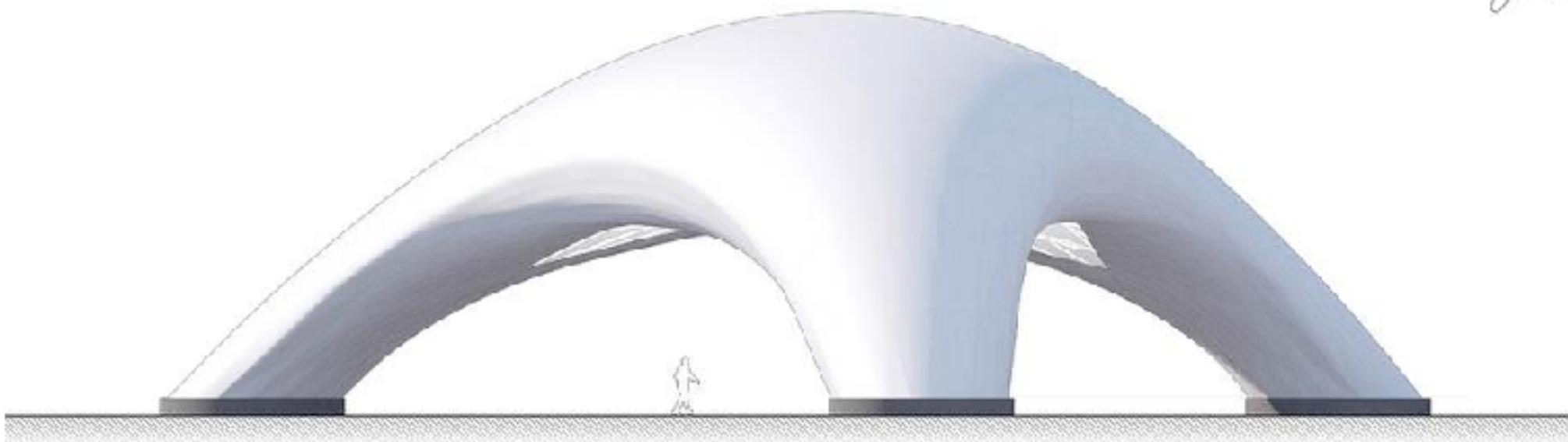


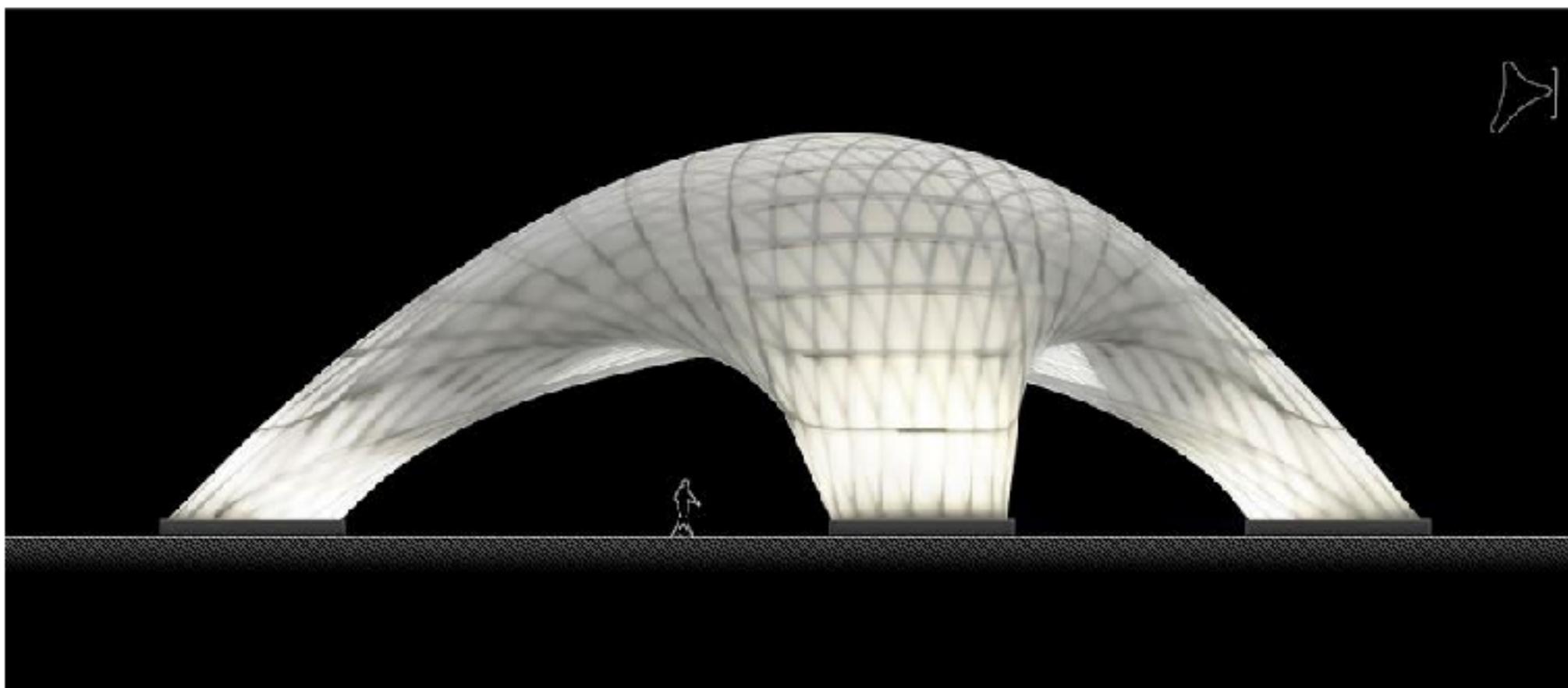
ZCB Bamboo Pavilion



<https://vimeo.com/176274598>



The ZCB Bamboo Pavilion is a public event space built for the Construction Industry Council's Zero Carbon Building (ZCB) in the summer of 2015 in Kowloon Bay, Hong Kong. It is a four-storey-high long-span bending-active bamboo gridshell structure with a footprint of approximately 350m² and a seating capacity of 200 people.



It is built from 475 large bamboo poles that are bent onsite to shape the structure and that are hand-tied together with metal wire using techniques based on Cantonese bamboo scaffolding craftsmanship. The shape is a large diagrid shell structure that is folded down into three hollow columns. These columns rest on three circular concrete footings. A tailor-made white tensile fabric is stretched over the structure and is brightly lit from inside the three legs.

The research investigates how computational design tools can be strategically inserted into existing construction methods to allow for a more engaging and innovative architectural outcome. The ZCB Bamboo Pavilion showcases this and illustrates how the endangered craftsmanship of Bamboo Scaffolding Construction in Hong Kong can be expanded through the introduction of digital form-finding and real-time physics simulation tools.

Prof. Kristof Crolla



Golden Moon - 2012



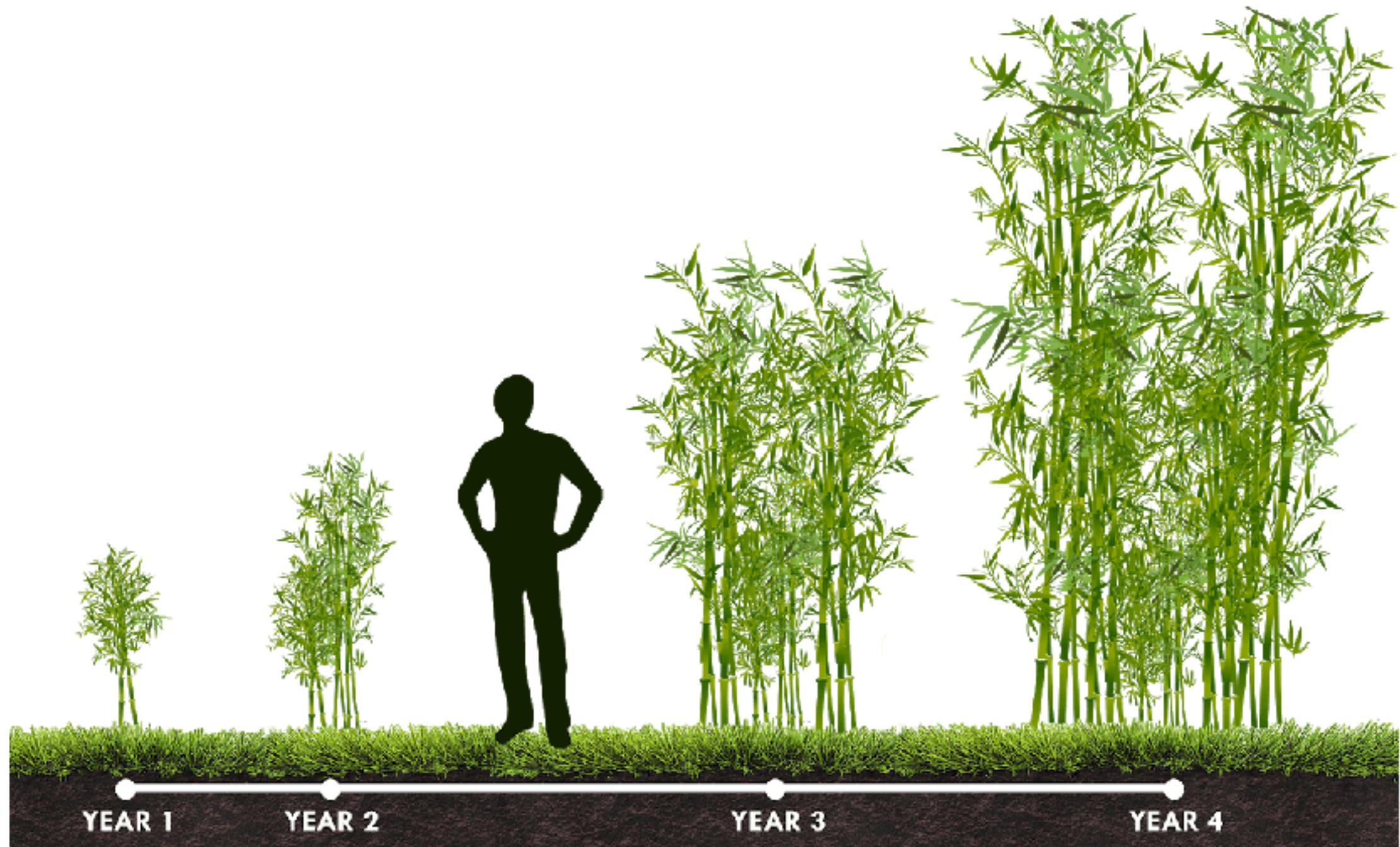
Dragon Skin Pavilion - 2012



TOROO Pavilion



Bamboo is a widely available, environmentally friendly material that grows abundantly and at remarkably high speeds in the Asia-Pacific region, Africa and the Americas. It is an excellent renewable natural resource which captures CO₂ and converts it into oxygen. It is strong, light and easy to process and transport. In Hong Kong bamboo mostly appears in temporary theatres, scaffolding, or structures for religious festivals. Globally it is usually applied as a surrogate for wood or steel, rather than in ways that utilise the material's unique bending properties and strength. In contrast, the ZCB Bamboo Pavilion presents an alternative architectural application that maximise these latent material properties.





the tunnel: a barreling bamboo wave by vinay pateel

BRIEF 01: Concept Development

8.1in

Thousand Line Pavilion



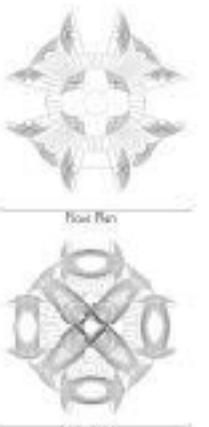
Thousand Line Pavilion Model 0.50 Elevation



Close Up View of Detail



External Piercing Detail



Floor Plan

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Thousand Line Pavilion

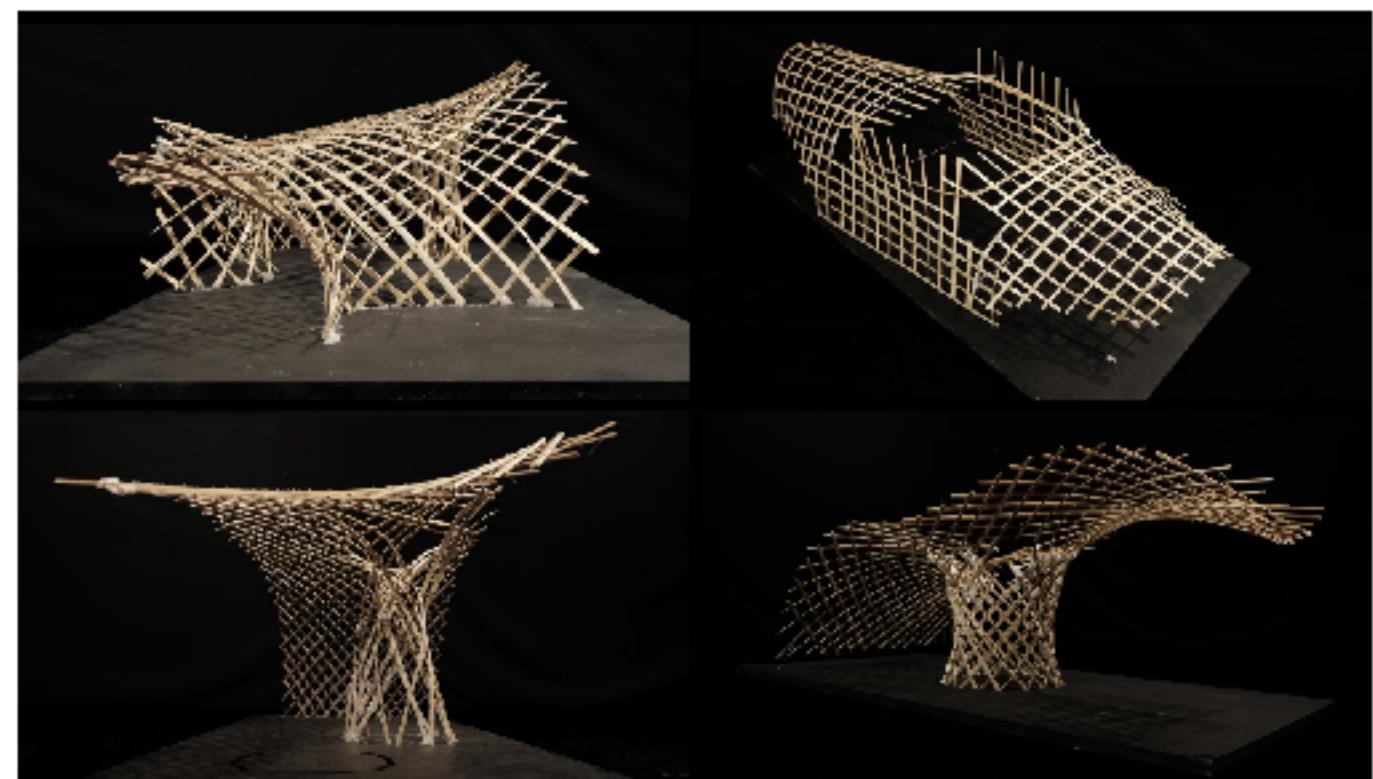
The Thousand Line pavilion is a combination of pavilions 1 and 2. The reading pavilion techniques that were successful in the previous two designs were merged to produce the final design. The base ring was further extended to adequately hold the resulting three rings. To reduce the density of the foliage basket, each component individually consists of 10 layers. The main ring was a result of overlapping the cartridges so they wouldn't separate. The successive rings of 1, 3, 6, 10, 15, 21, 28, 36, 44, 54, 64, 76, 88, 101, 114, 128, 142, 156, 171, 186, 201, 217, 233, 250, 267, 284, 301, 318, 335, 352, 370, 388, 406, 424, 442, 460, 478, 496, 514, 532, 550, 568, 586, 604, 622, 640, 658, 676, 694, 712, 730, 748, 766, 784, 802, 820, 838, 856, 874, 892, 910, 928, 946, 964, 982, 1000, 1018, 1036, 1054, 1072, 1090, 1108, 1126, 1144, 1162, 1180, 1198, 1216, 1234, 1252, 1270, 1288, 1306, 1324, 1342, 1360, 1378, 1396, 1414, 1432, 1450, 1468, 1486, 1504, 1522, 1540, 1558, 1576, 1594, 1612, 1630, 1648, 1666, 1684, 1702, 1720, 1738, 1756, 1774, 1792, 1810, 1828, 1846, 1864, 1882, 1900, 1918, 1936, 1954, 1972, 1990, 2008, 2026, 2044, 2062, 2080, 2098, 2116, 2134, 2152, 2170, 2188, 2206, 2224, 2242, 2260, 2278, 2296, 2314, 2332, 2350, 2368, 2386, 2404, 2422, 2440, 2458, 2476, 2494, 2512, 2530, 2548, 2566, 2584, 2602, 2620, 2638, 2656, 2674, 2692, 2710, 2728, 2746, 2764, 2782, 2800, 2818, 2836, 2854, 2872, 2890, 2908, 2926, 2944, 2962, 2980, 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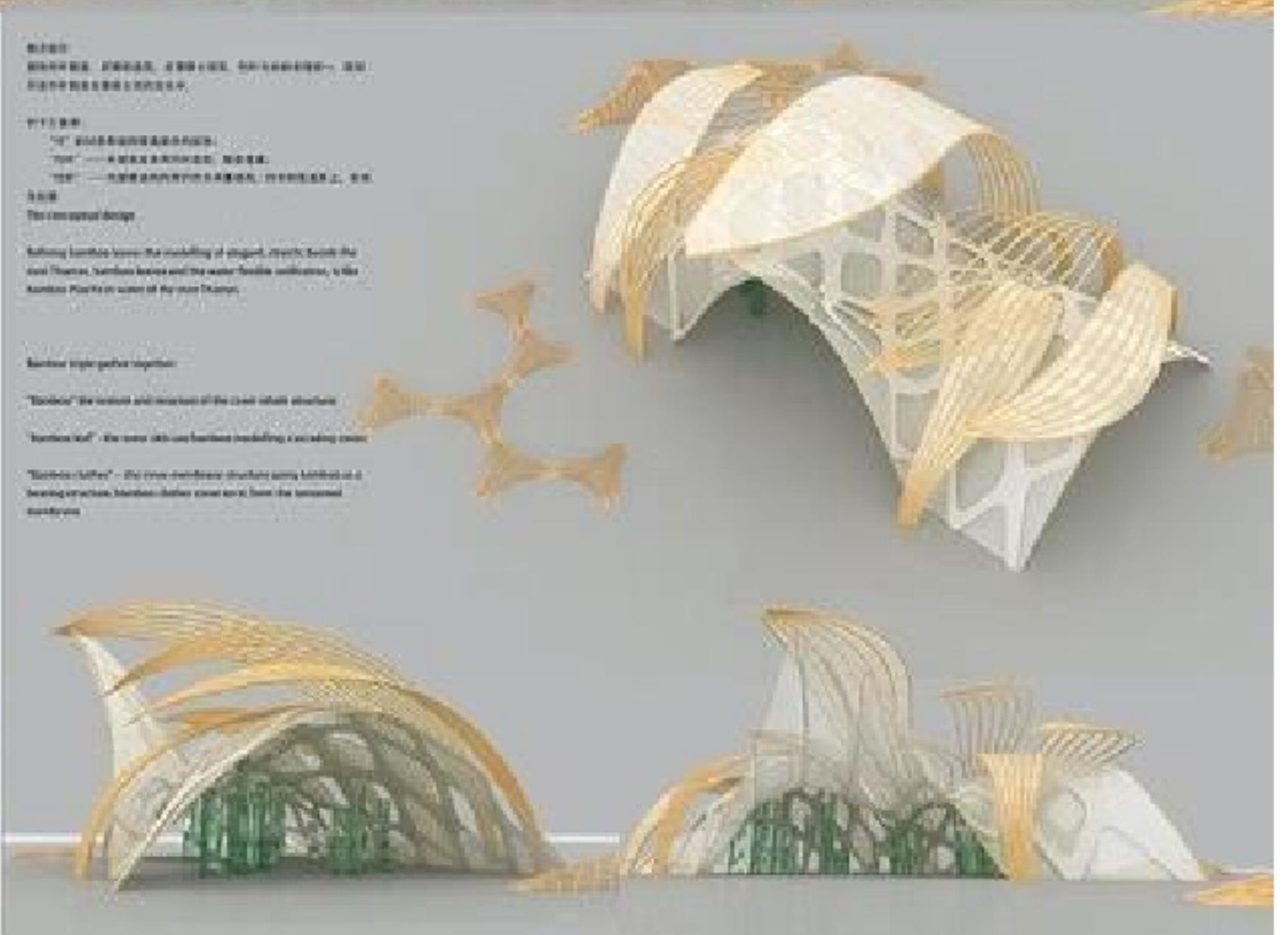
pulse pavilion bamboo



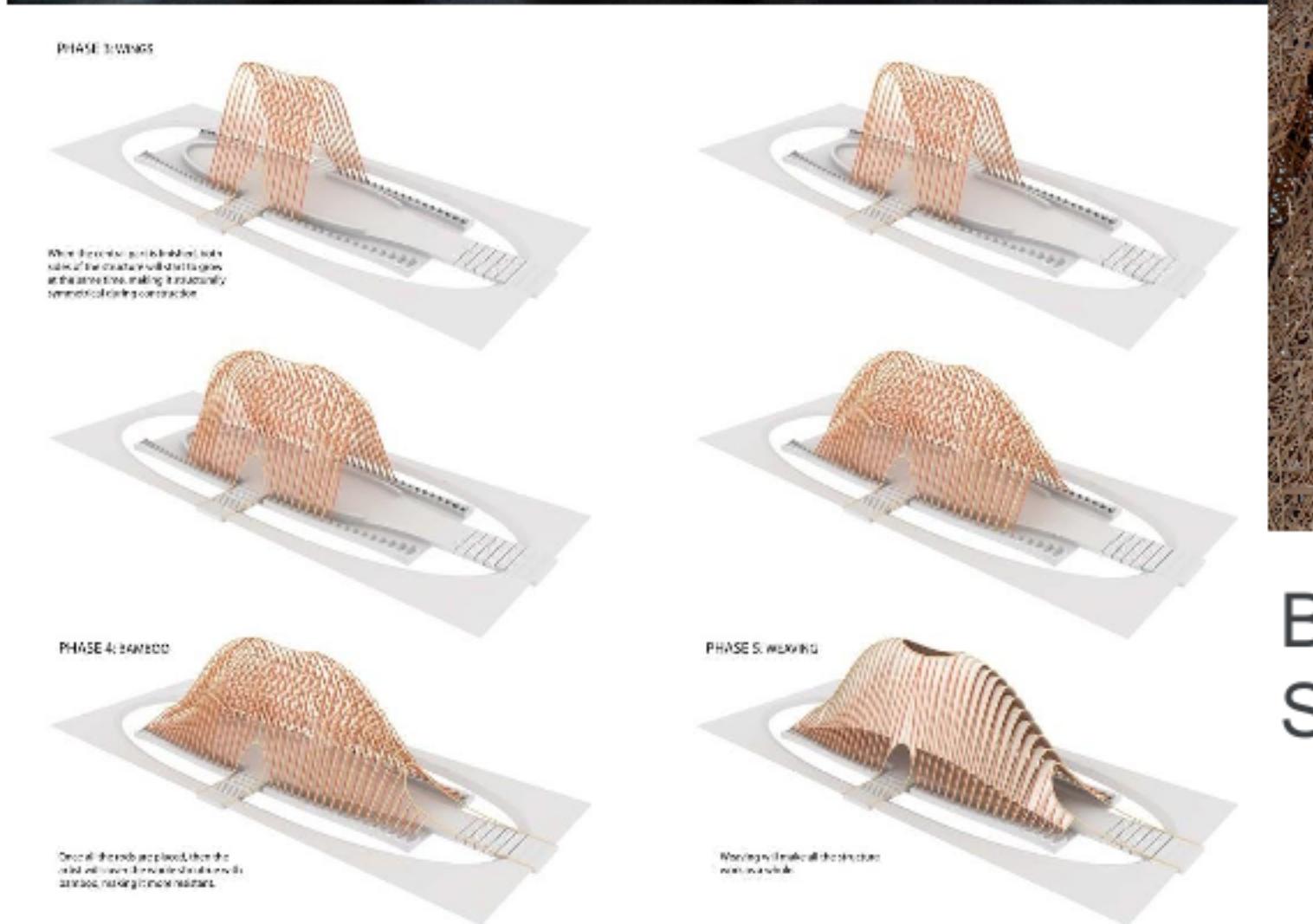
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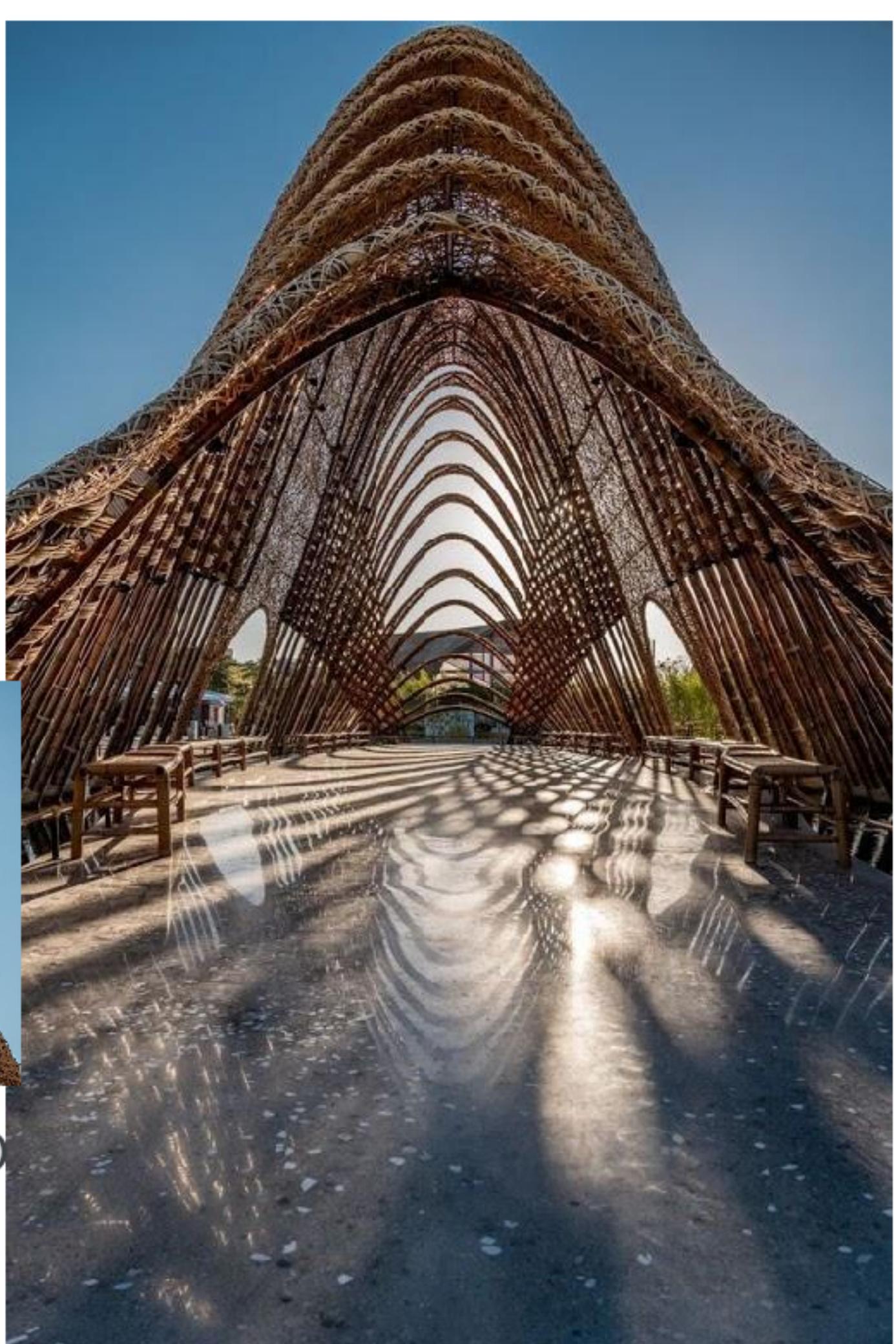
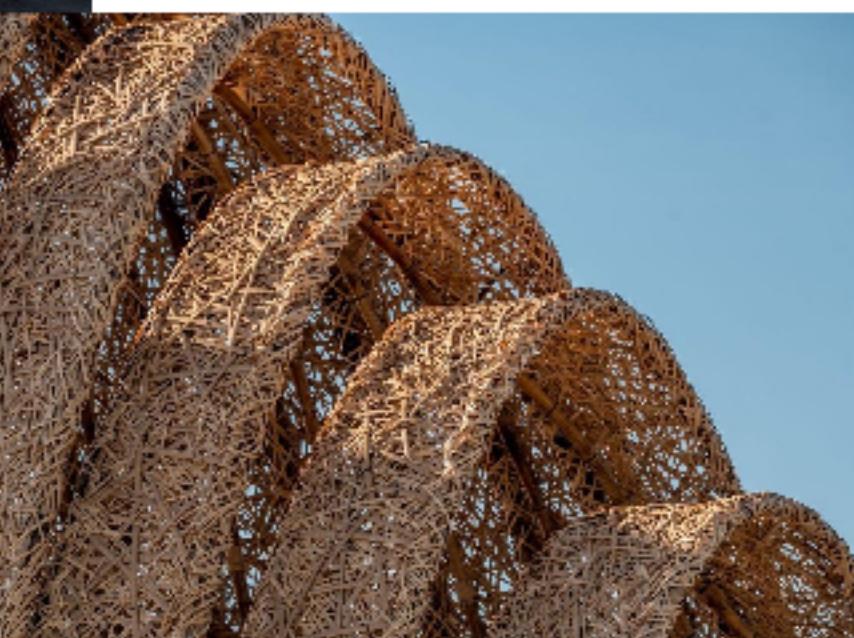
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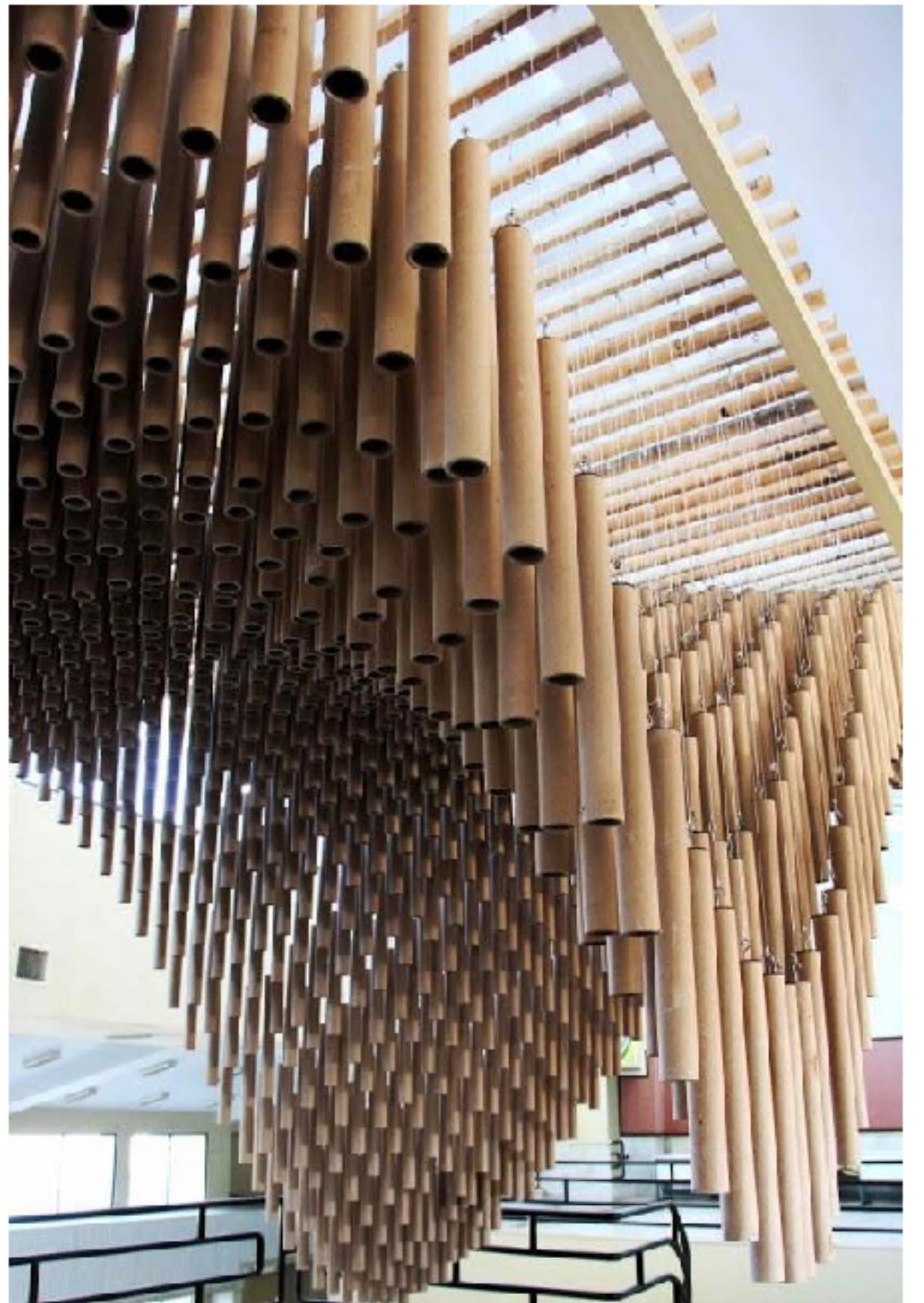


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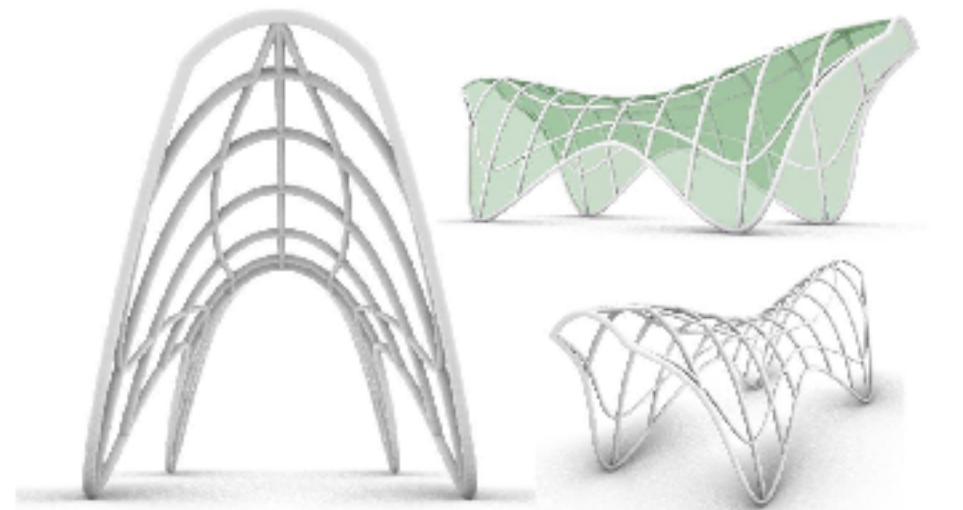


Bamboo Pavilion / ZUO
STUDIO



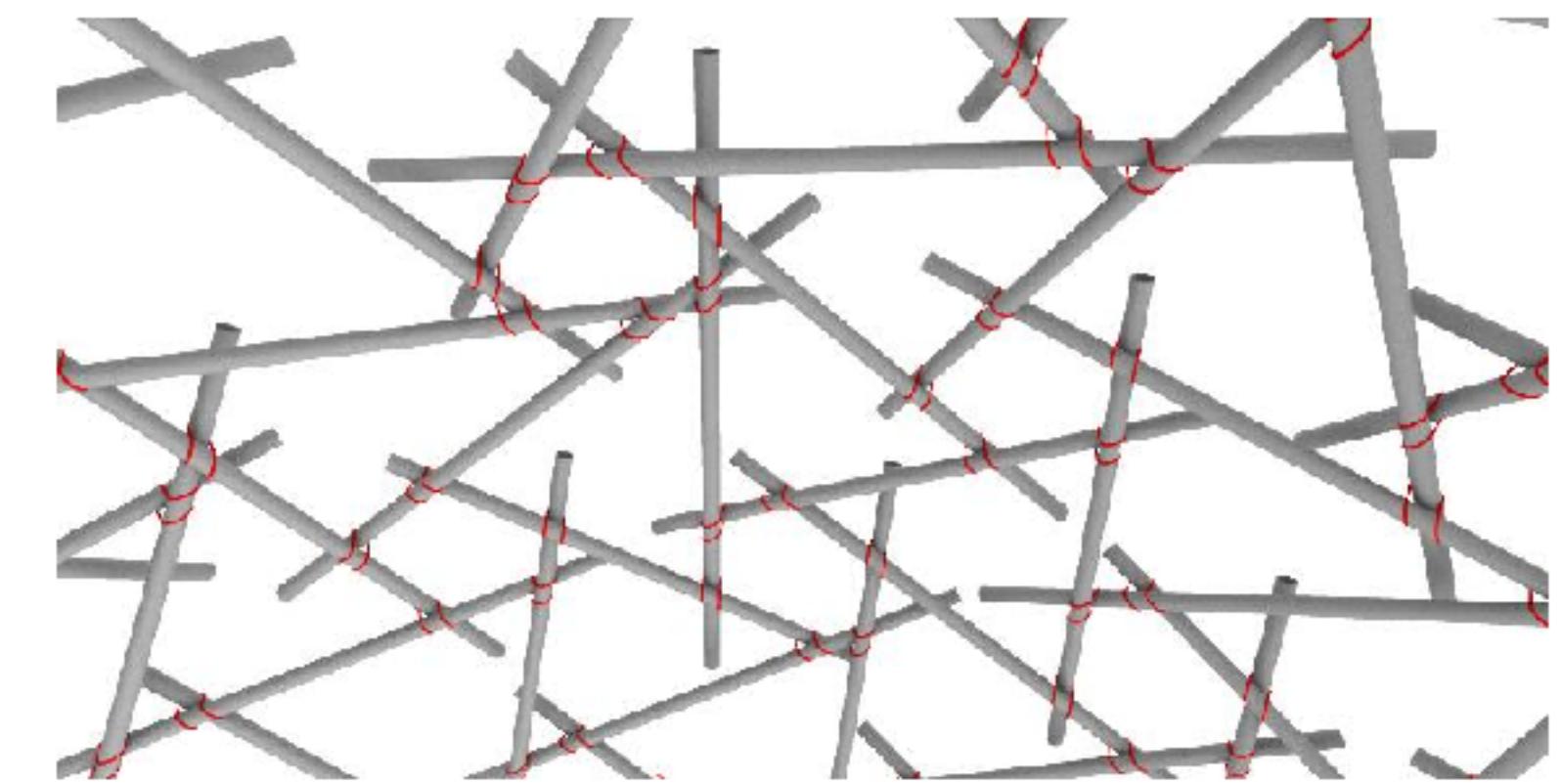
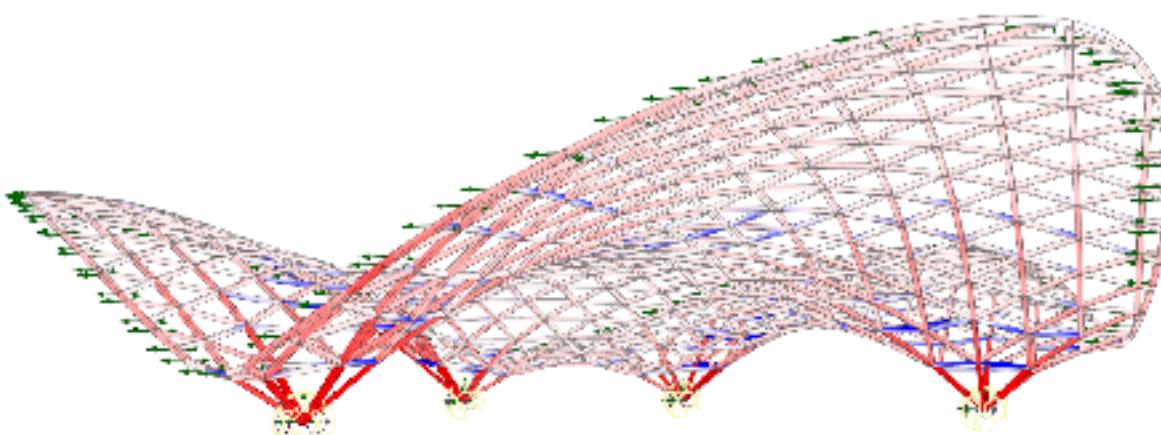
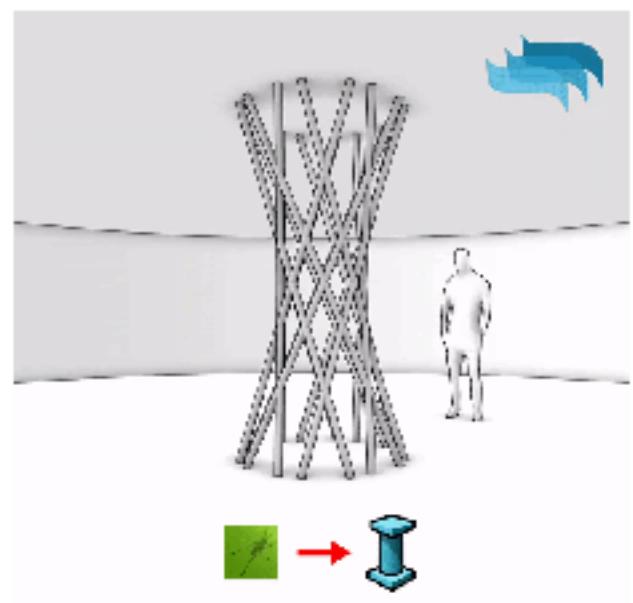
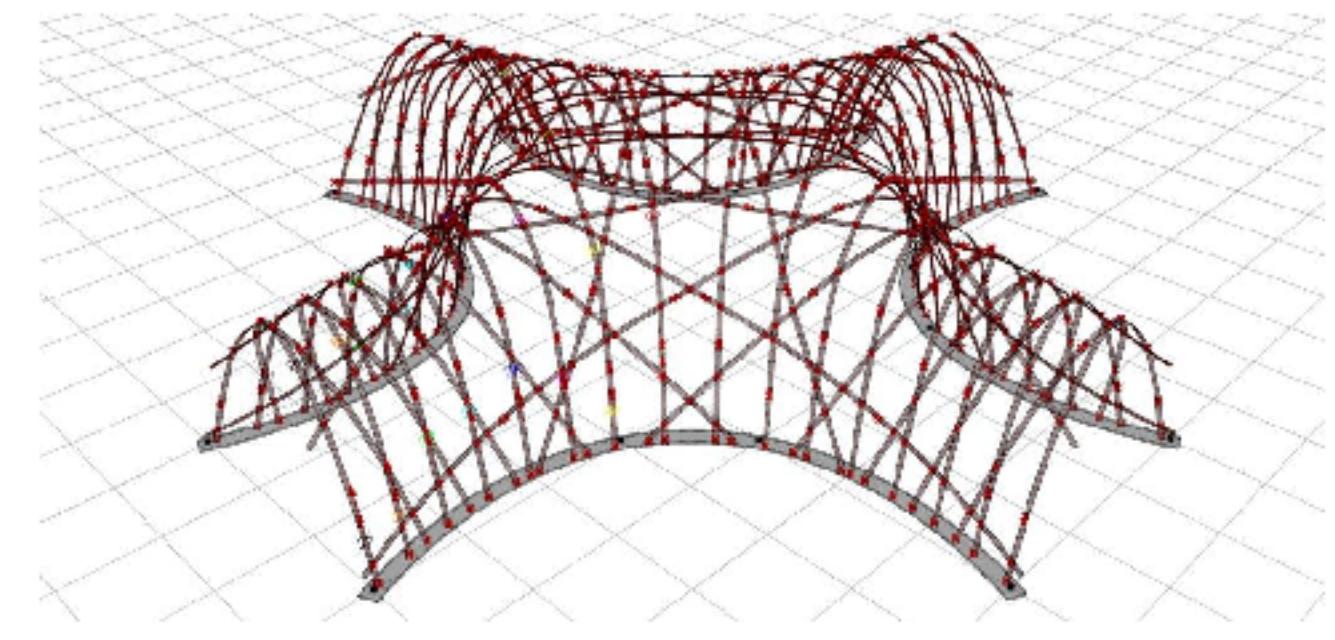
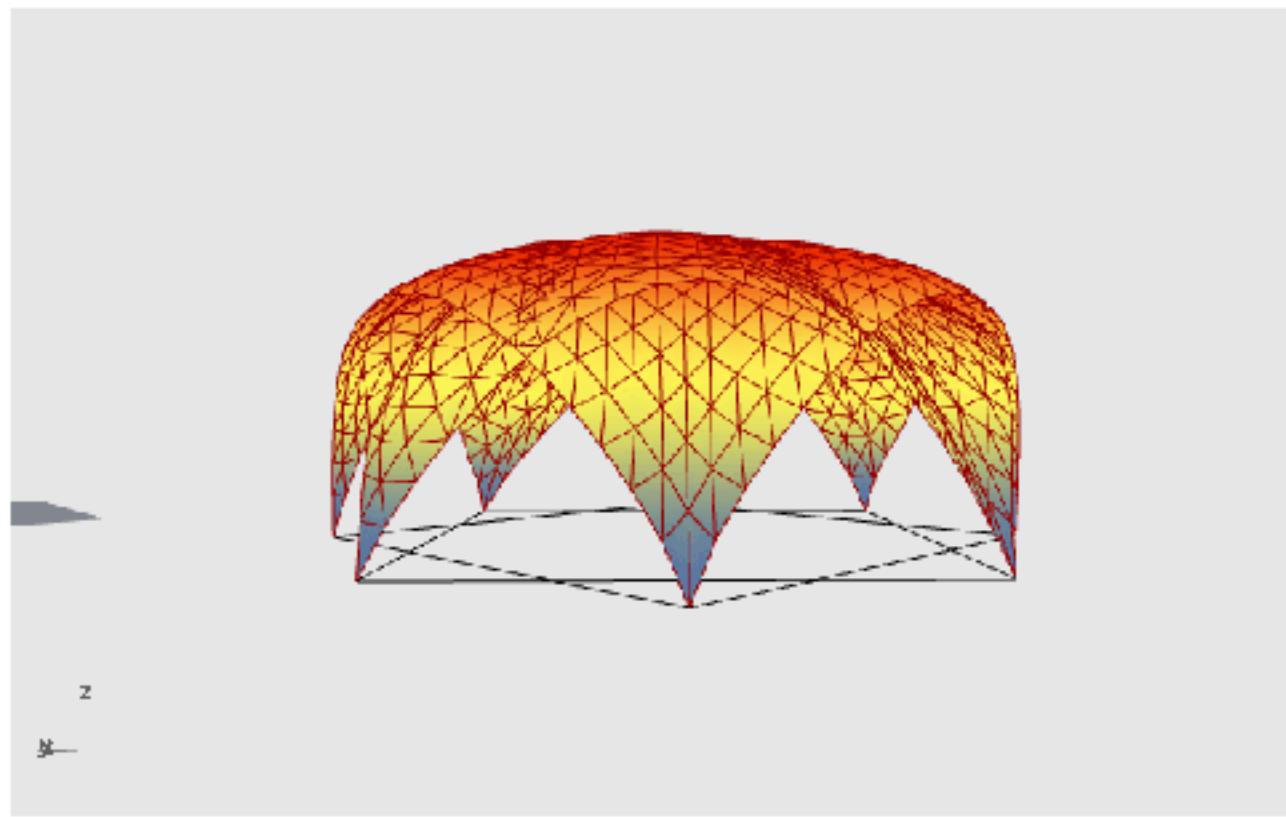


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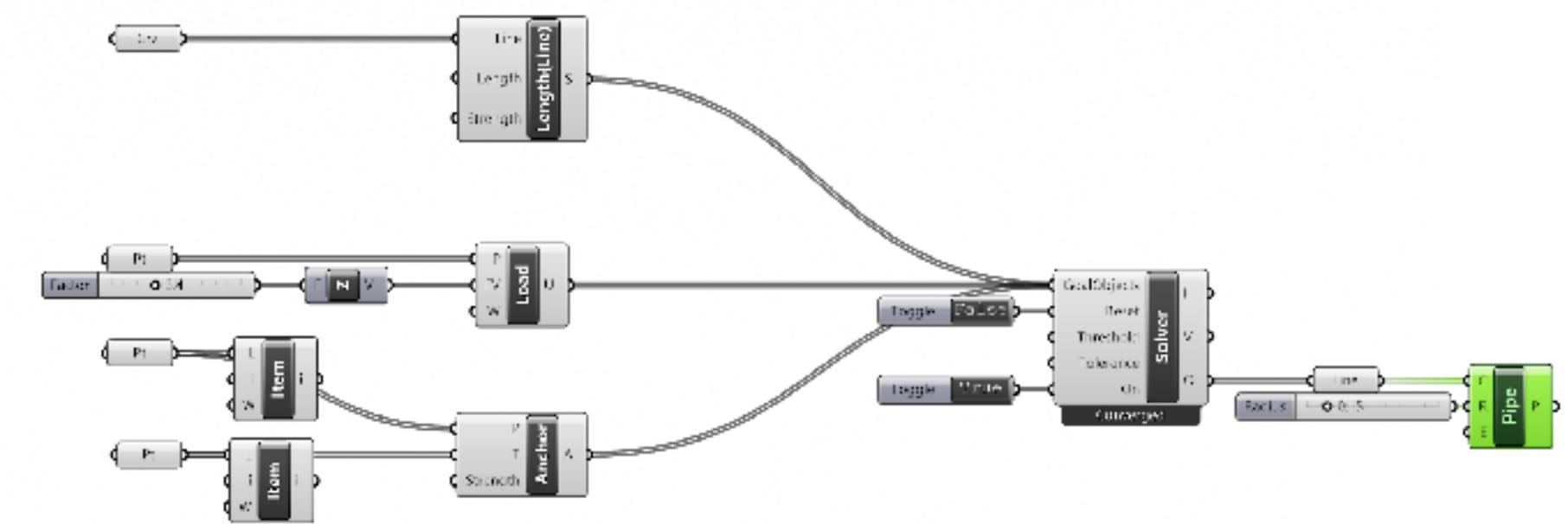
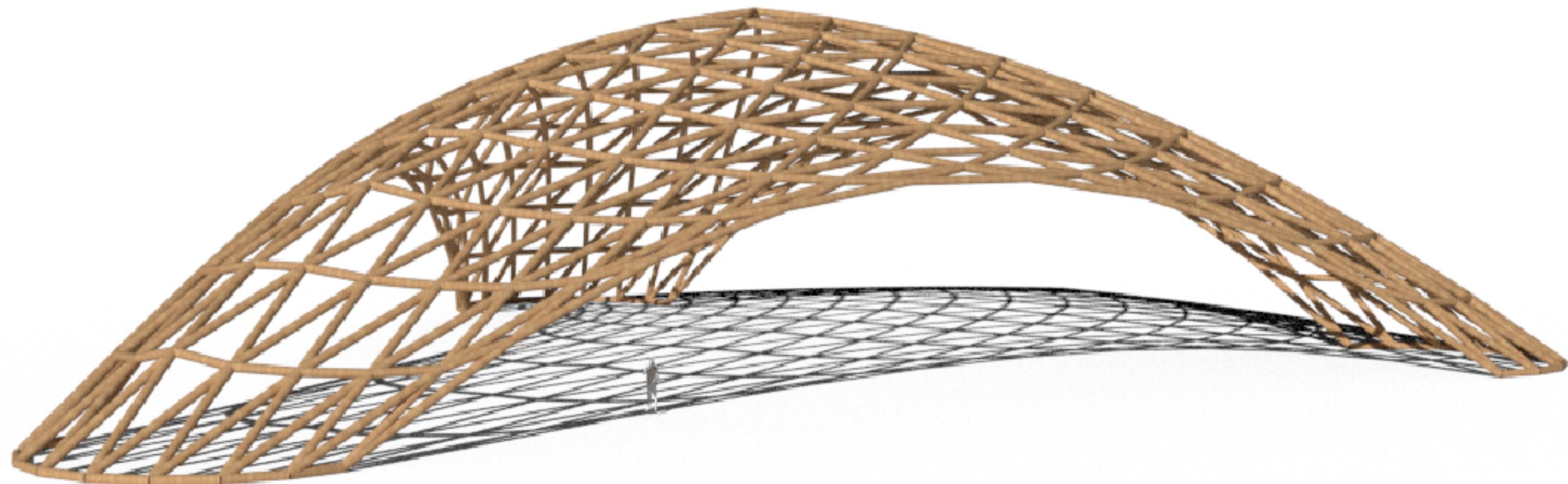
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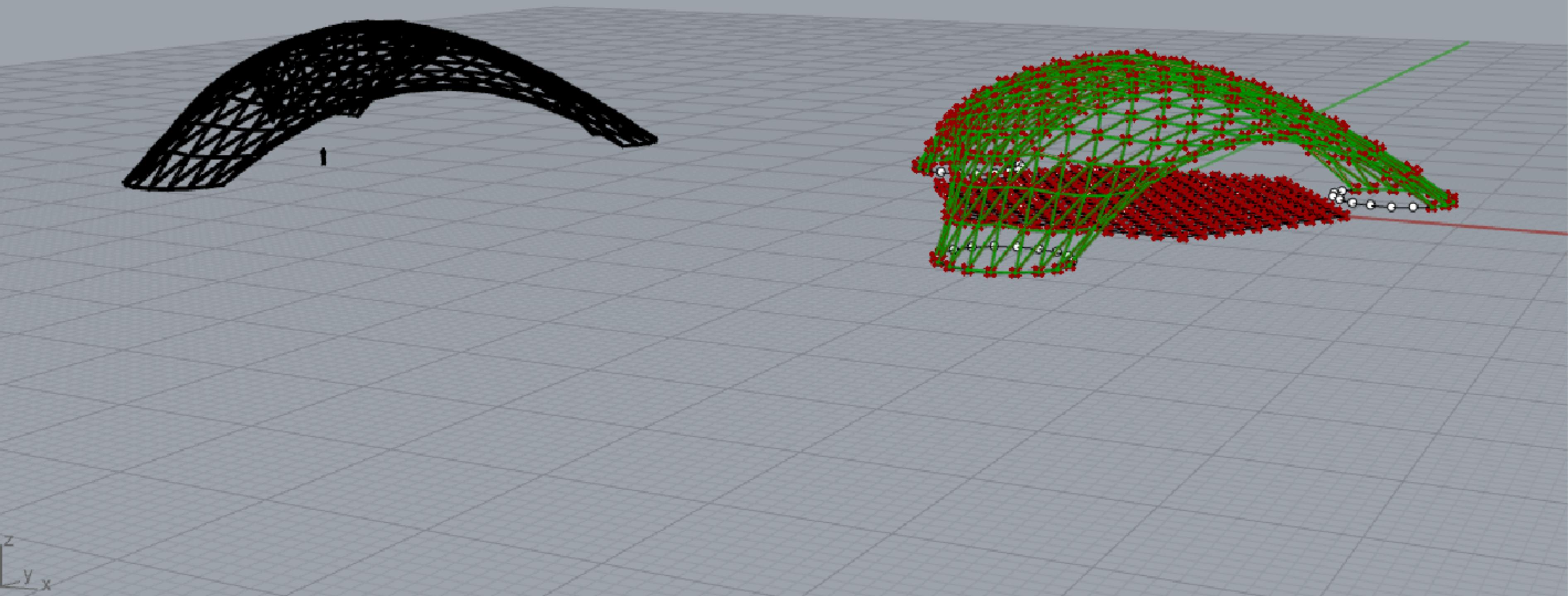




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groupUrl=kangaroo&overrideMobileRedirect=1&groupId=2985220%3AGroup%3A120977&
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