



形態デザインの最新動向

2.1 Form Design

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お話の流れ

1. 歴史変遷・概説

2. Algorithmic Design { **2.1 Form Design**
2.2 Digital Fabrication
2.3 Shape Optimization(形態最適化)

3. S-art(Sart)理念

4. 関連研究成果の報告

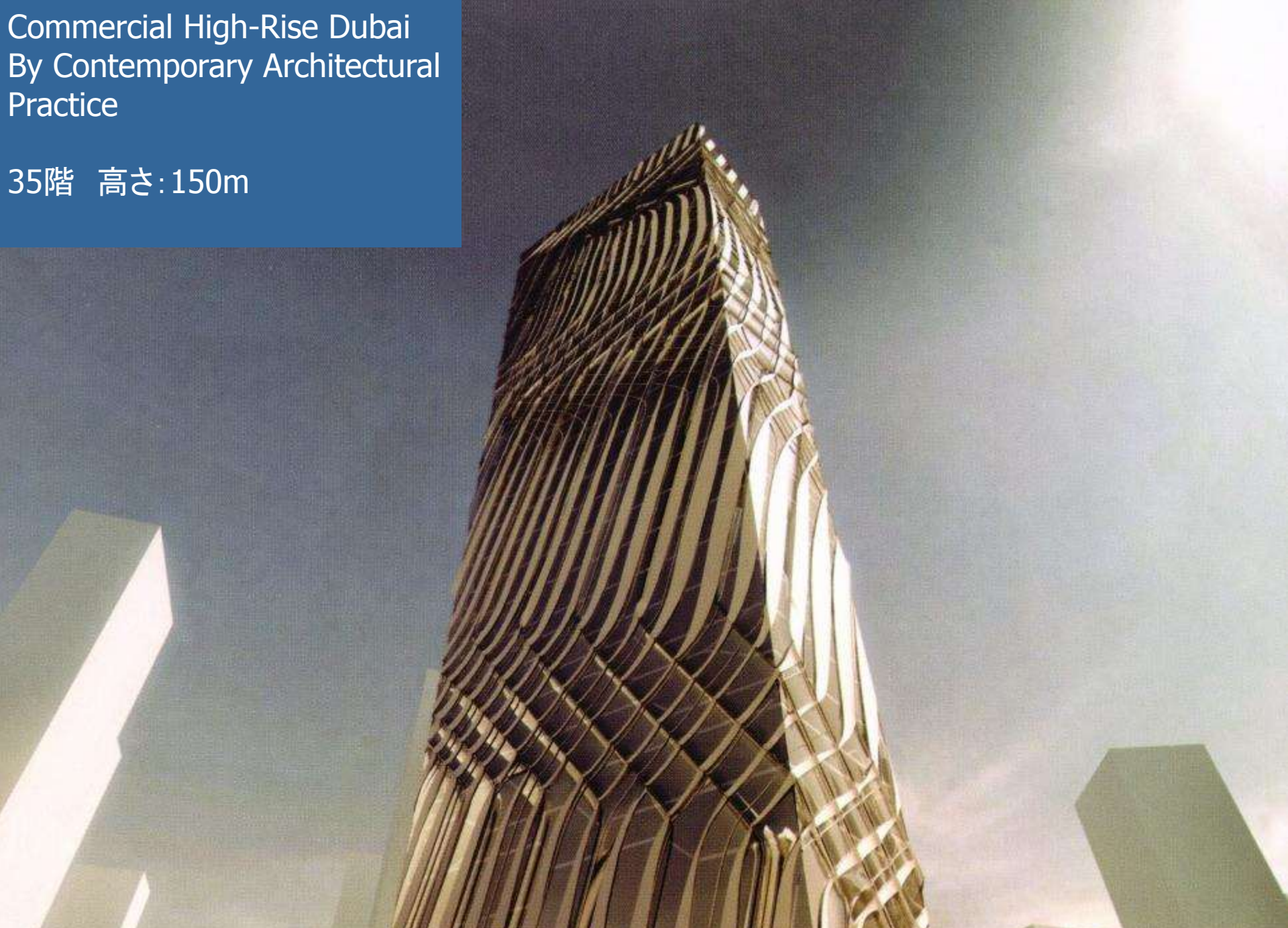


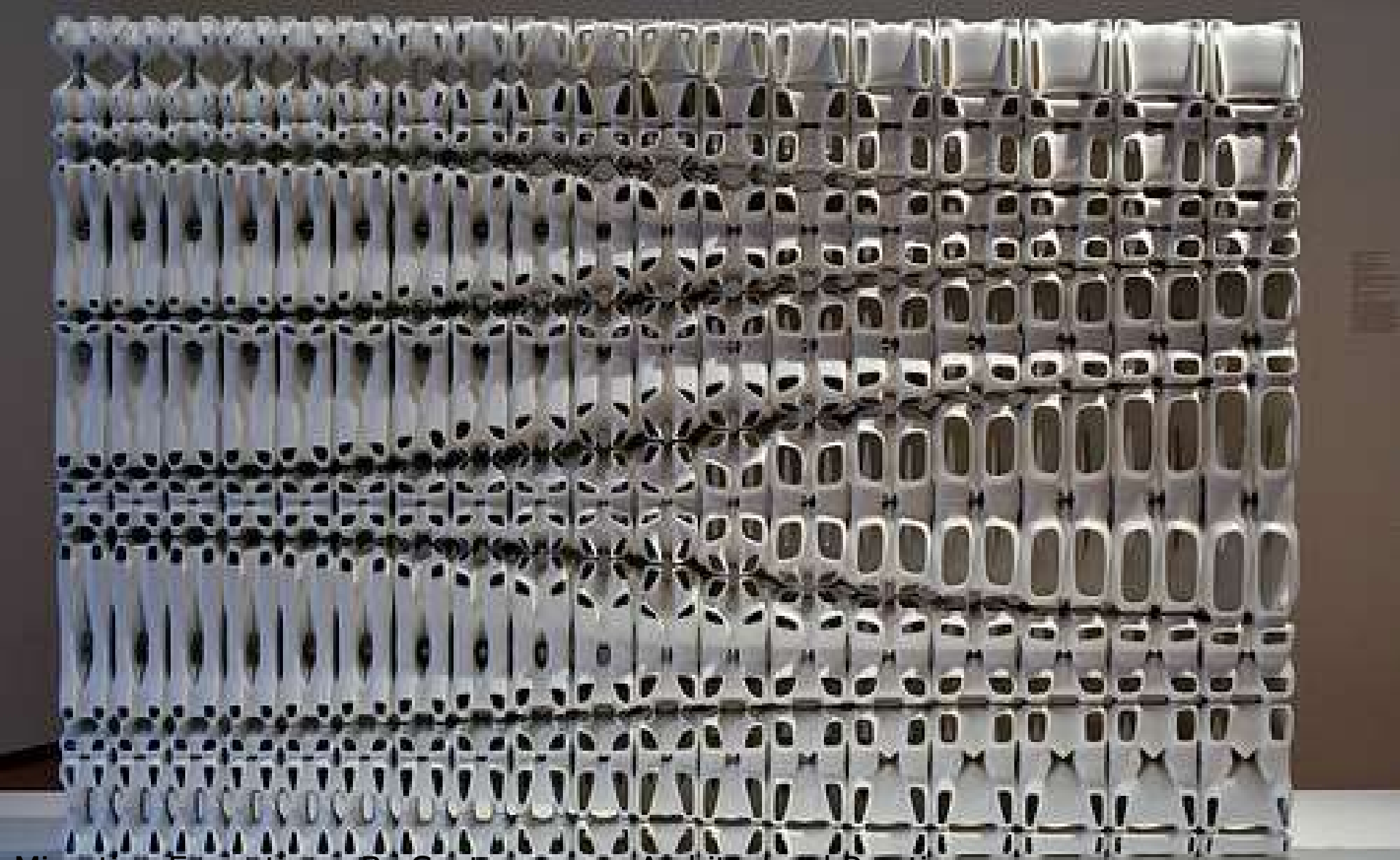
Residential Tower Dubai
By Contemporary Architectural
Practice

45階 高さ:180m

Commercial High-Rise Dubai By Contemporary Architectural Practice

35階 高さ: 150m





Migrating Formations By Contemporary Architectural Practice

<http://flickrriver.com/photos/scottnorsworthy/2991223494/>

Ali Rahim and Hina Jamelle, 2008. Commissioned by the Museum of Modern Art for the exhibition "Home Delivery: Fabricating the Modern Dwelling." A series of wall cavities vary in size, depth and articulation, and subsequently differ in their ability to transmit light and express the system's own nonrepetitive, morphing pattern. The project explores the potential of digital design's ability to produce building elements en masse, particularly for housing, incorporating ample opportunity for customization without significantly affecting cost.

Peishan Chen, Hachinohe Tech.

An architectural rendering of a tall, slender tower with a textured, woven facade. The tower is situated on a dark, curved pier or platform that extends into a body of water. The water reflects the tower and the sky. The background is a light, hazy sky. The overall style is modern and minimalist.

Dubai Waterfront Hotel

By Jerry Tate
Architects (London)

Dubai Waterfront Hotel

By Jerry Tate Architects

The lattice-like modules derives from natural wing structures, these provide circulation, ventilation and event spaces.

Enclosed modules provide either hotel rooms and private event spaces.

Shell + lattice structural system





Dubai
Waterfront
Hotel

By Jerry
Tate
Architects



By Jerry
Tate
Architects

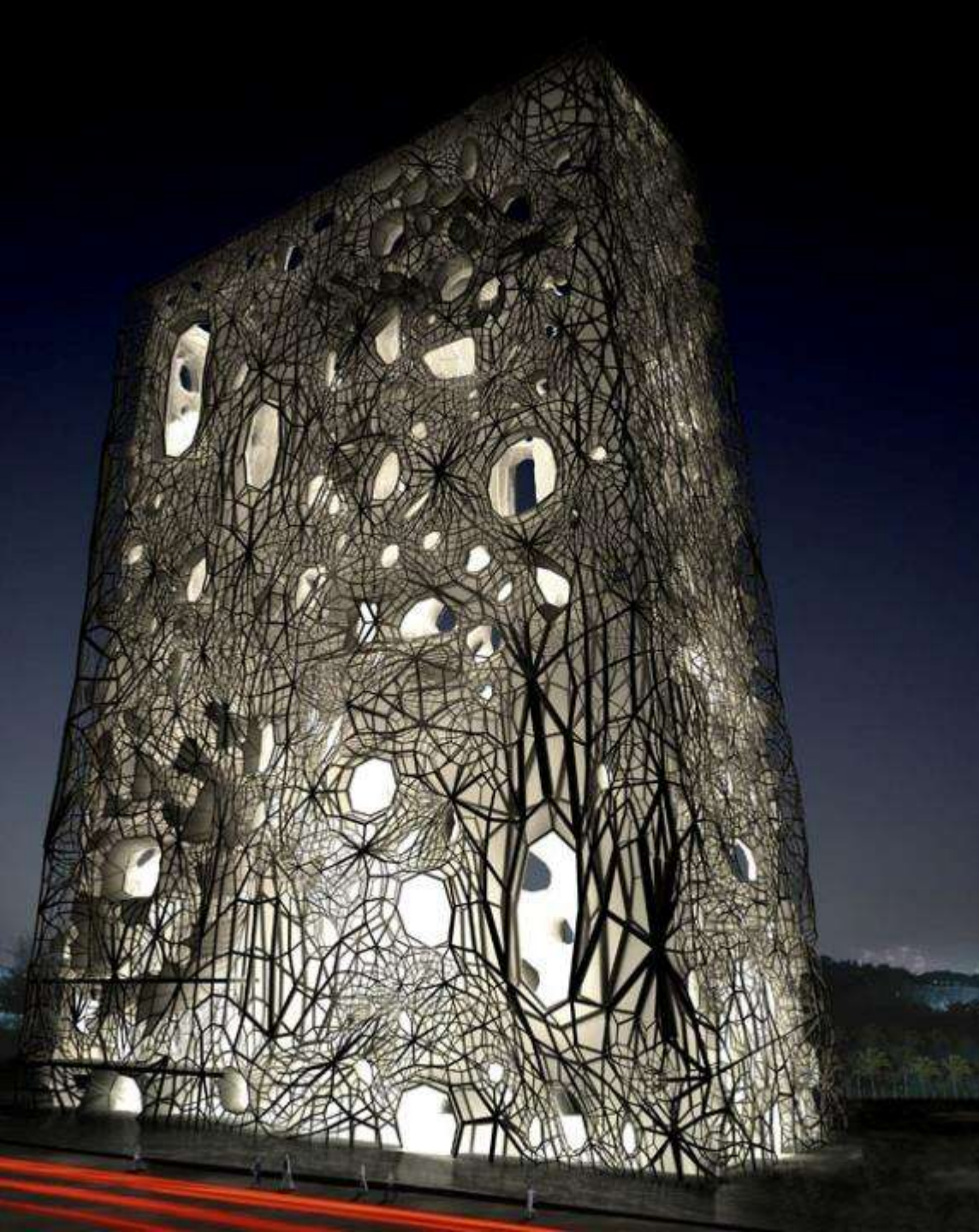


住宅 By Thom Faulders Architecture



Exterior building skin; originally covered by vegetation, interior views are shielded behind the skin
<http://www.wallpaper.com/architecture/airspace-tokyo/1778>

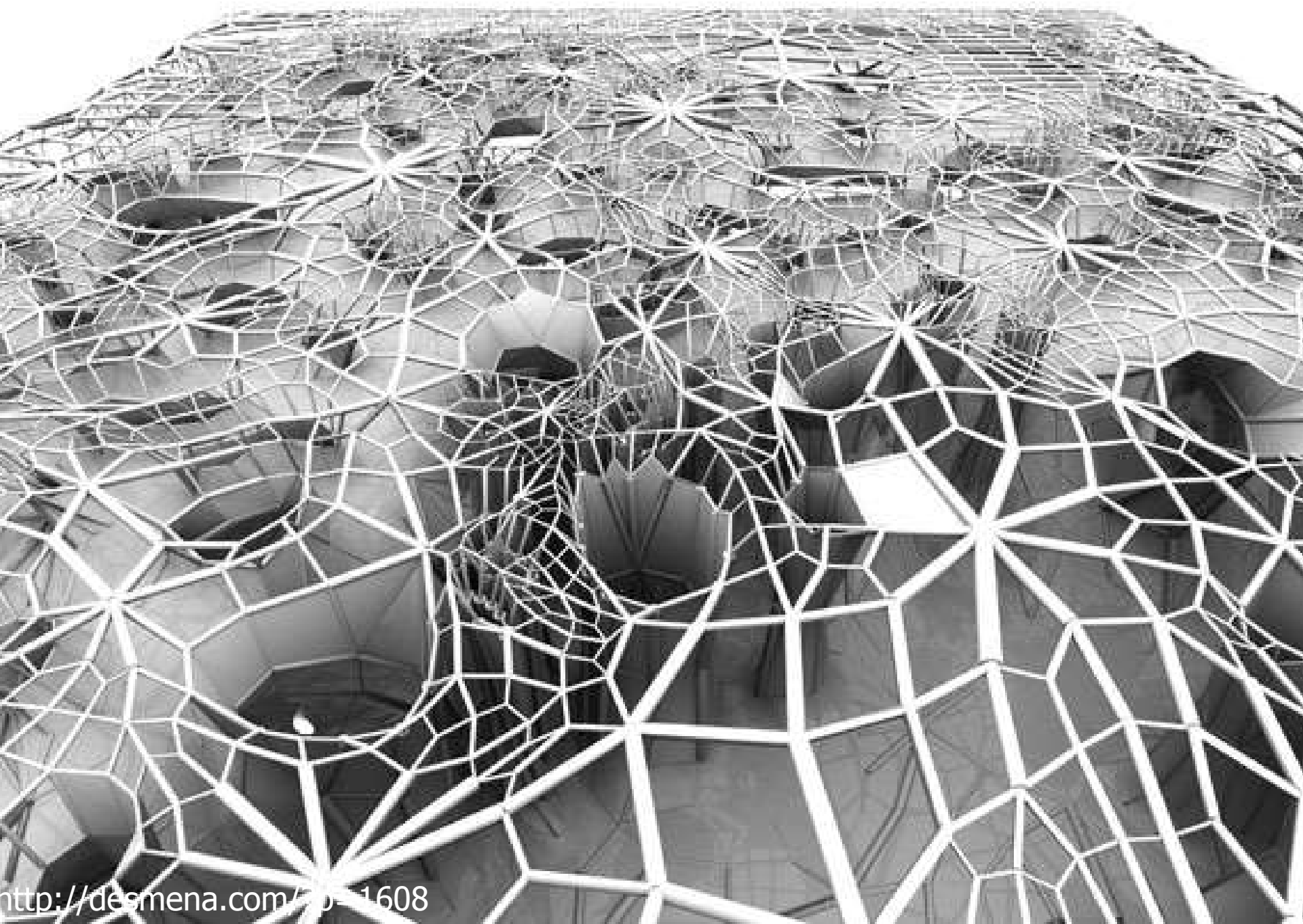
Peishan Chen, Hachinohe Tech.



Geotube, Dubai by Faulders Studio
(Californian Architect)

a proposal for a new 170 meter tall
sculptural tower with an exposed
membrane skin

<http://desmena.com/?p=1608>



Salt water storage tank directly under Cafe/View Deck floor plate

Salt water flows through vascular pipe distribution system via gravity feed

Vascular pipe system follows grid of structural lattice. Pipe nozzles mist water onto salt skin surface

Salt water supply pipes to storage tank above

Basement level salt water filtering and pumping station

17,000 gal open air salt water distillation pond

The building skin is entirely grown rather than constructed, is in continual formation rather than fully completed.

Salt crystals produce air saturated with healthy negative ions.

Floating photovoltaic panels power filtering, pumping, and general energy needs

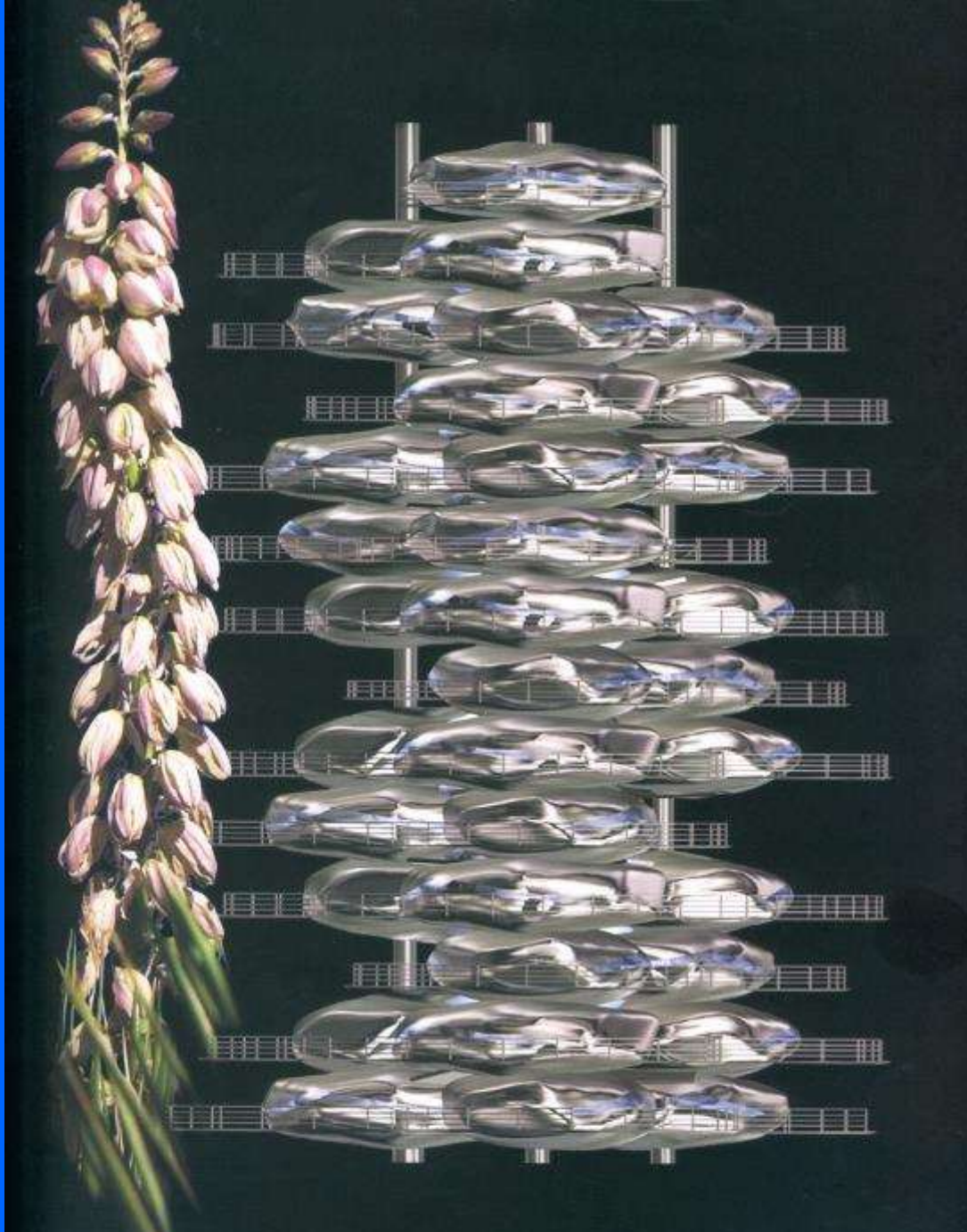
New underground viaduct to supply salt water from nearby Persian Gulf to the pond

GEOtube VASCULAR SYSTEM



By Thom Faulders Architecture

Peishan Chen, Hachinohe Tech.



Digitally Grown Botanic Tower

By: Dennis Dollens

Environmental information
such as solar orientation
and air-flow

Look like seed pod's
structure



Digitally Grown Botanic Tower

By: Dennis Dollens

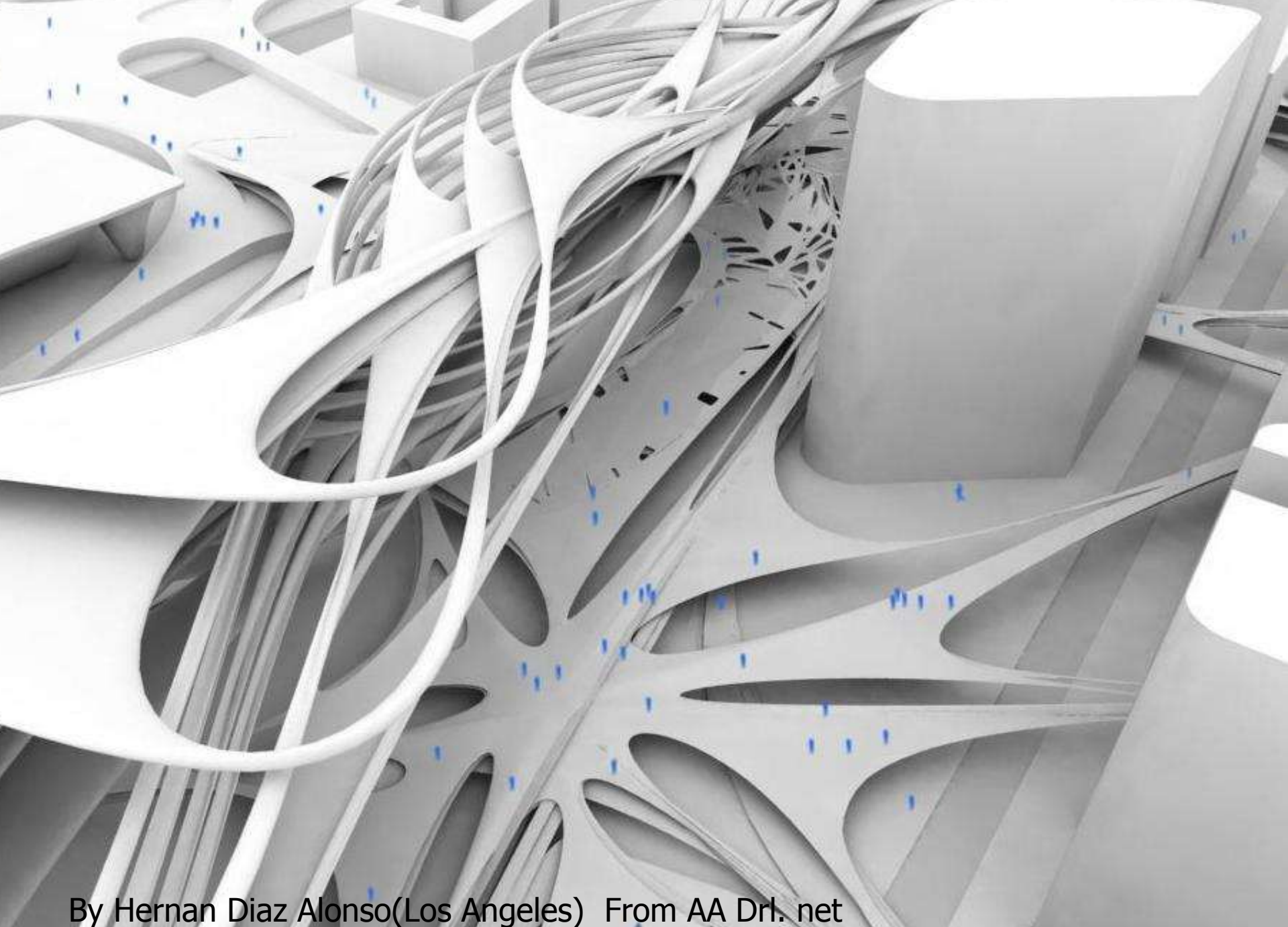


Digitally Grown
Botanic Tower For
Barcelona
By Dennis Dollens



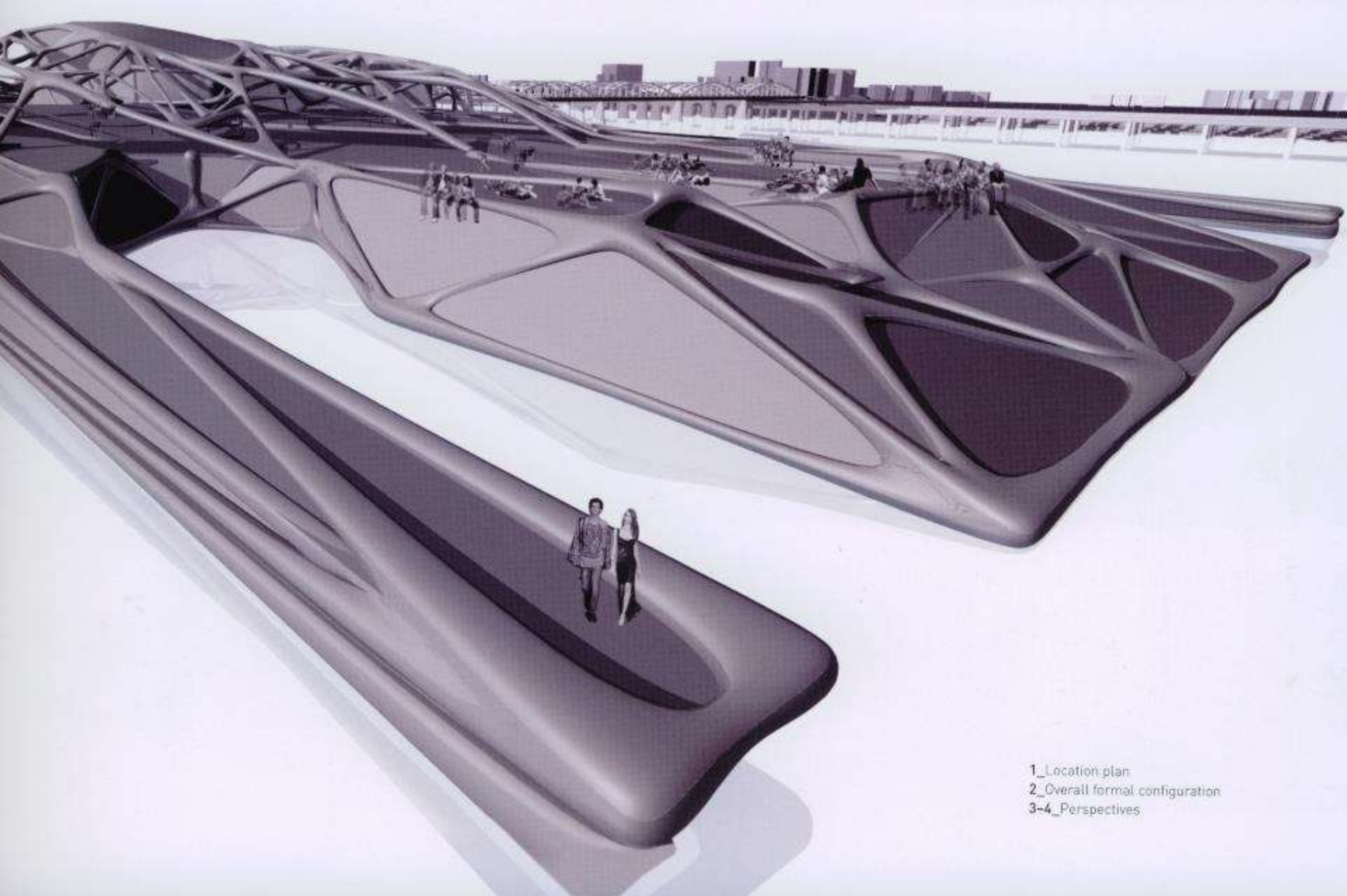
By Hernan Diaz Alonso(Los Angeles)

Peishan Chen, Hachinohe Tech.



By Hernan Diaz Alonso(Los Angeles) From AA Drl. net

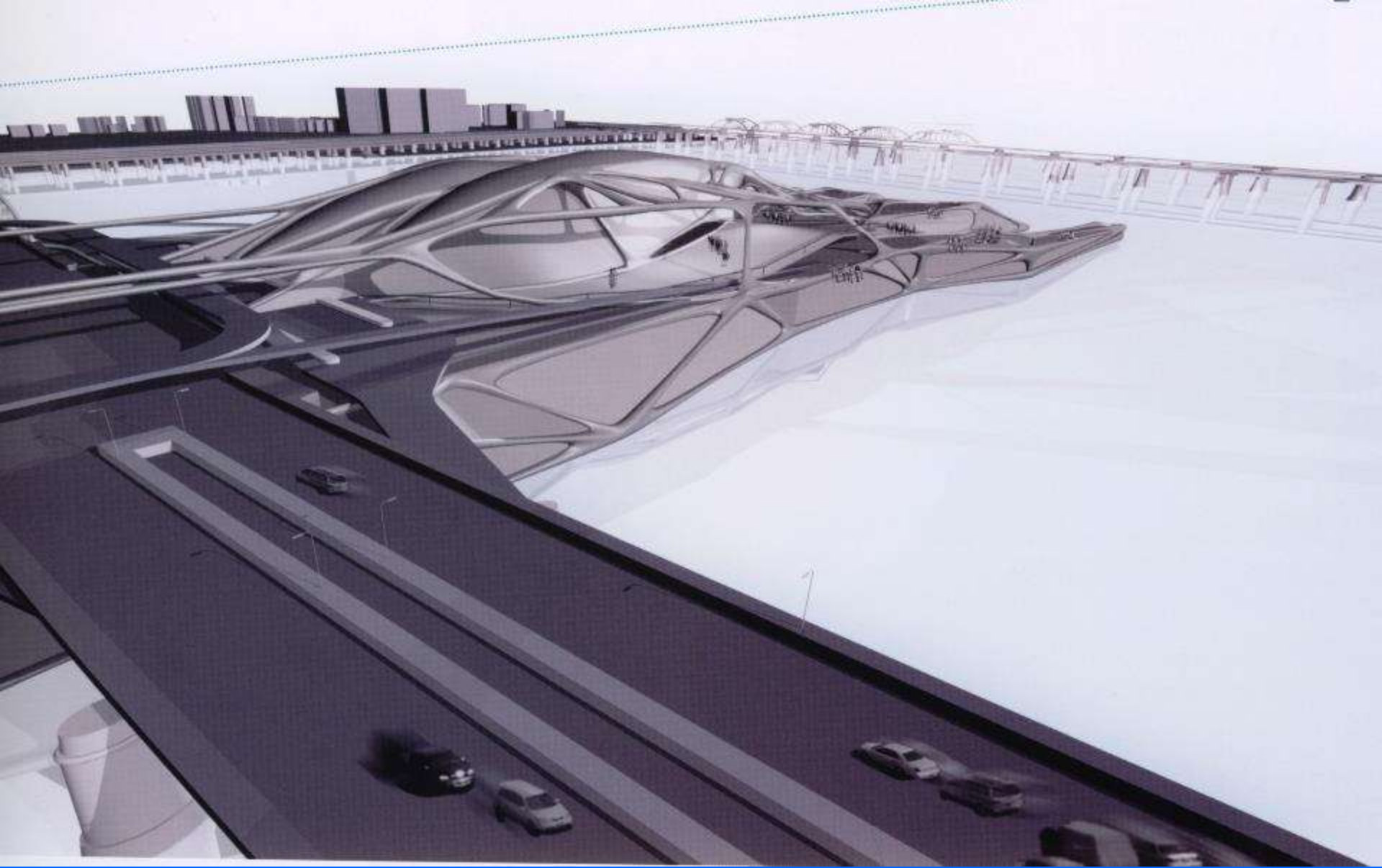
Peishan Chen, Hachinohe Tech.



1_Location plan
2_Overall formal configuration
3-4_Perspectives

Nodeul Island Performing Arts Centre (Seoul)
By P-A-T-T-E-R-N-S (Marcelo Spina Georgina Hulich) Using structural optimization

Peishan Chen, Hachinohe Tech.



Nodeul Island Performing Arts Centre (Seoul)
By P-A-T-T-E-R-N-S (Marcelo Spina Georgina Hulich)



Absolute World is a residential condominium twin tower skyscraper complex in the five tower Absolute City Centre development in Mississauga, Ontario.

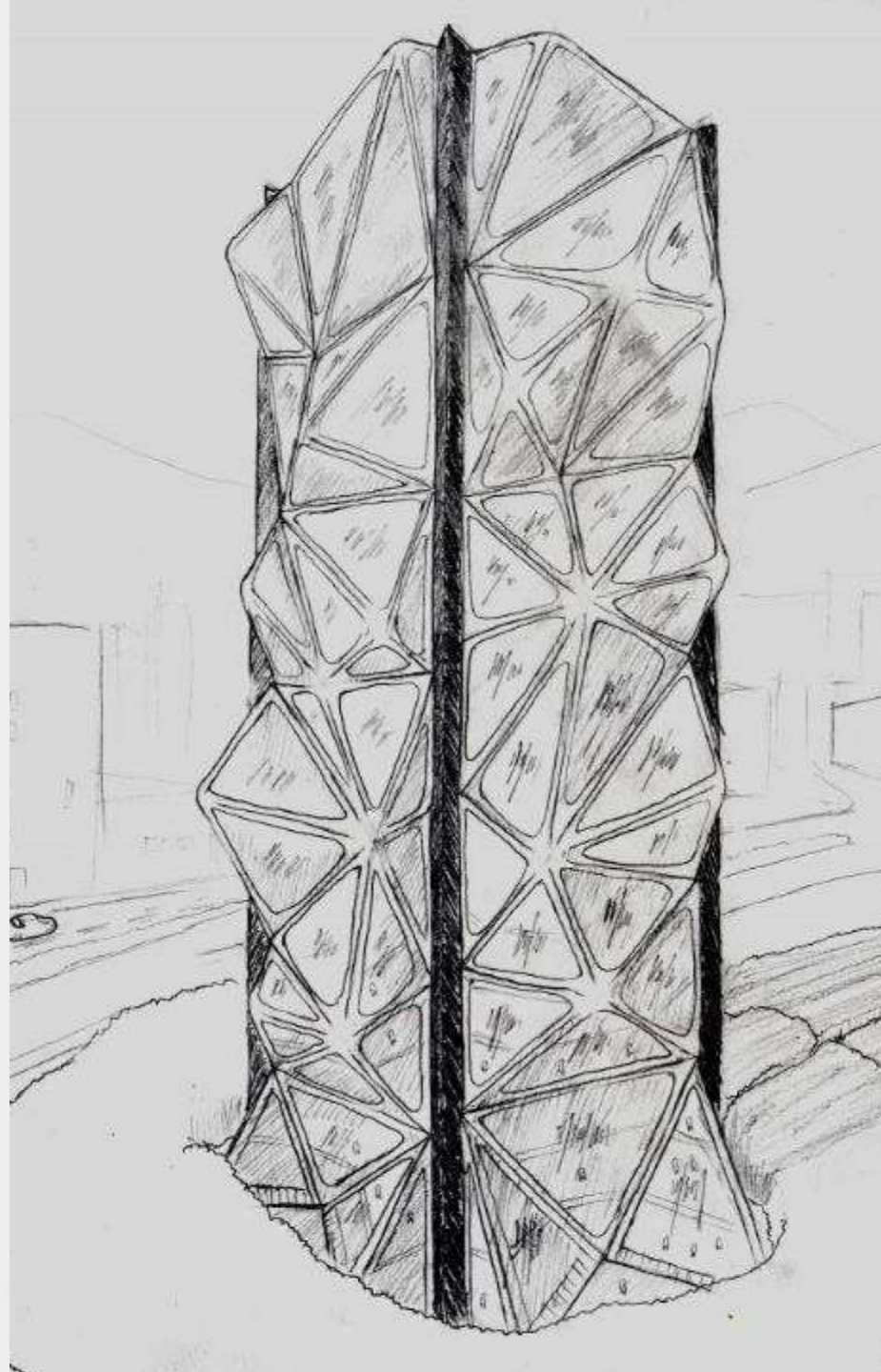
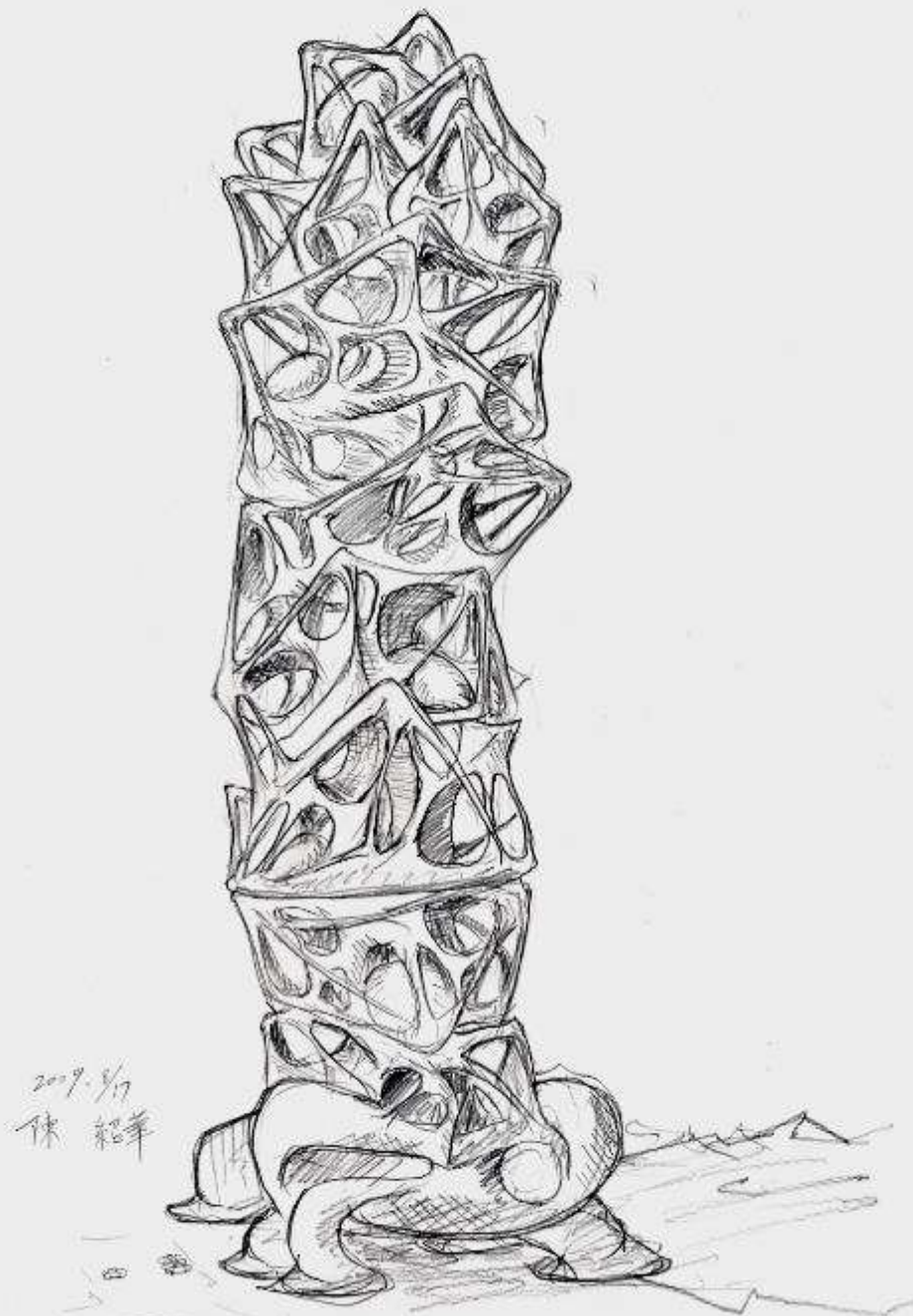
Standing at 50 and 56 storeys, these two skyscrapers will be the tallest of any built in a Canadian suburban city.

On March 28, at 10:30 am, Yansong Ma, founder of the MAD office, Beijing/China architectural design firm was announced the winner. The structural design is done by Sigmund Soudack & Associates





Urban Forest, Chongqing, China.
Image Credit:
<http://www.designboom.com>.
By MAD architects (Ma yansong)



まとめ

- Digital(コンピュータ技術, CG等)手法を駆使して, 自由なデザインを試みる
- 非線形的, Chaos現象を主張し, 伝統的秩序の崩壊
- 飾り付けではなく, 躯体の形態はデザイン対象になっている.
- 構造方法は課題である. 伝統的「合理性」が崩壊され, 「構造・生産の合理性」について新しい美学理念の検討が必要である.
- 居住性, 機能性とデザインの統合について新しい審美理念の検討が必要である.