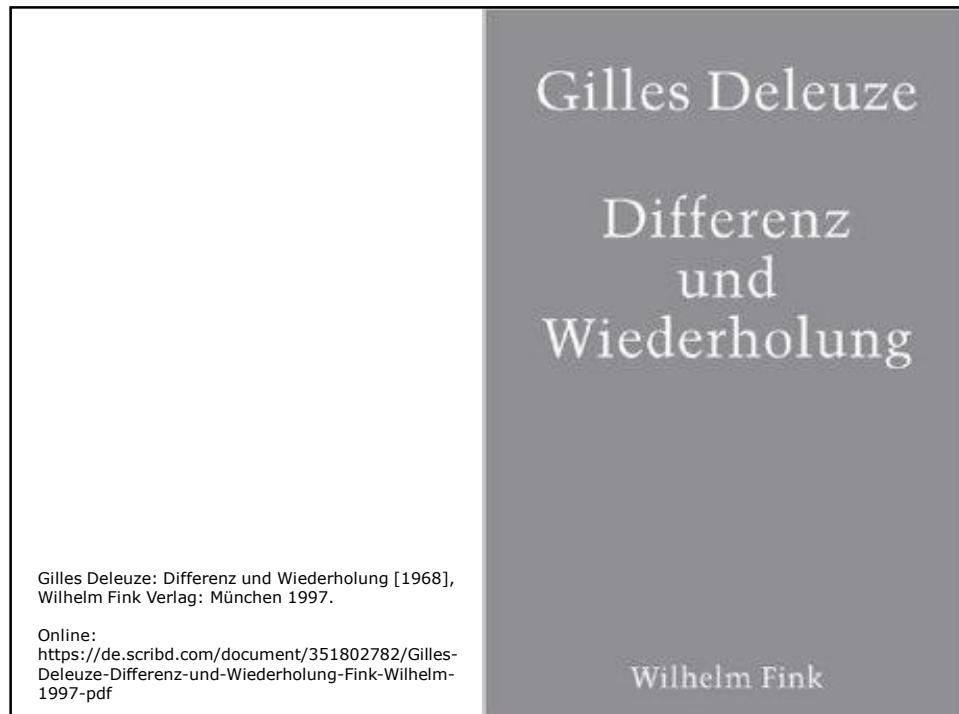
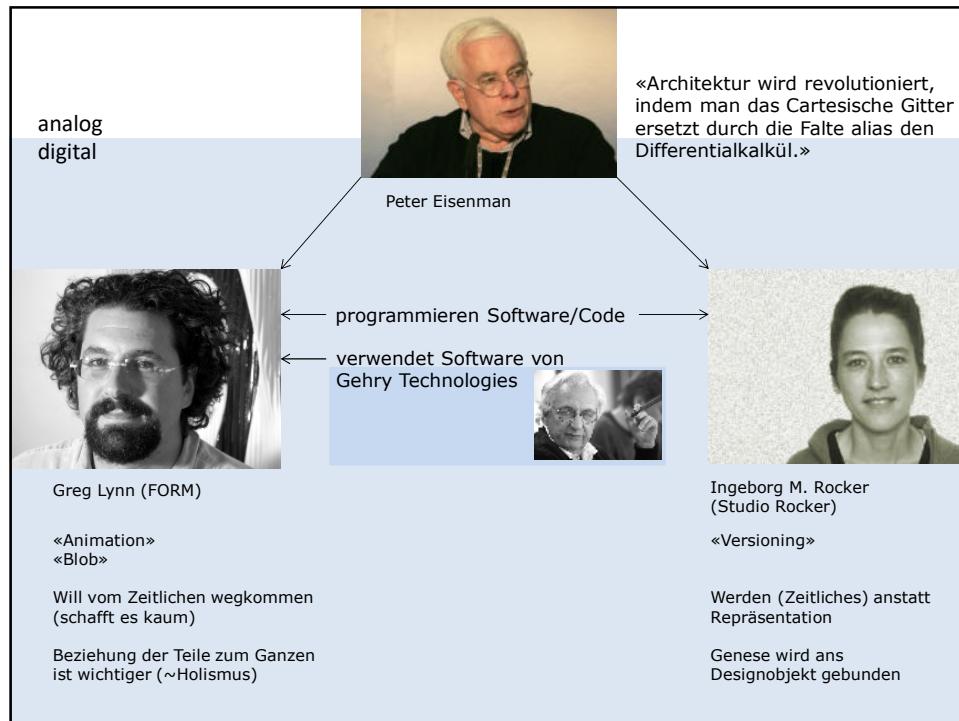
Evan Douglis Studio LLC: Autogenic structures, ca. 2010.

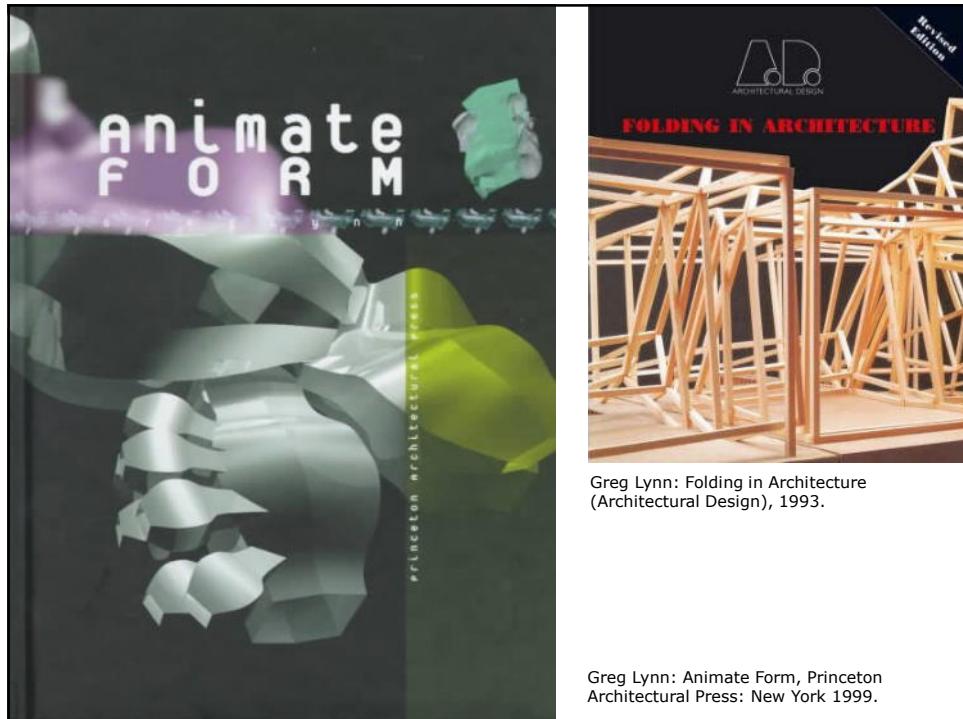


Evan Douglis Studio LLC: Floraflex

Evan Douglis Studio LLC: Evolving Ornament,
im: Schweizerischen Architekturmuseum
Basel, 2008.

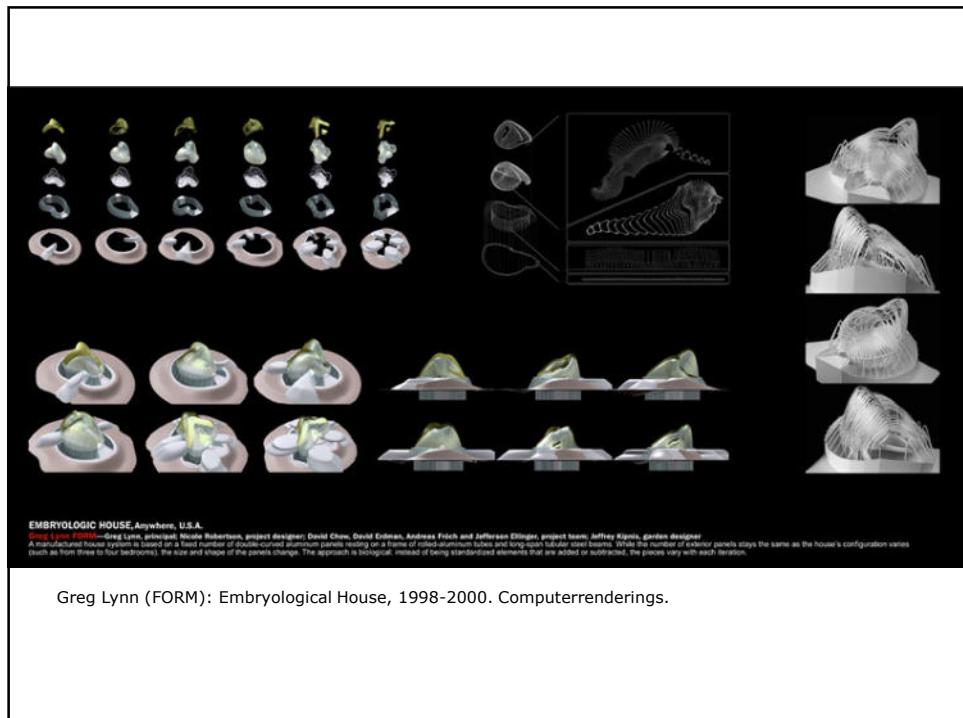


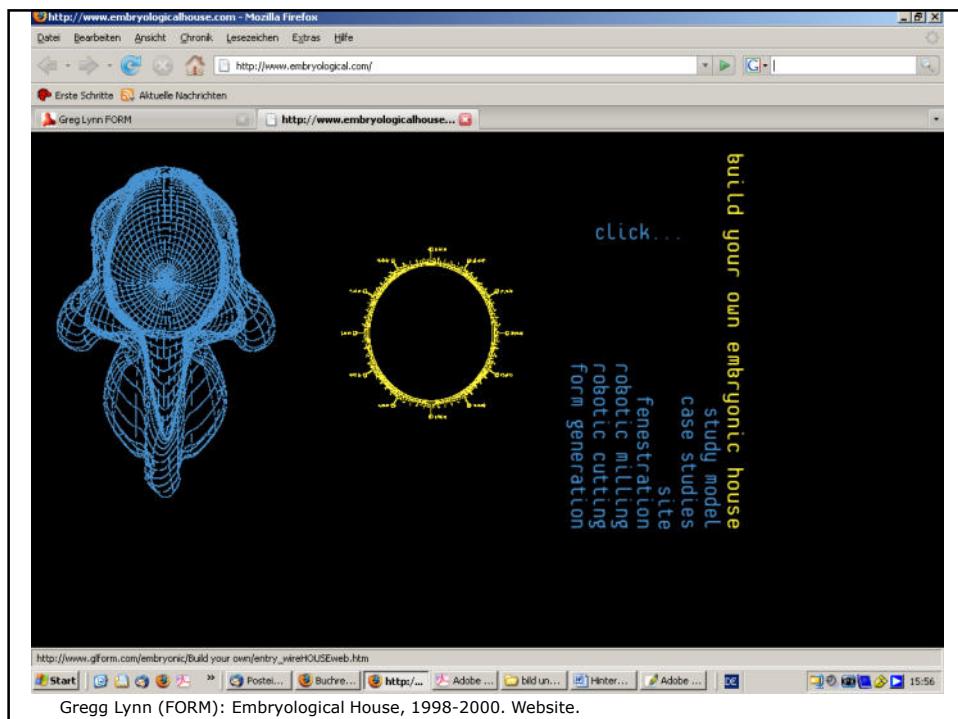
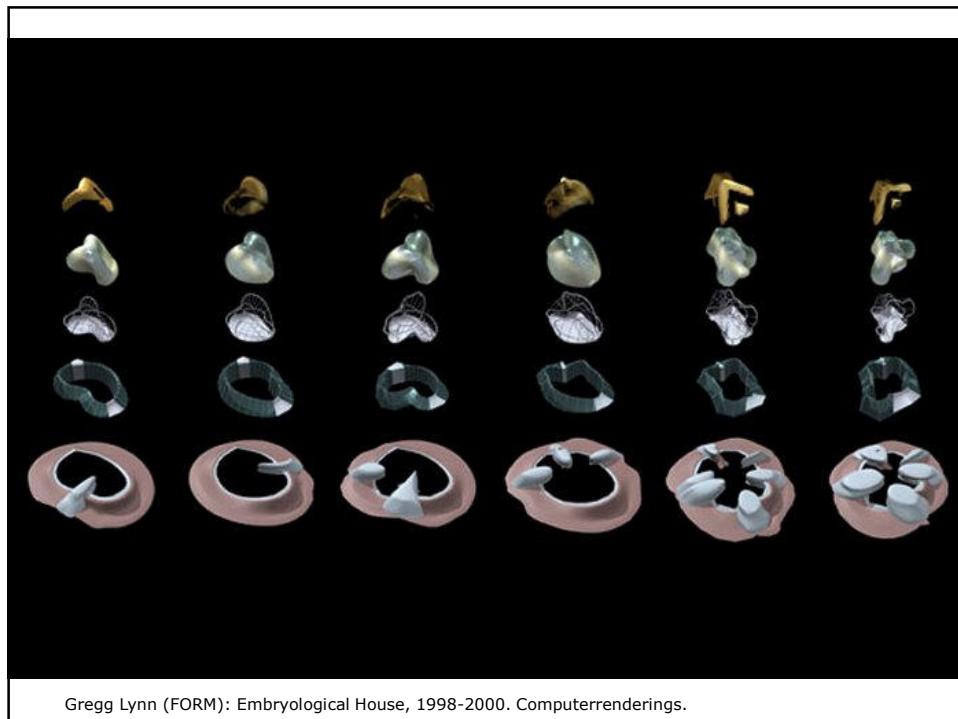


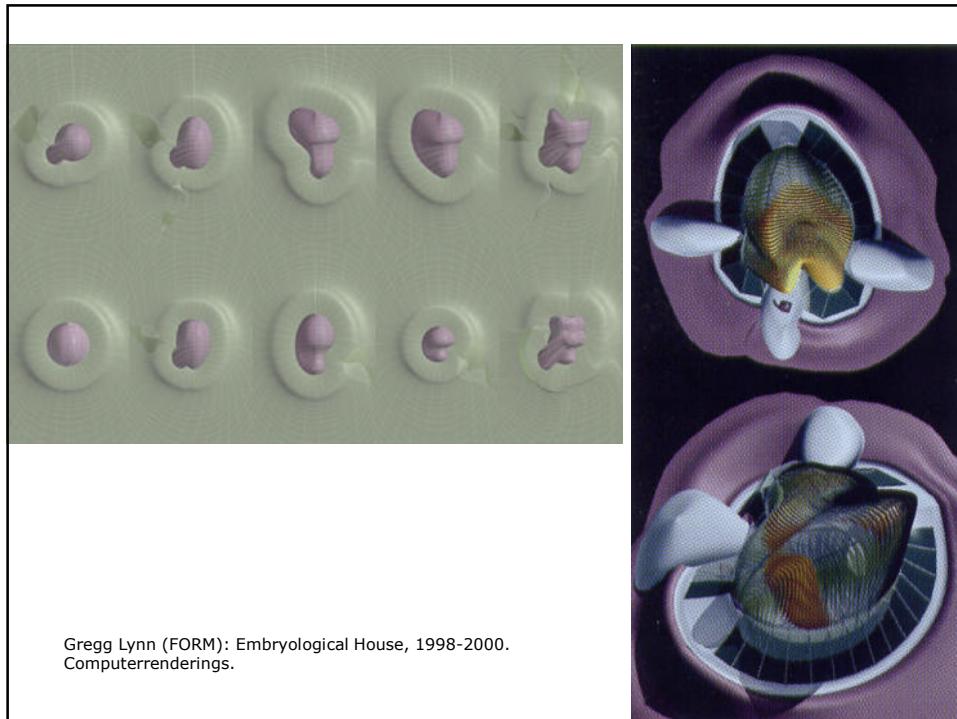


Greg Lynn: Folding in Architecture
(Architectural Design), 1993.

Greg Lynn: Animate Form, Princeton
Architectural Press: New York 1999.



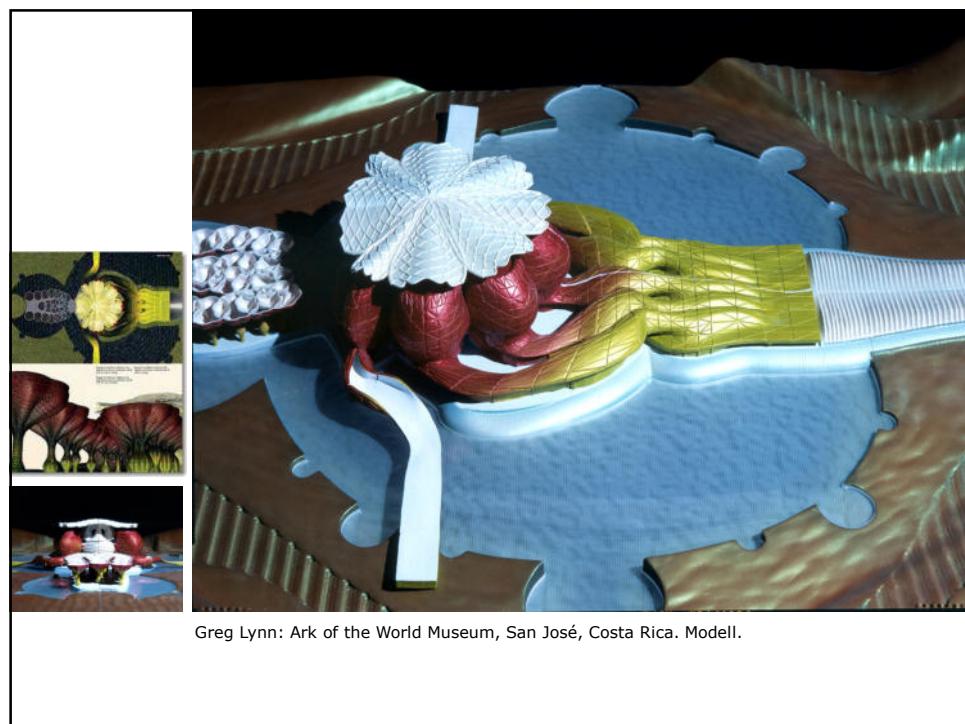
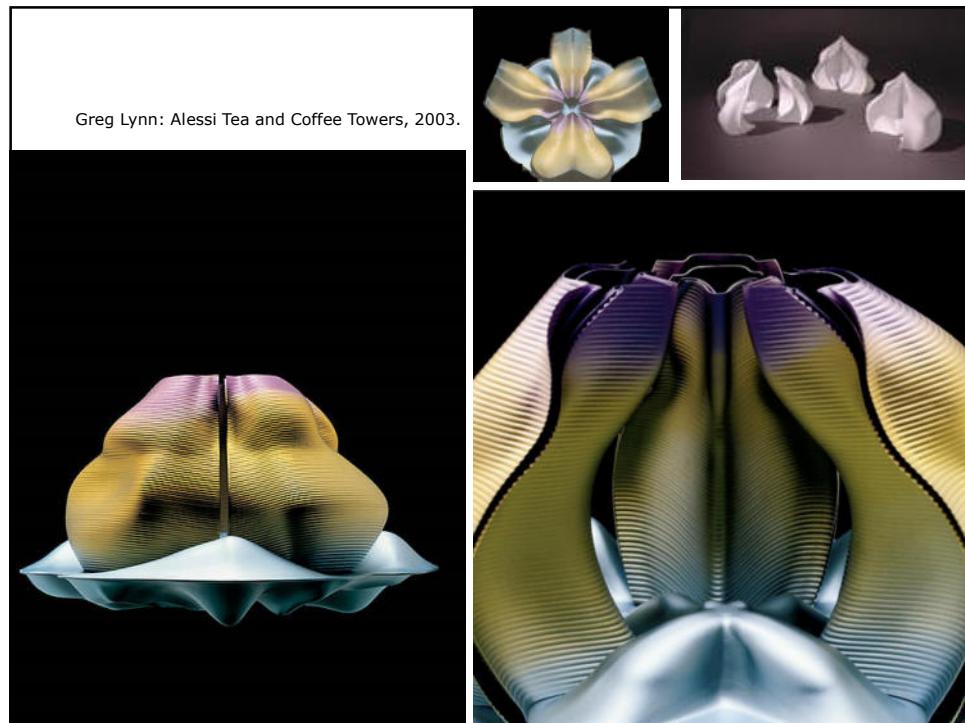




Gregg Lynn (FORM): Embryological House, 1998-2000.
Computerrenderings.

„I design not just one or two of the Embryological House instances. It is shocking how few architects get this, because they are so used to thinking of design as a once-and-for-all problem and not serially. Most architects want to understand the Embryological House experiment as a search for an ideal house – as if the whole collection of houses was a conceit to then select the best one. They are all equivalent. I love them all equally as if they were my children. The design problem was not the house, but the series, the entire infinitesimally extensive and intensive group.“

Greg Lynn zit nach: Rocker, Ingeborg: Calculus-Based Form: An Interview with Greg Lynn, in:
Architectural Design, Vol. 76, Nr. 4, 2006, S. 92.

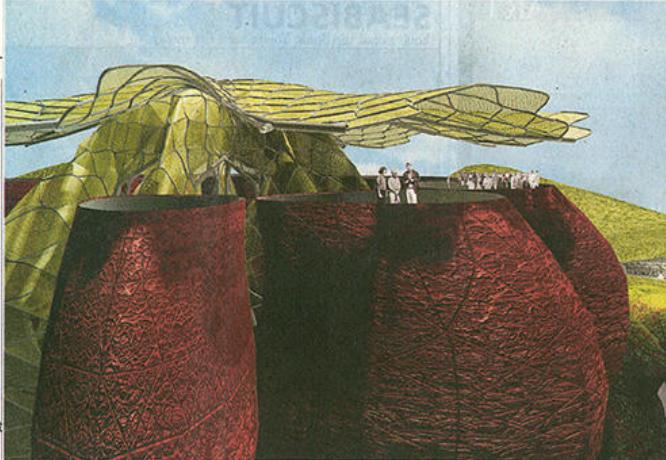


By HERBERT MUSCHAMP
 THE NEW YORK TIMES, SUNDAY, SEPTEMBER 7, 2003
 THE NEW SEASON / ARCHITECTURE

Exhibitions

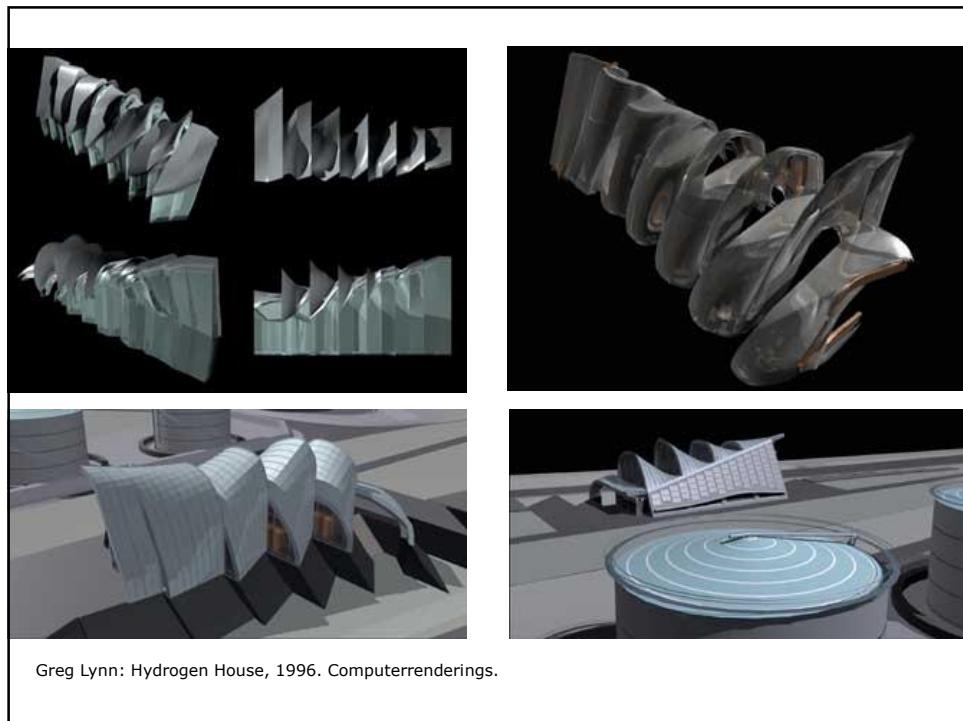
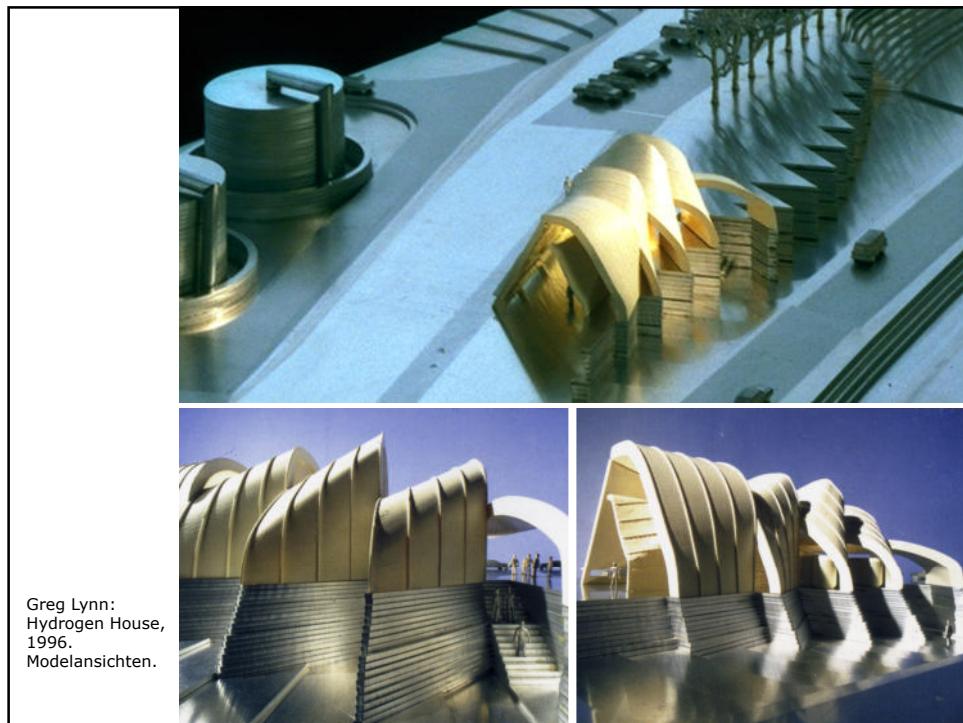
September

'GREG LYNN: INTRICATE SURFACE' Vienna's Museum of Applied Art is the most dynamic design institution in the world. Following on the heels of its triumphant Zaha Hadid retrospective comes this showcase for the Los Angeles architect Greg Lynn. The show focuses on Mr. Lynn's design for a new visitors' center in the National Forest of Costa Rica, a building described by several of Mr. Lynn's admirers, including his wife Sylvia Lavin, as "the ugliest thing I ever saw." The installation will include live butterflies, frogs and jellyfish. To present these specimens legally, the museum's director, Peter Noever, has been obliged to obtain a temporary license in zoology. Wednesday-Nov. 16. www.mak.at



Courtesy Greg Lynn FORM
Greg Lynn's design for a visitors' center in a Costa Rica forest, in "Greg Lynn: Intricate Surface."





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