

# The Yew Project

## Building with Trees

Christoph Schindler

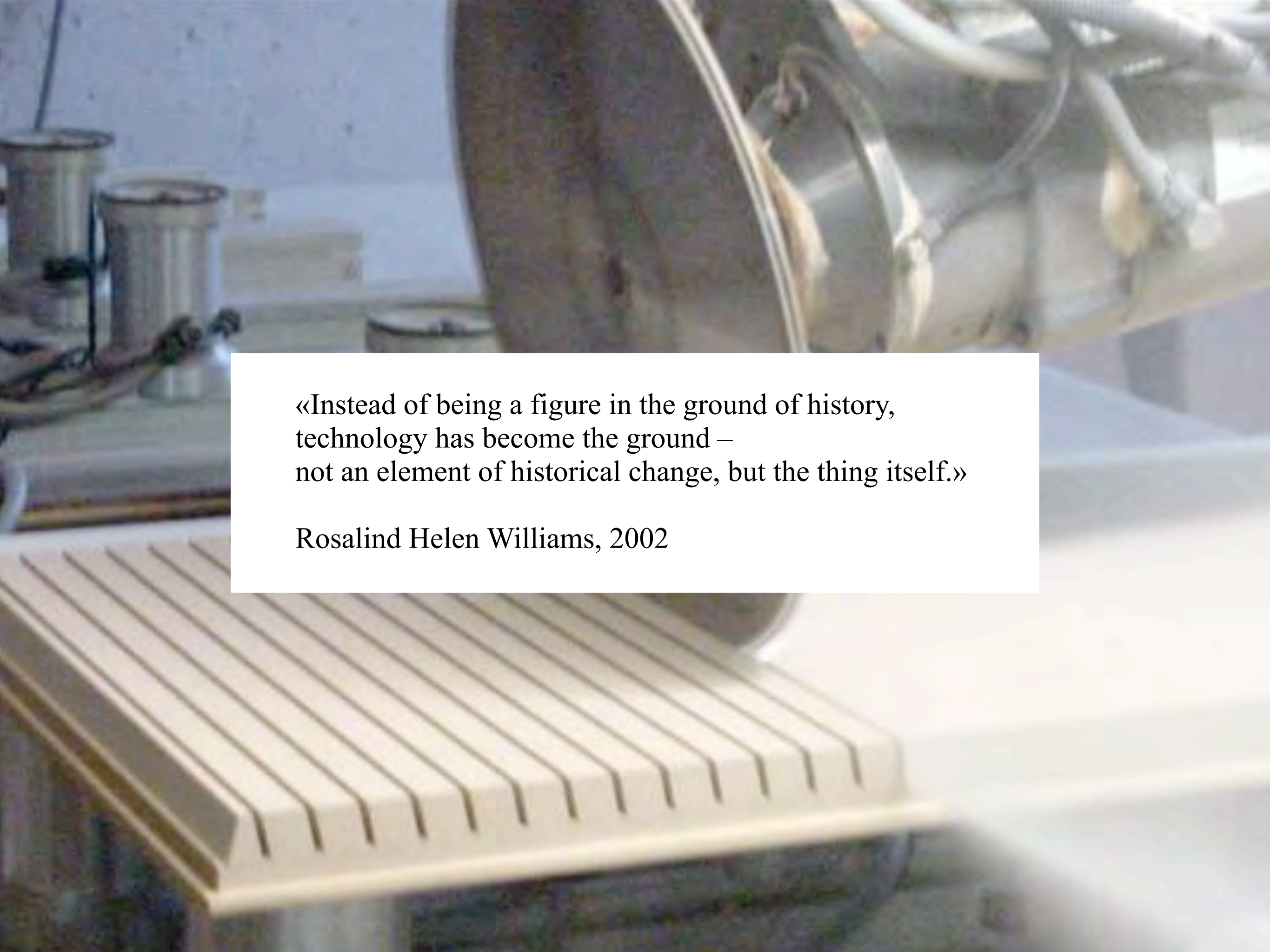
ETH Zürich, MAS CAAD

May 27 2013

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

**schindlersalmerón**



«Instead of being a figure in the ground of history,  
technology has become the ground –  
not an element of historical change, but the thing itself.»

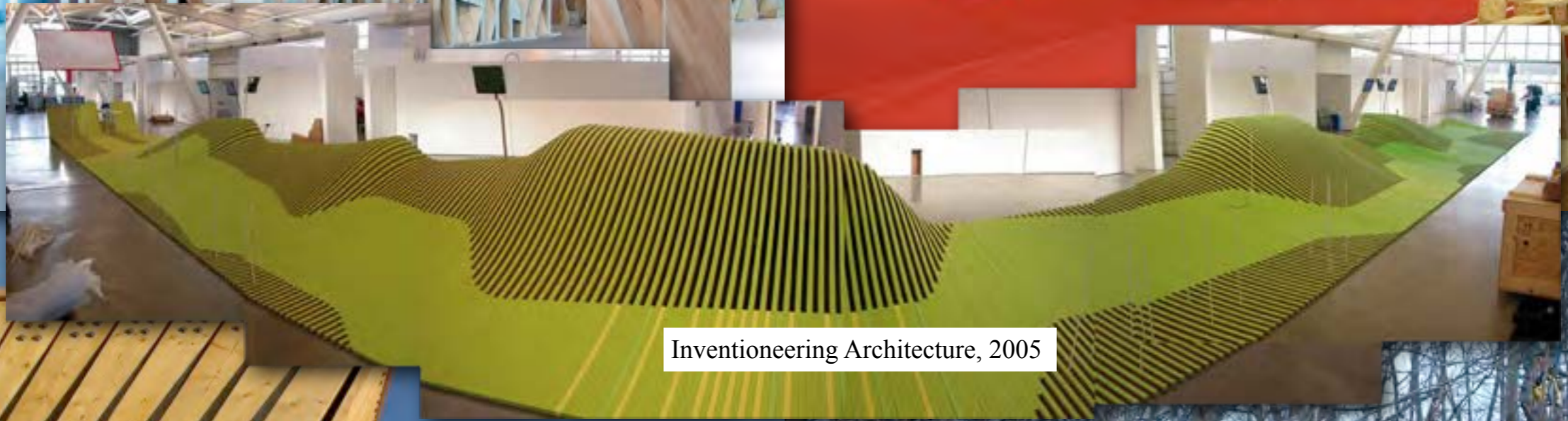
Rosalind Helen Williams, 2002



Libeskind's Futuropolis, 2005



Swissbau Pavillon, 2005



Inventioneering Architecture, 2005



Camera Obscura, 2006

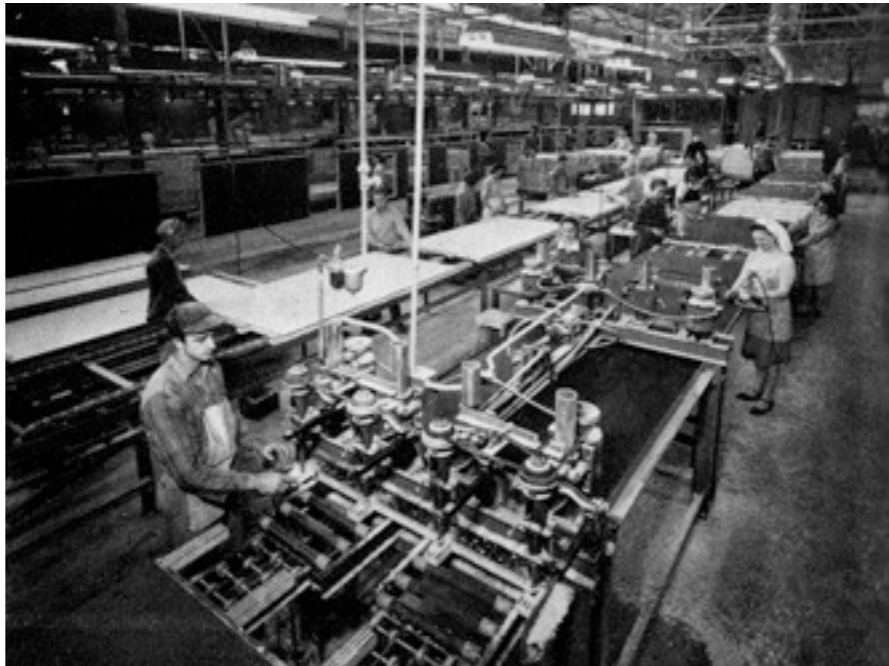


Ringve Botanical Garden Viewing Platform, 2007

1533



1953

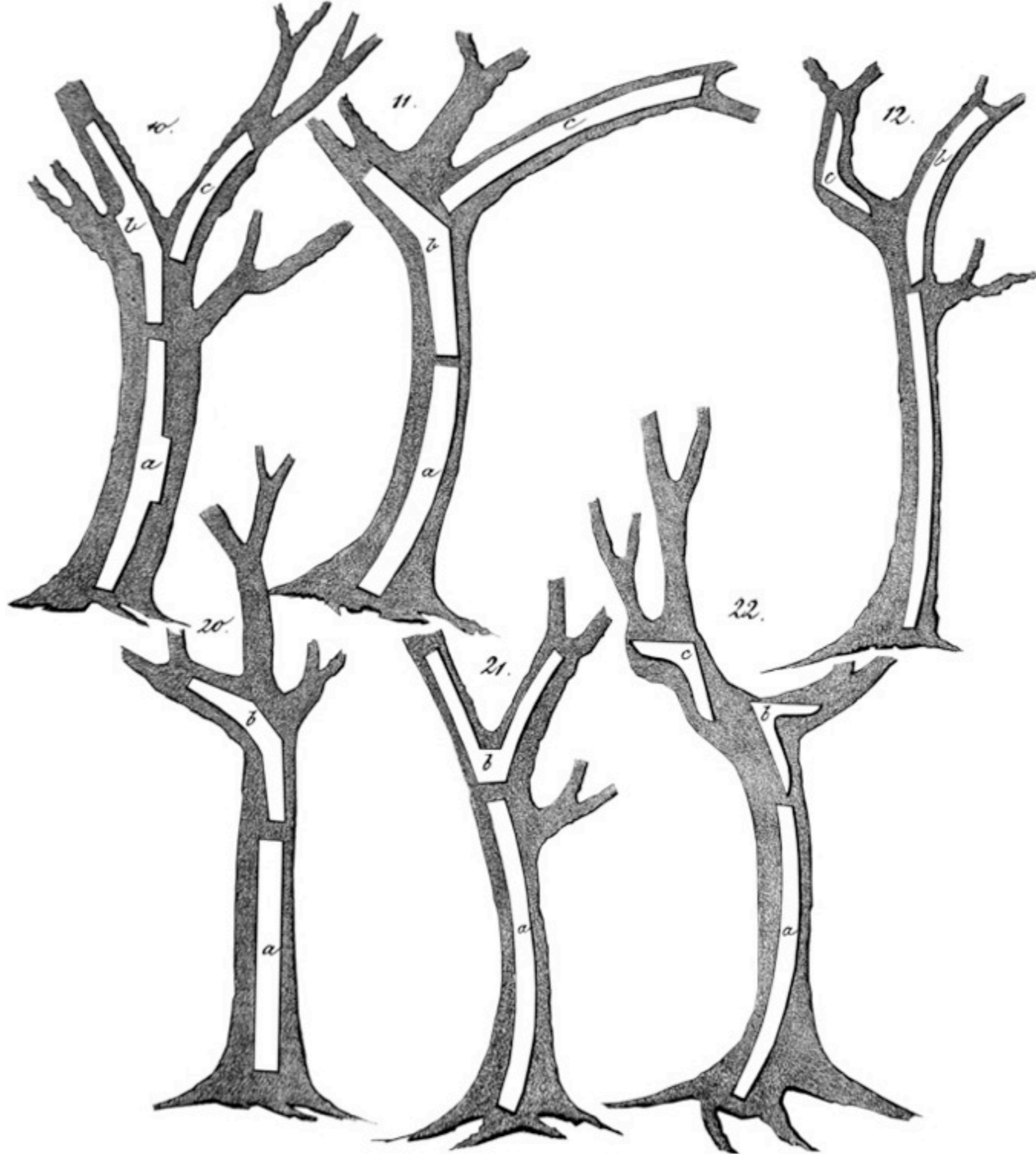


2009

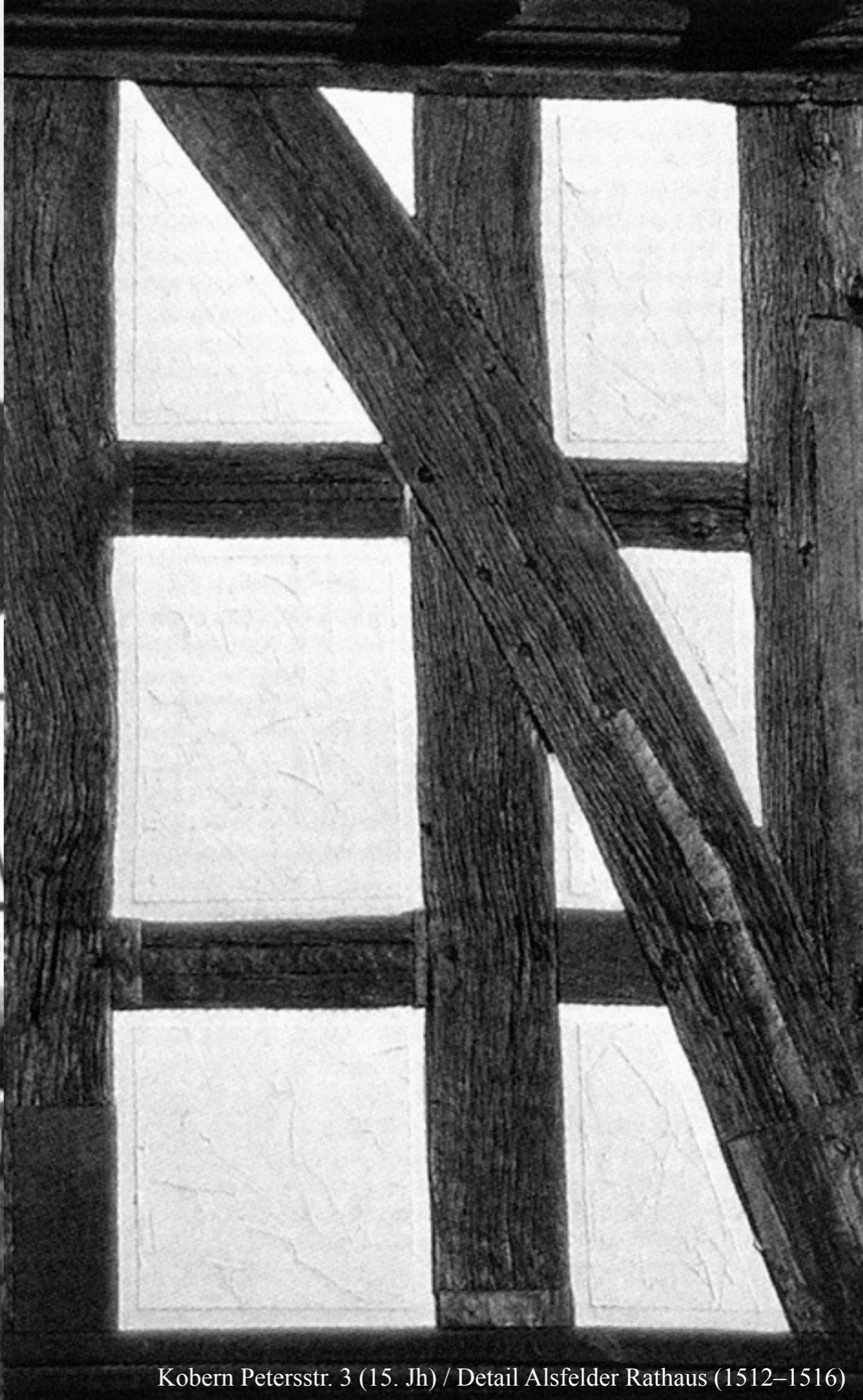


Timber construction as a mirror of production technology

# Building with Trees







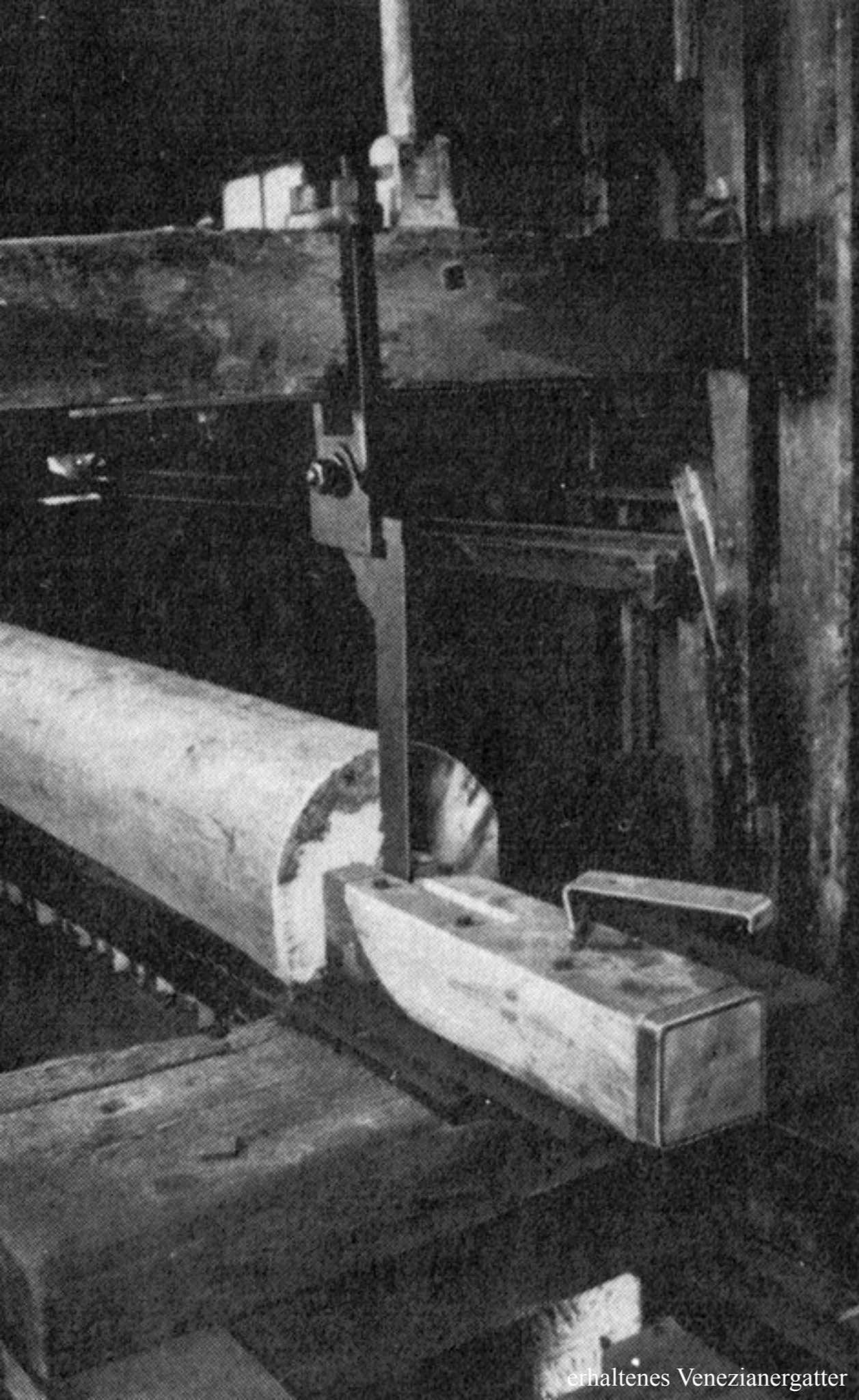
Koborn Petersstr. 3 (15. Jh) / Detail Alsfelder Rathaus (1512–1516)



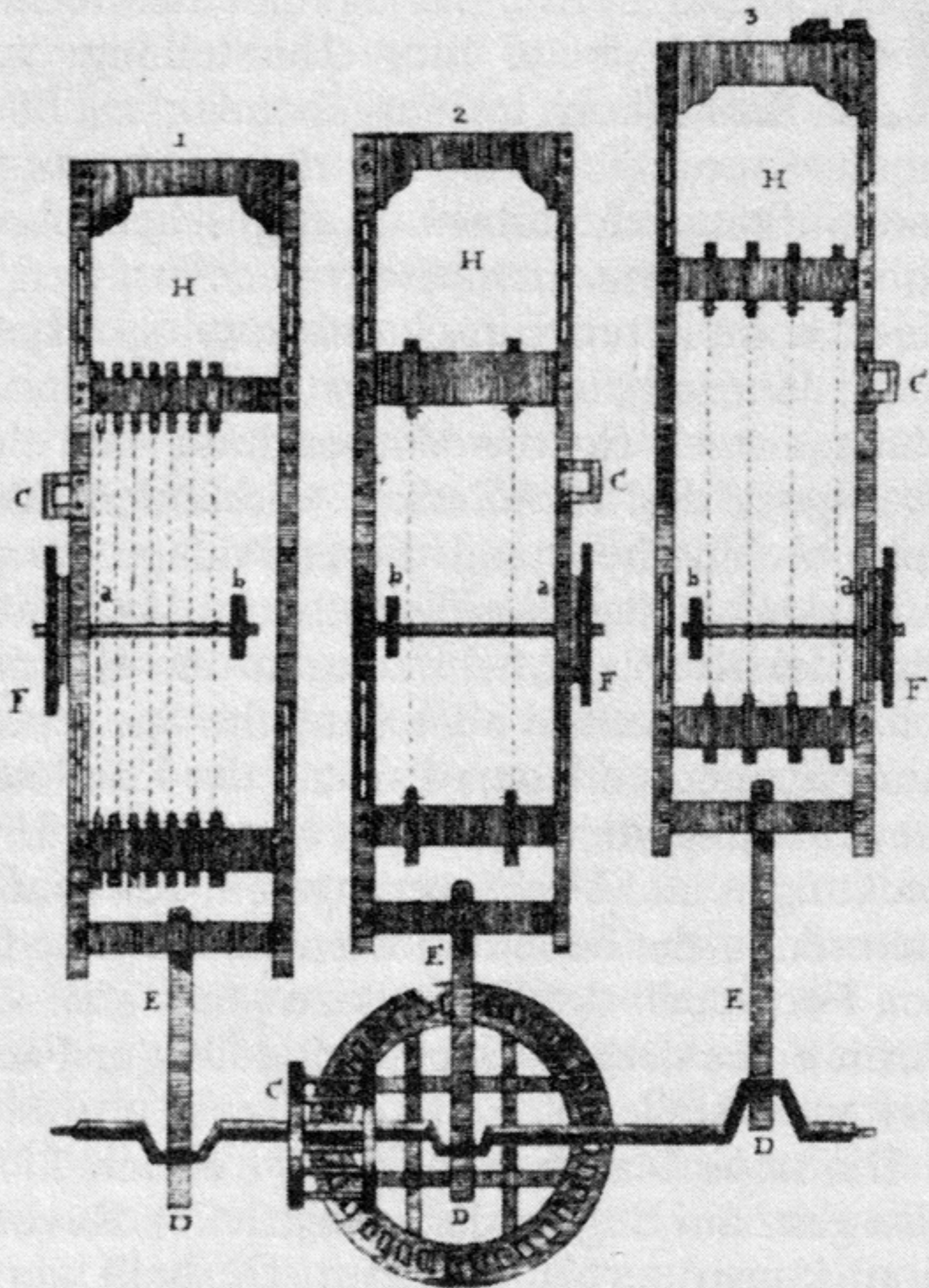


Krummholzdachstuhl Brethen's Hall im St. Cross Hospital, Winchester, 14. Jahrhundert (Kirk 1994)

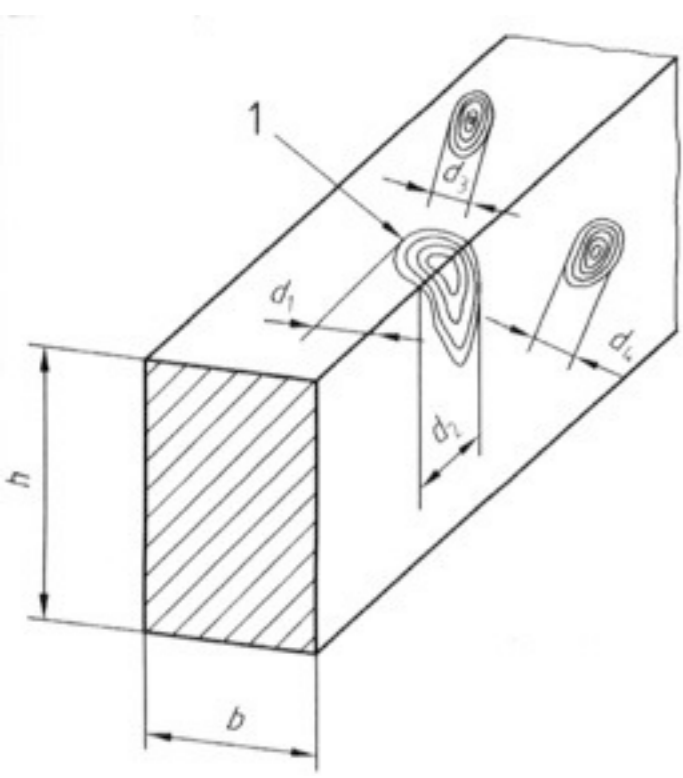
# Building with Chipped Wood



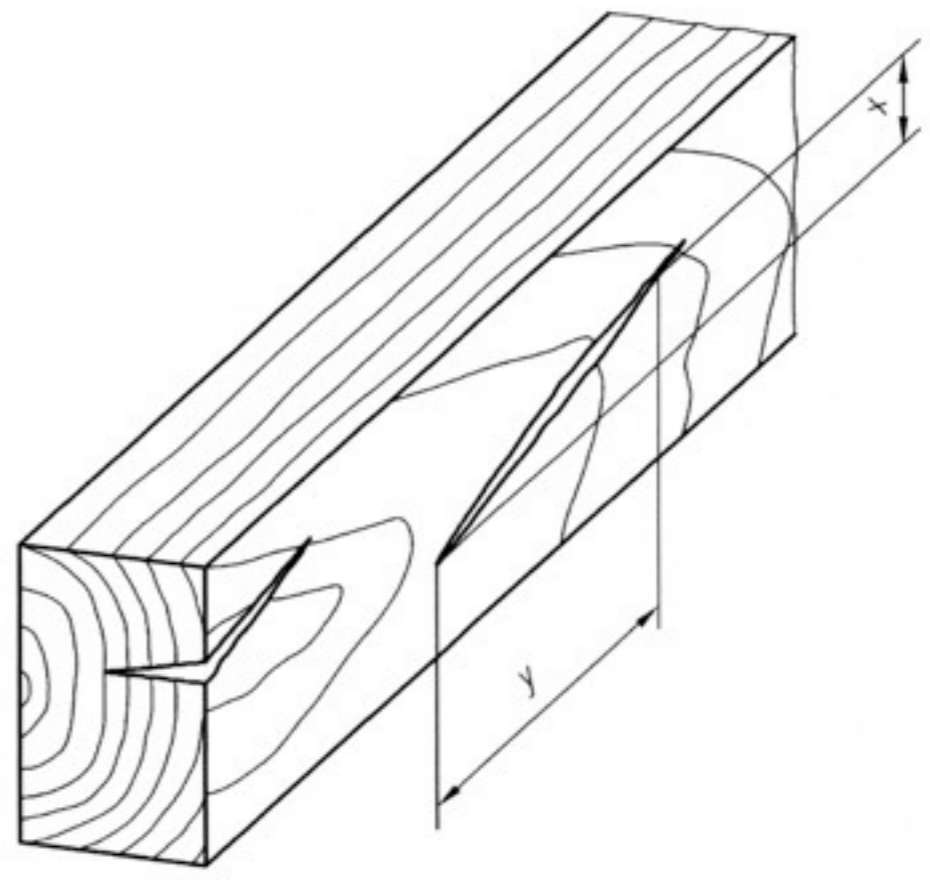
erhaltenes Venezianergatter



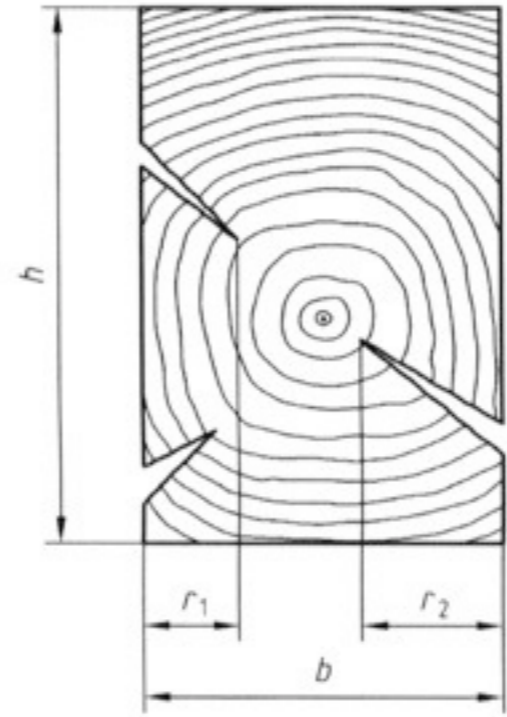
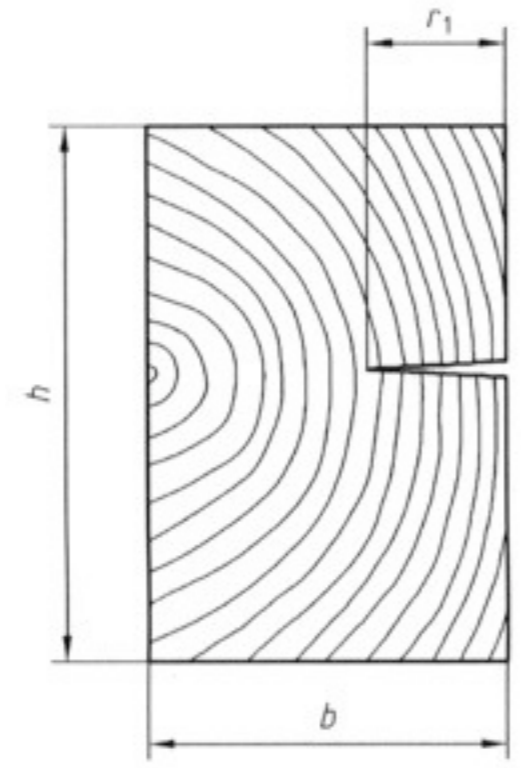
B Dreirahmen-Sägegatter, Stansfieldmühle 1770



$$A = \max \left( \frac{d_1}{b}; \frac{d_2}{h}; \frac{d_3}{b}; \frac{d_4}{h} \right)$$






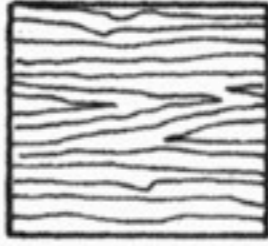









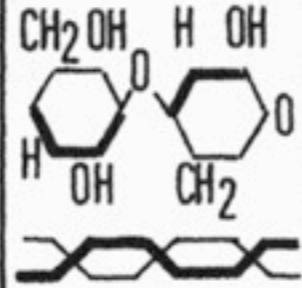

$$F = \frac{x}{y} \cdot 100$$



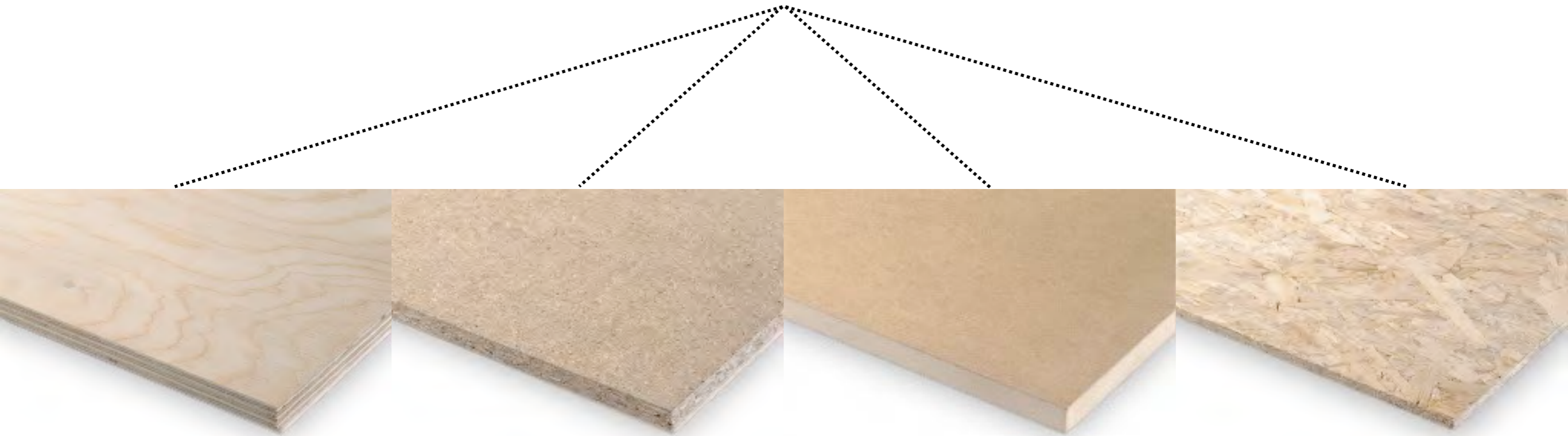
$$R = \frac{r_1}{b}$$

$$R = \frac{r_1 + r_2}{b}$$

# Tafel der Holzelemente

<p><b>Stämme</b></p> 	<p><b>Schnittholz</b></p> 	<p><b>dünne Bretter</b></p>  <p><b>dickes Furnier</b></p>	<p><b>Furnier</b></p> 	<p><b>grobe Späne</b></p> 
<p><b>Hackschnitzel</b></p> 	<p><b>Späne</b></p> 	<p><b>Holzwolle</b></p> 	<p><b>Strands</b></p> 	<p><b>Feinspan</b></p> 
<p><b>Faserbündel</b></p> 	<p><b>Fasern</b></p> 	<p><b>Staub</b></p> 	<p><b>Zellulose</b></p> 	

K. Vierling, M. Schmihing and H. Klingenberg:  
water-resistant urea-formaldehyd resin, 1929



plywood water-resistant ca.1930

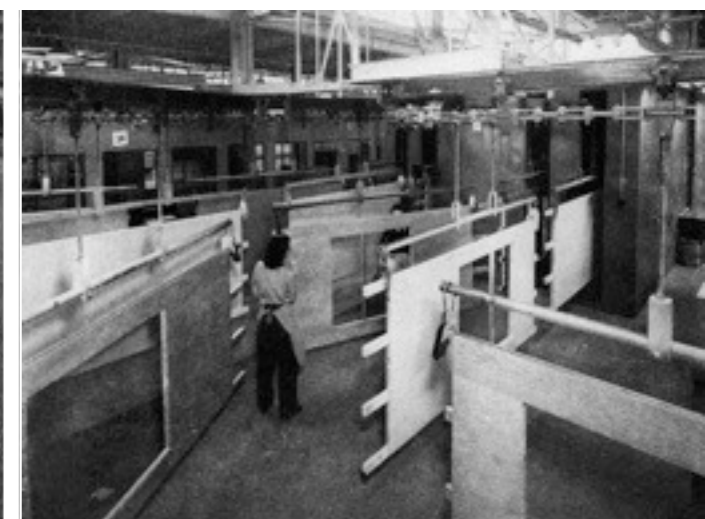
chipboard 1935

MDF 1965

OSB 1977



Lustron house, two-bedroom model, 1951

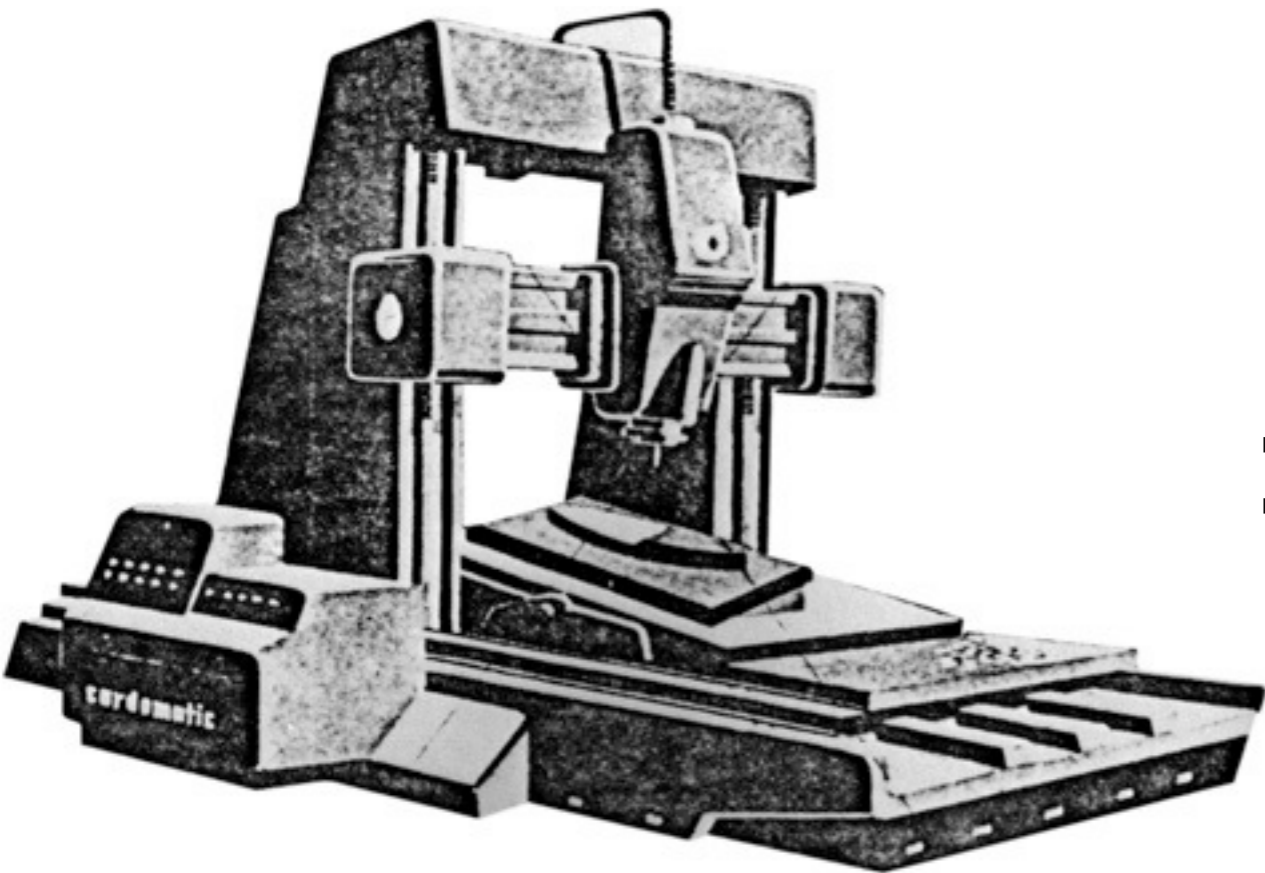


Fertigung bei Gunnison, New Albany, 1951





# Building with Information Technology



Cardamatic Milling System, 1948



Bearbeitungszentrum, 2009



Automatische Abbundanlage, 1984

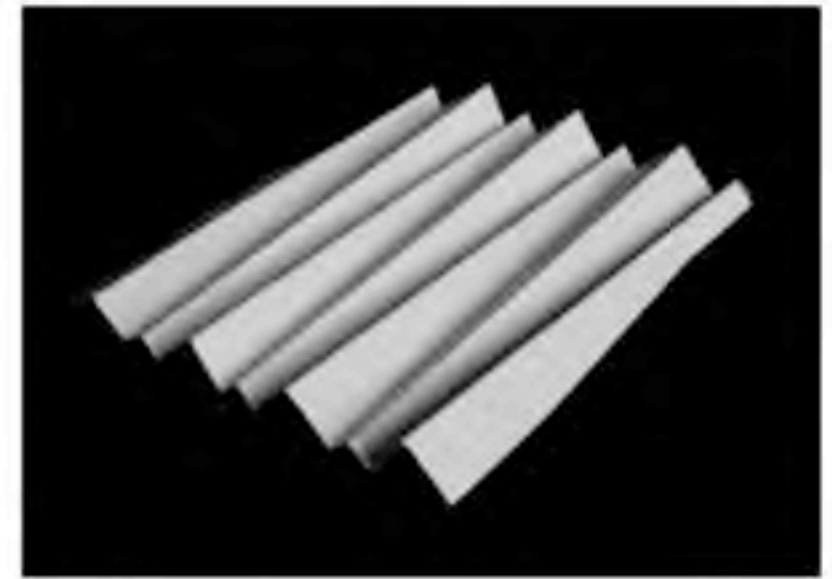


Automatische Abbundmaschine, 2009

# Cross-laminated Timber Panels



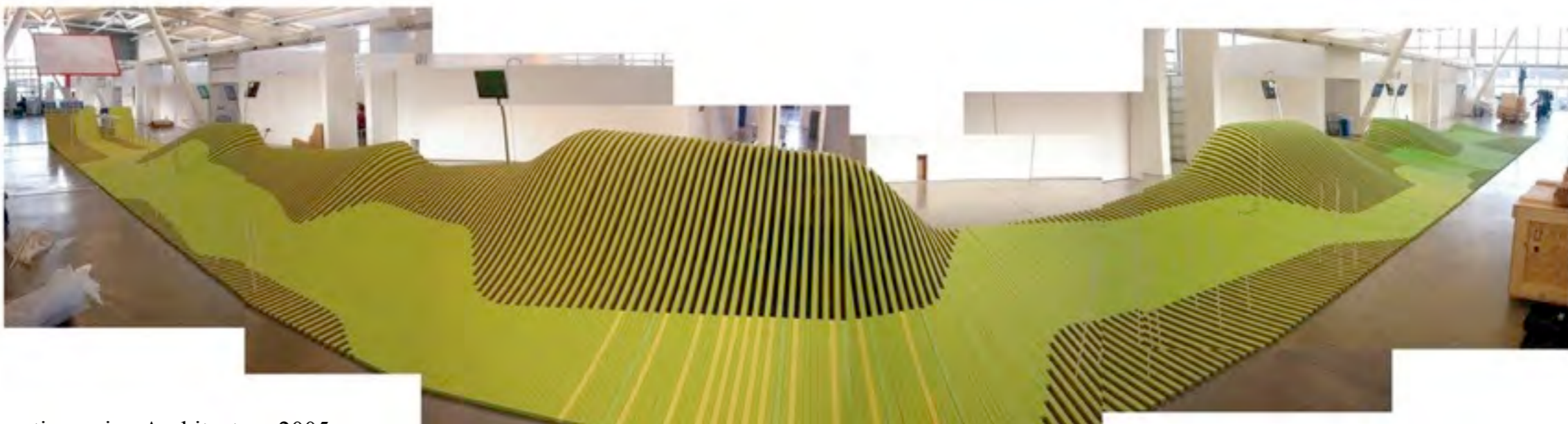
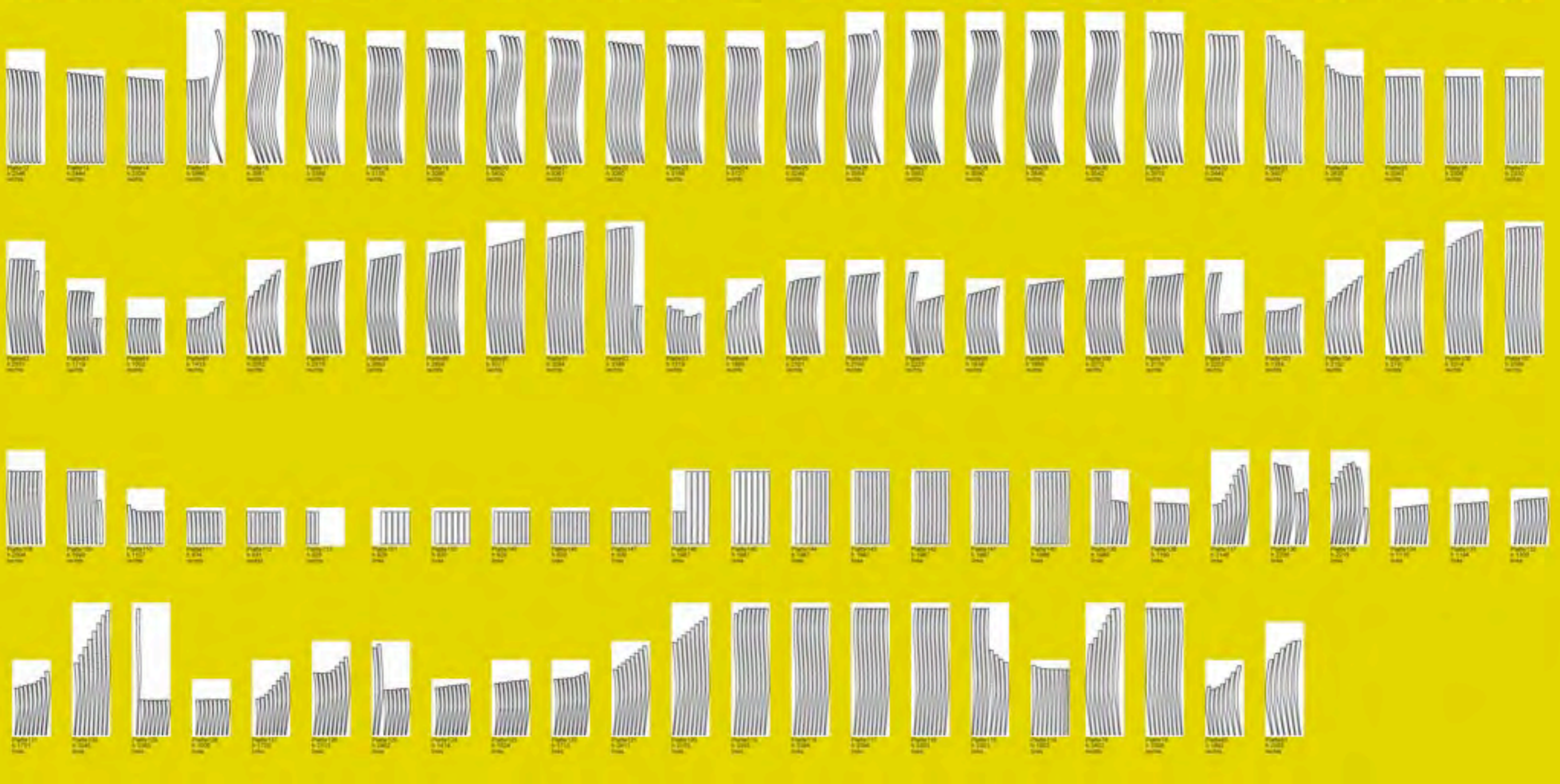




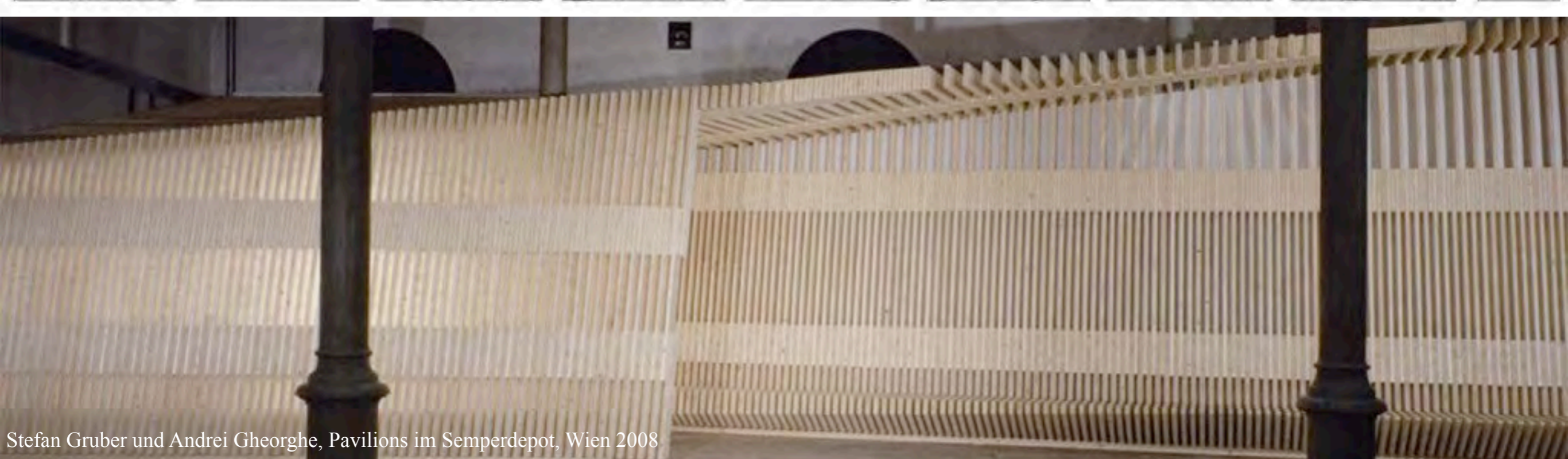
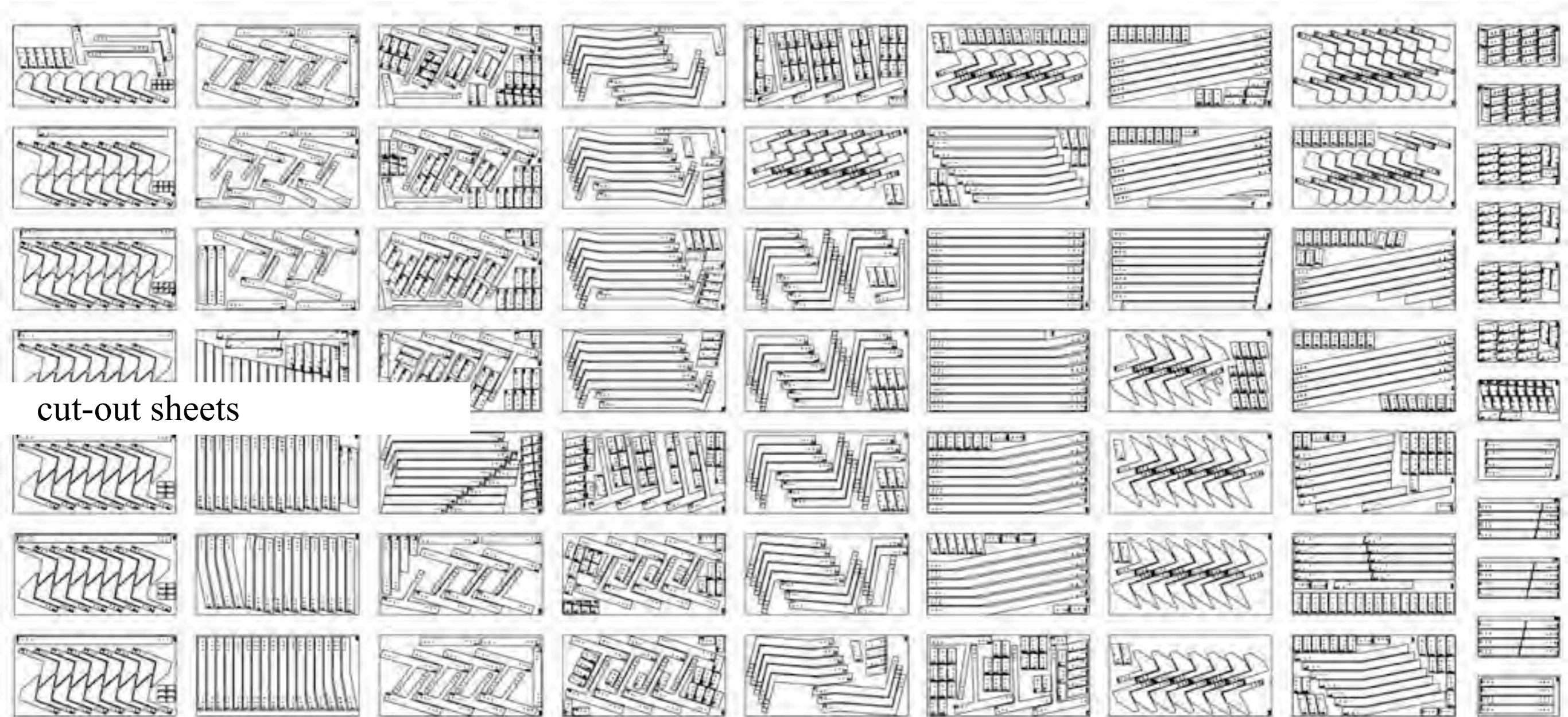
Local architecture, Danilo Mondada und SHEL (IBOIS EPFL), 2008

Cut-out sheets





Instant Architects, Inventioneering Architecture 2005

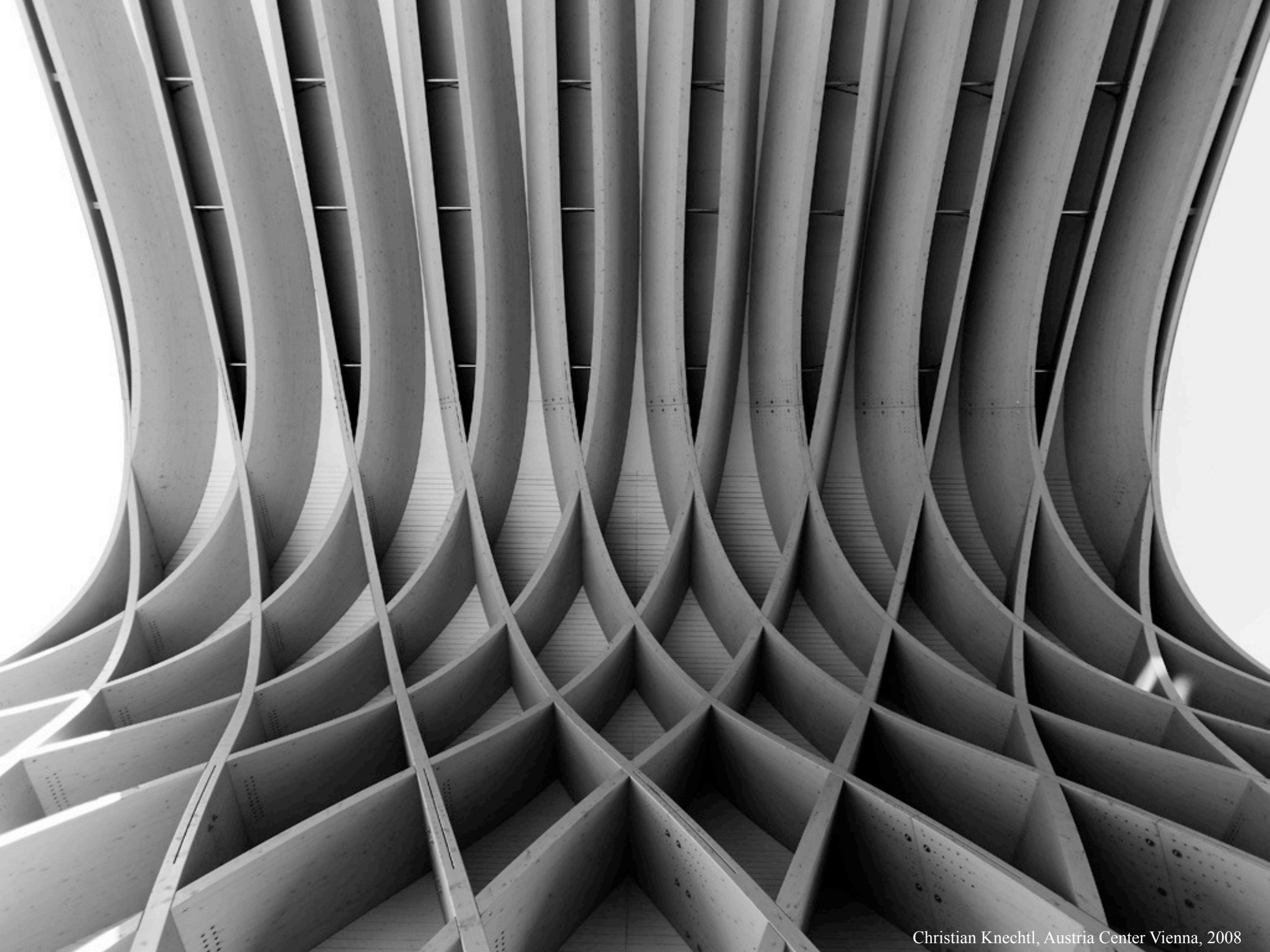


Stefan Gruber und Andrei Gheorghe, Pavilions im Sempdepot, Wien 2008





Ringve Botanical Garden Viewing Platform, 1-2-TRE:lab, NTNU Trondheim, 2007





Alvaro Siza und Eduardo Soto de Moura,, Serpentine Gallery Pavilion 2005



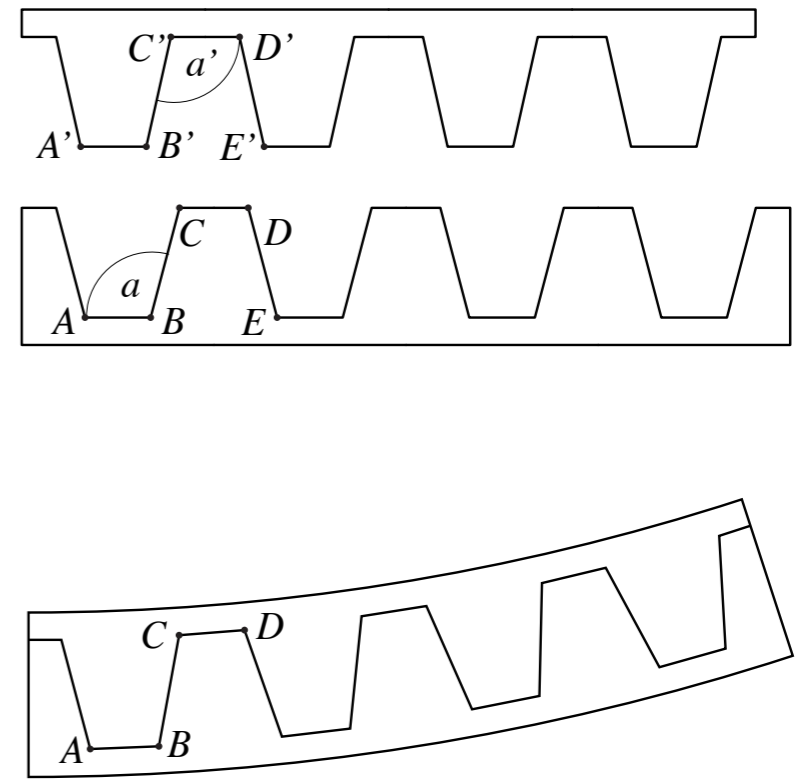
Jürgen Mayer H., Metropol Parasol, 2007–



Daniel Libeskind, Futuropolis, St. Gallen 2005







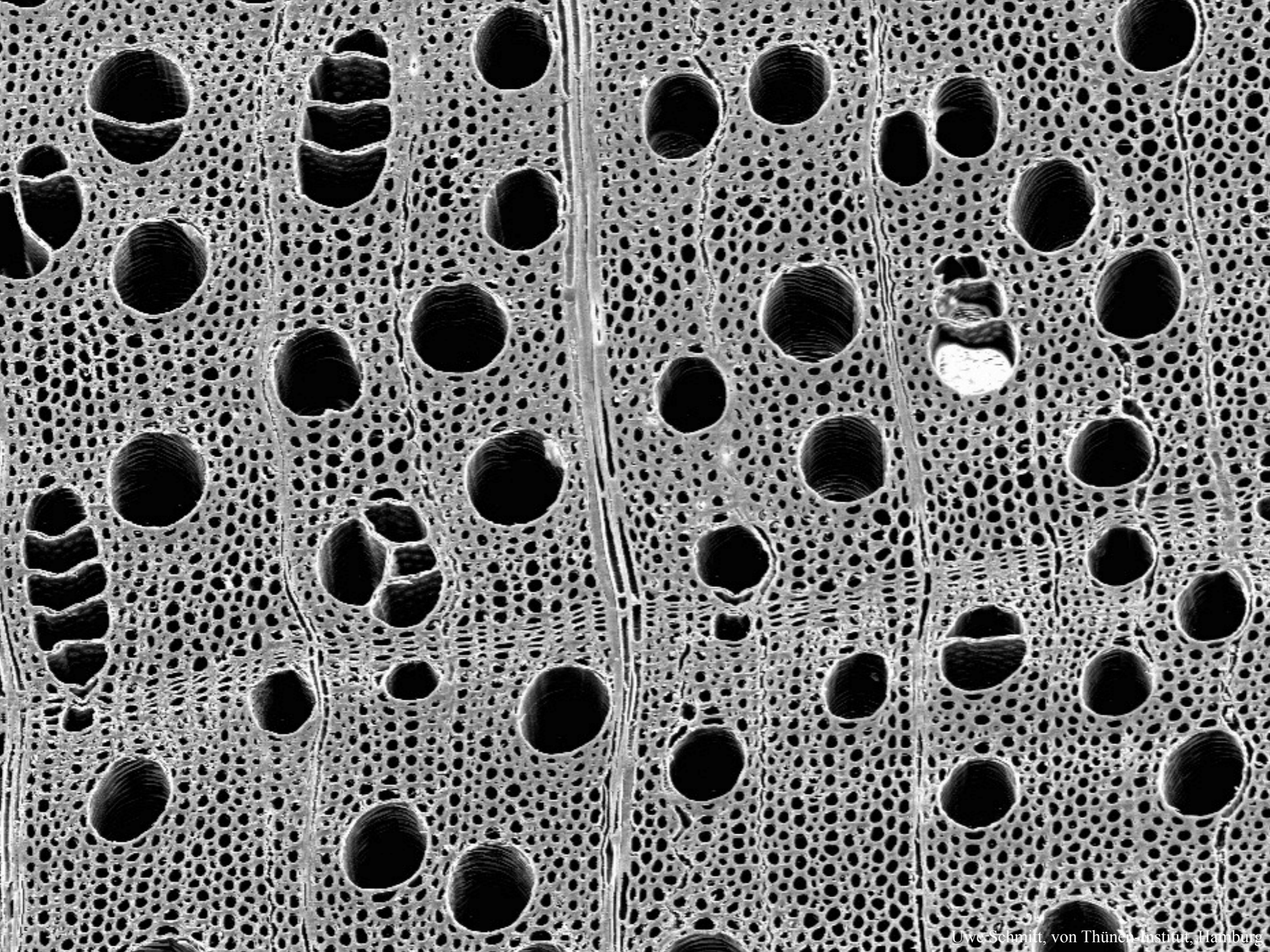
Back to the bars?

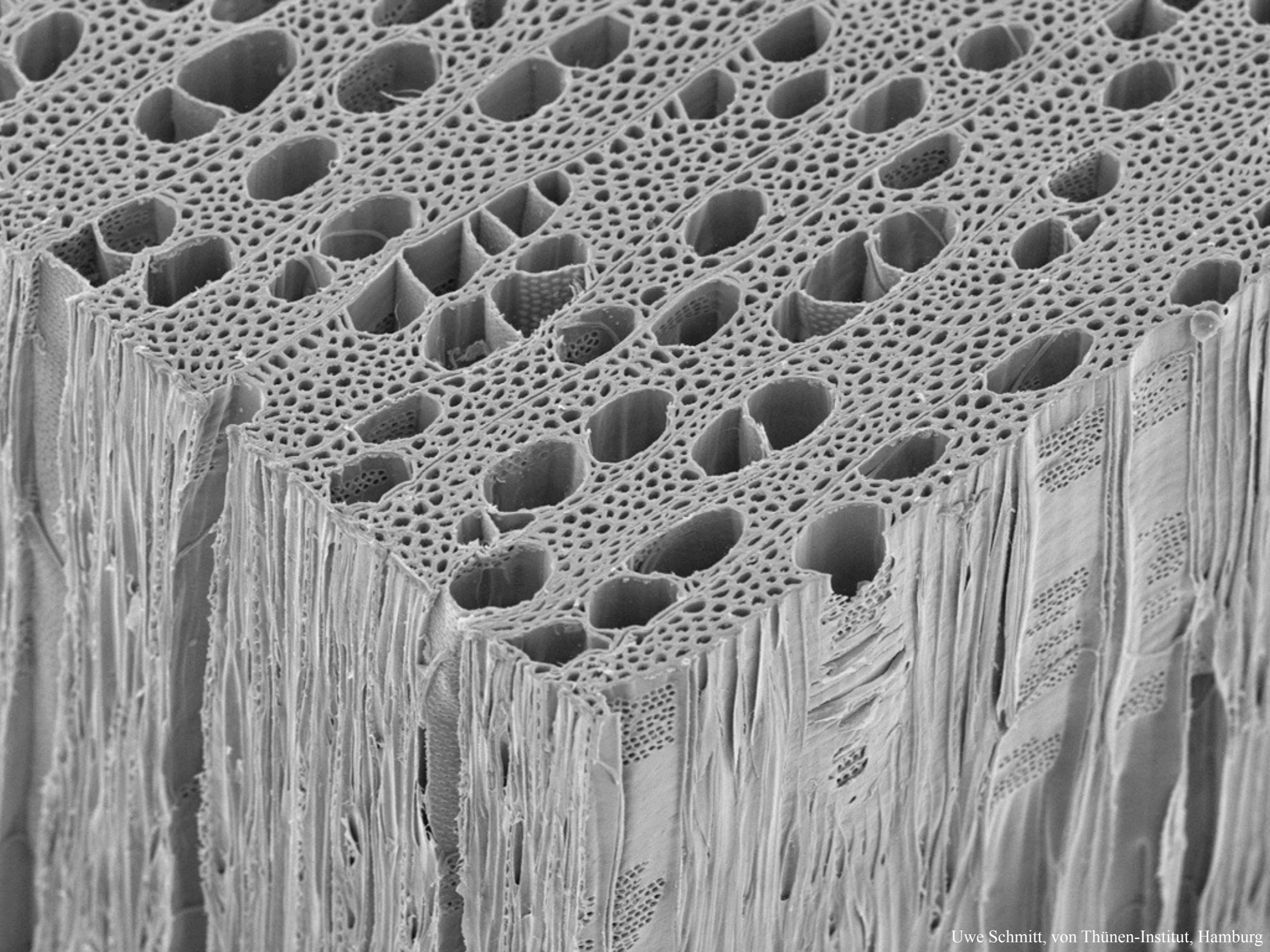


© Nigeti Ban, Centre Pompidou Metz 2008-

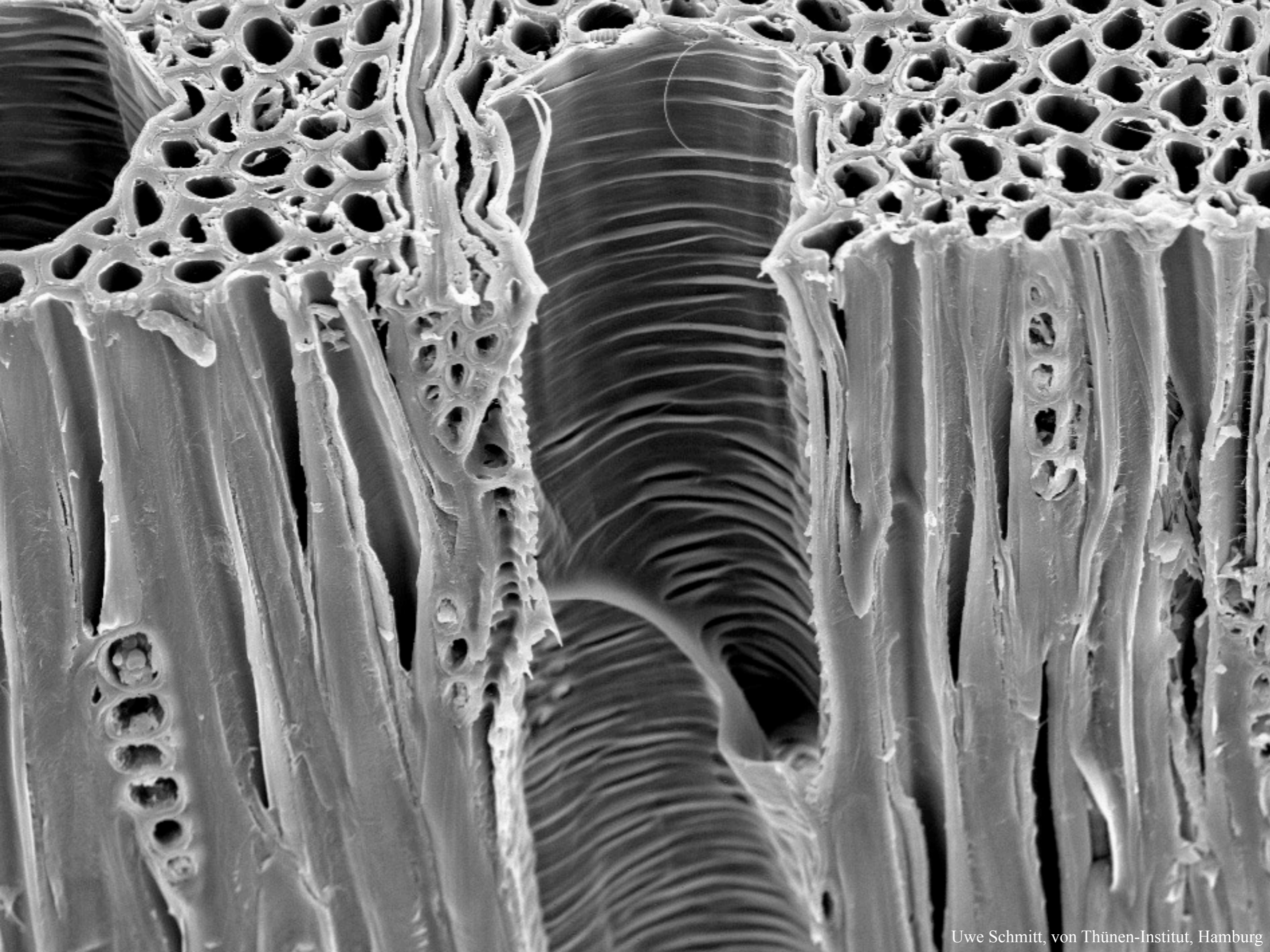


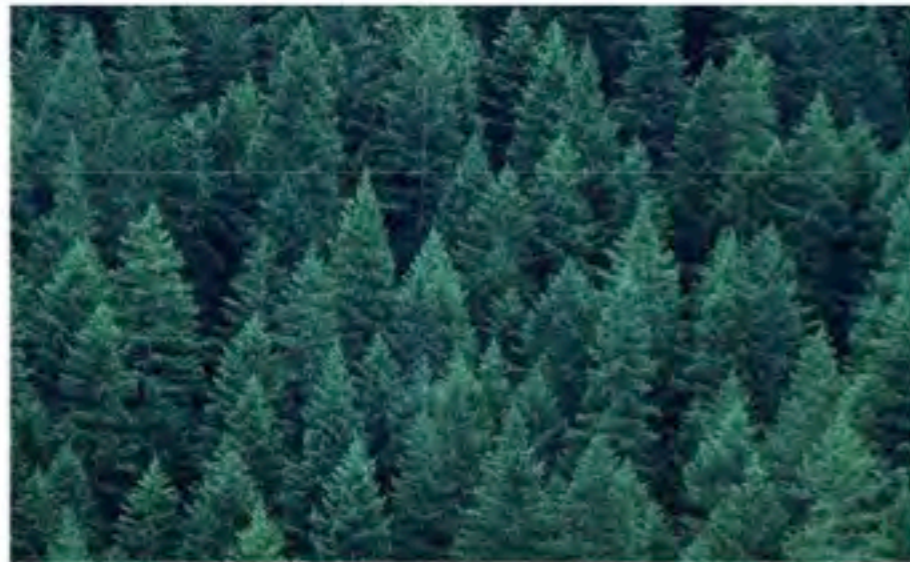
What's next?











**KTI Projekt: Entwicklung einer integralen Prozesskette um gezielt Brettsortimente einzuschneiden, zu sortieren und zu qualitativ hochwertigen Produkten zu verarbeiten**

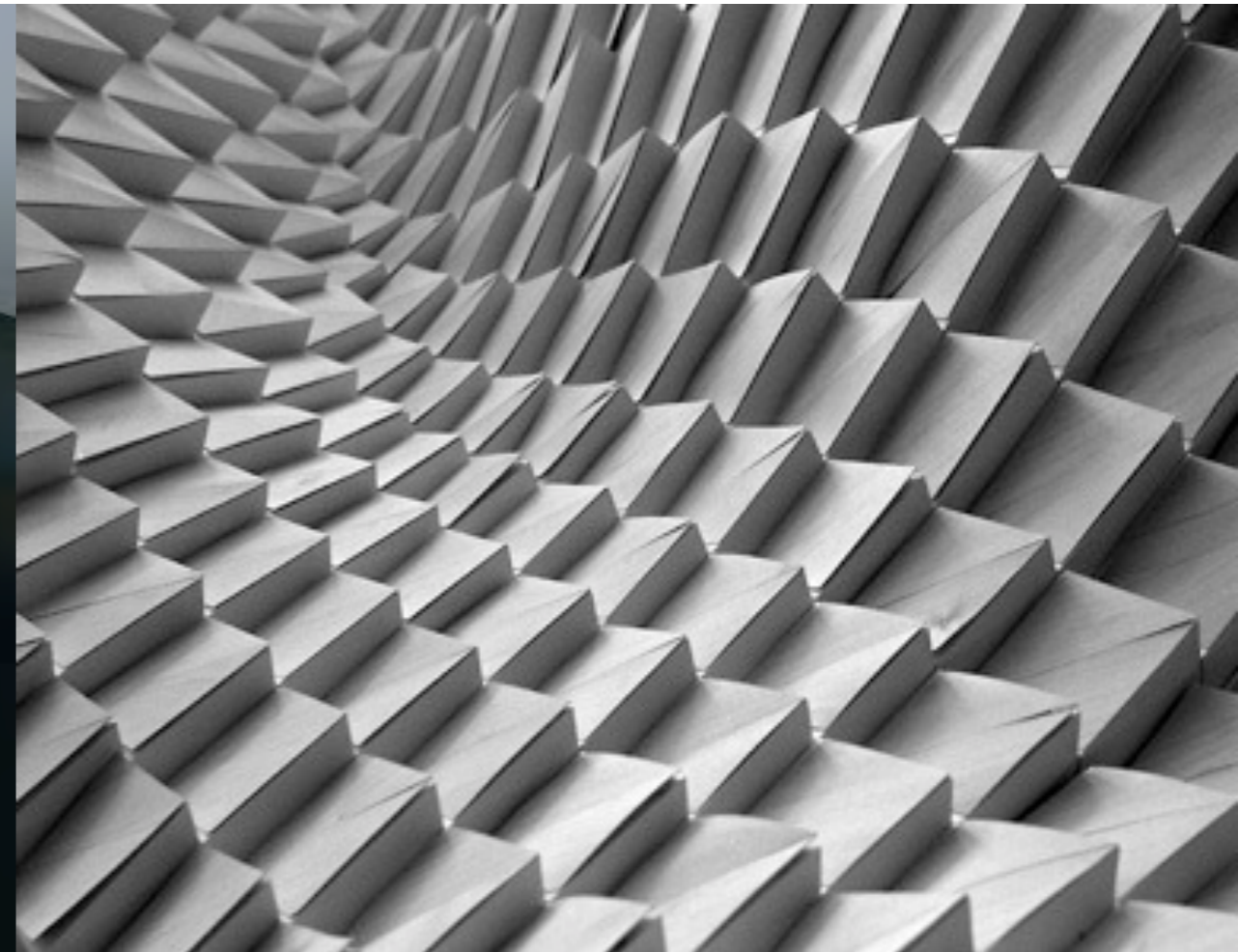






iWood (innovation wood)









Hermit's Cabin: Mats Theselius, Arvesund

# The Yew









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# The Zurich Tree









# The Assignment

A large, gnarled tree with a thick, textured trunk stands in a cemetery. The tree's branches are dense and dark green. In the foreground, several gravestones are visible, including a prominent one with a rounded top on the left and a tiered, pyramid-shaped one in the center. The ground is covered with dry leaves and patches of green grass. The word "slow" is written in white, lowercase letters across the middle of the tree's trunk. The overall scene is peaceful and evokes a sense of timelessness.

slow

A photograph of a large, gnarled tree trunk, likely a fig tree, showing intricate, twisted branches. The wood is a dark brown color with a rough, textured surface. The background is filled with green foliage and a clear sky. The word "twisted" is overlaid in white, lowercase letters in the center of the image.

twisted

A photograph of a workshop or storage room filled with stacks of wood. The wood is piled high on a workbench and on the floor. The word "elasticity" is overlaid in white text in the center of the image. The background shows a wall with a light switch and a white door.

elasticity

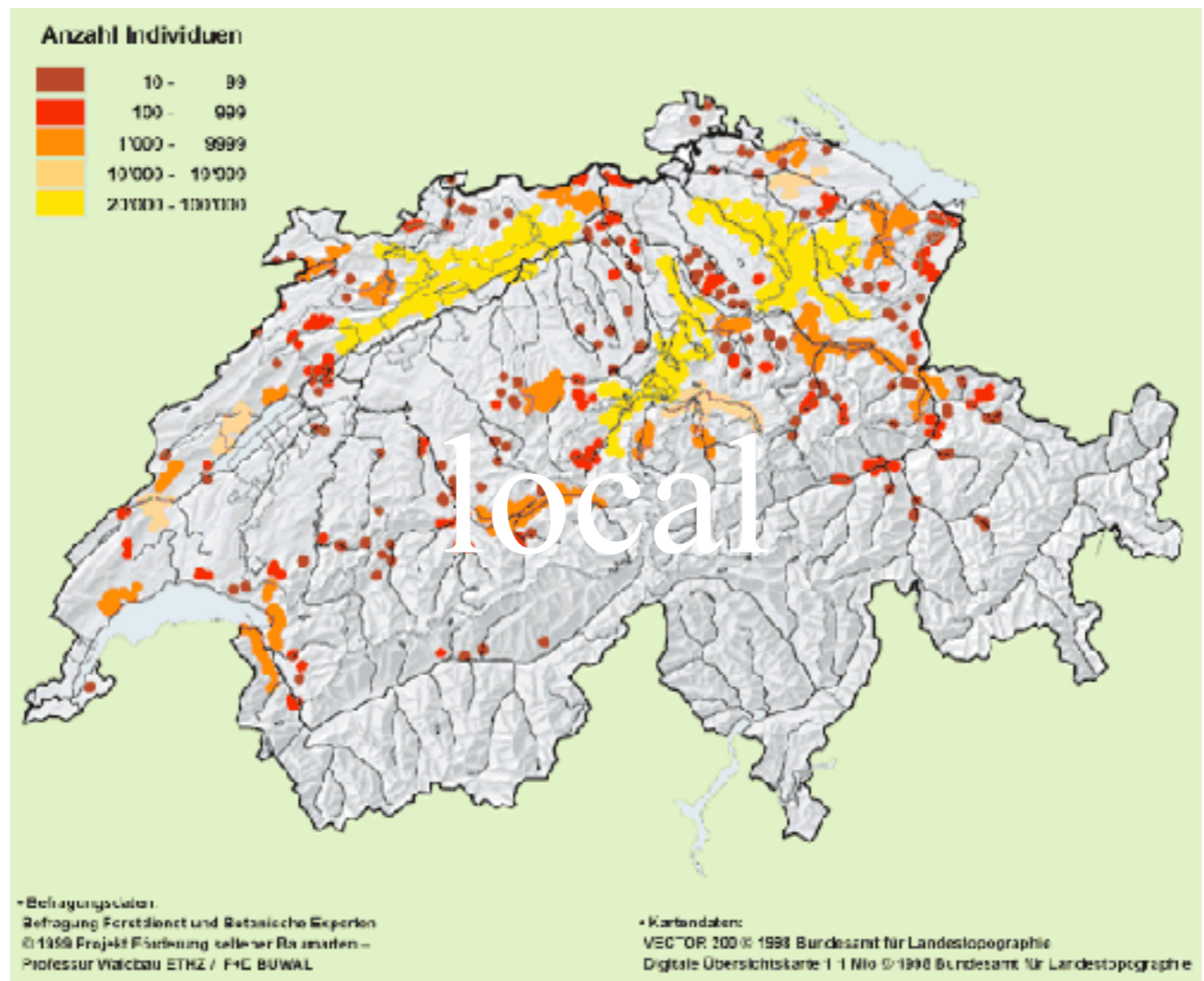


colour



A close-up photograph of a yellow DeWalt power drill with a black handle and a silver drill bit. The drill is positioned vertically, drilling into a dark, weathered log. A large amount of light-colored wood shavings is being ejected from the hole, forming a pile on the log's surface. The background shows a natural outdoor setting with brown soil, scattered dry leaves, and a tree trunk. The text "decay resistant" is overlaid in white, serif font across the center of the image.

decay resistant





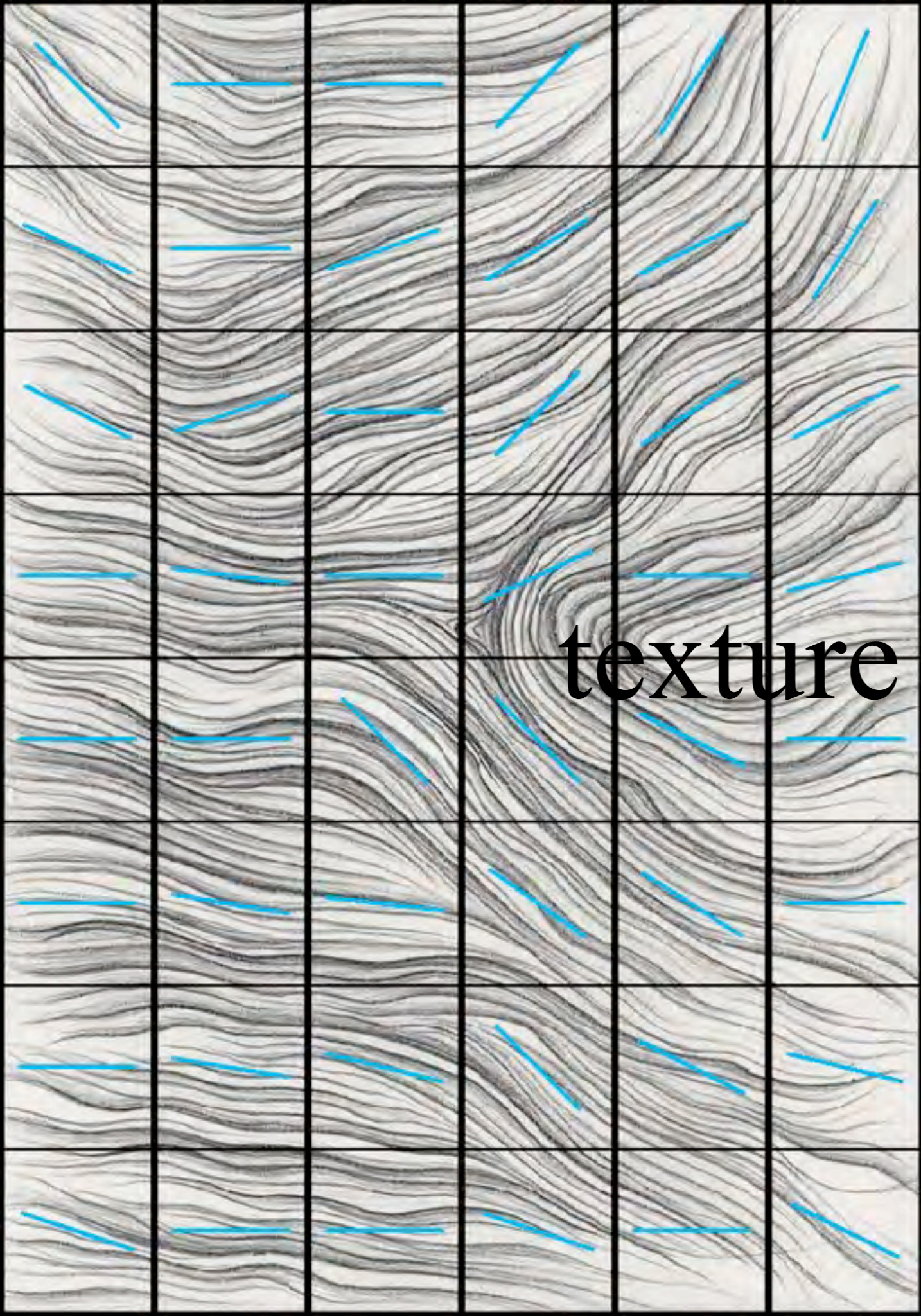
# Ornament 2D

A close-up photograph of a dark wood floor. The wood has a prominent, wavy grain pattern with various shades of brown and tan. The planks are arranged in a staggered pattern, and the lighting creates subtle highlights and shadows across the surface.

[bolefloor.com](http://bolefloor.com)



digitized grain



texture analysis

Objet trouvé 3D

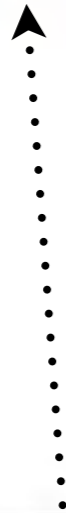
# Serial Branches



Viking Ship Museum Roskilde (Foto: Boatbilder, Source Wikimedia Commons, License: Creative Commons Attribution-Share Alike 3.0 Unported, 2009)





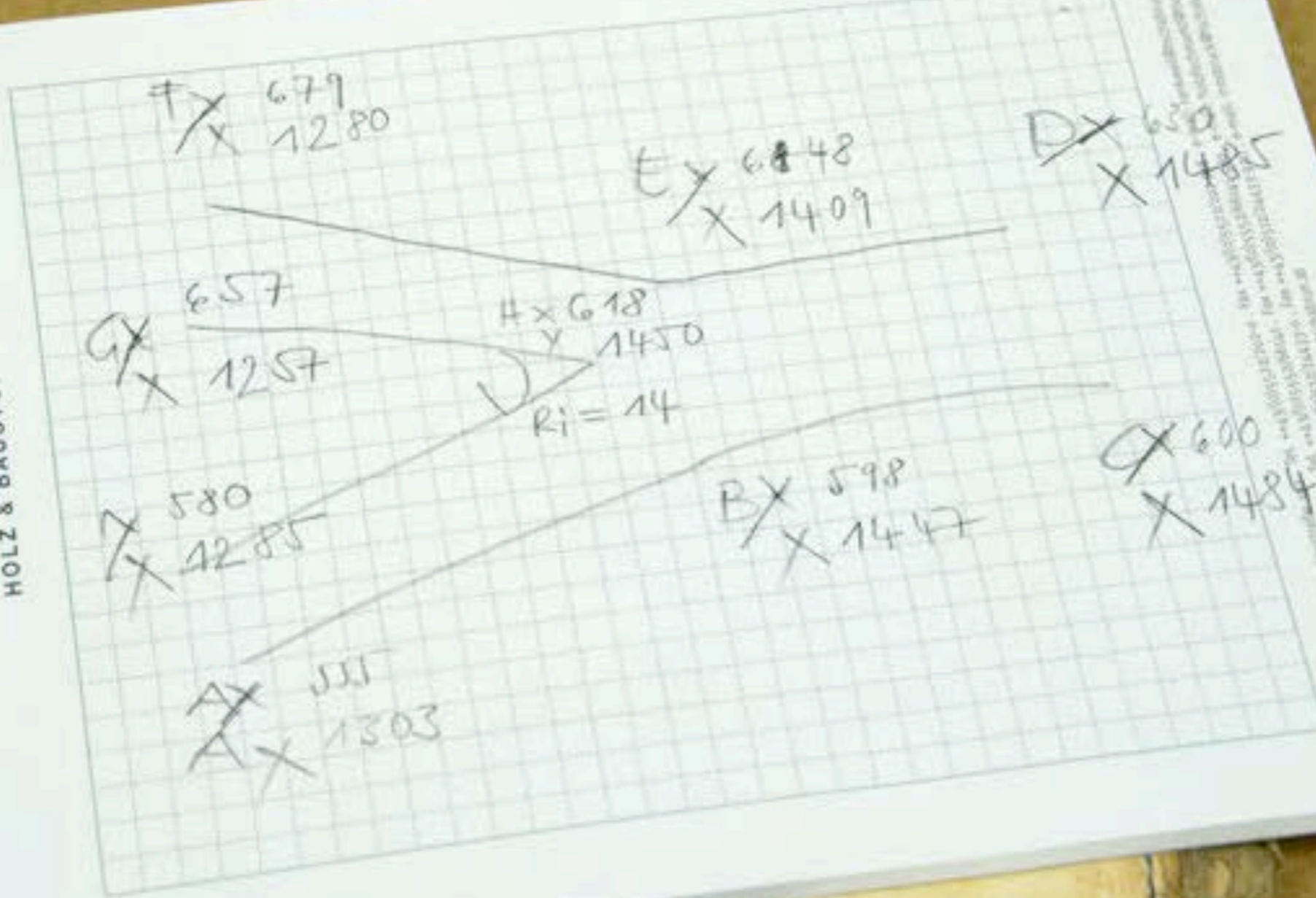








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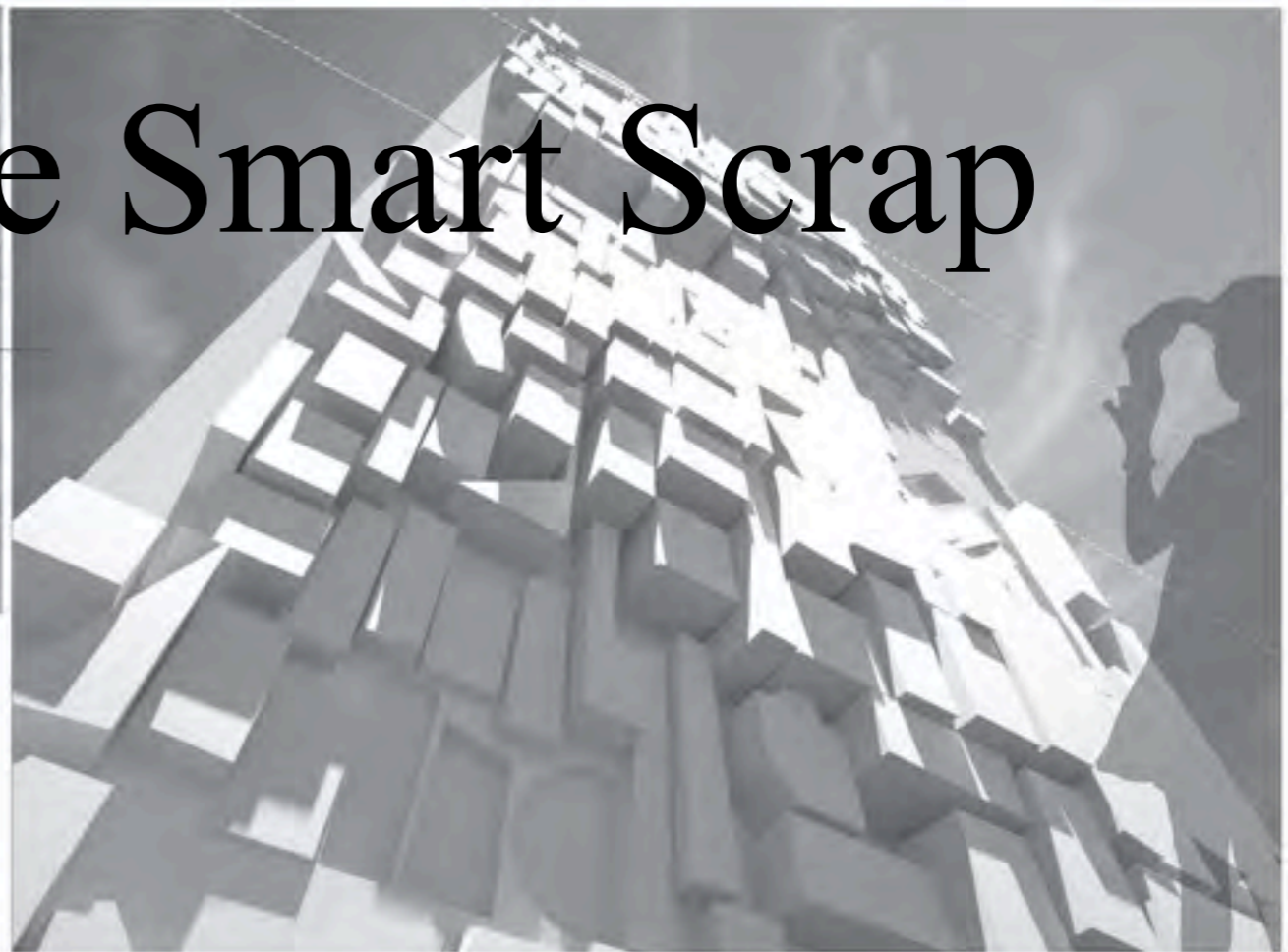








# Ball State Smart Scrap



Structure



# ETH reciprocal frame structures







<b>Date</b>	<b>Time</b>	<b>Event</b>
27.05.13	14.00	Competition Introduction
28.05.13	10.00	Visit to Albigüetli
03.06.13	10.00	Crit with M. Bernhard, C. Schindler
10.06.13	10.00	Design Selection with D. Bosia
24.06.13		Crit with AEDAS/C. Derix
15.07.13		Assembly

contact

Hironori Yoshida, [yoshida@arch.ethz.ch](mailto:yoshida@arch.ethz.ch)

Mathias Bernhard, [bernhard@arch.ethz.ch](mailto:bernhard@arch.ethz.ch)

Christoph Schindler, [christoph@schindlersalmeron.com](mailto:christoph@schindlersalmeron.com)