The Hyperbolic Bamboo Bridge-
Chiang Mai, Thailand

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IX World Bamboo Congress- Antwerp, Belgium 2011
7 Concepts to build a Bamboo Bridge

1) The Beam
2) The Arch
3) The Suspension Bridge
4) Cable stade Bridge and Cantilever
5) A Bridge with form active surfaces
6) The Truss
7) Space frames

8) Hyperbolic Surfaces
1) THE BEAM- Fishbelly Composed Curved Beams

Problems
Static Height

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2) THE ARCH-

Problems
- Bandwidth
- Buckling moments
3) CABLE STADE BRIDGE AND CANTILEVER

Problems
-Protection by design
4) THE SUSPENSION BRIDGE

Problems
- Tower design
- Lateral forces
Tower design
5) A BRIDGE WITH FORM ACTIVE SURFACES

Problems
-Lateral forces
Problems
- Installation
- Skilled labour

6) THE TRUSS
7) SPACE FRAMES

Problems
-Cost
-Skilled Labour
-Installation
8) THE HYPERBOLIC PARABOLOID

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HYPERBOLIC CYLINDER - Tumbler, Hodder Associates
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1:30 MODELS- testing and concept evolution.
1:5 SCALE MODEL: Joint testing
1:40 SCALE MODEL: ‘Hyperbridge’
TRUSS ERECTION - Bambooroo Workshop 11’
HYPERBOLIC CYLINDER TAKING FORM

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TENSIONING CHORDS - Surface active shell

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ROOF RAFTERS- Secondary structure
ROOF RAFTERS- Thyrsstachys oliveri
DEPLOYABLE ARCHITECTURE – footings
REFERENCES

Beijing.
Vélez, S. 2000 Grow Your own House, ZERI-VITRA.
Villegas, M, 1996. “Bambusa guadua”, Villegas editores,