



# Bamboo Lightweight structures in Urban Area



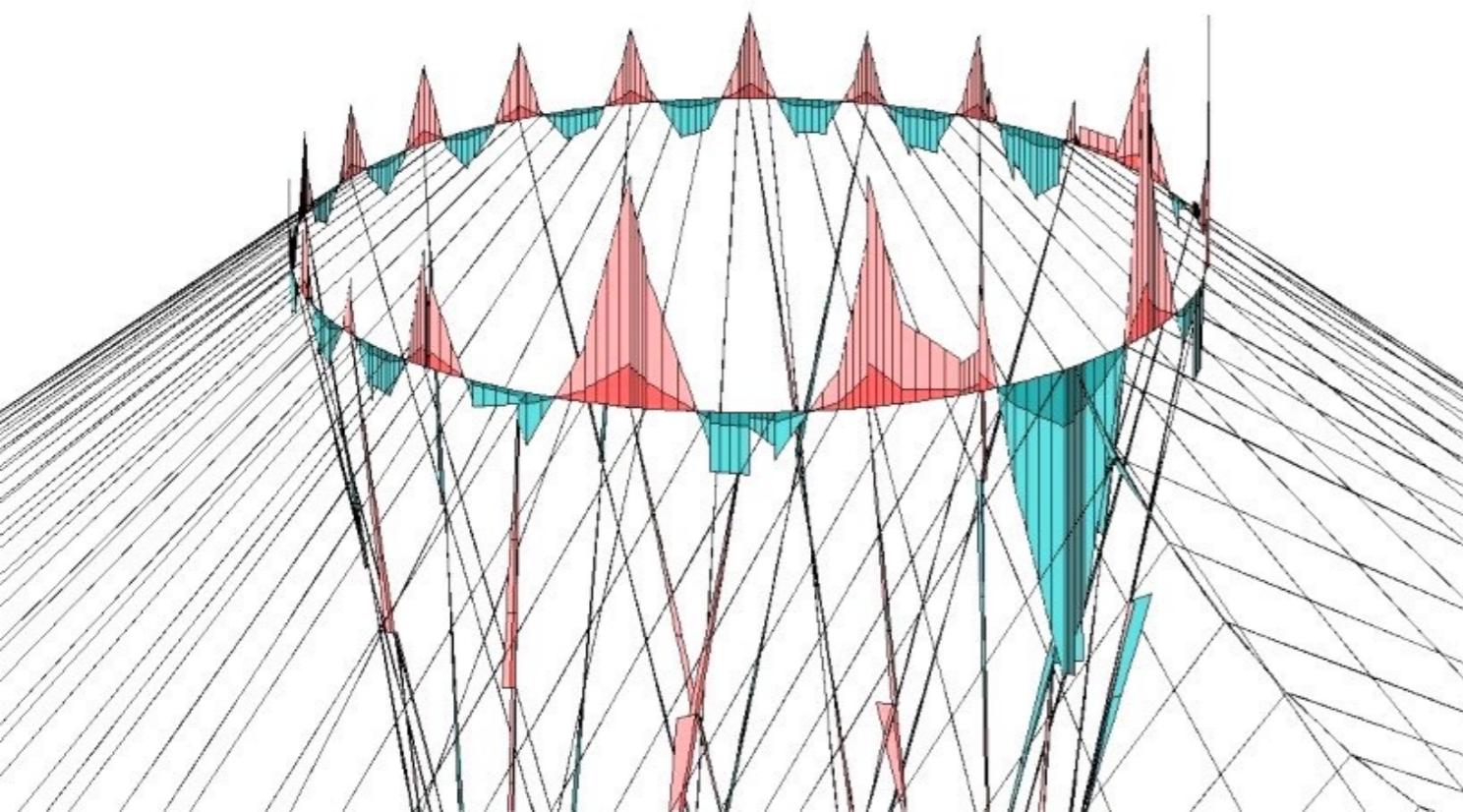
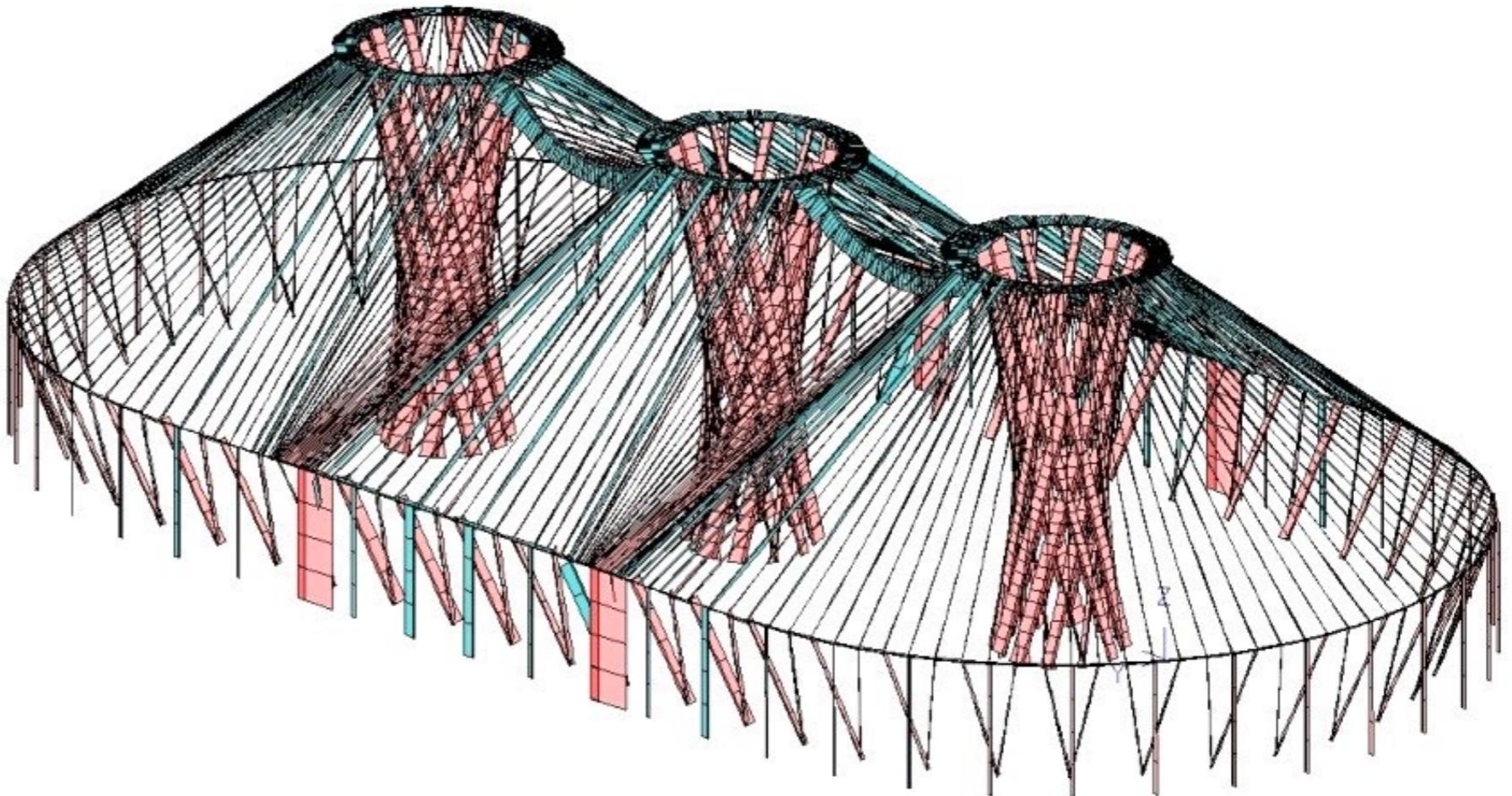
# Nature as inspiration



“Three Mountains”

# Morter injection 10-folds joint capacity





**Structural  
Analysis** by Dr.  
Althoff, Erfurt  
University

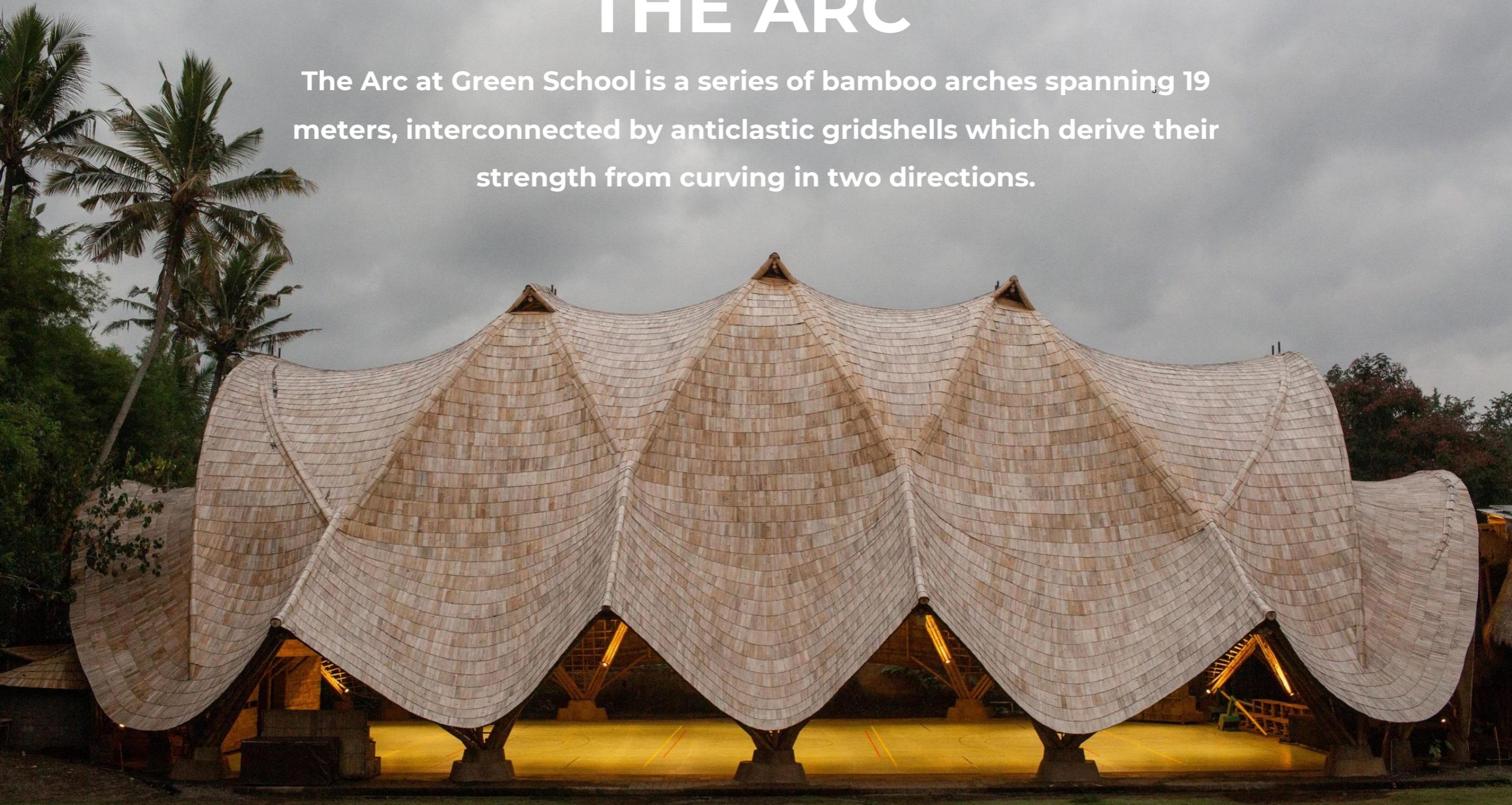
Sky Light  
Effects  
enhanced  
by natural  
beauty

Hyperbolico.



# THE ARC

**The Arc at Green School is a series of bamboo arches spanning 19 meters, interconnected by anticlastic gridshells which derive their strength from curving in two directions.**





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THE ARC



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5



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THE ARC

# First Bamboo structure in USA

Mc Kee Botanical Gardens,  
Construction permits by  
City Hall Vero Beach.  
survived Hurricane Rita in  
2004

Florida



Ecuador traditional House  
**Reconstruction,**  
after earthquake 2016



# Prefab Storage hall in Palenque, Mexico



**Barn style,  
spaced columns  
and beams.**





**House Bridges  
give  
Maximum  
benefit on  
minimal  
maintainence**



**House bridge**

30 m, 18. Century



**Bamboo bridge,**

40m, 21 Century

# Eco-engineering con giant Grass



**EcoLodge in  
Sumatra,  
Bamboo in its  
native  
environment.**





Architecture is  
resembling a natural  
Growth pattern.



PinBoo flooring made with bamboo splits, glue-free





20 meter, Arch + Cable Stade

Bridge, Bali, Indonesia 2008

Sibang Bridge at Greenschool



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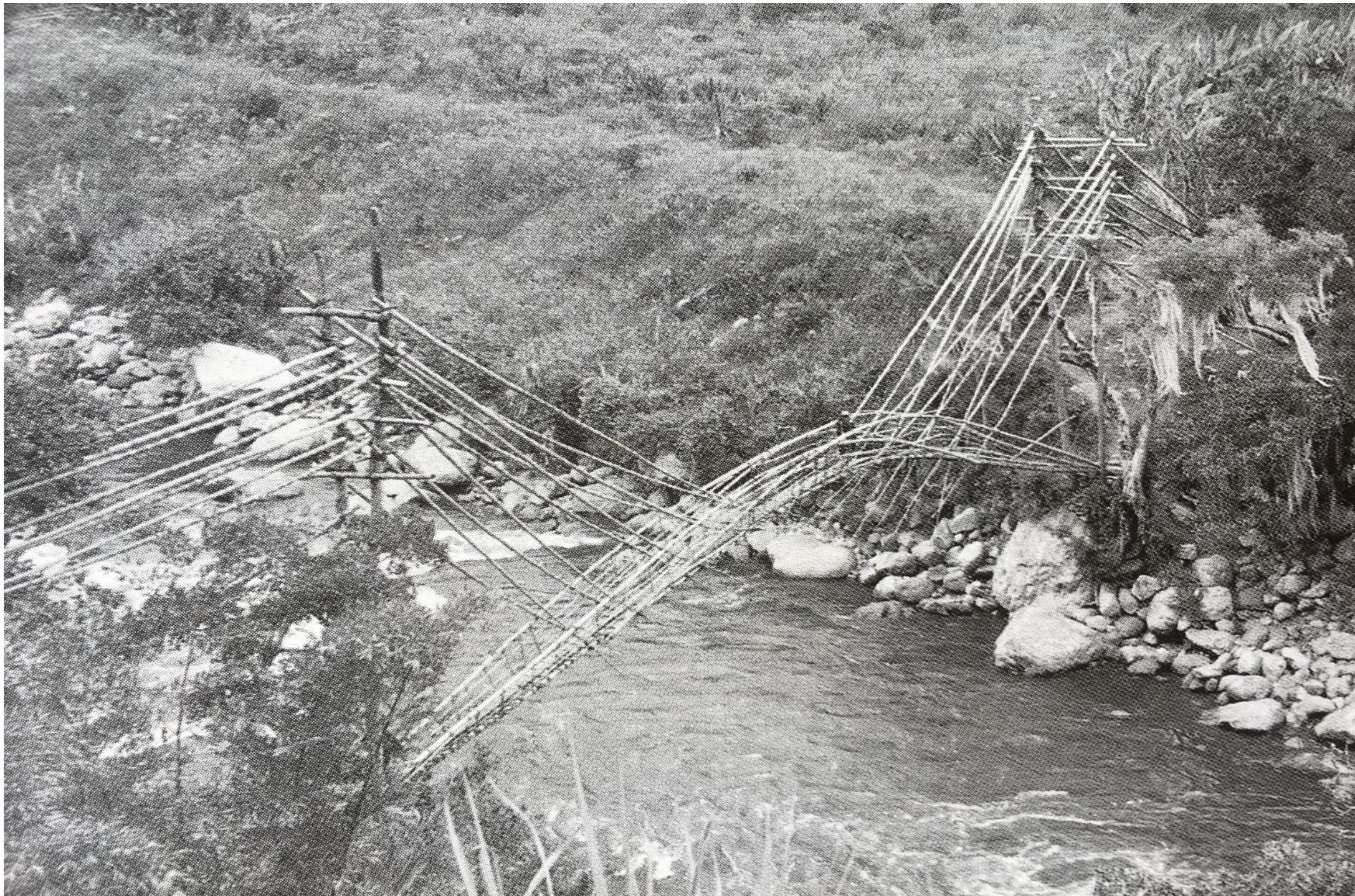


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# Arch and Tensile poles as Bridge concept

Concept





**Bamboo  
Sculpture in a  
modern city  
Cucuta,  
Colombia**



# Easy lifting procedures due to **lightweight**



# “Grouting”, 10x folds the joint capacity





PinBoo, glue free Flooring

Official Load test with a  
total of 450kg / m<sup>2</sup>



29

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Natural Curves bamboo “6  
Packs”

**Modern Design  
& High Tech  
Materials**



Bridge Trusses are  
pre-assembled and  
pushed over the river



Lifting  
procedure  
with a crane, or  
“by hand”,  
traditional style.





Scissor Truss, 30m



Grouting



# “Protection by Design”

with bamboo shingles





**Orang Utan Haven,  
Scissor Bridge Truss, 30  
m, Sumatra, Indonesia**

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# Concept: Triangle

Pinboo planks for Flooring 4 cm thick.  
Skylight and the free swinging wings



Mero system, since 1936

conus  
joints  
for  
space  
frames

# Space frames, modular prefabrication



**Orquids**  
Botanical Gardens,  
Mexico

**JÖRG  
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# Botanical Gardens

Chapultepec Mexico



Grid shell,  
(20 x 30m)  
Ghana

This giant grass  
is sustainable,  
appealing,  
embodies sun  
energy and it is  
as versatile as  
any wood.



**Shells with  
curved  
bamboo,  
Bambusa  
vulgaris.**



# mobile **Yurt**, for Parks and Events



Playa Viva,  
Guerrero ,  
México



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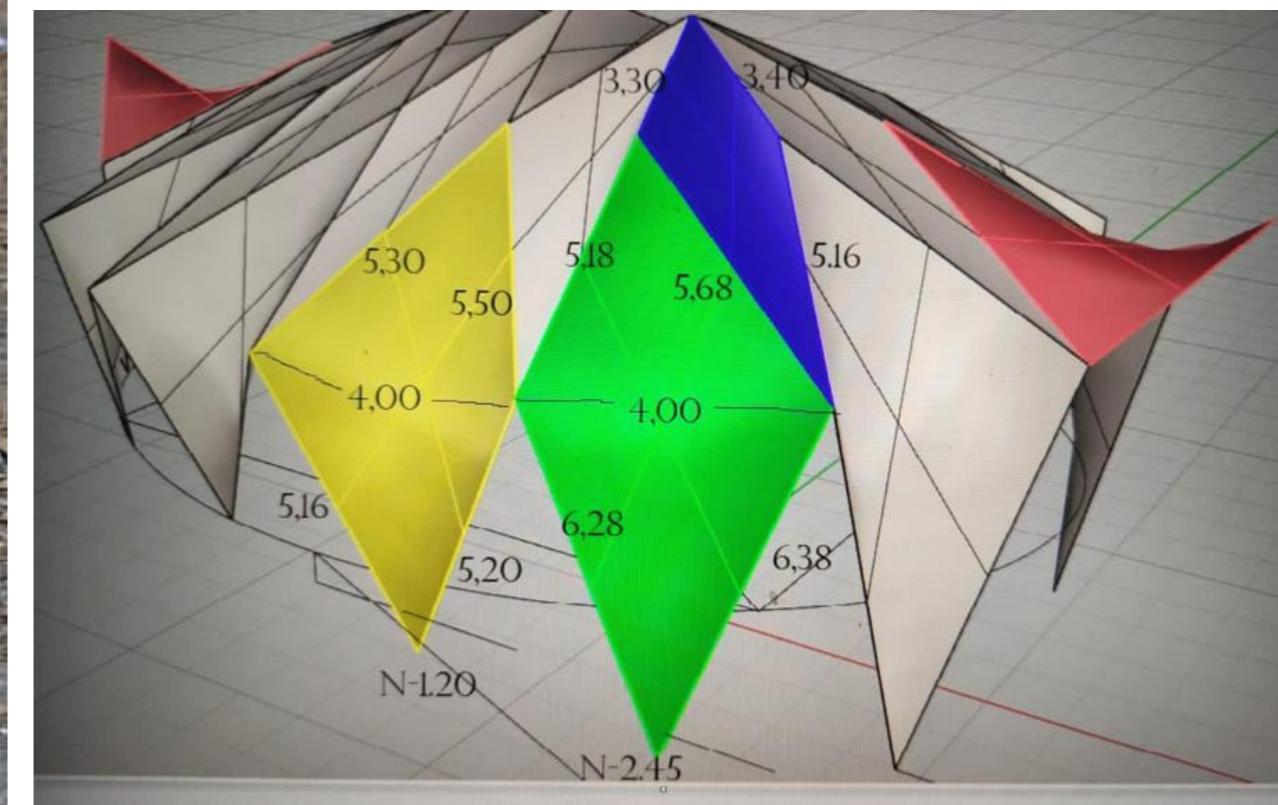




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Terra  
Mulungu,  
retreat  
center,  
Guararema,  
Brazil









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# Thank You



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