

Pavilion

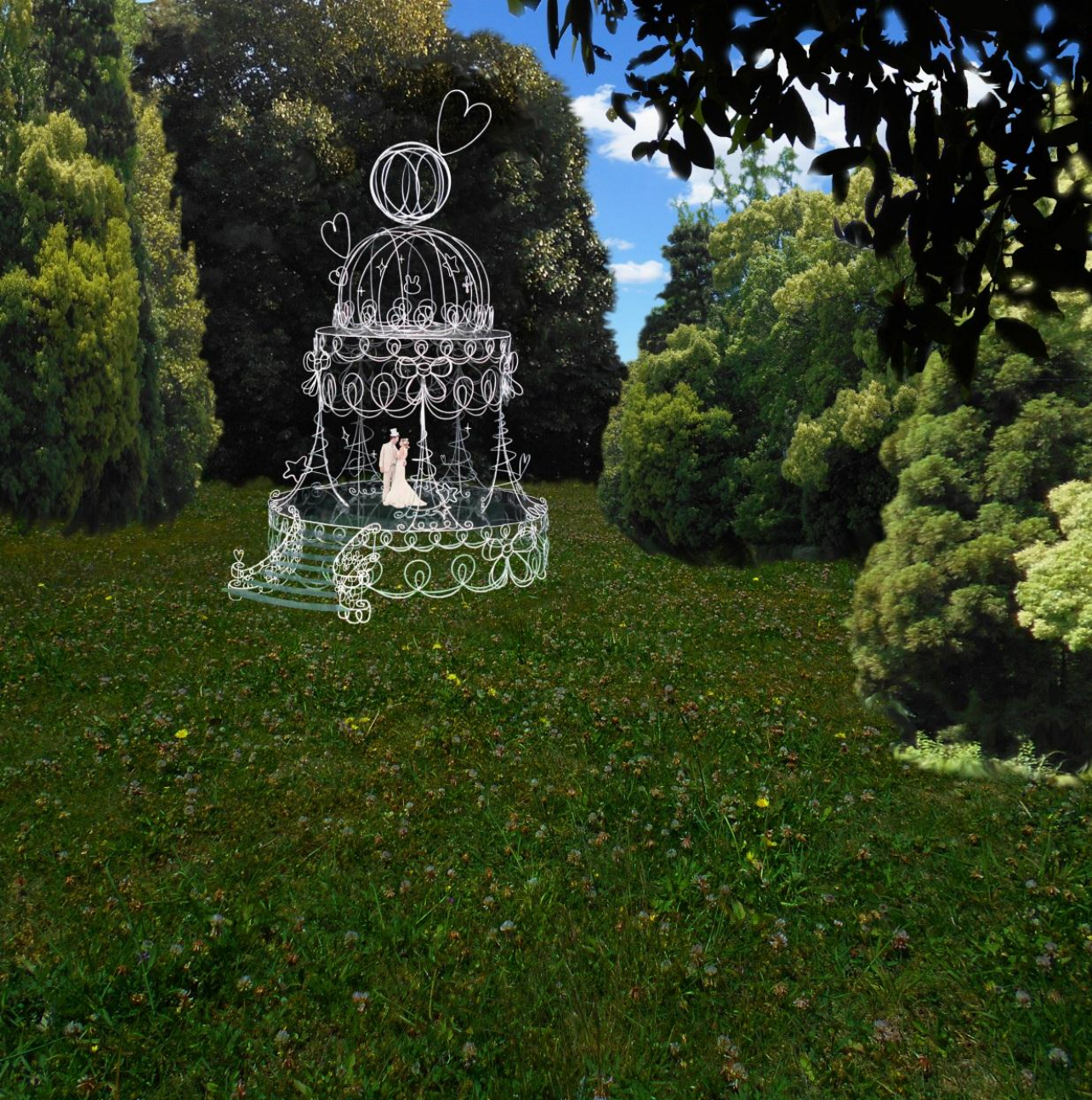
by Ben Ryuki Miyagi, architect, RA,NCARB

Design proposal for a wedding pavilion.
Schematic design, 2019 to 2020

結婚式のためのパビリオン 基本設計案 2019年から2020年

www.bma5.com





This is a prototype design for a pavilion. It can be used for wedding venues, or for any creative purposes by corporations or by individuals.

Basic design is based on classic, traditional images of a European pavilion from baroque era. The design also has some influences from contemporary art and popular culture such as Manga.

Design has the appearance of being entirely made only of very thin lines drawn in air, with no volume, no mass, no weight, no inside/outside distinction.

Line styles are deliberately designed to appear as if hand drawn in thin air.



Type 1



Type 2



Type 3



Type 4

これは結婚式のためのパビリオンのデザイン提案でございます。主にヨーロッパのバロック様式建築のパビリオンのイメージを原型として現代風に設計しております。現代アートや少女漫画などからも影響を受けてます。

床や天上はガラス。残りすべては非常に細い軽い金属の線のみで出来ています。

もちろん、結婚式以外でも、個人や企業で、あらゆる用途でこのパビリオンはお使いいただけるのではと思っております。

Thin Metal Wire

Glass Ceiling

Thin Metal Wire

Glass Floor

Glass Stair



Glass Ceiling

Apple Store, 5th avenue NYC

Design by
Bohlin Cywinski Jackson
Architecture



Thin Metal Wire

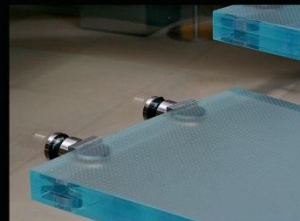
Image downloaded from
Pinterest, from Gazebo Kings

Photographer, designer
not known



Glass Floor

Apple Store, 5th avenue NYC



Glass Stair

Apple Store, 5th avenue NYC

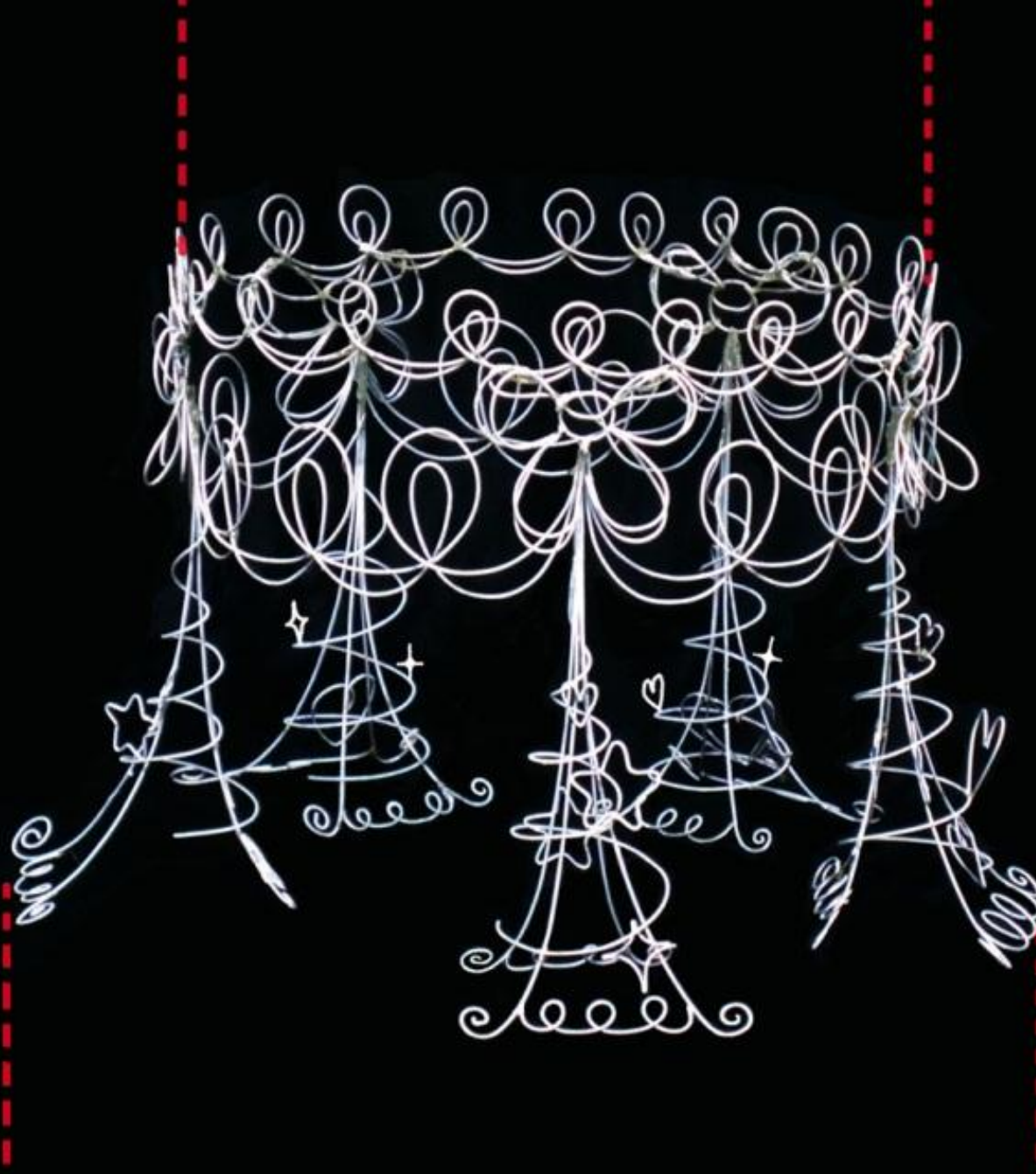
Photo downloaded from
Facadeworld.com
Article by alamir moshen
rchitecture.wordpress.com

Design is made of glass ceiling and glass floor, glass stair, and very thin lines of metal. Metal lines can be either a bent metal tube, rod, or wire, or they can be laser-cut from metal planes and bent as singly curved planes.

今日の技術では十分にガラスの天井、ガラスの床、ガラスの階段で建設が可能です。

細い金属を加工する技術も一般的によく見られる建設方法で可能です。





Main pavilion

Ring of curly lines supported by 5 columns.

Ribbons at the top of each columns connect the entire structure.

Symbols of stars and hearts float all over the pavilion.

パビリオン本体

5つの柱が円状の構造を支えています。

柱の上部にあるリボンの形をしたデザインは円状構造の上部と下部をつないでます。



Type 1

This is the simplest version. It has concrete base and no glass ceiling.

Of course, if preferred, glass ceiling can be added to this scheme.

タイプ 1

これは最もシンプルなタイプです。

コンクリートの床はメルヘンな色彩で仕上げられてます。ガラスの天井はなく、空洞となります。



















Type 2

Instead of concrete deck, this version has the glass floor, elevated slightly above the ground level.

It has glass ceiling, and on top of it sits a crown-line ornament with many hearts.

タイプ 2

これはガラスの床が地面より少し上にある案です。ガラスの天井もあり、その上にクラウンのような装飾がのっかっています。クラウンにはハートがいくつか付けられてます。













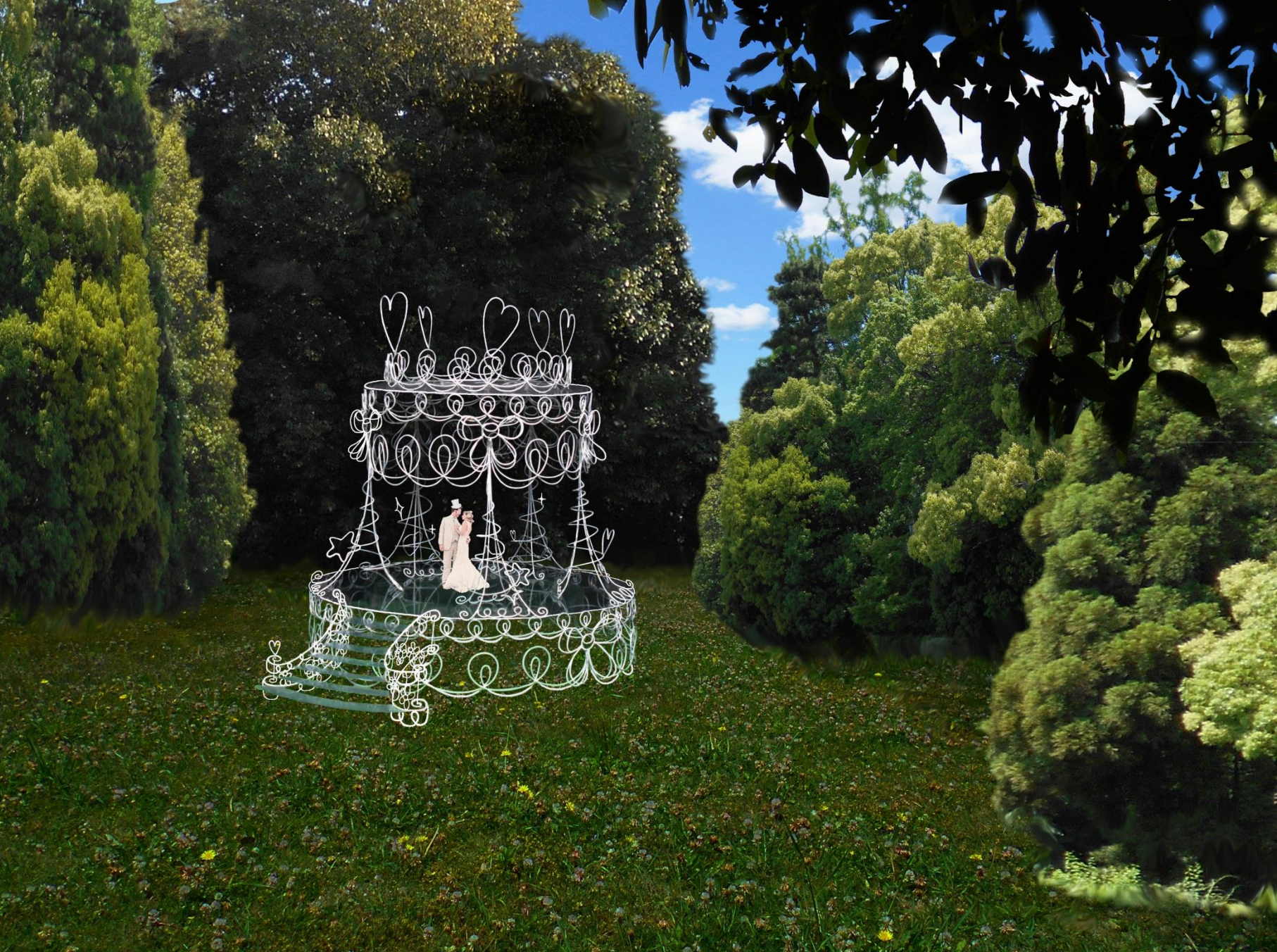
Type 3

This version has the glass floor elevated higher, with a special ceremonial glass stair.

As in Type 2, it has glass ceiling with a crown-like ornament with many hearts.

タイプ 3

これはタイプ2の床を大きくした案です。ガラスの階段を上るのはドラマチックな演出になるのではと思います。

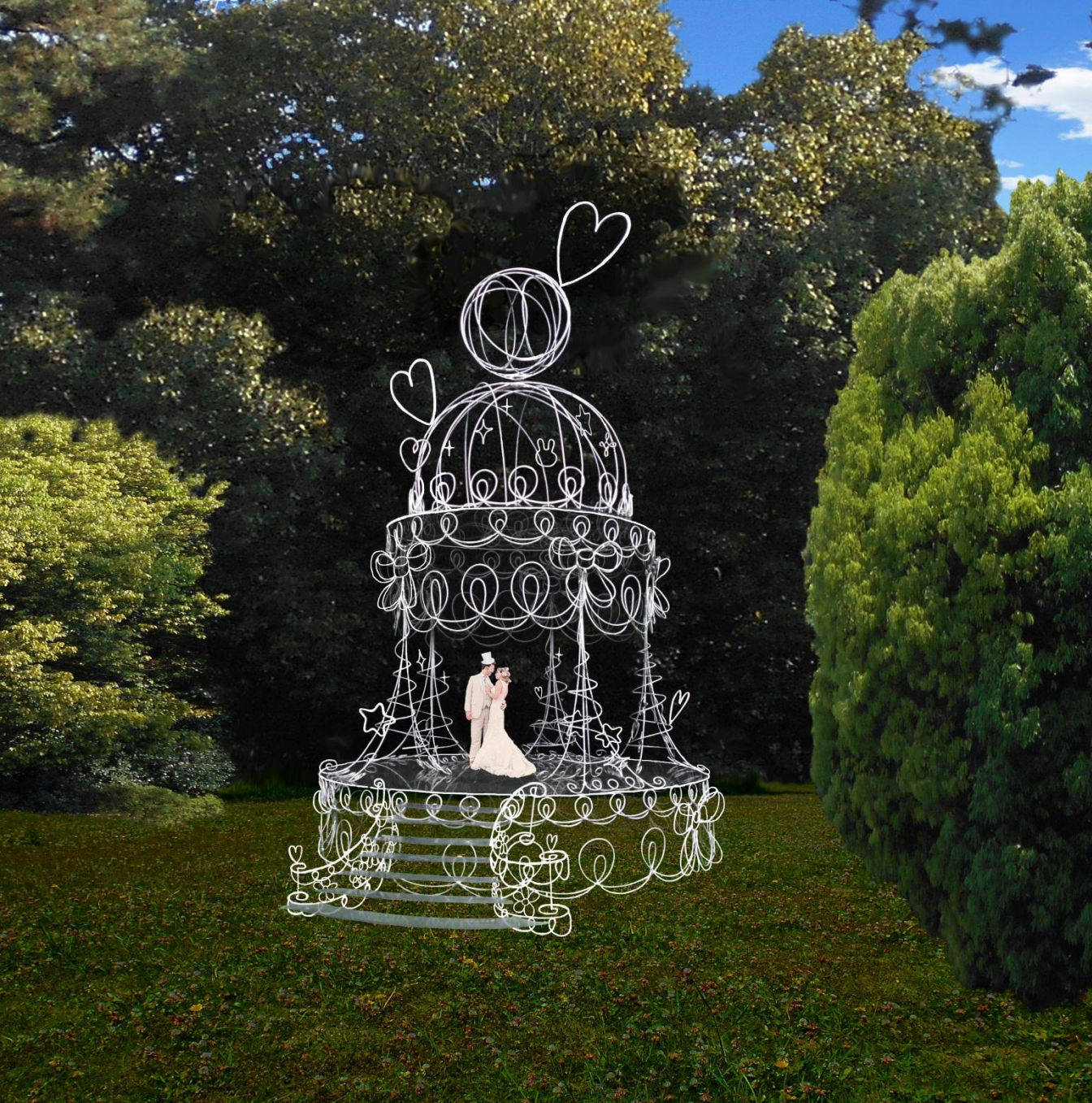












Type 4

This is the most grand of all schemes presented here. On top of the glass ceiling, there is a crown-like ornament, a large dome and a smaller dome, with floating decorations of hearts, stars and other logo-like images of choice requested by the client.

タイプ 4

これは最も大きい案で、ガラスの天井の上に2つのドームがのっかってます。いたるところにハートや星のイメージが散りまわってます。新郎新婦、そして御社ご希望のロゴやイメージなどを付けることも対応可能です。







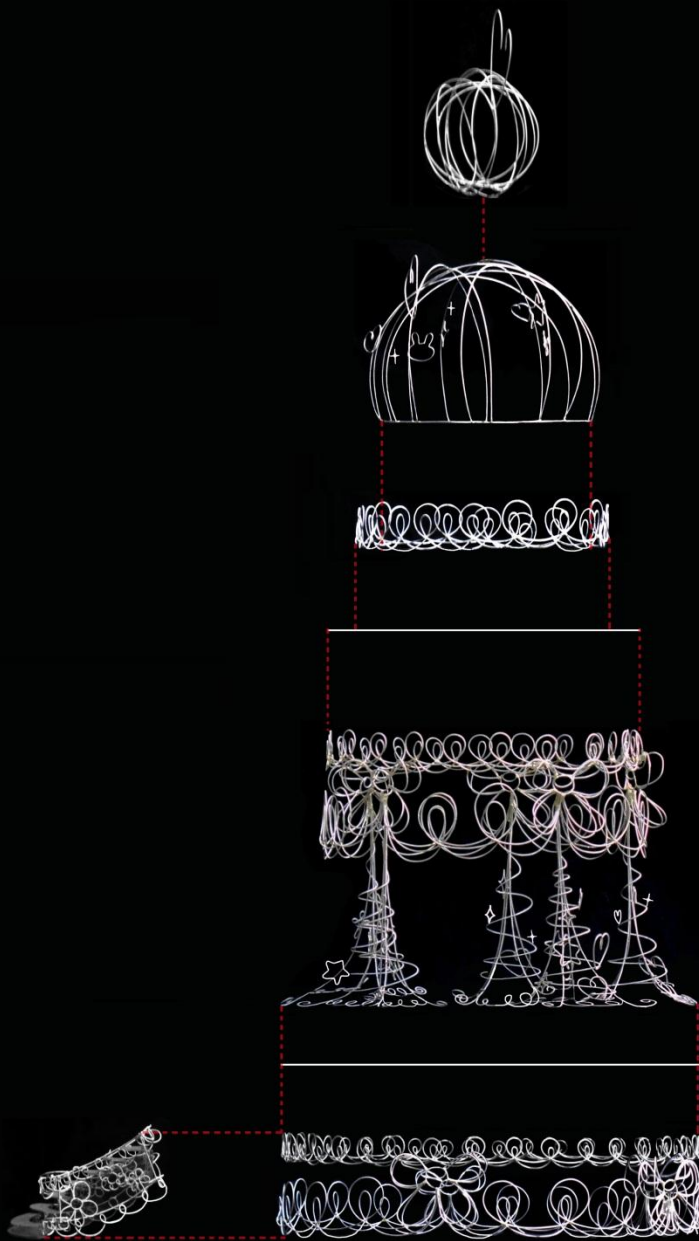


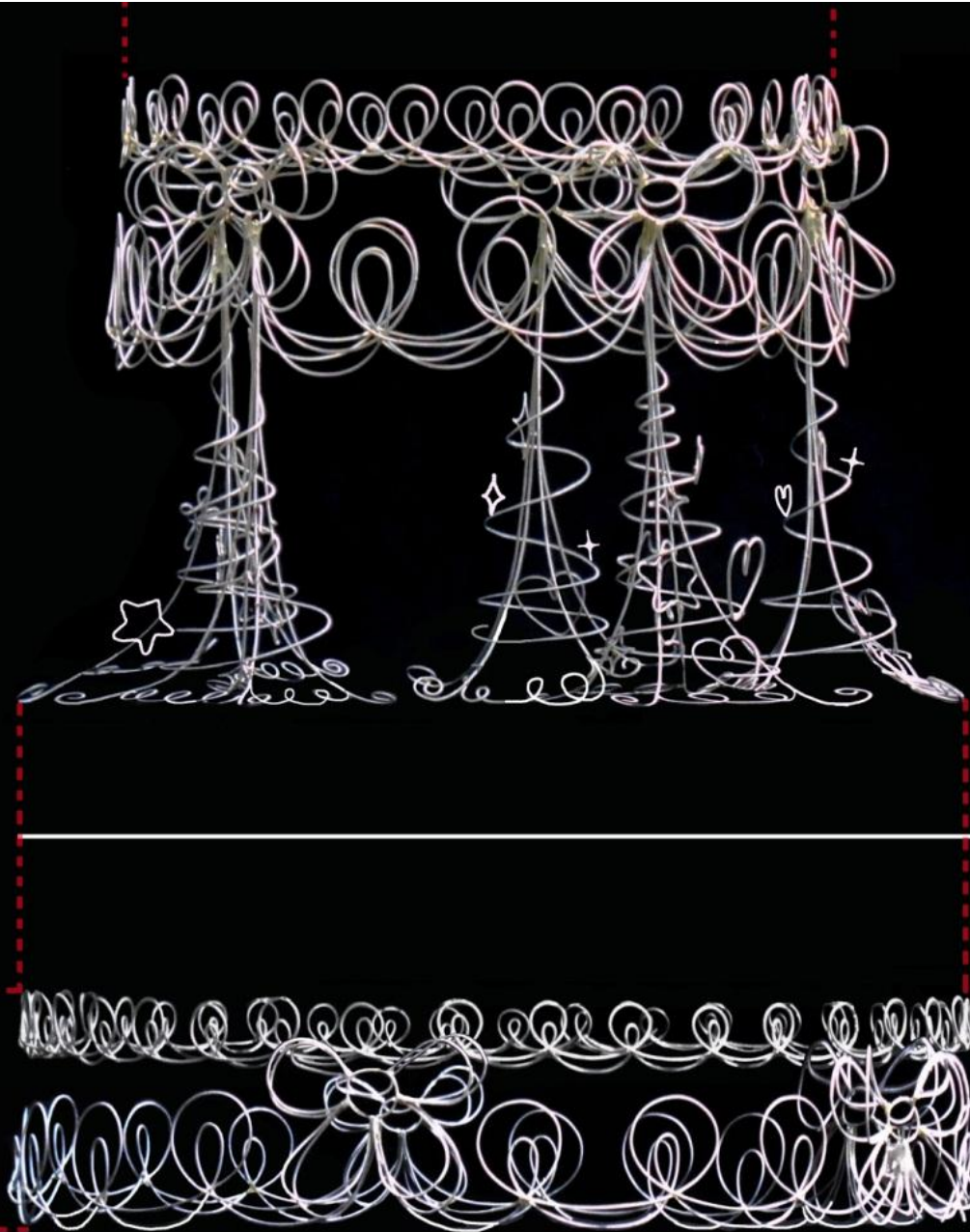


Elevation

Each elements shown
independently

横から見た模型の各
部分





Budget

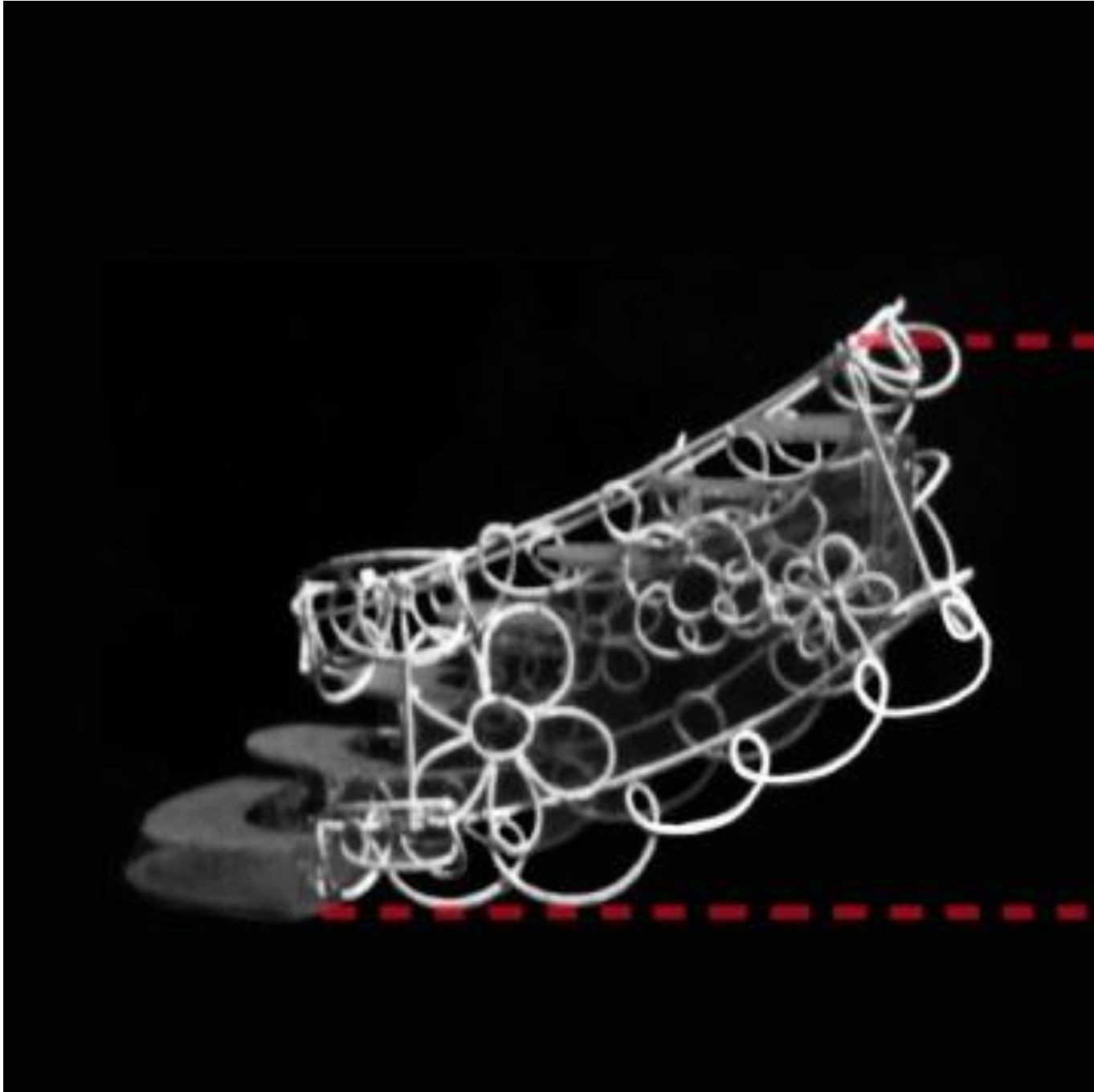
For a budget similar to the cost most pavilions are made, these lines can be made by metal, using conventional construction techniques.

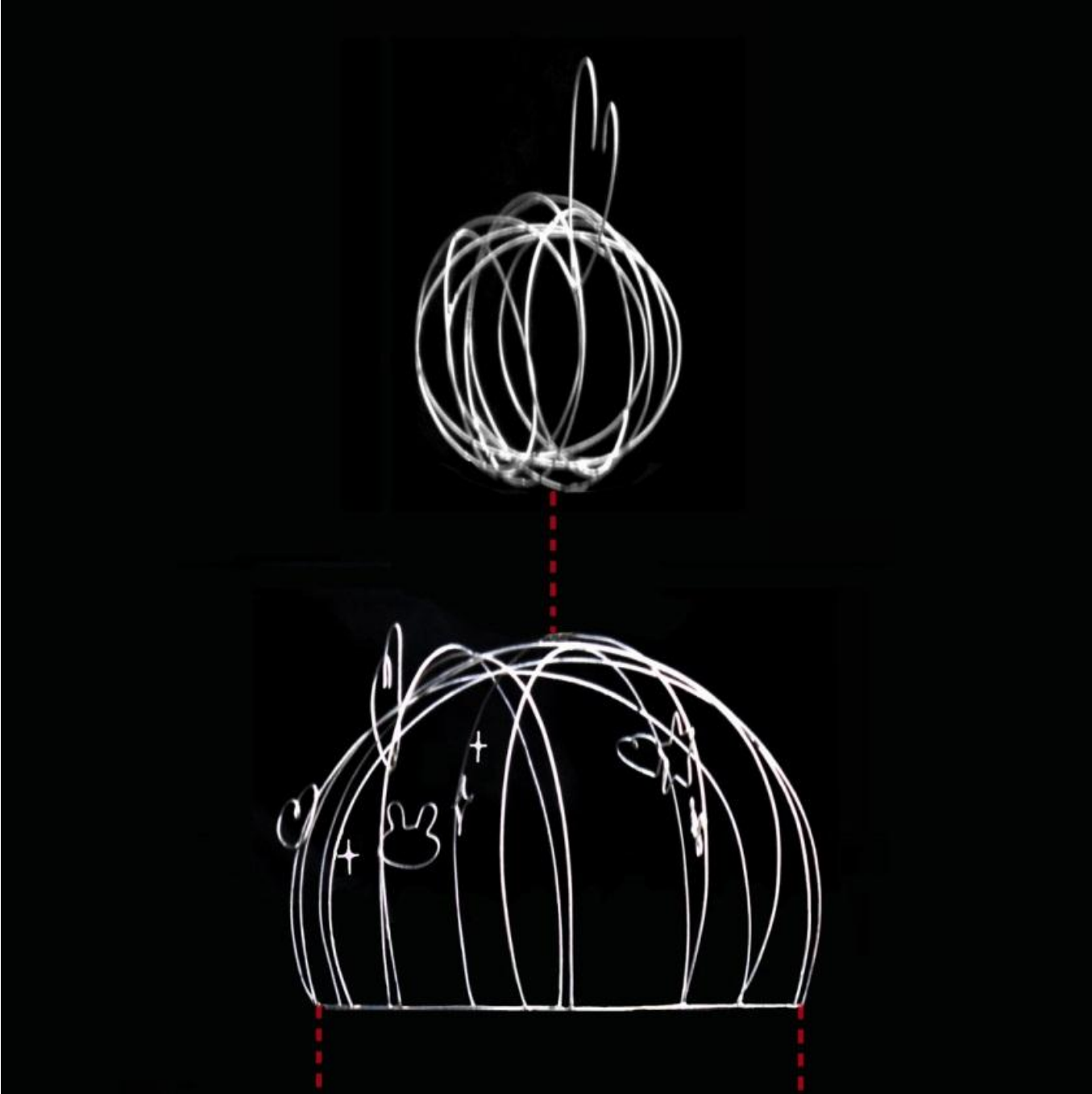
For a higher budgets, these lines can become transparent, translucent, or colored translucent, made of structural glass, fiberglass, or high strength plastic.

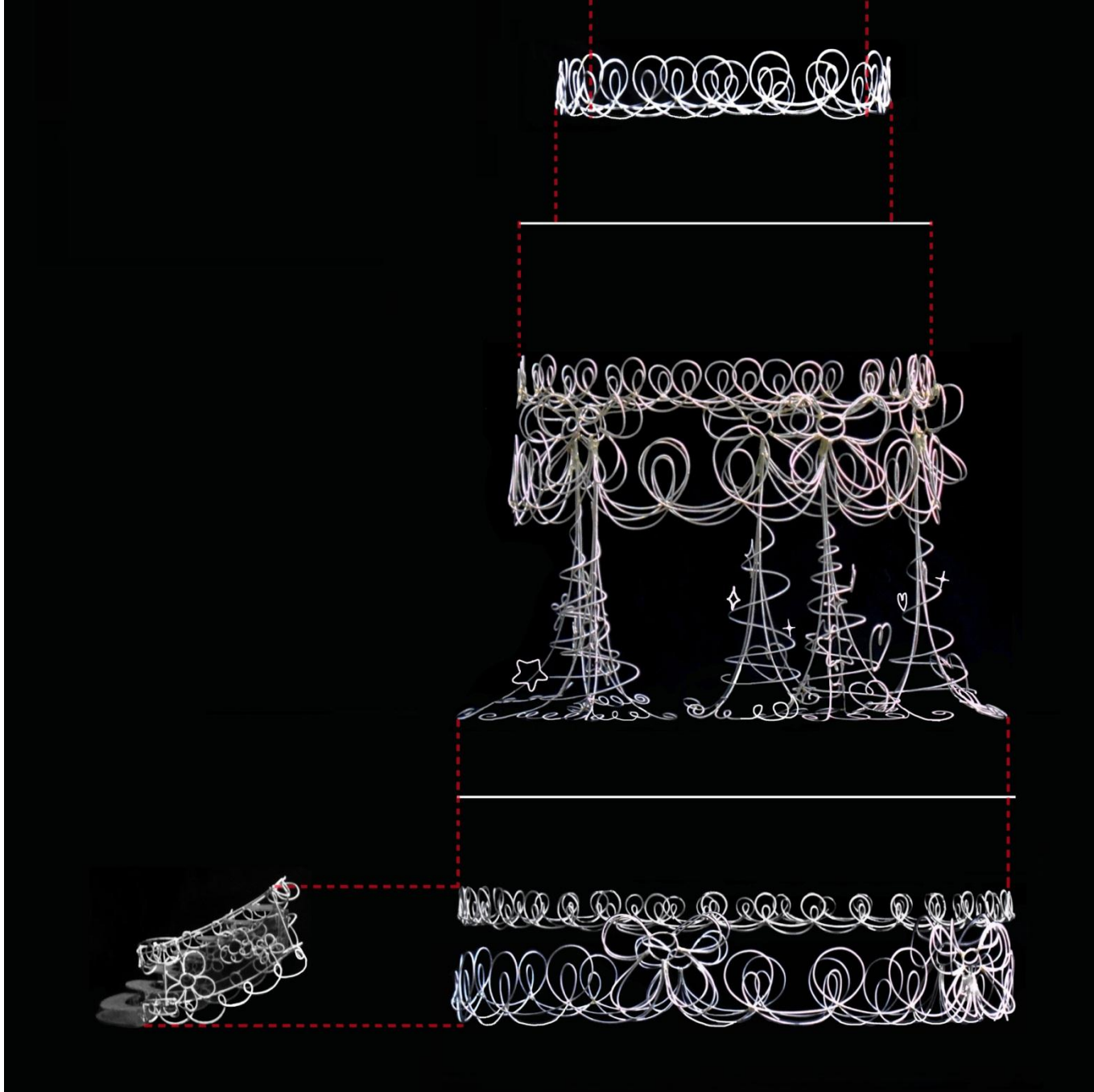
予算

これらの細い曲線は金属なら一般的な予算で加工できます。

さらに革新的、意欲的な素材をご希望であれば、金属のかわりに、透明なファイバー、構造的プラスチックなども可能ですが予算は高くなります。





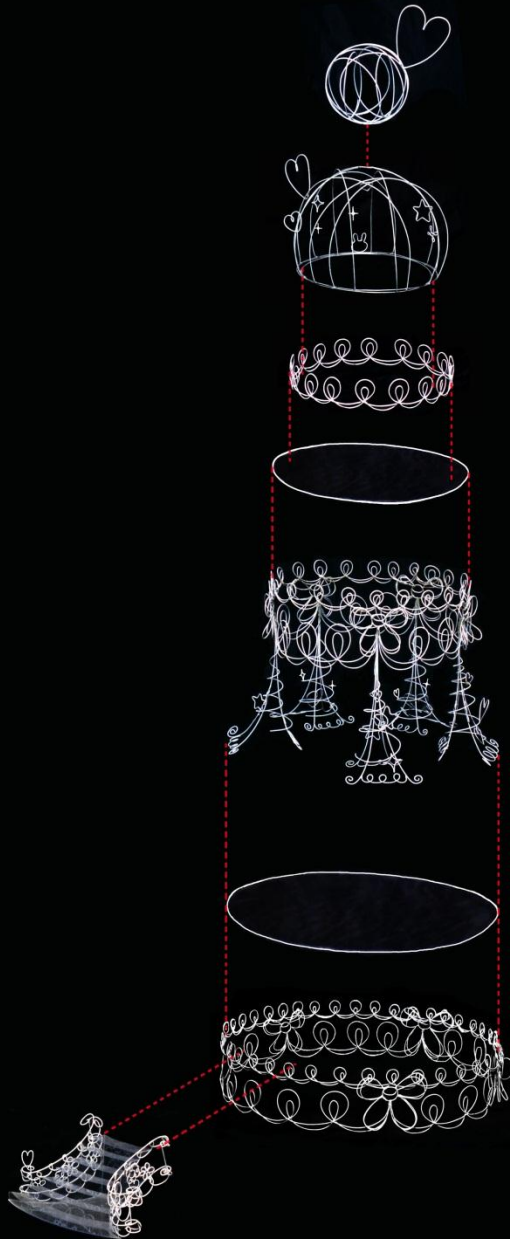


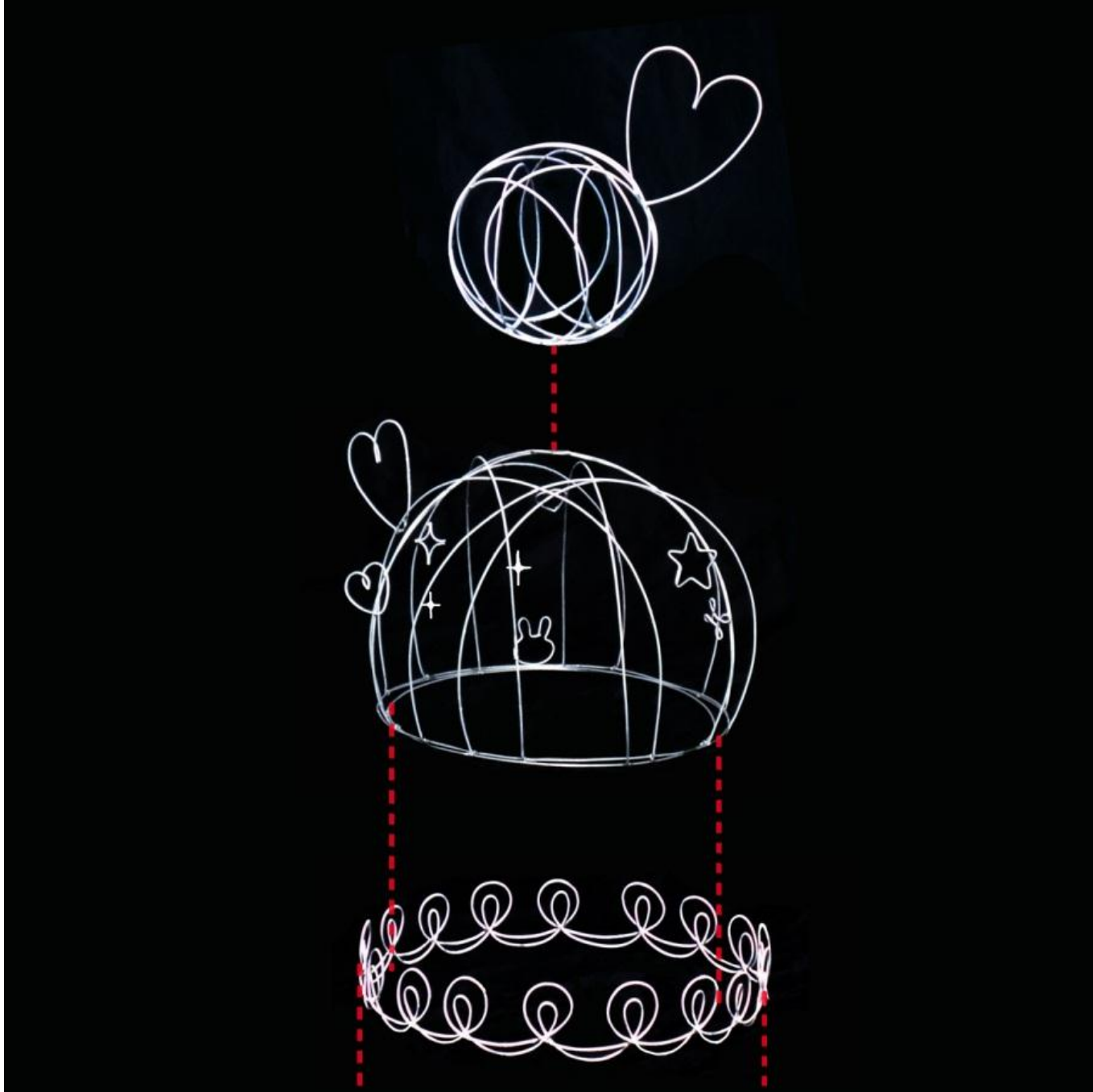
Model

Each components

模型

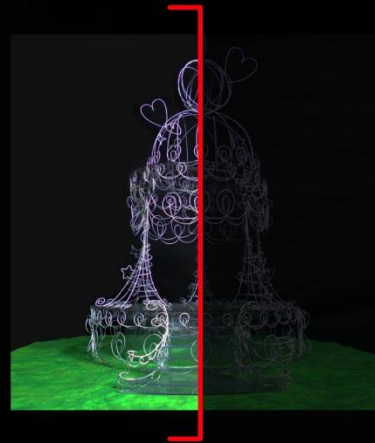
各部分











Section cut at middle

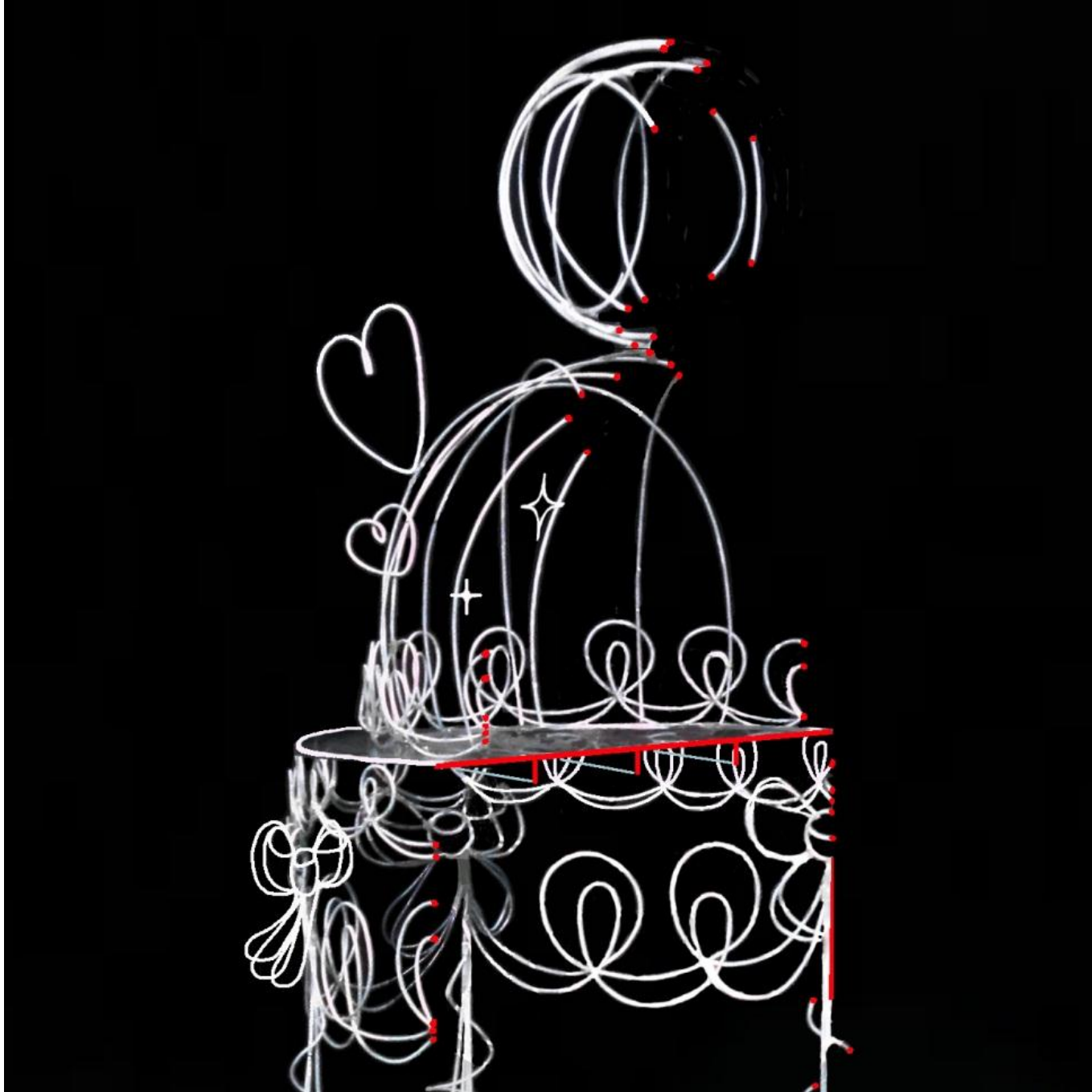
As suggested here in this schematic level design proposal, glass ceiling, glass stair and glass floor can be constructed for this pavilion.

Joists (indicated by repetitive vertical lines in red at roof and floor) can also be made entirely of structural glass. Fasteners connecting glass pieces will be metal.

断面

ガラスの床と天井はガラスのジョイストによって支えられることになります。

ガラス以外は全て細い線のみで出来ているため非常に軽量の構造となります。

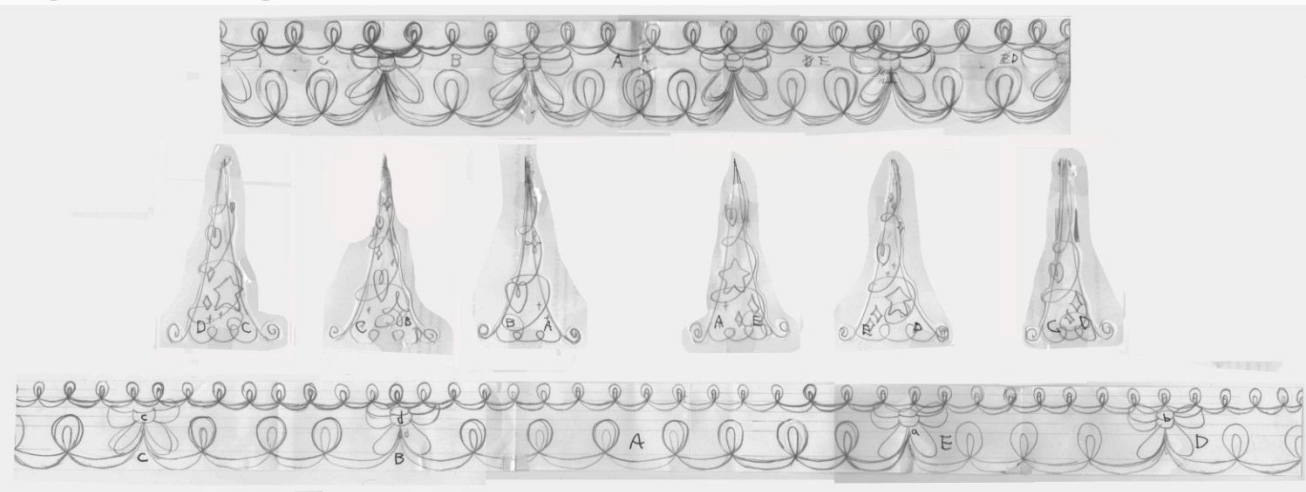








Original Drawing

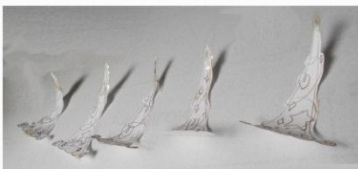


The design model was made based on drawn images on paper.

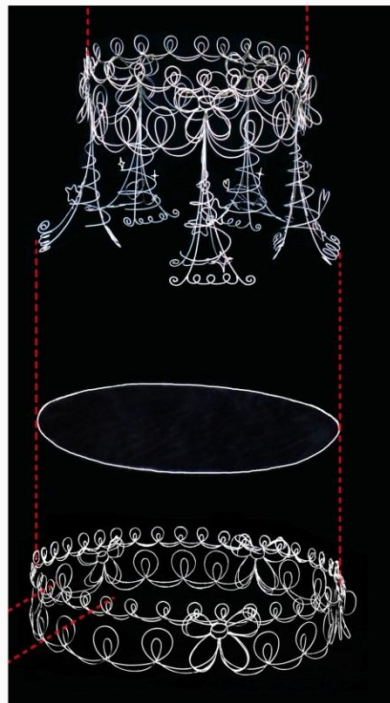
Thin metal wire was bent and glued together directly over lines drawn on this paper.

While metals are thin, sheer densities of their curling effects create structural stability.

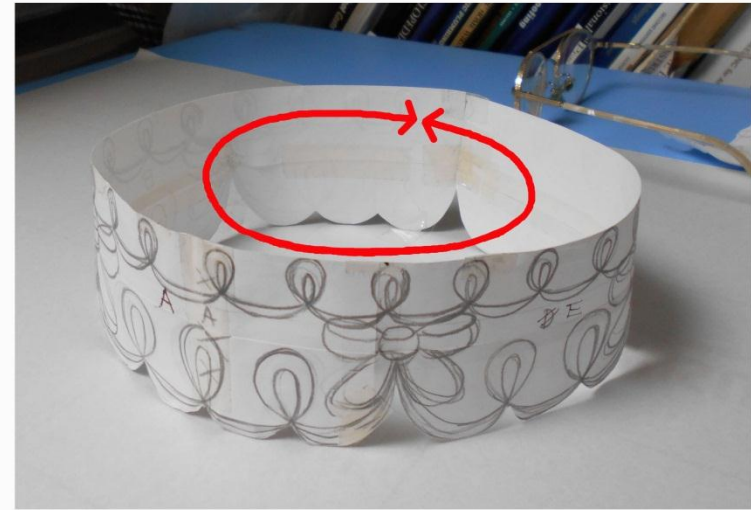
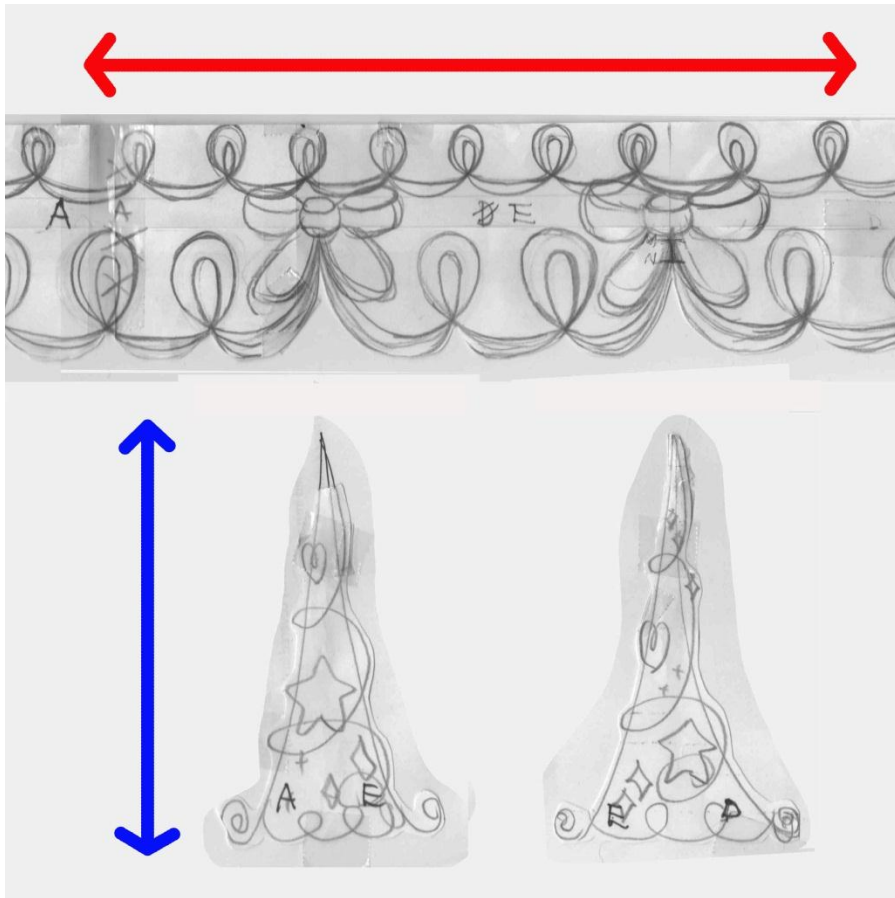
Drawing bent



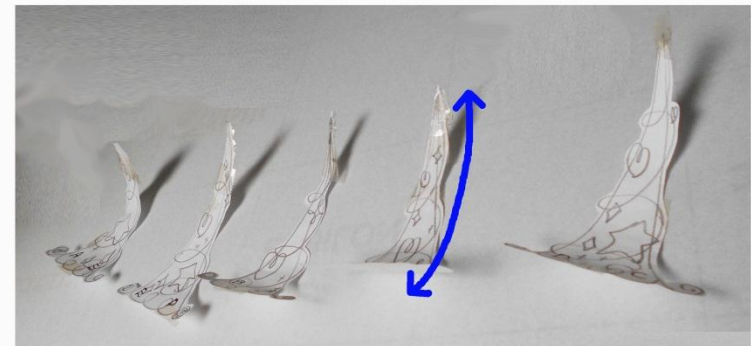
Wire model



細い針金が紙の上に描かれた線にそって曲げられることによってこの模型は作られています。実際に構造的に十分な強度になるように、くねくねした線が二重に重なっております。



Ring
Paper
Singly Curved



Column
Paper
Singly Curved

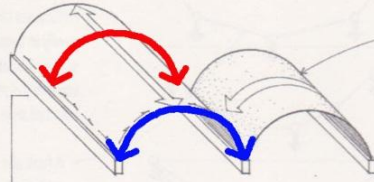
While the design of this pavilion may seem at first very complex, it was intentionally designed to be made with most of its components from a wire framed plane that is singly curved. Singly curved planes are bent in only one direction, as opposed to doubly curved planes such as domes. This will make the construction very simple and cost effective.

このパビリオンの殆どの部分は細い金網の平面を一方向に曲げたもので出来ております。これは平面を二方向に曲げたものよりはるかにシンプルで、建設費用、建設期間を最小限に抑えられることを目的としてデザインされております。

Shells are thin, curved plate structures constructed of reinforced concrete. They are shaped to transmit applied forces by membrane stresses – the compressive, tensile, and shear stresses acting in the plane of their surfaces. A shell can sustain relatively large forces if uniformly applied. Because of its thinness, however, a shell has little bending resistance and is unsuitable for concentrated loads.

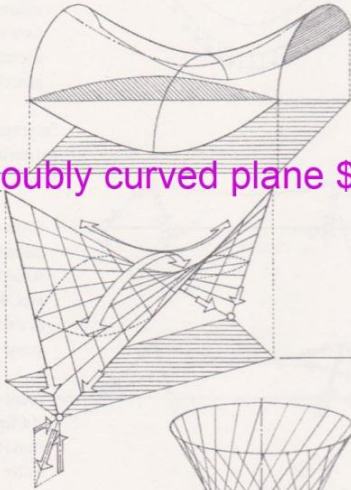
- Translational surfaces are generated by sliding a plane curve along a straight line or over another plane curve.

Singly curved plane \$



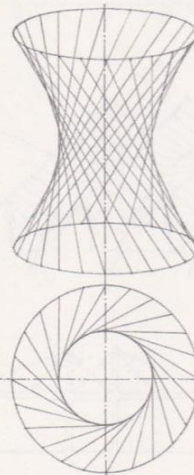
Barrel shells are cylindrical shell structures. If the length of a barrel shell is three or more times its transverse span, it behaves as a deep beam with a curved section spanning in the longitudinal direction. If it is relatively short, it exhibits archlike action. Tie rods or transverse rigid frames are required to counteract the outward thrusts of the arching action.

Doubly curved plane \$\$\$



A hyperbolic paraboloid is a surface generated by sliding a parabola with downward curvature along a parabola with upward curvature, or by sliding a straight line segment with its ends on two skew lines. It can be considered to be both a translational and a ruled surface.

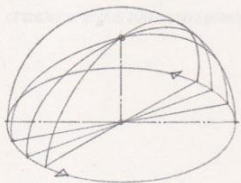
- Saddle surfaces have an upward curvature in one direction and a downward curvature in the perpendicular direction. In a saddle-surfaced shell structure, regions of downward curvature exhibit archlike action, while regions of upward curvature behave as a cable structure. If the edges of the surface are not supported, beam behavior may also be present.



A one-sheet hyperboloid is a ruled surface generated by sliding an inclined line segment on two horizontal circles. Its vertical sections are hyperbolas.

- Ruled surfaces are generated by the motion of a straight line. Because of its straight-line geometry, a ruled surface is generally easier to form and construct than a rotational or translational surface.

Doubly curved plane \$\$\$



- Rotational surfaces are generated by rotating a plane curve about an axis. Spherical, elliptical, and parabolic dome surfaces are examples of rotational surfaces.

Doubly curved plane \$\$\$

Example of “Singly curved plane”

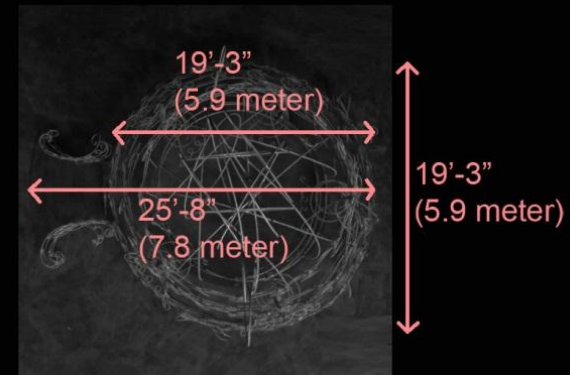
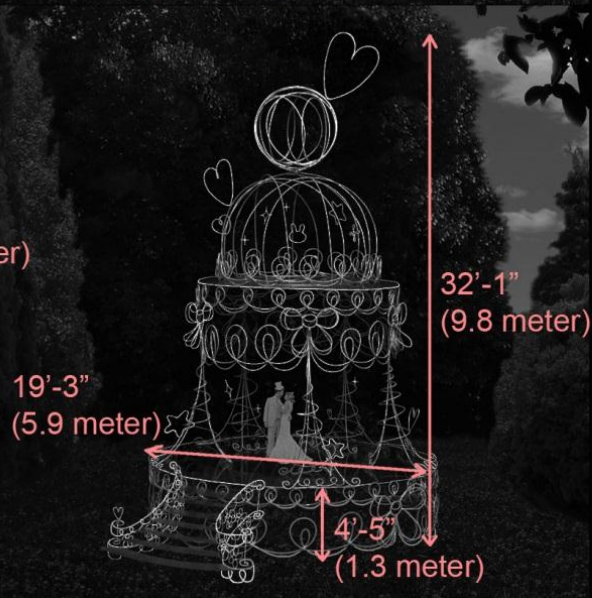
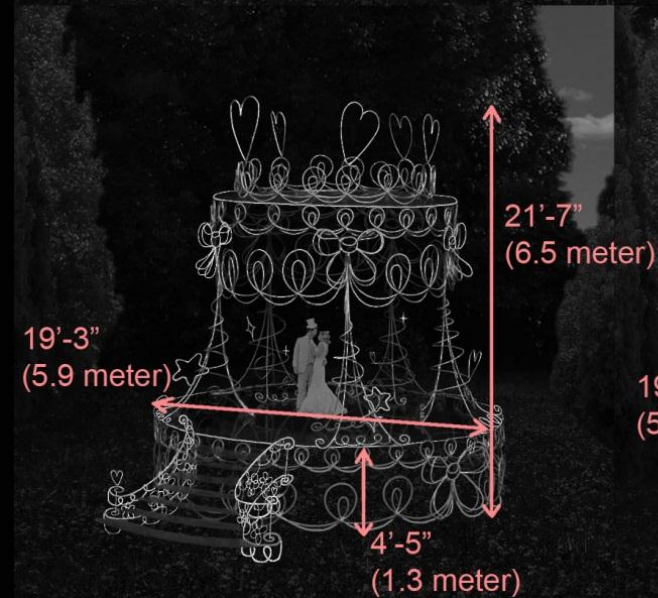
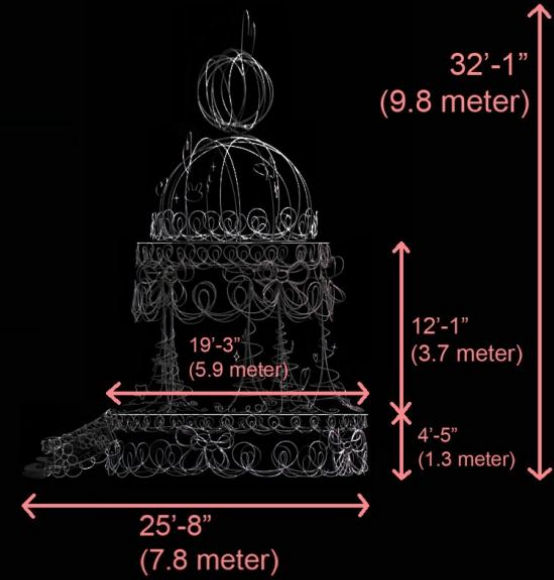
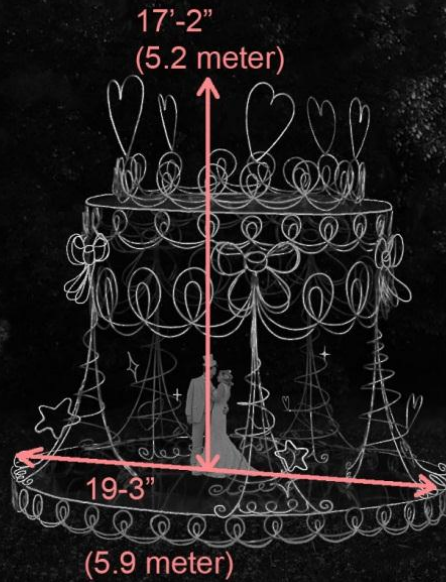
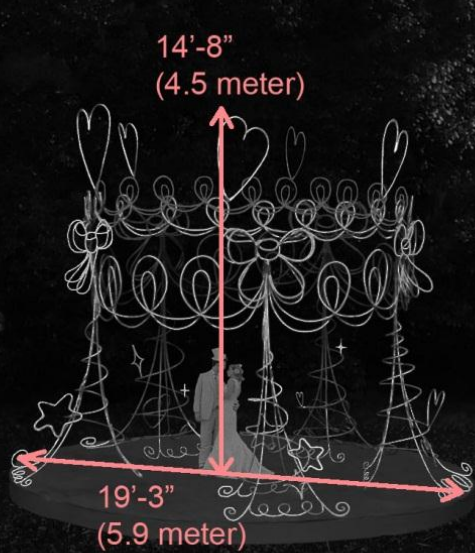
(as opposed to Doubly curved plane)

平面を1方向のみに曲げた例

2方向に曲がった面よりはるかに簡単に設計、施工できます

from Building Construction Illustrated,
by Francis D.K. Ching

Dimensions 寸法



Influences for design

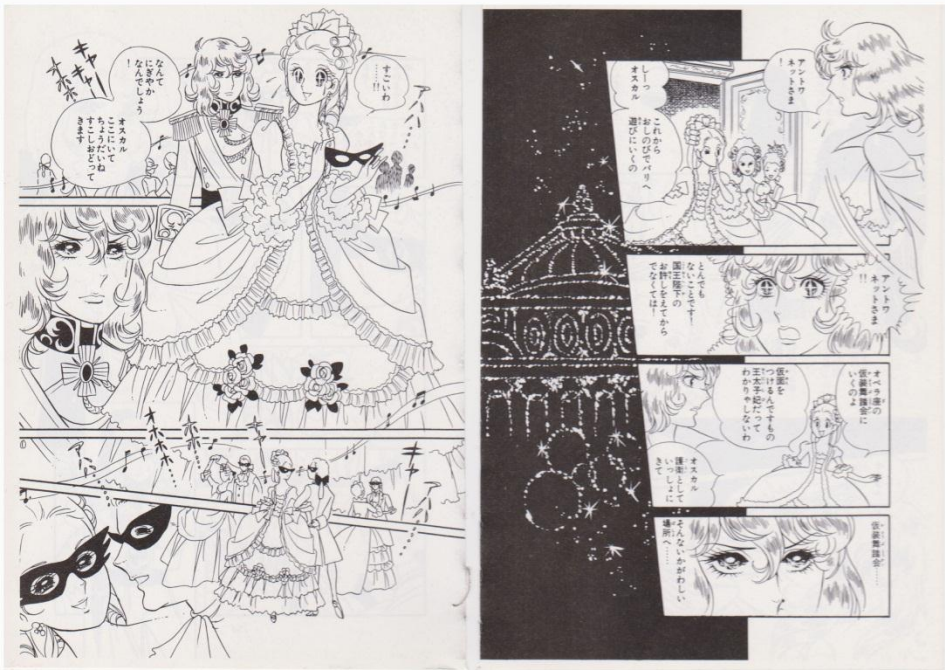
影響されたデザイン



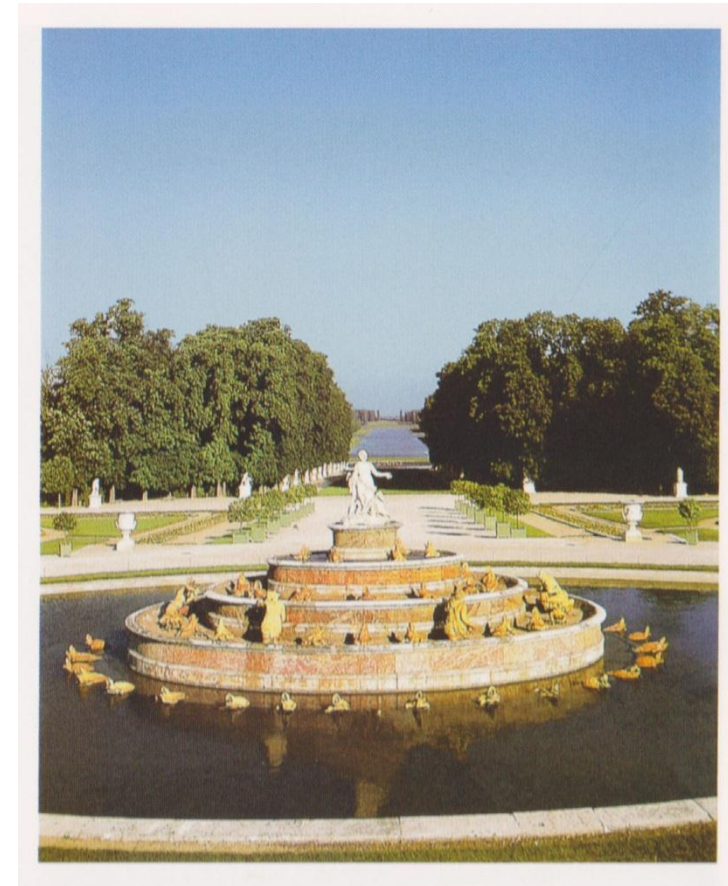
La Rose de
Versailles
Manga
By Riyoko Ikeda

ベルサイユのばら

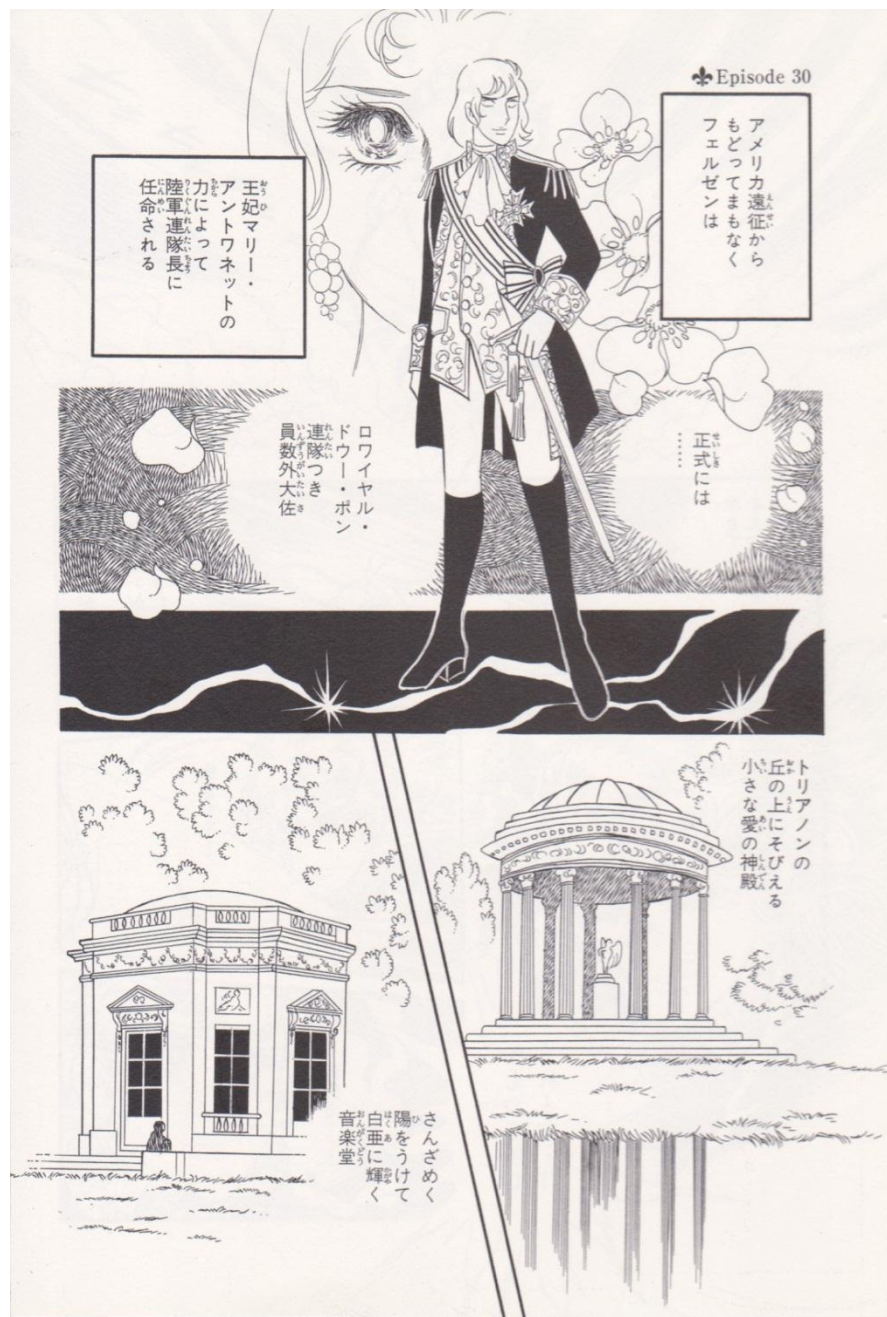
漫画
作 池田理代子



Versailles
ベルサイユ宮殿



photos from book *Arte Barocca*, GRIBAUDO

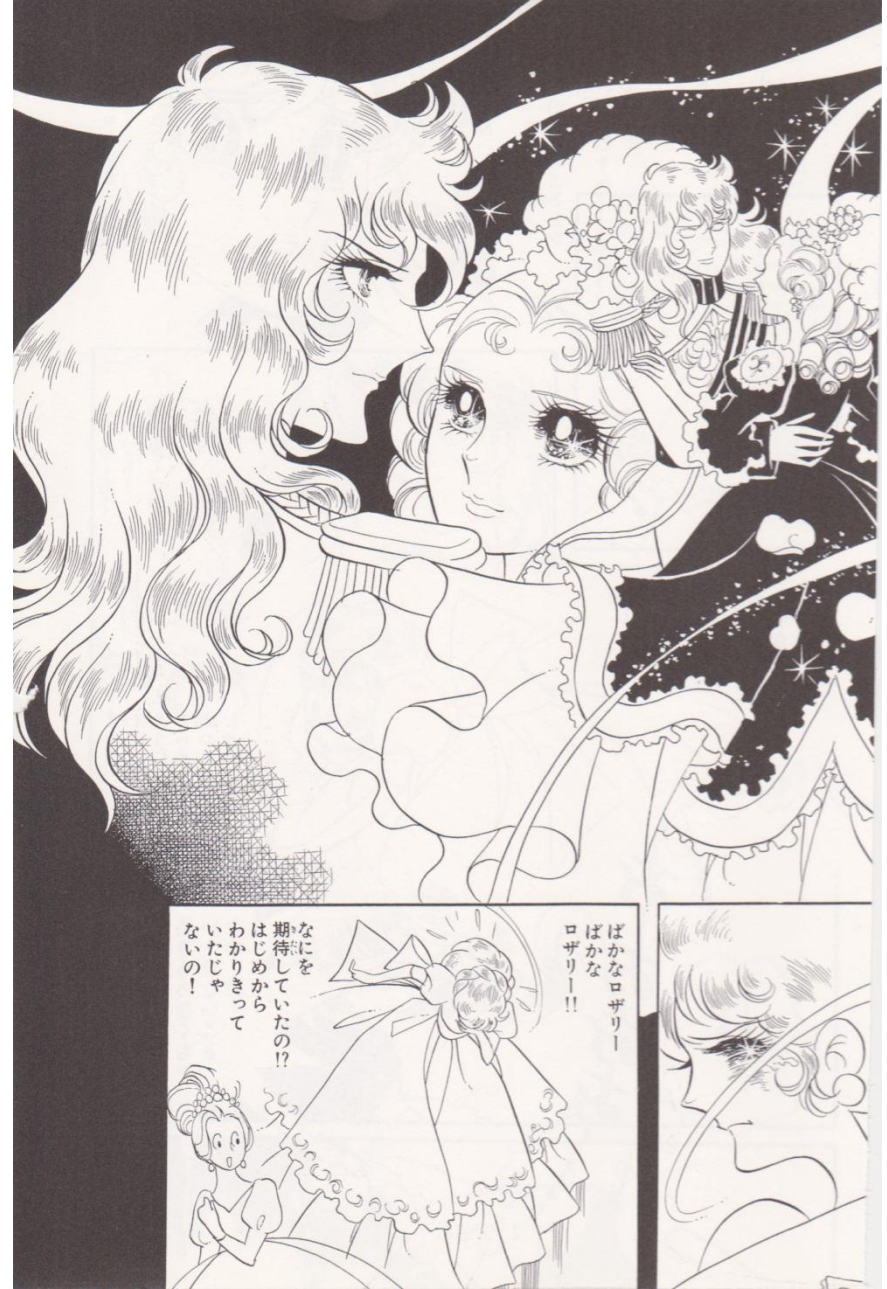
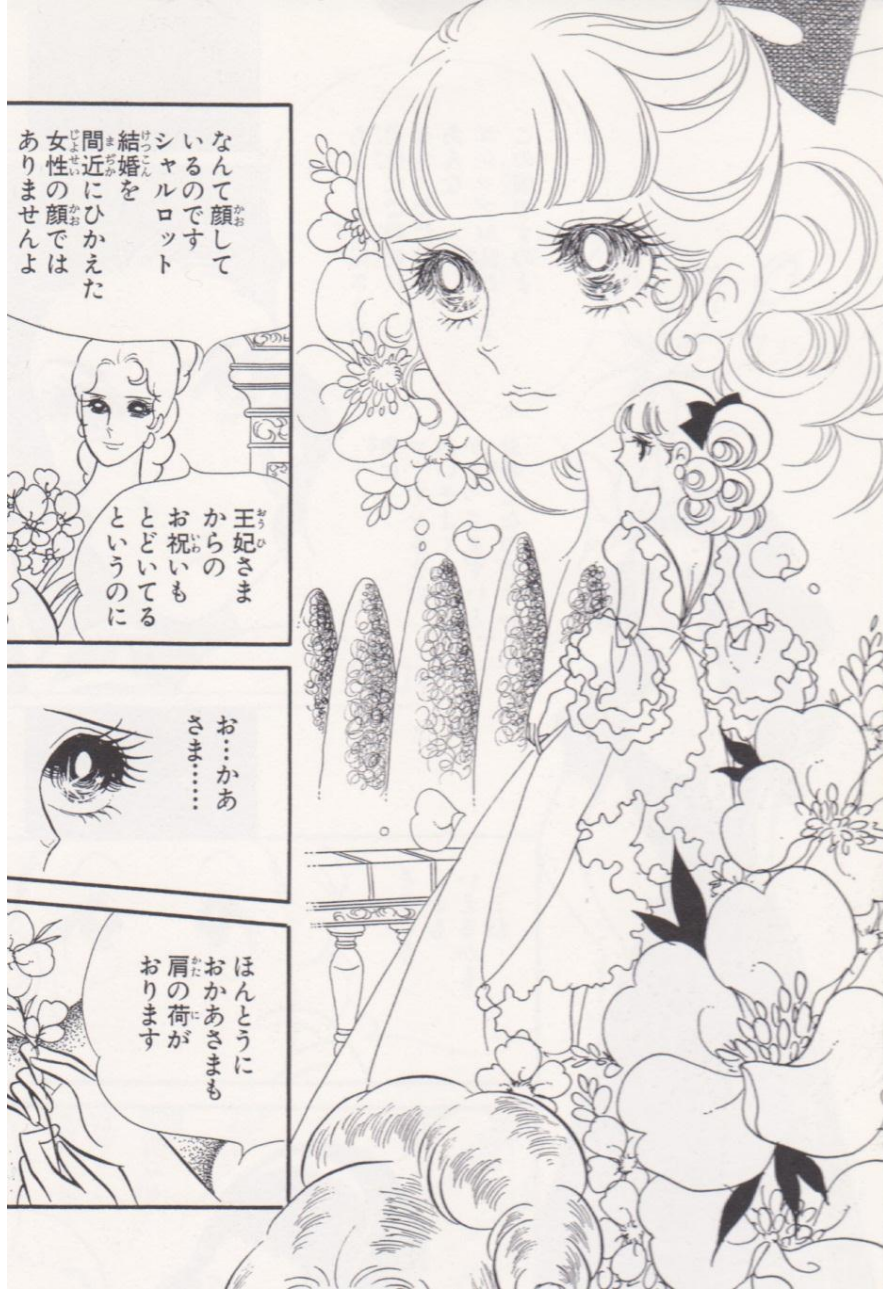


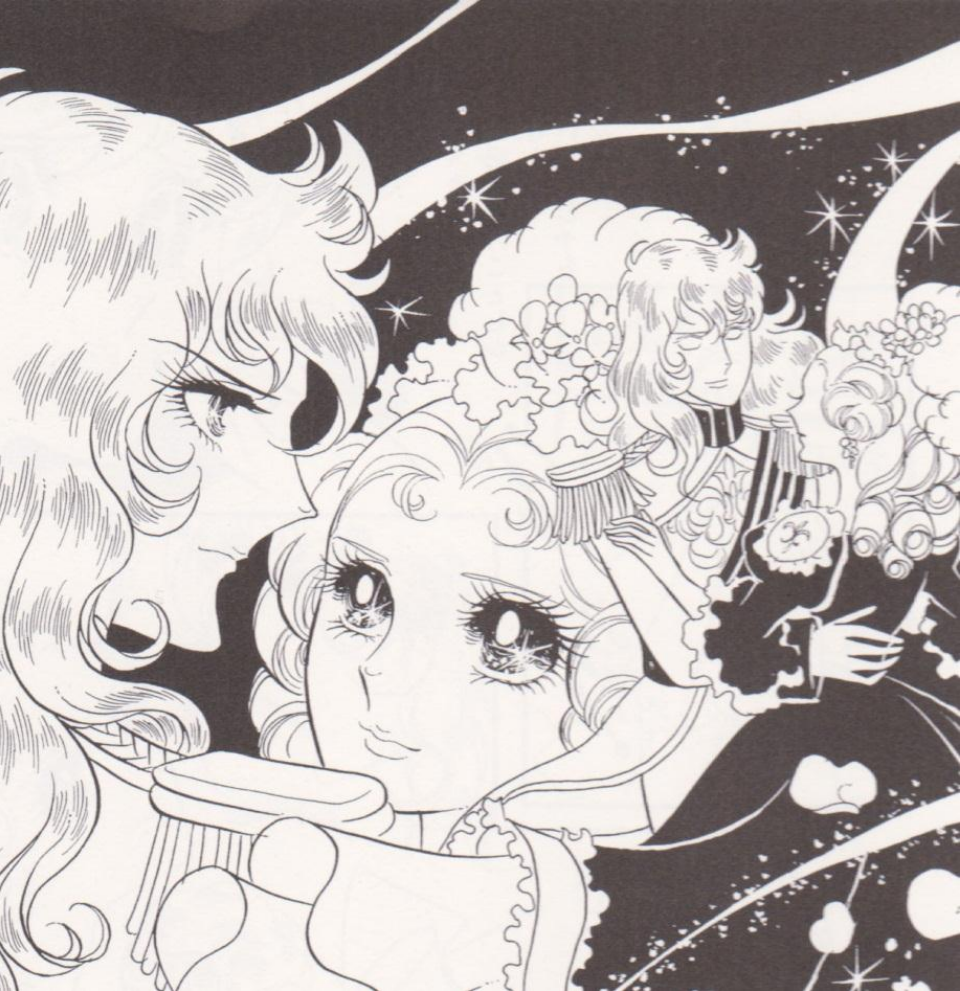
Pavilion depicted in La Rose de Versailles

原作にも描かれたパビリオン



photo from book *Arte Barocca*, GRIBAUDO





La Rose de Versailles ベルサイユのばら



Francesco Borromini, Sant'Ivo della Sapienza, Rome

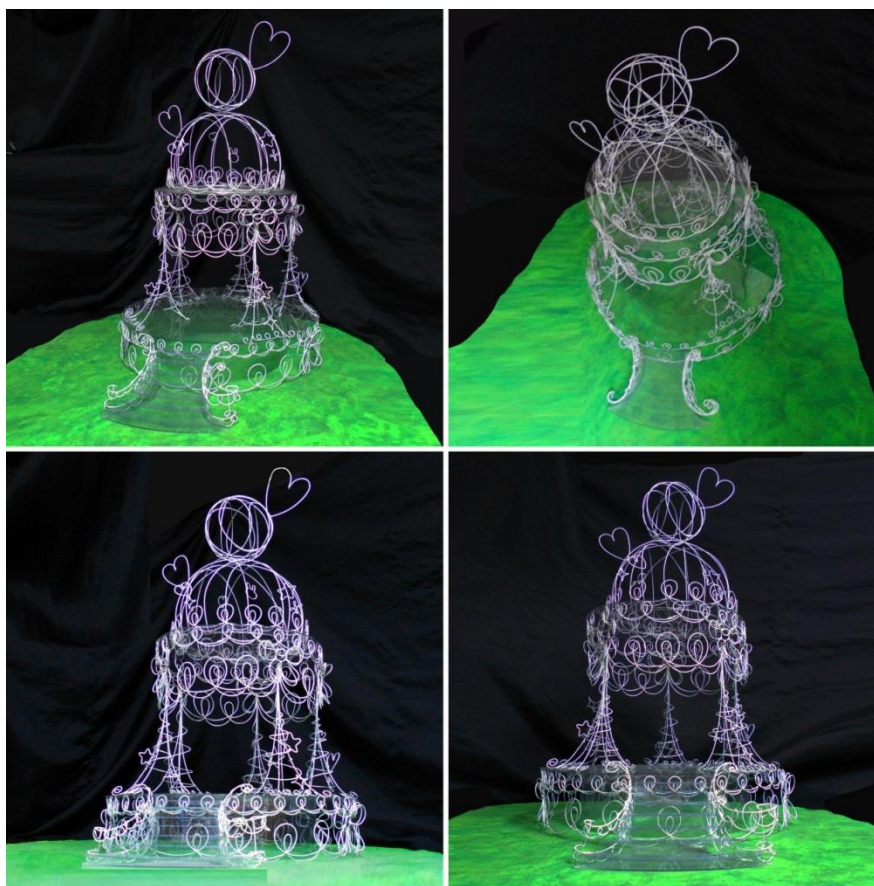
photos from book *Arte Barocca*, GRIBAUDO

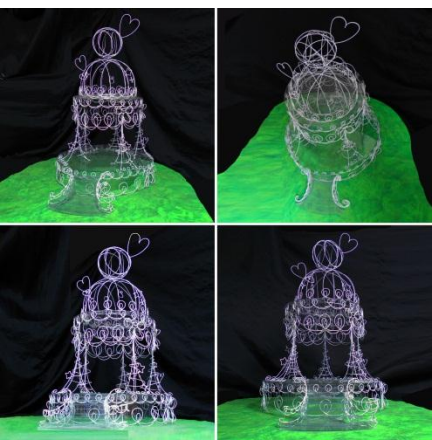
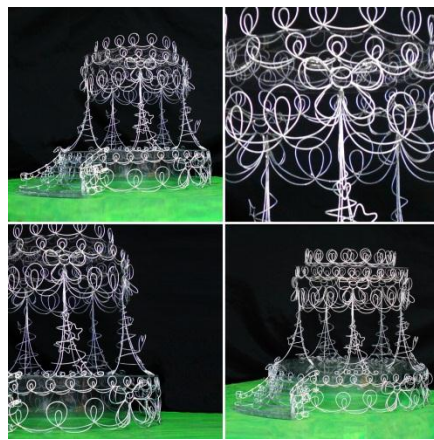
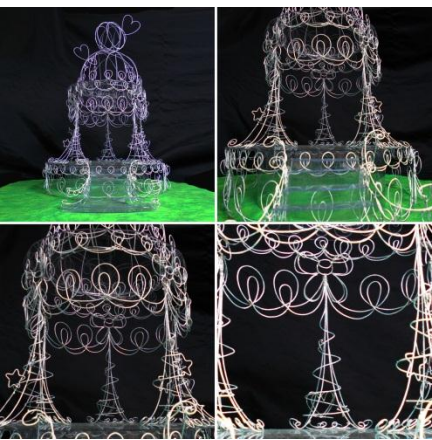
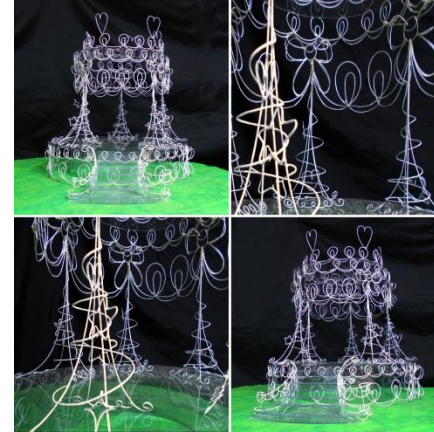
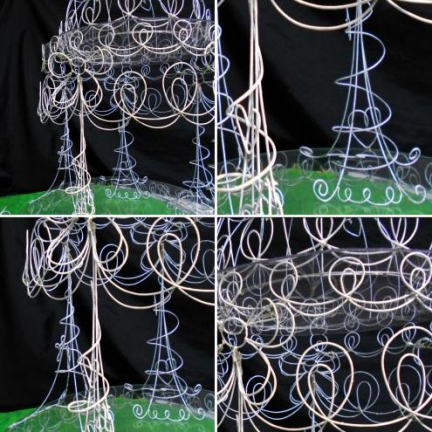


Joseph Anton Feuchtmayr
Birnau, Unsere Liebe Frau

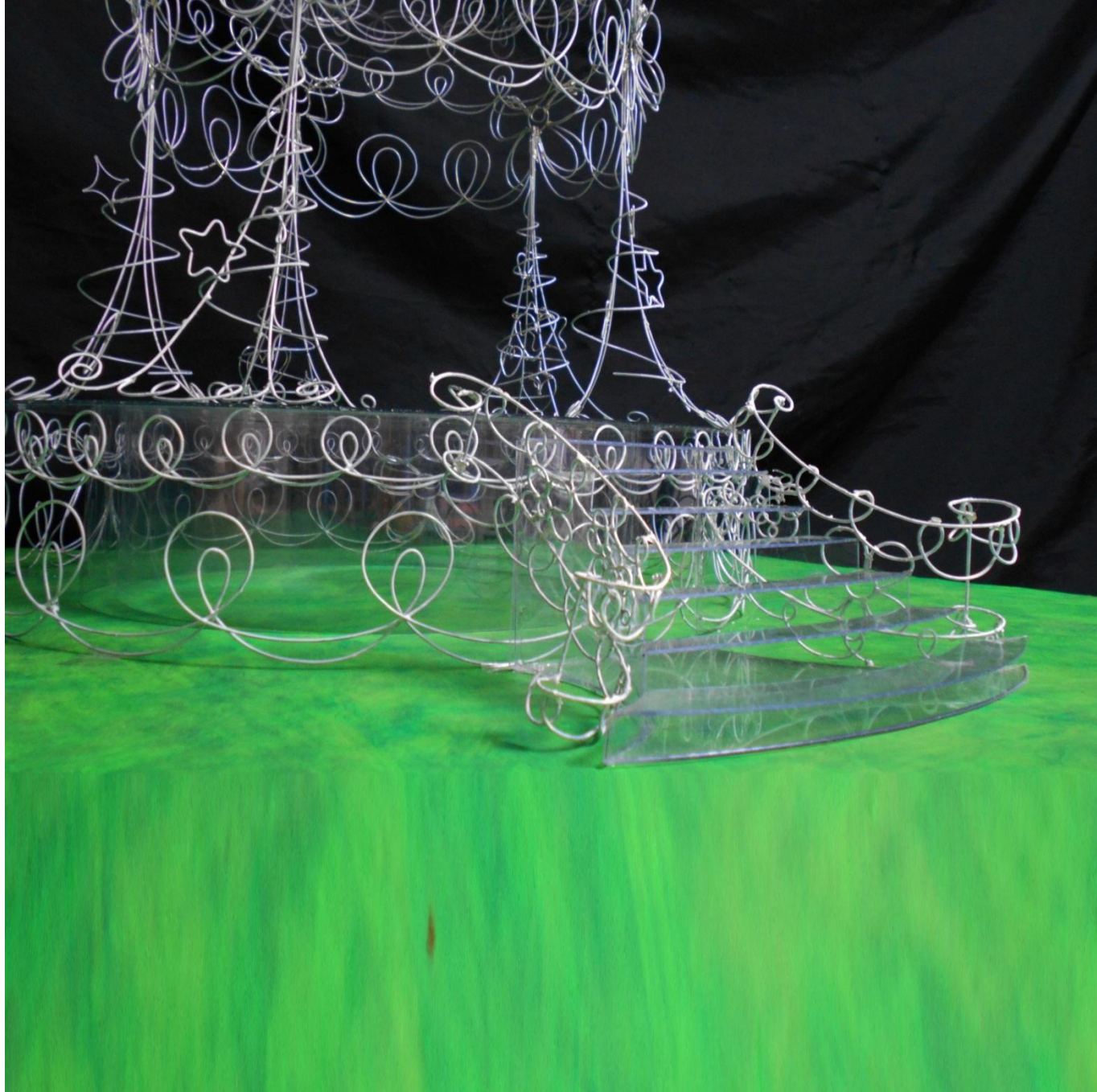
**Photos of the actual model, made by hand,
by architect Ben Ryuki Miyagi himself.**

建築家自身の手で作られた模型







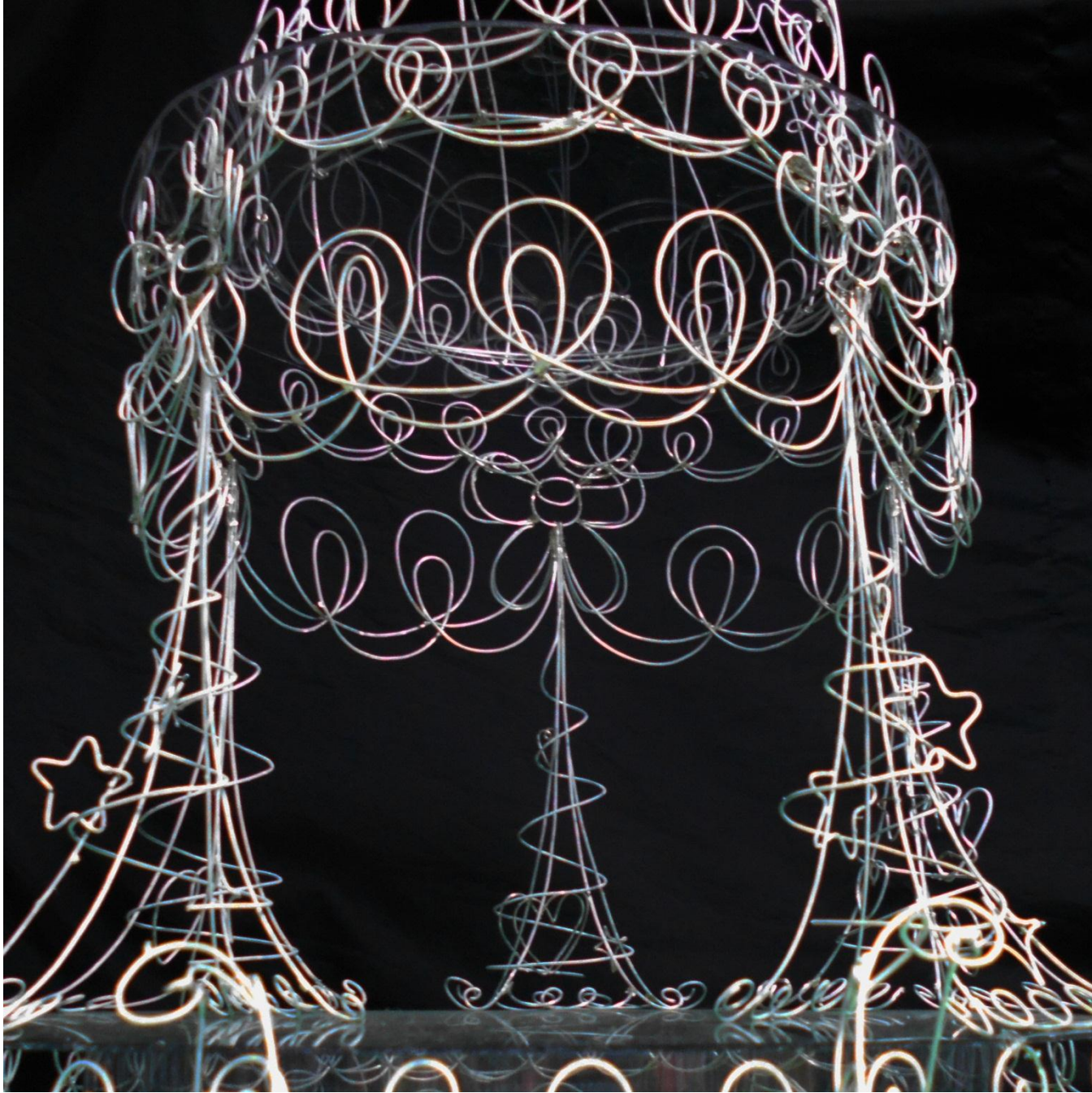




















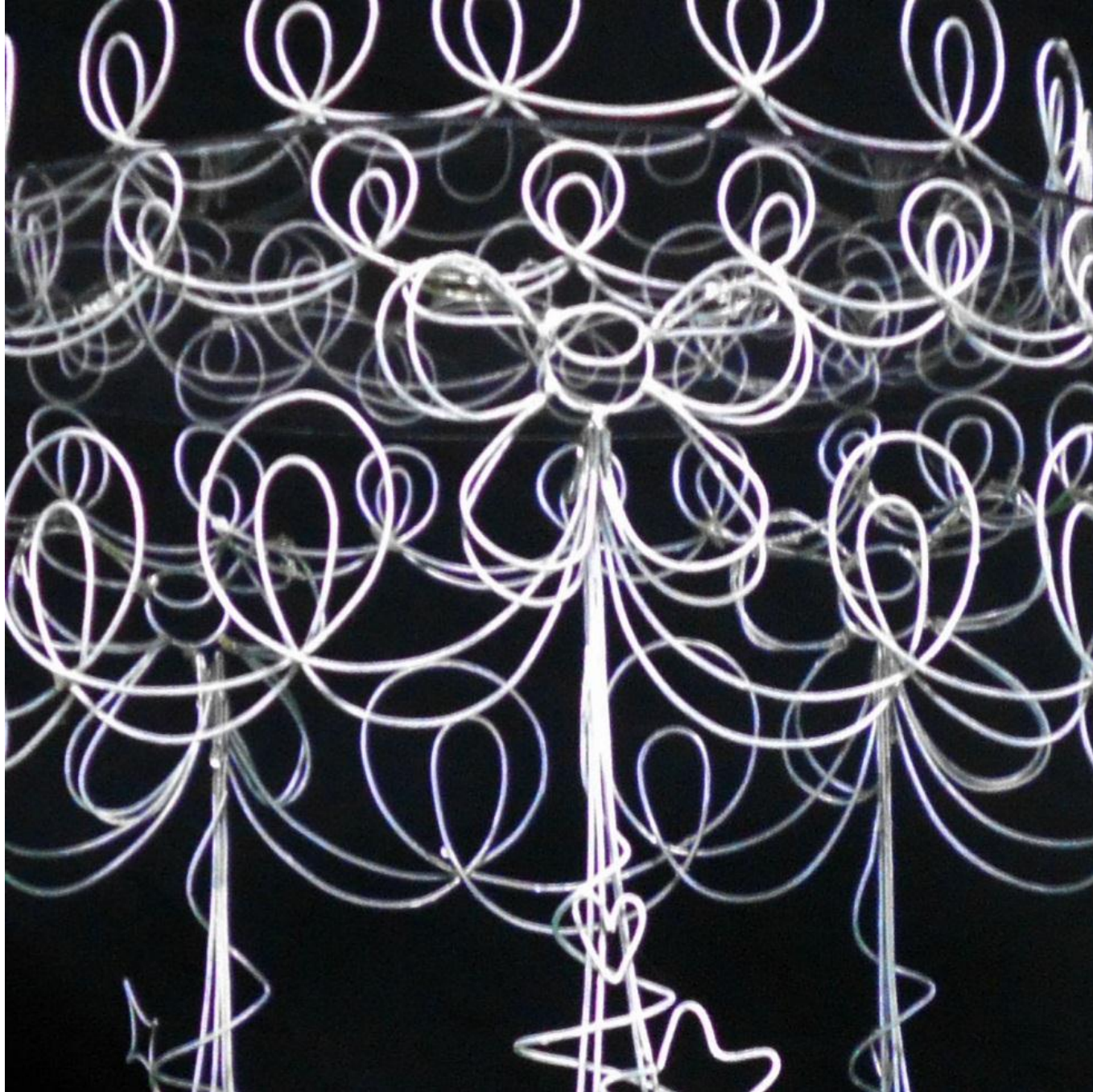


















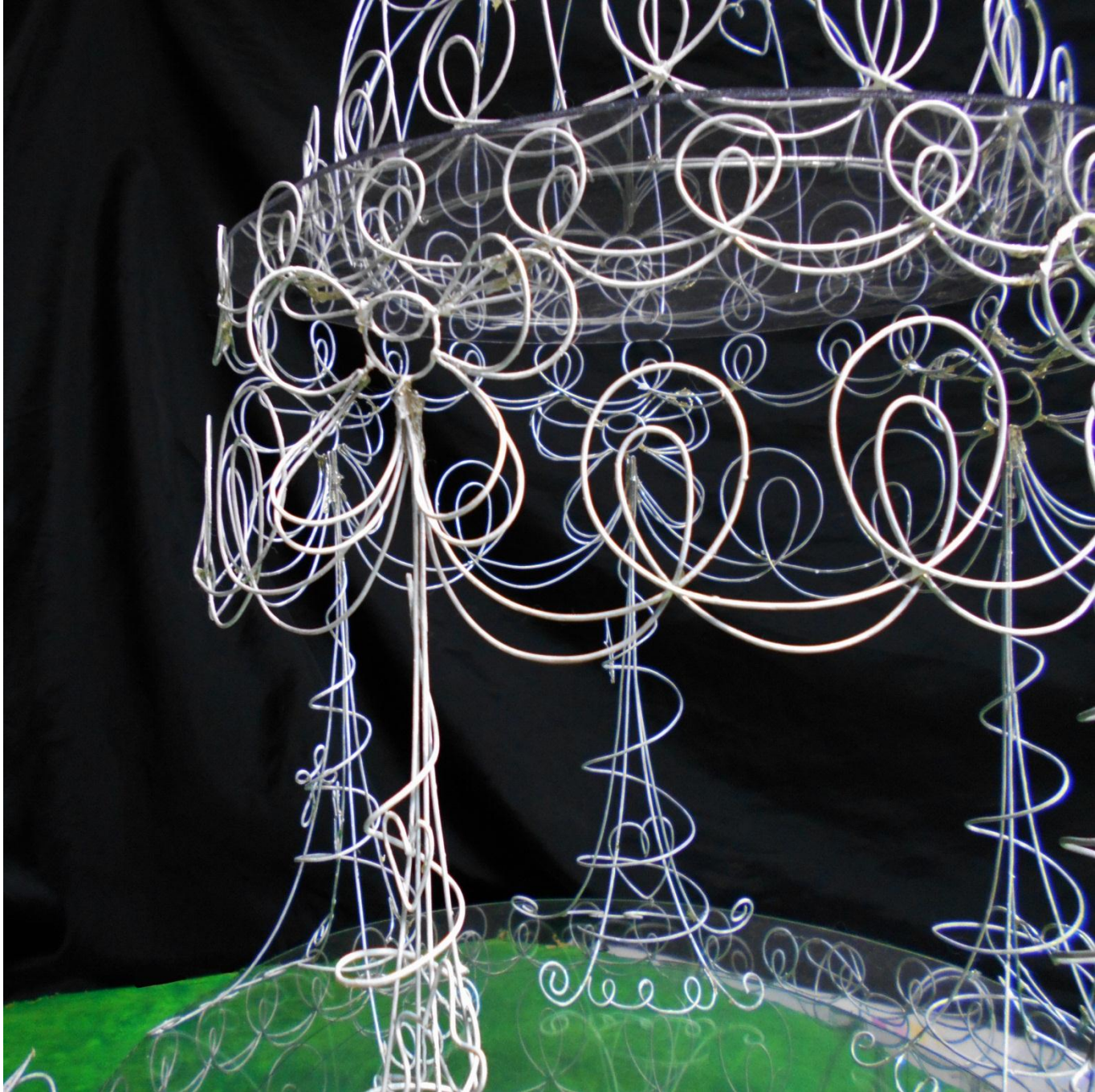


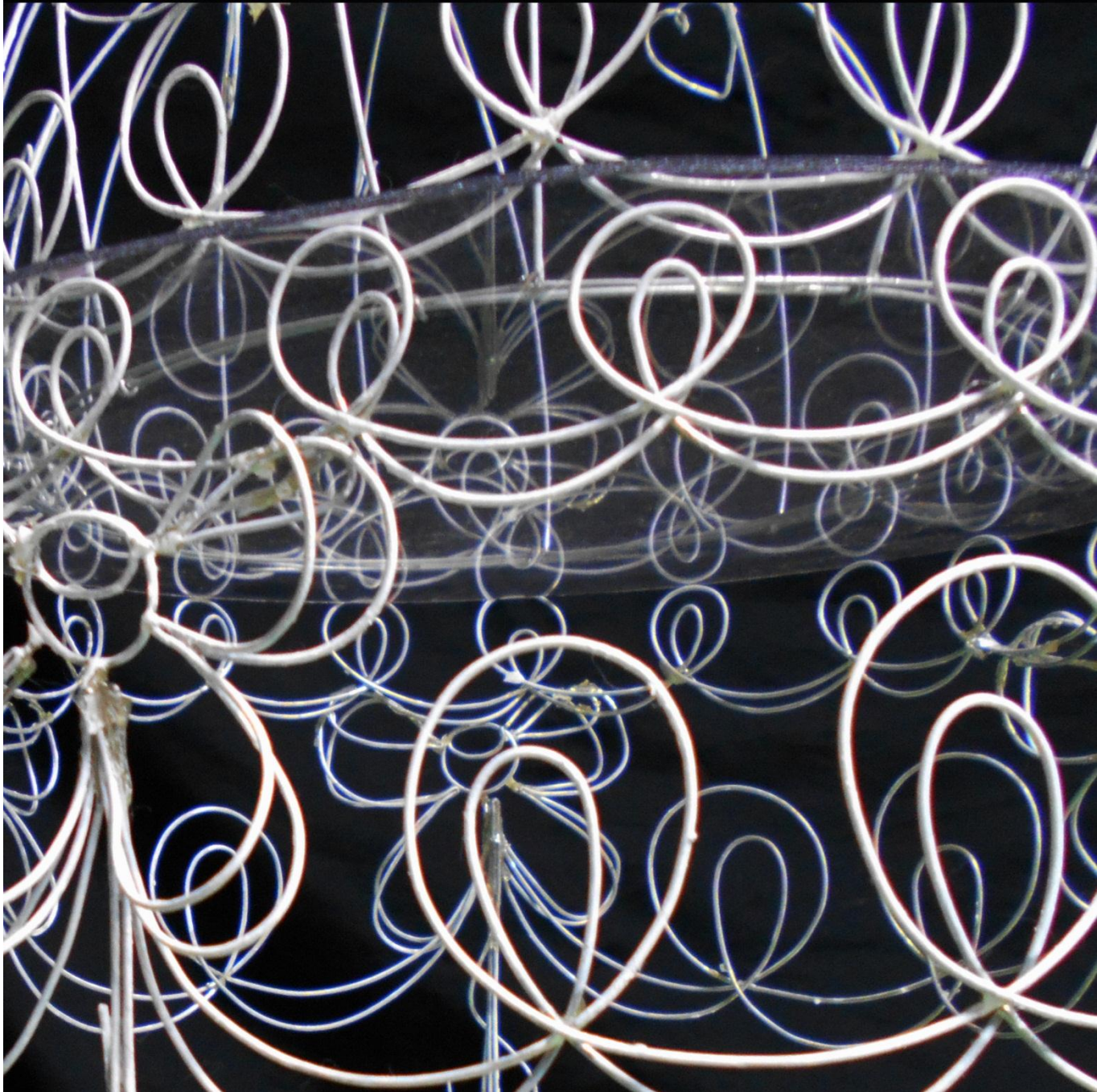


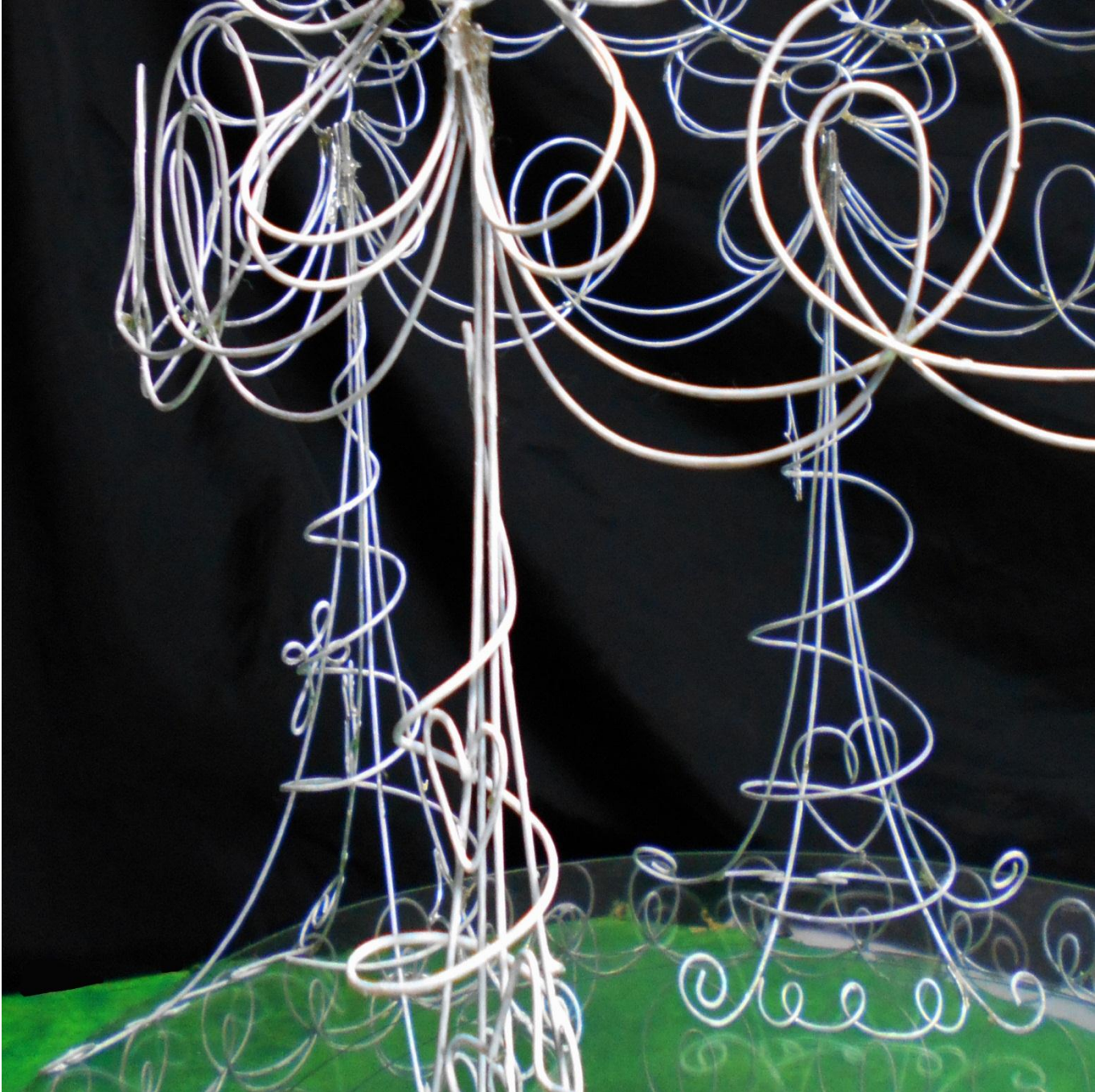






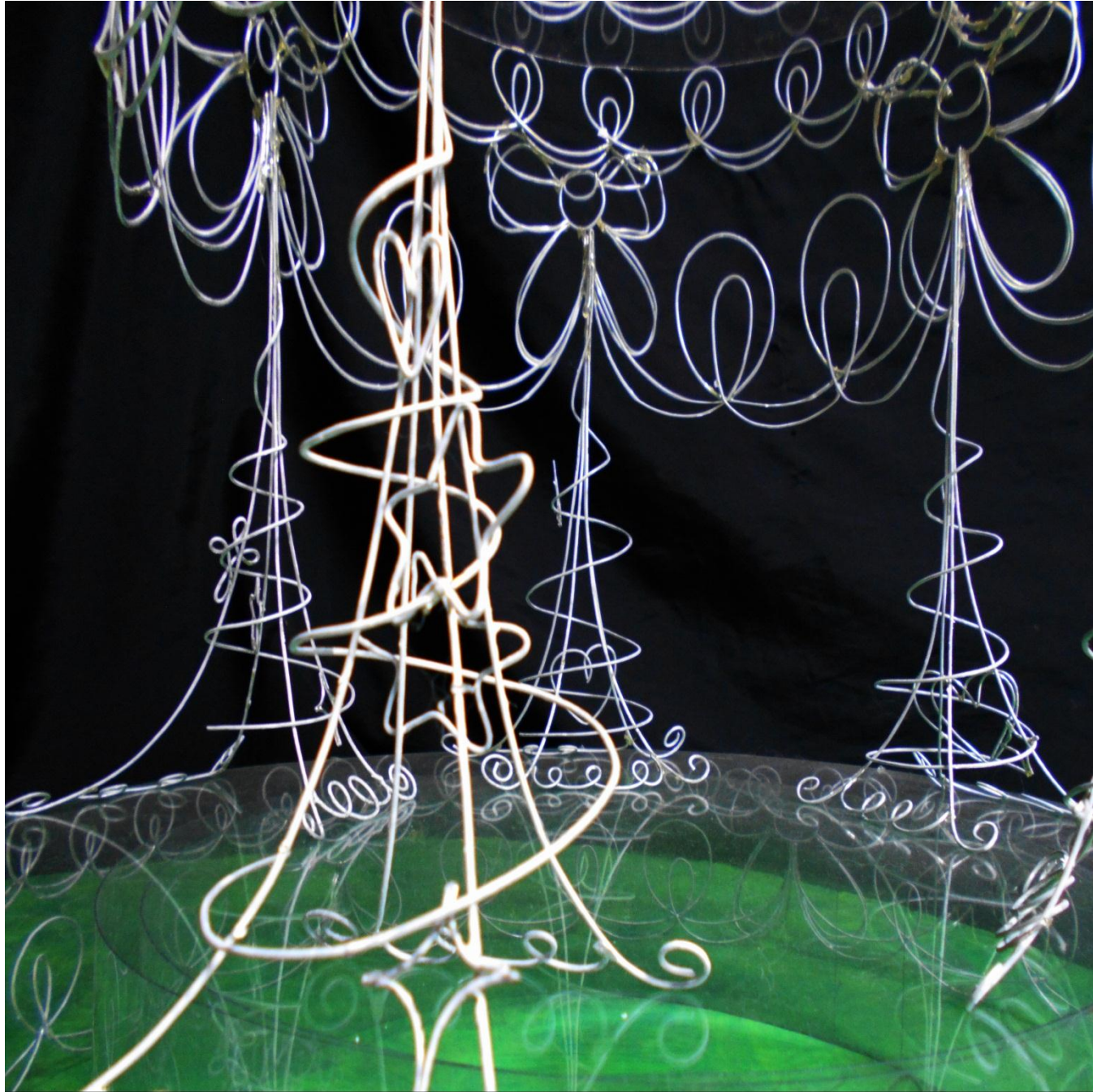
















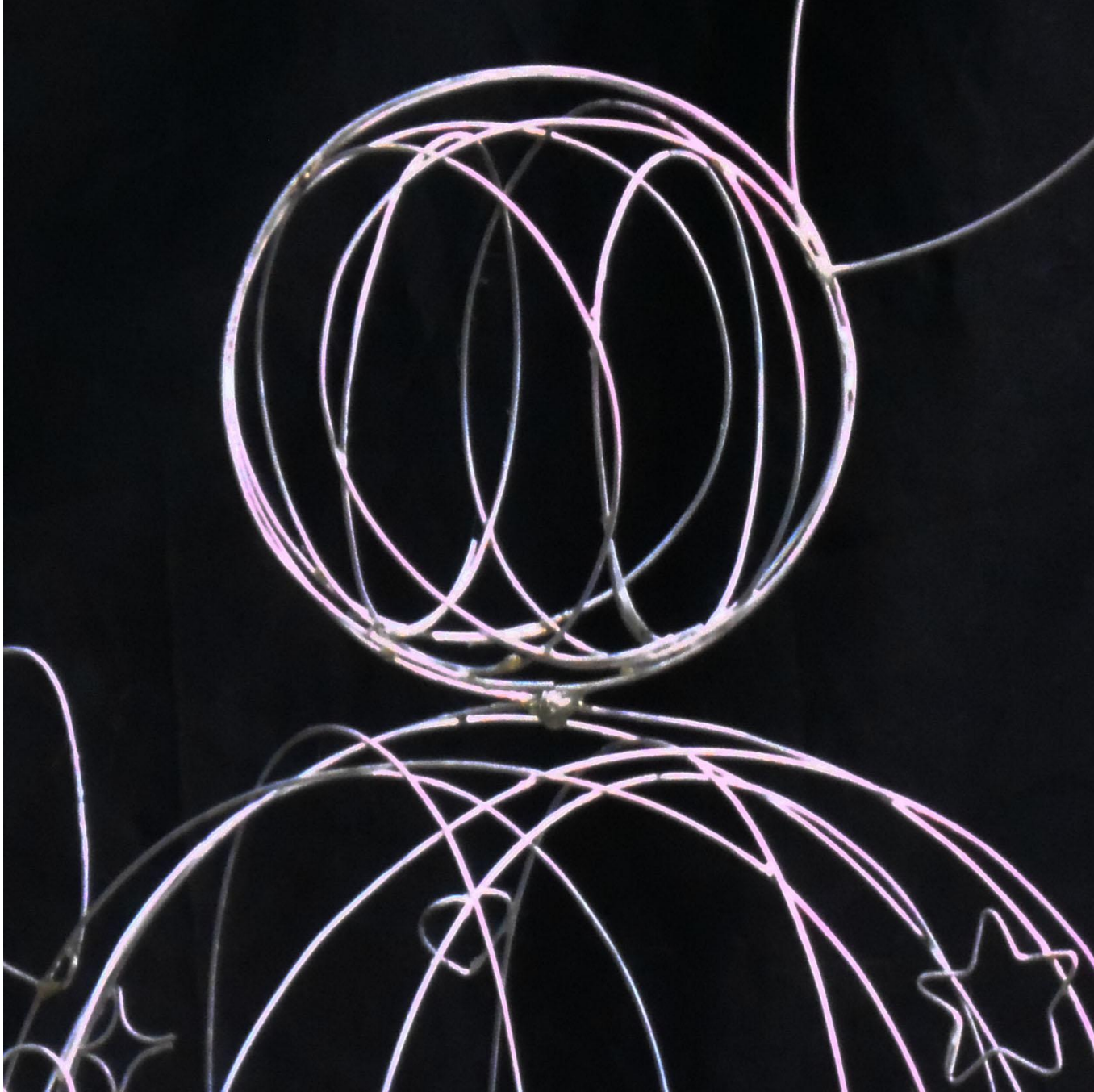












Thank you for viewing

instagram: @benryukimiyagi

email: info@bma5.com

www.bma5.com

This can be built for an average budget for a pavilion. Please contact the office of Ben Ryuki Miyagi to find out how much it will cost for your location, in any country.

最後までご覧いただきまことにありがとうございます。これはごく一般的なパビリオンの予算で施工出来ます。
ご興味あれば建築家の事務所にご連絡ください。

