CHAPTER 10:
INTERLINKING LINES

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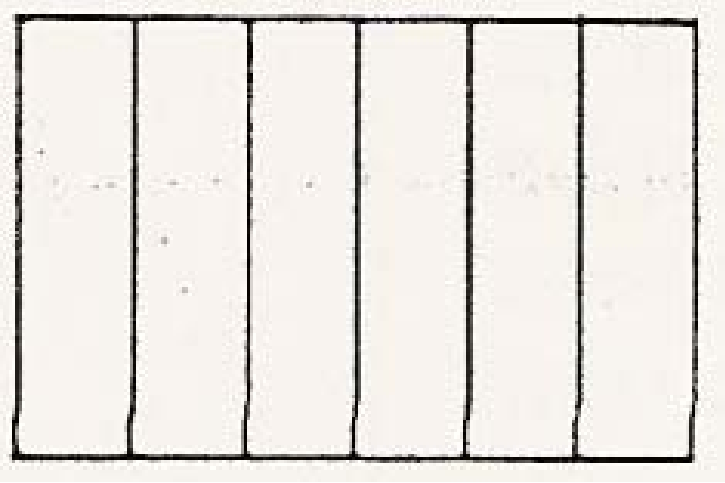
INTERLINKING LINES ON A FLAT PLANE

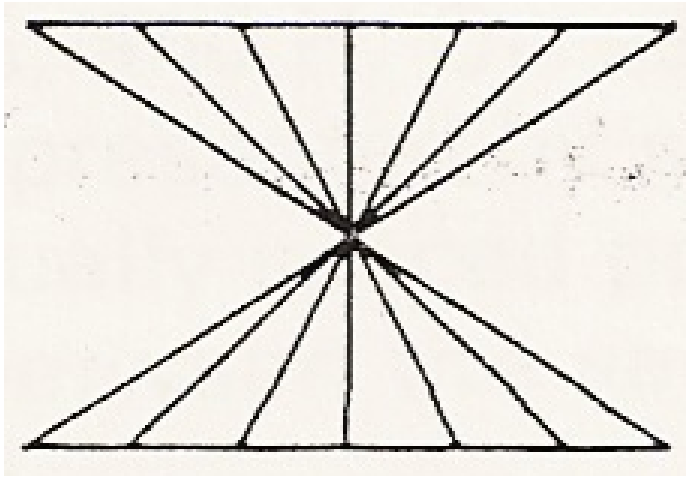
If we mark 7 equally spaced points in 2 same length straight lines

Interlinking lines can be created by joining the points on one of the straight lines to those on the other

If the 2 straight lines are parallel and we join the points in the order of their position, a pattern of parallel interlinking lines are produced

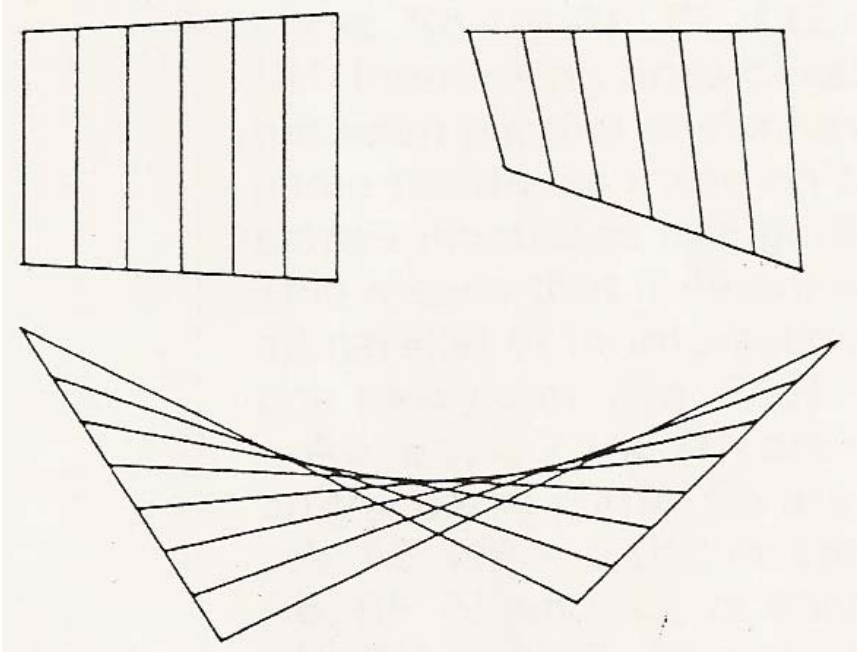


If we join the points in the reverse order of their positioning, the interlinking lines will all intersect one another at one point which is half-way between the 2 straight lines.

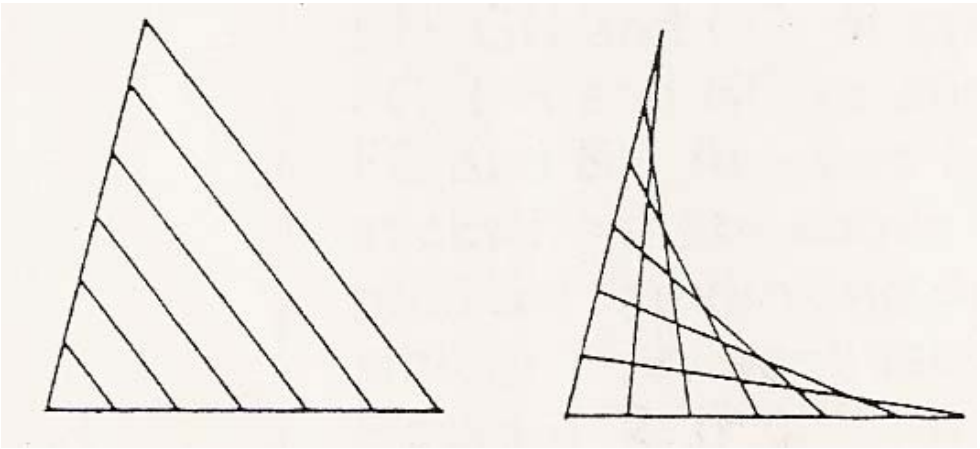


INTERLINKING LINES ON A FLAT PLANE

If the 2 straight lines are nonparallel, interlinking lines may be all parallel, or in directional gradation or in intersection at many new points. In the last case, a curved edge is produced although the interlinking lines are all straight.

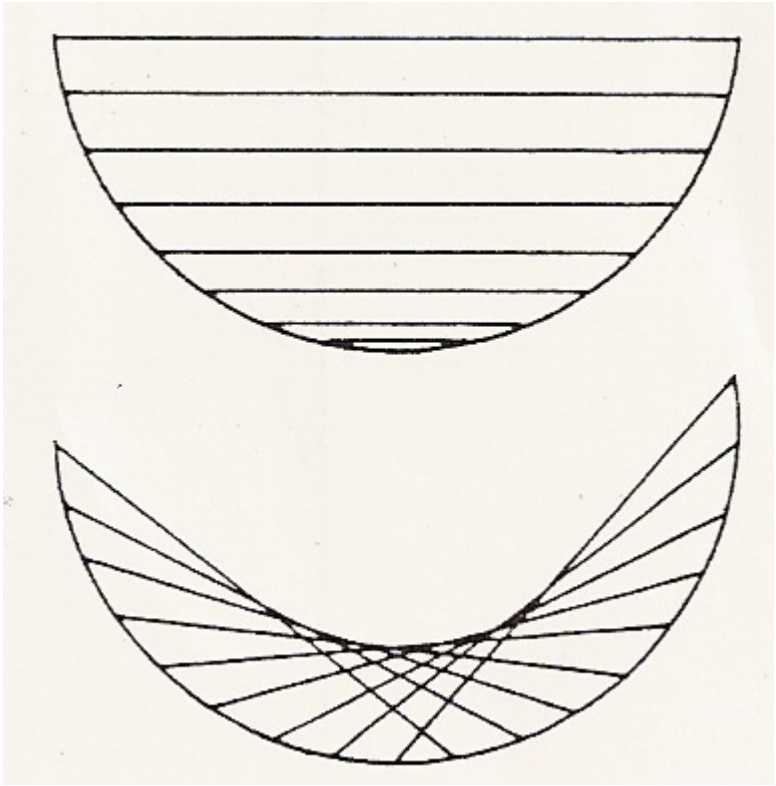


If the 2 straight lines are joined to each other at an angle, interlinking lines may all be parallel , or in intersection at many points. In the later case, a curved edge is also produced.



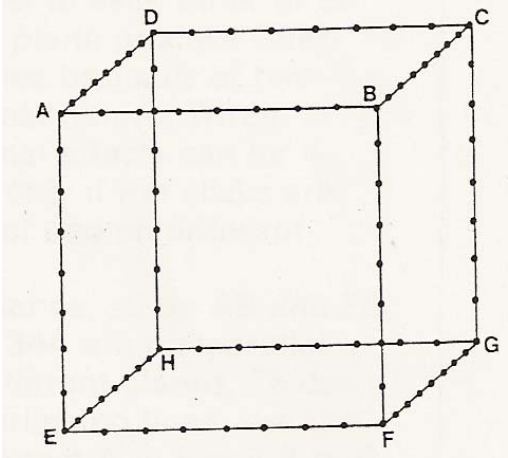
INTERLINKING LINES ON A FLAT PLANE

If we mark the equally spaced points not on straight lines but along an arc of a circle, interlinking lines created between those points may be all parallel, or in intersection at many new points, producing a curved edge.

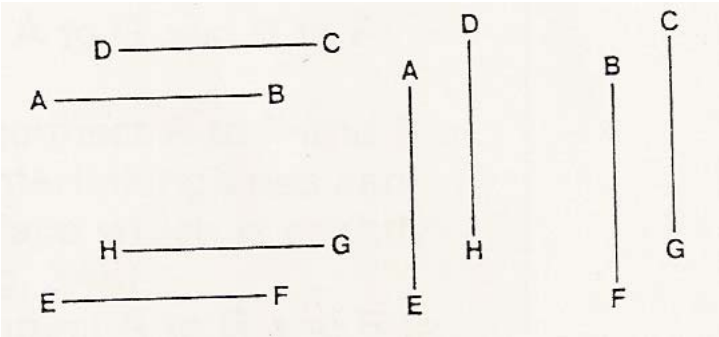


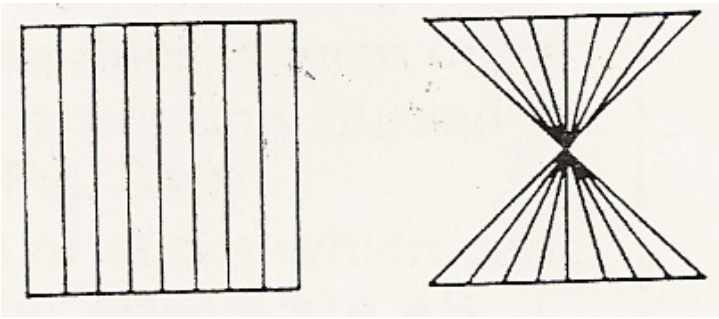
INTERLINKING LINES IN SPACE

A linear framework in the shape of a cube, with vertices A, B, C, D, E, F, G and H. 7 equally spaced points are marked between the vertices.

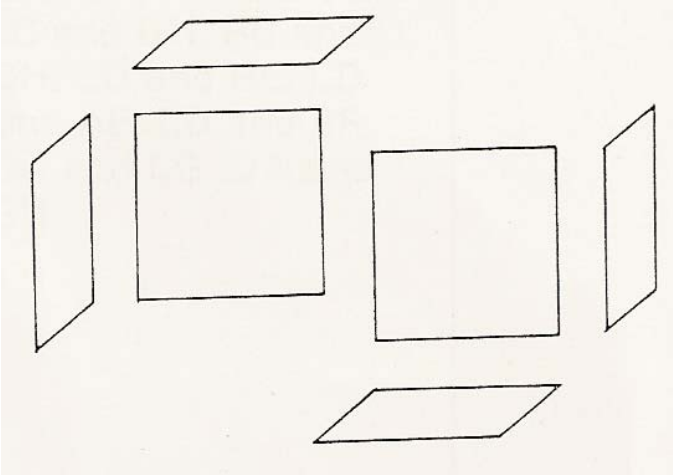


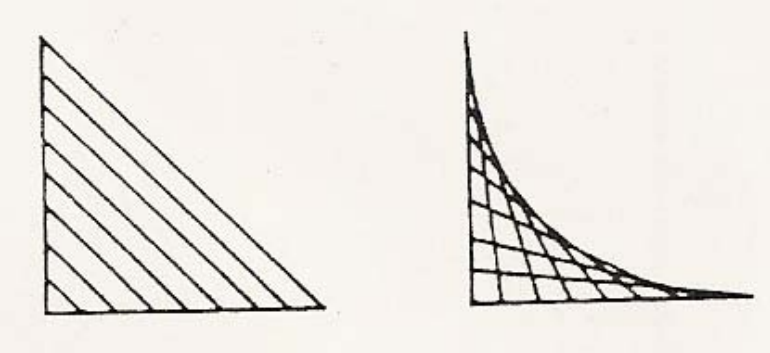
Interlinking lines developed between parallel sticks have the same results as those on the flat planes (parallel or intersection at one new point).





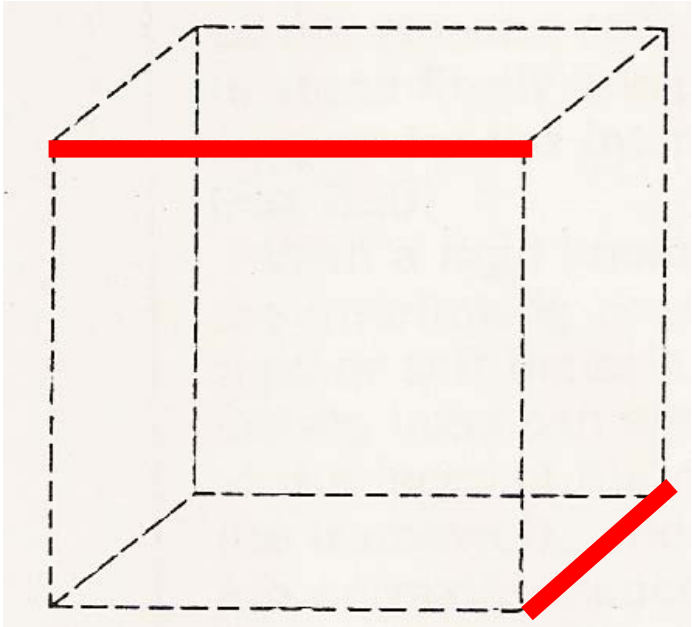
INTERLINKING LINES IN SPACE



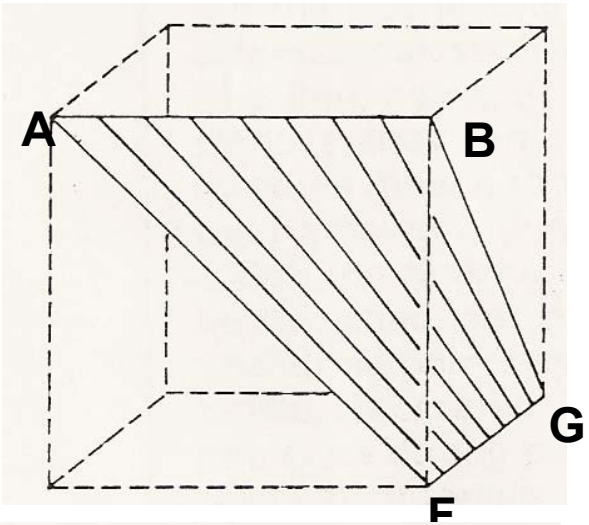


Any 2 adjacent planes can produce interlinking lines

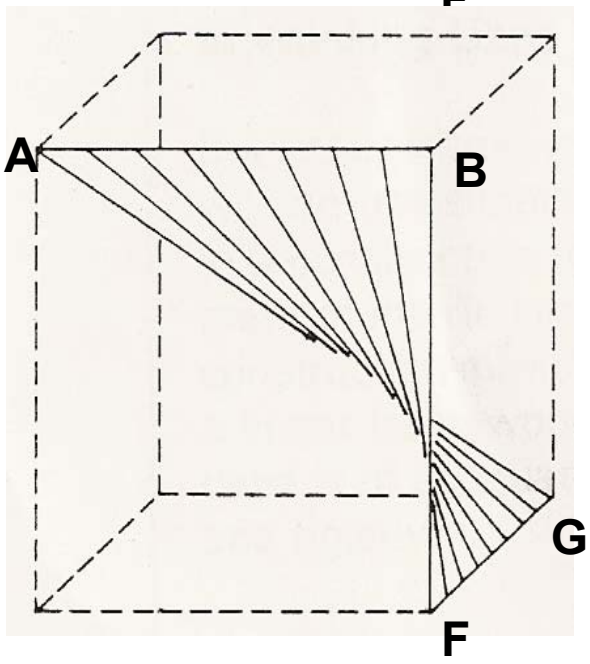
From the previous, sticks which are parallel to each other or on the same plane produce interlinking lines basically of 2 dimensional nature. Three dimensional effect can be achieved only if the sticks are none-parallel and on different planes.



For instance, sticks AB and FG are non-parallel and on different planes.



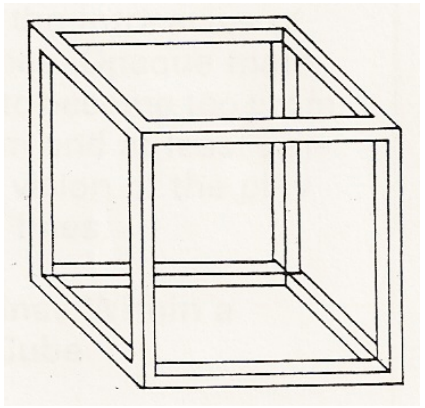
If we connect A to F and B to G, the interlinking lines can form a surface which is slightly curved.



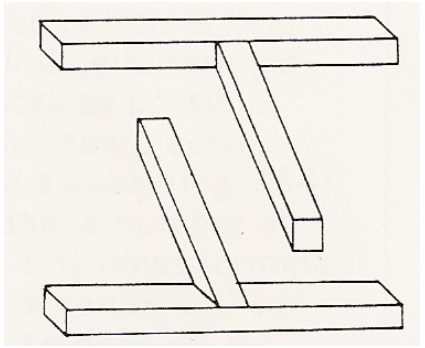
If we connect A to G and B to F, the curved surface formed by the interlinking line is even more prominent. It is not only curved but also twisted.

MATERIALS AND CONSTRUCTION

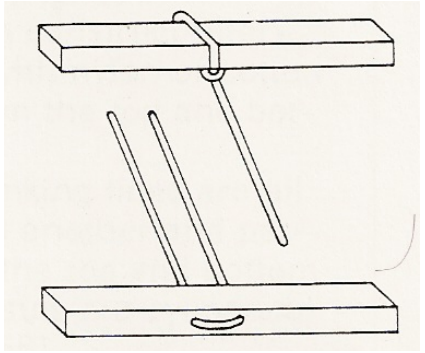
The linear framework always must be made of rigid material, such as the wooden sticks, in order to stand firmly and provide strong support for the interlinking lines.



With rigid linear framework, the interlinking lines can simply be glued to the faces of the members of the framework, and their ends are normally shaped to allow the maximum face contact.

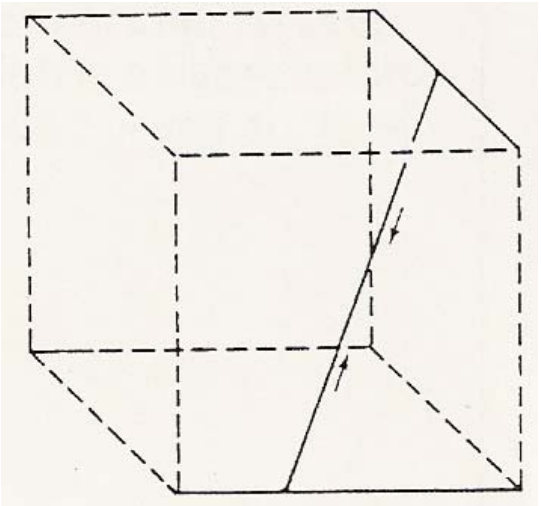


If the interlinking lines are of soft material, such as thread made of cotton or nylon, they can tied by some means to the members of the framework.

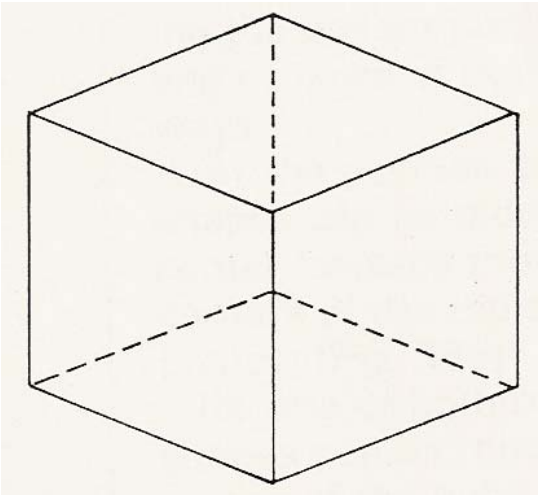


PLANAR CONSTRUCTION FOR INTERLINKING LINES

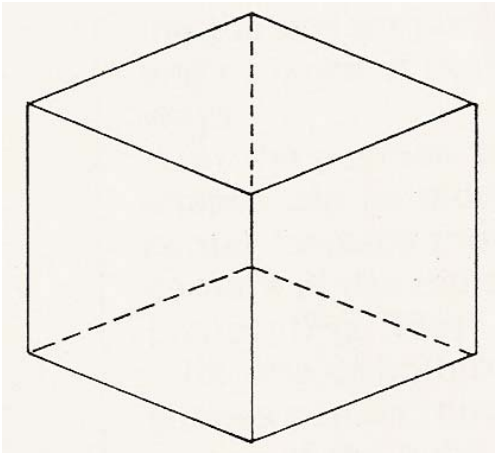
If a linear framework is not used, we can use simple planar shapes in a construction for the development of interlinking lines. Planar construction may be stronger than a linear framework if the material used is of adequate thickness and rigidity.



Clear acrylic sheets are ideal for this purpose, as the transparency of the material allows full display of the interlinking lines.

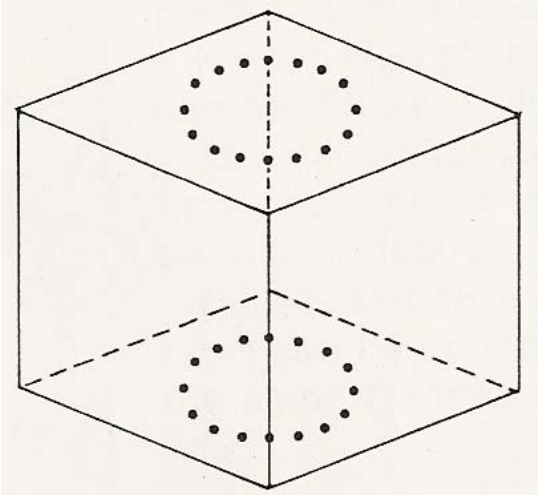


INTERLINKING LINES WITHIN A TRANSPARENT CUBE



If we have 6 square acrylic sheets to build a cube.

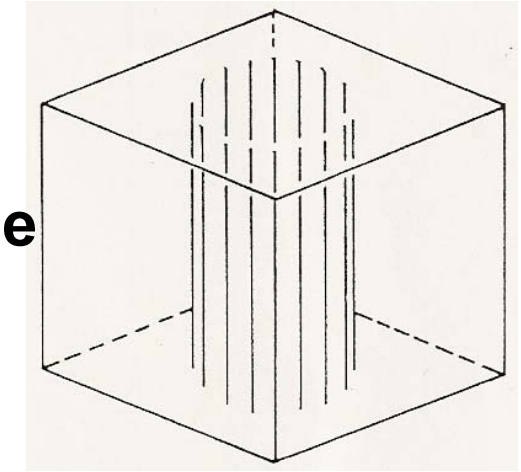
On the top plane, a number of evenly spaced tiny holes forming a circular shape can be drilled. The same can be done on the bottom plane.



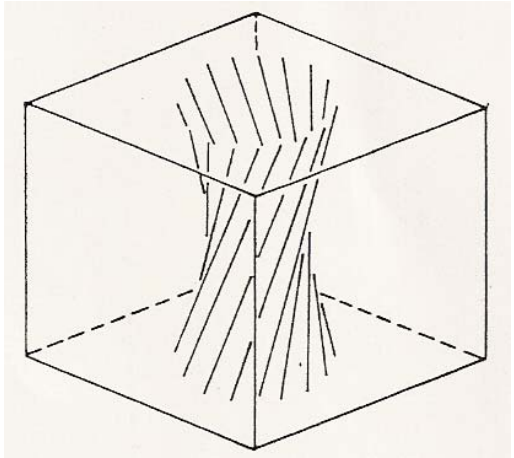
INTERLINKING LINES WITHIN A TRANSPARENT CUBE

Now, we can construct interlinking lines with nylon or cotton thread between the top and bottom planes.

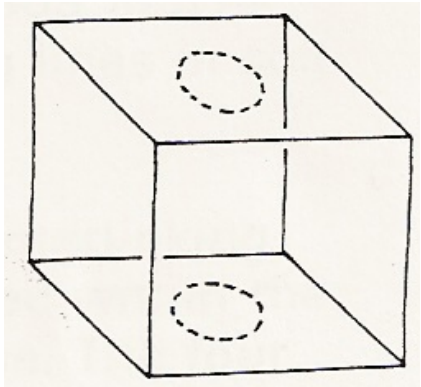
If the interlinking lines are all parallel to one another, the result is a cylindrical shape.



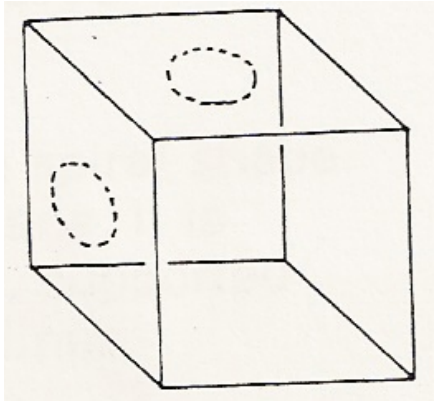
If the interlinking lines are all slanting, and non-parallel to one another, the result is a hyperboloid with a continuous curved surface.



The position of the circular shapes can be moved from the center towards the edges or corners of the top an bottom planes.

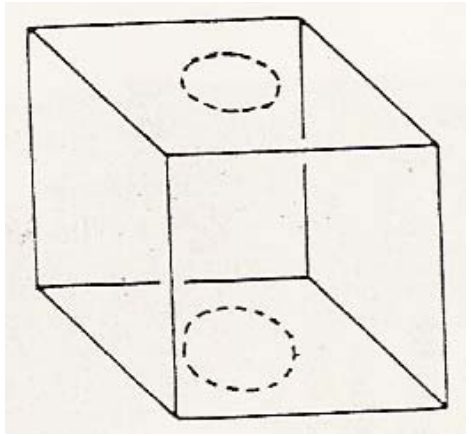


One or both of the circular shapes can be moved to the side planes of the cube.

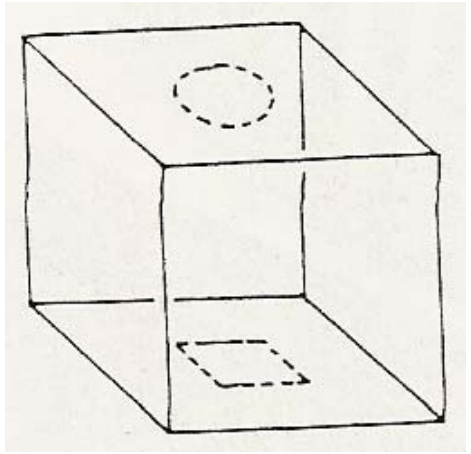


INTERLINKING LINES WITHIN A TRANSPARENT CUBE

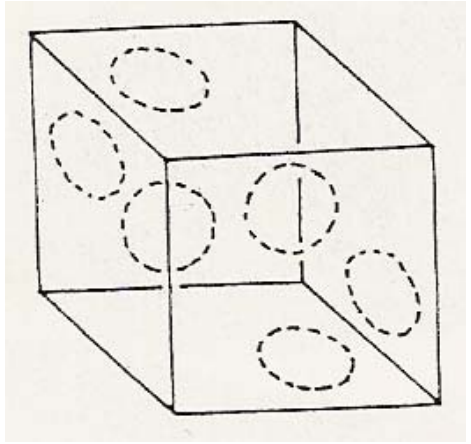
The size of the 2 shapes can be different.



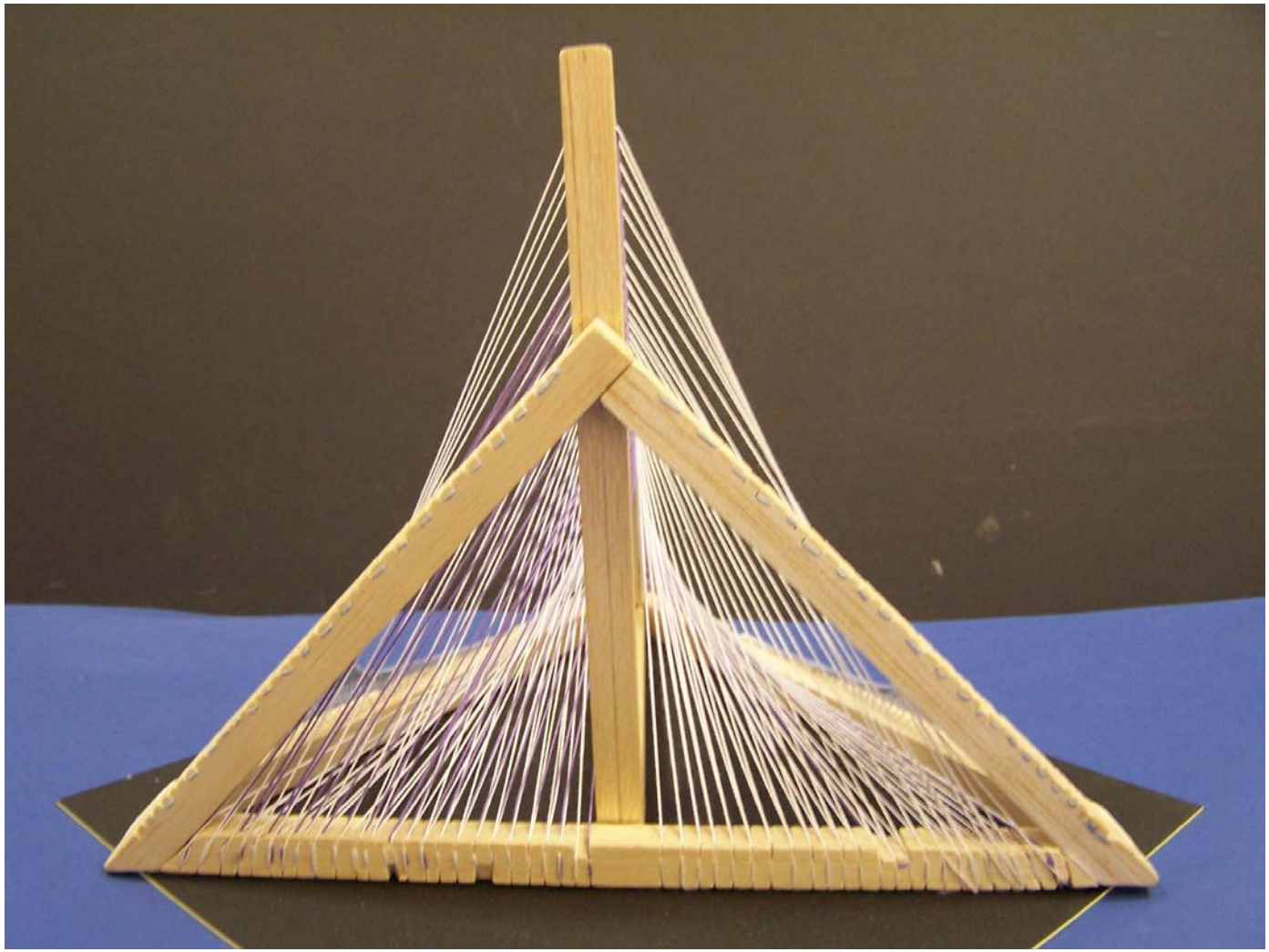
One shape can be different from the other. Both can be non-circular if desired.



Several sets of interlinking lines can be constructed within the same transparent cube.



SAMPLES



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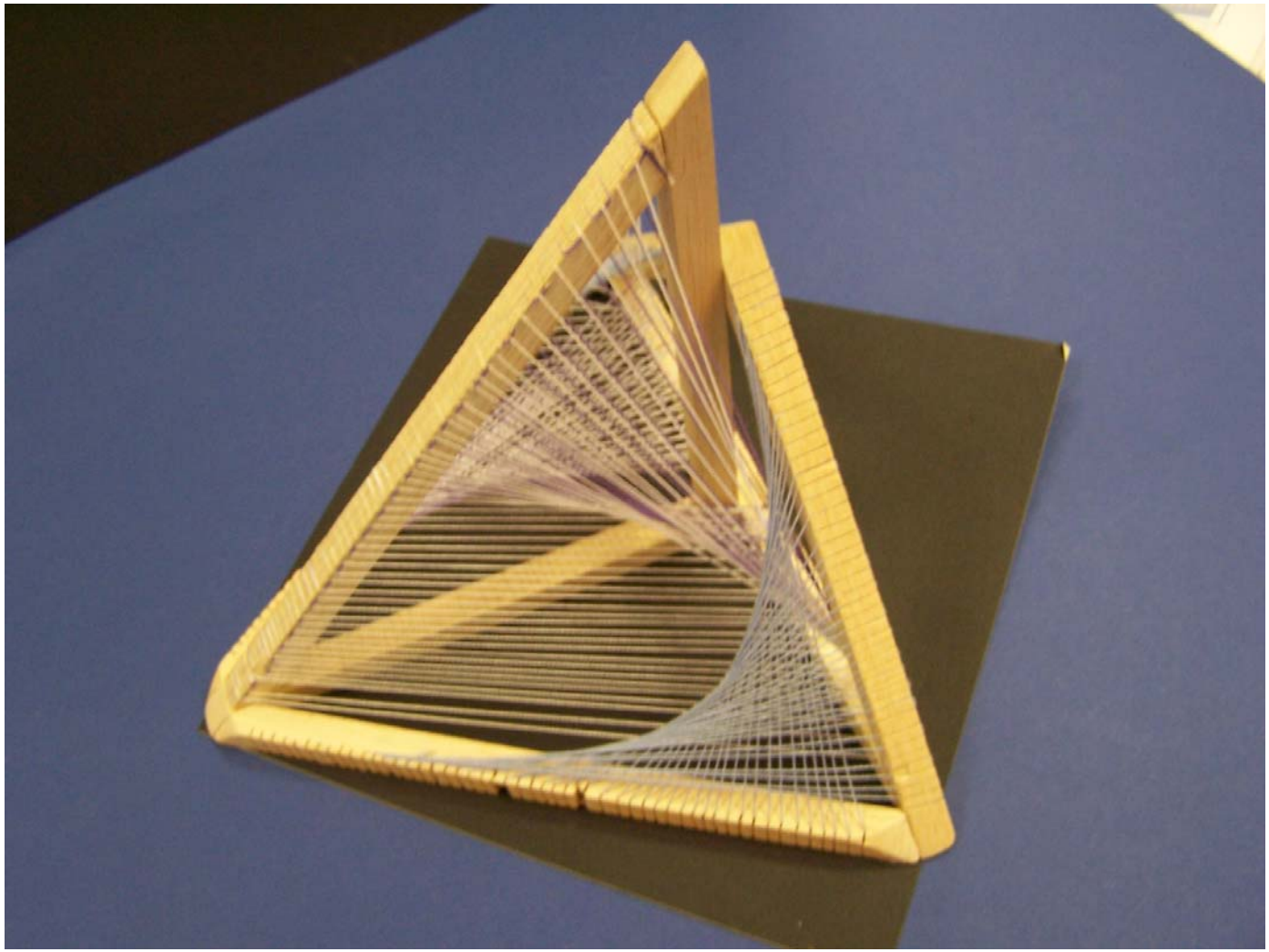

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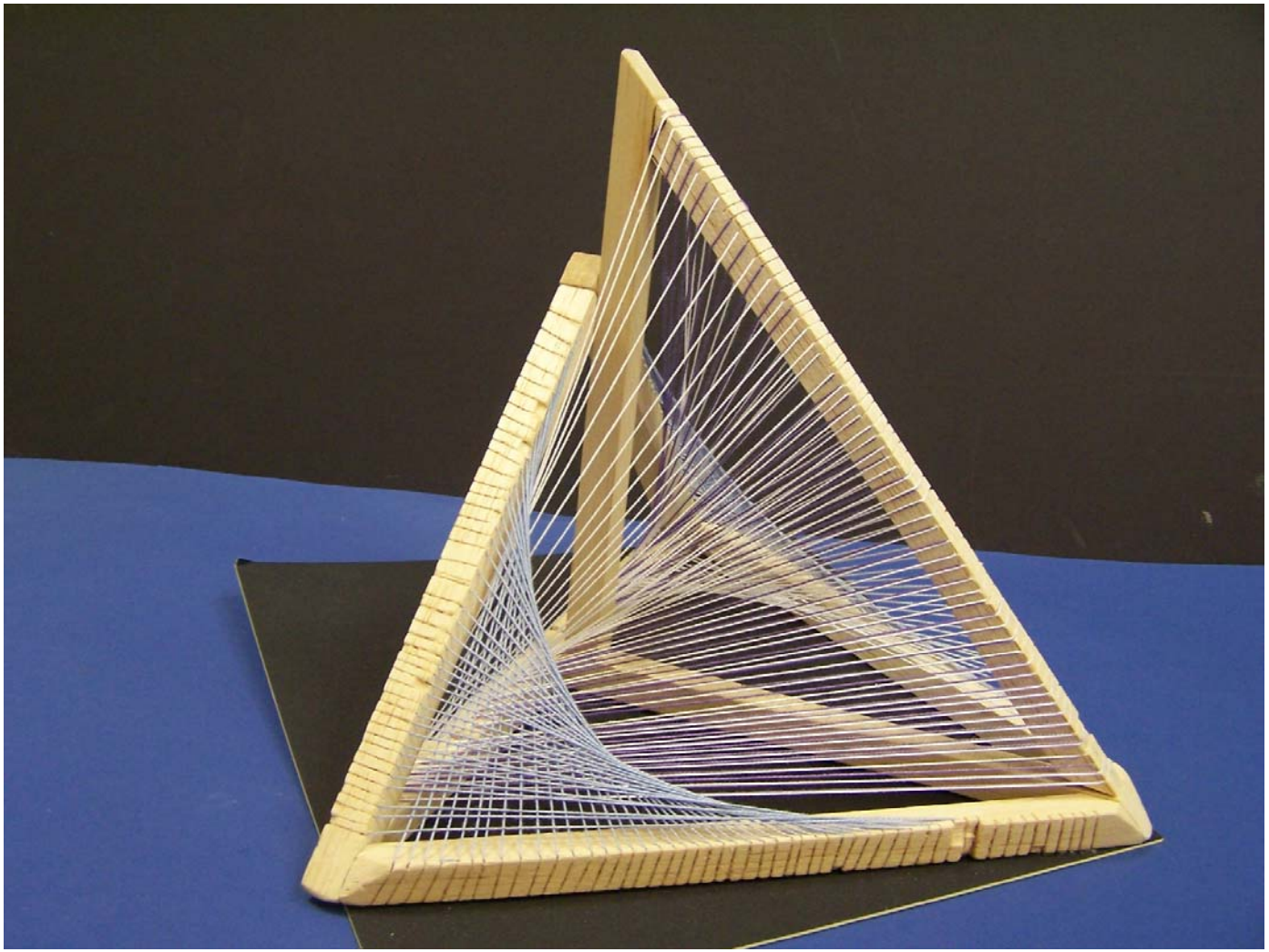

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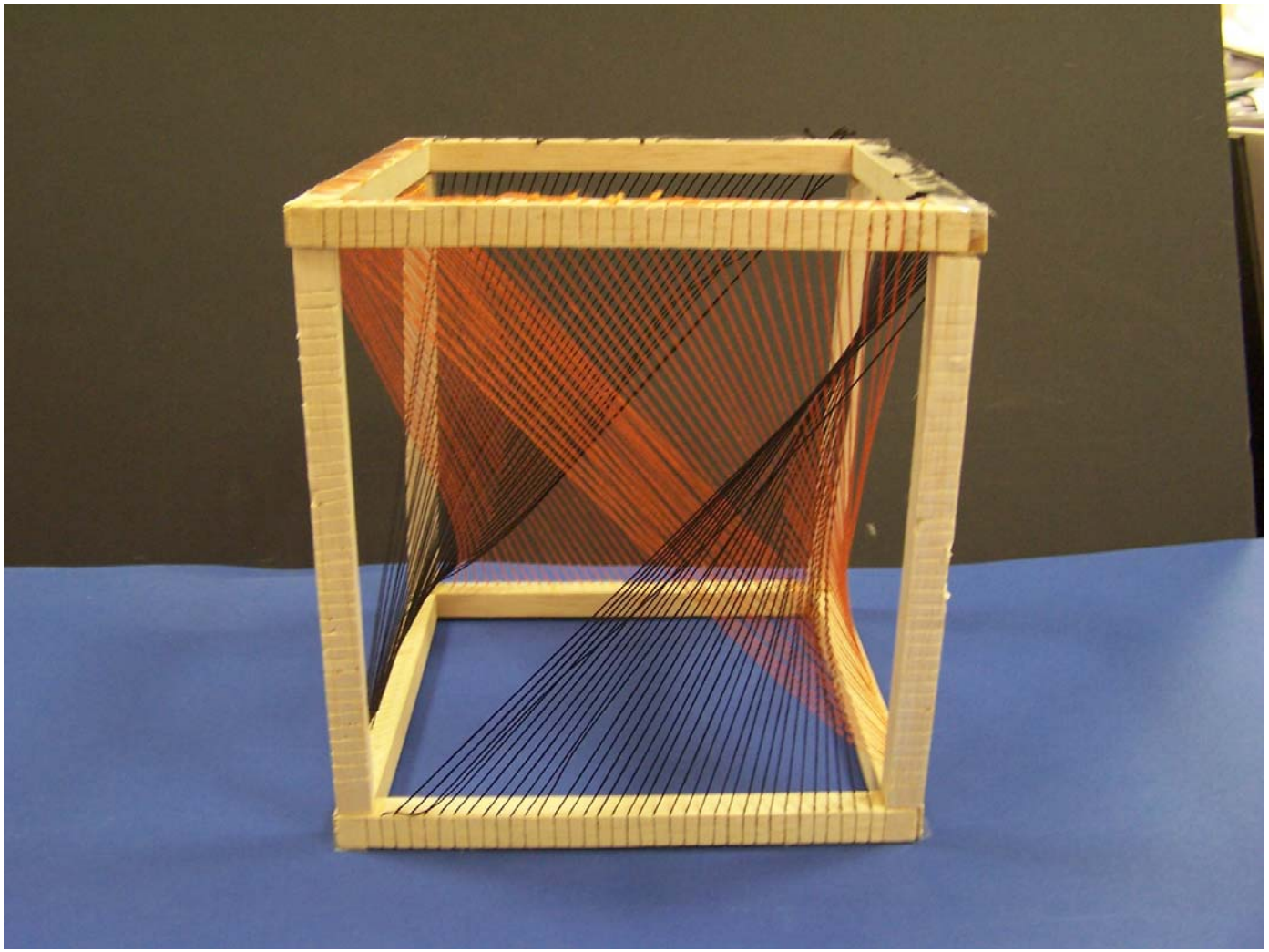

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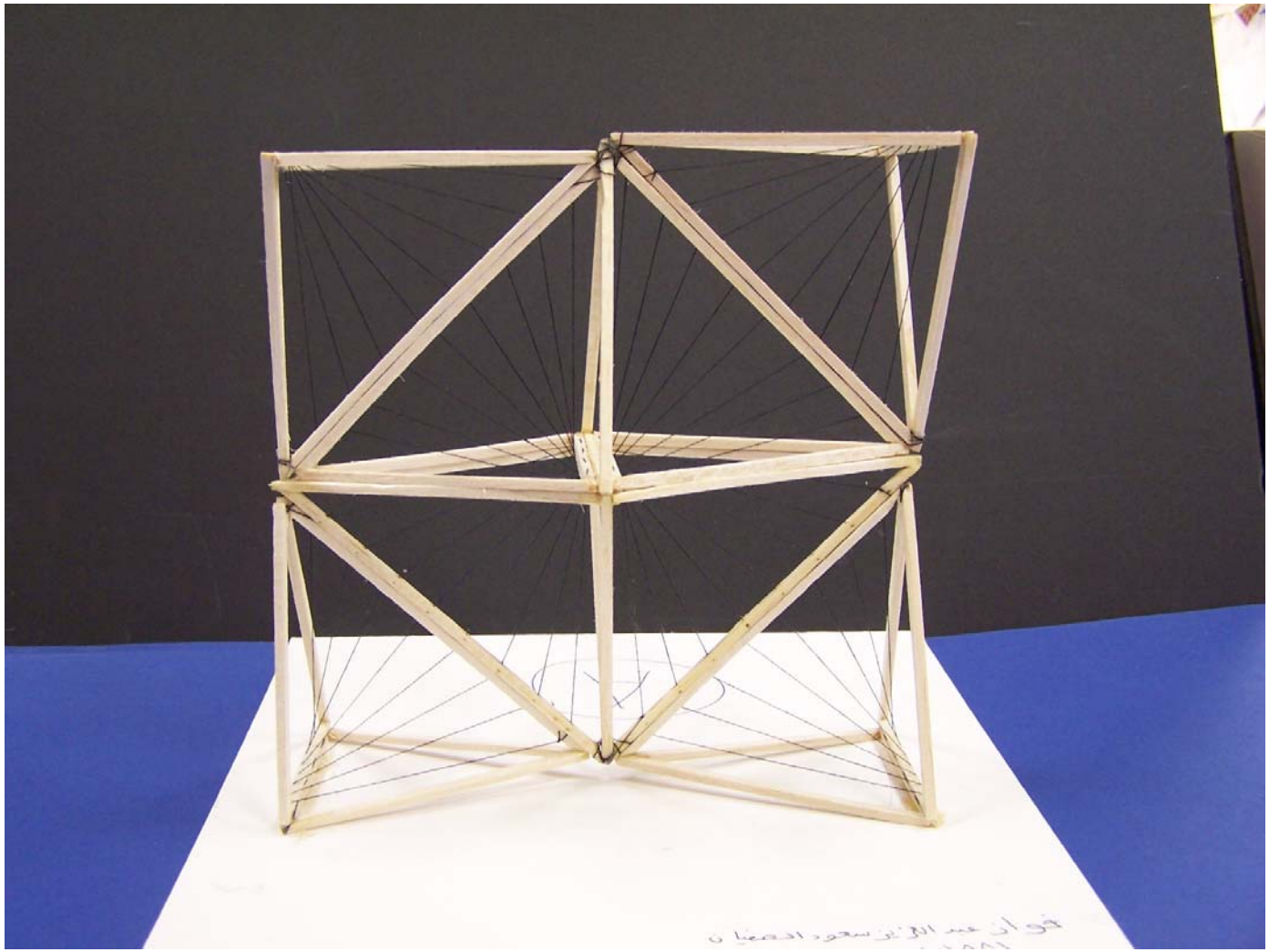

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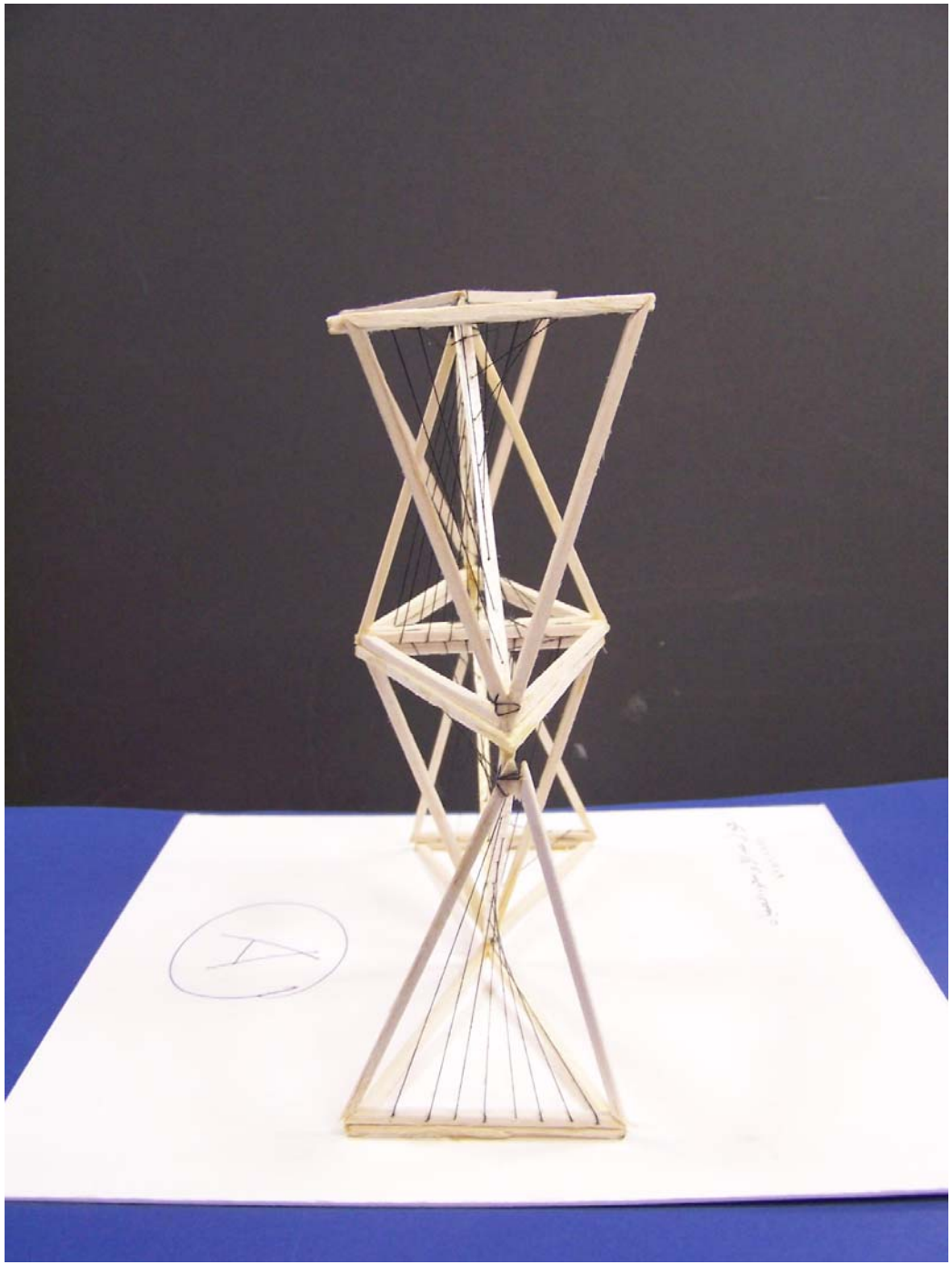

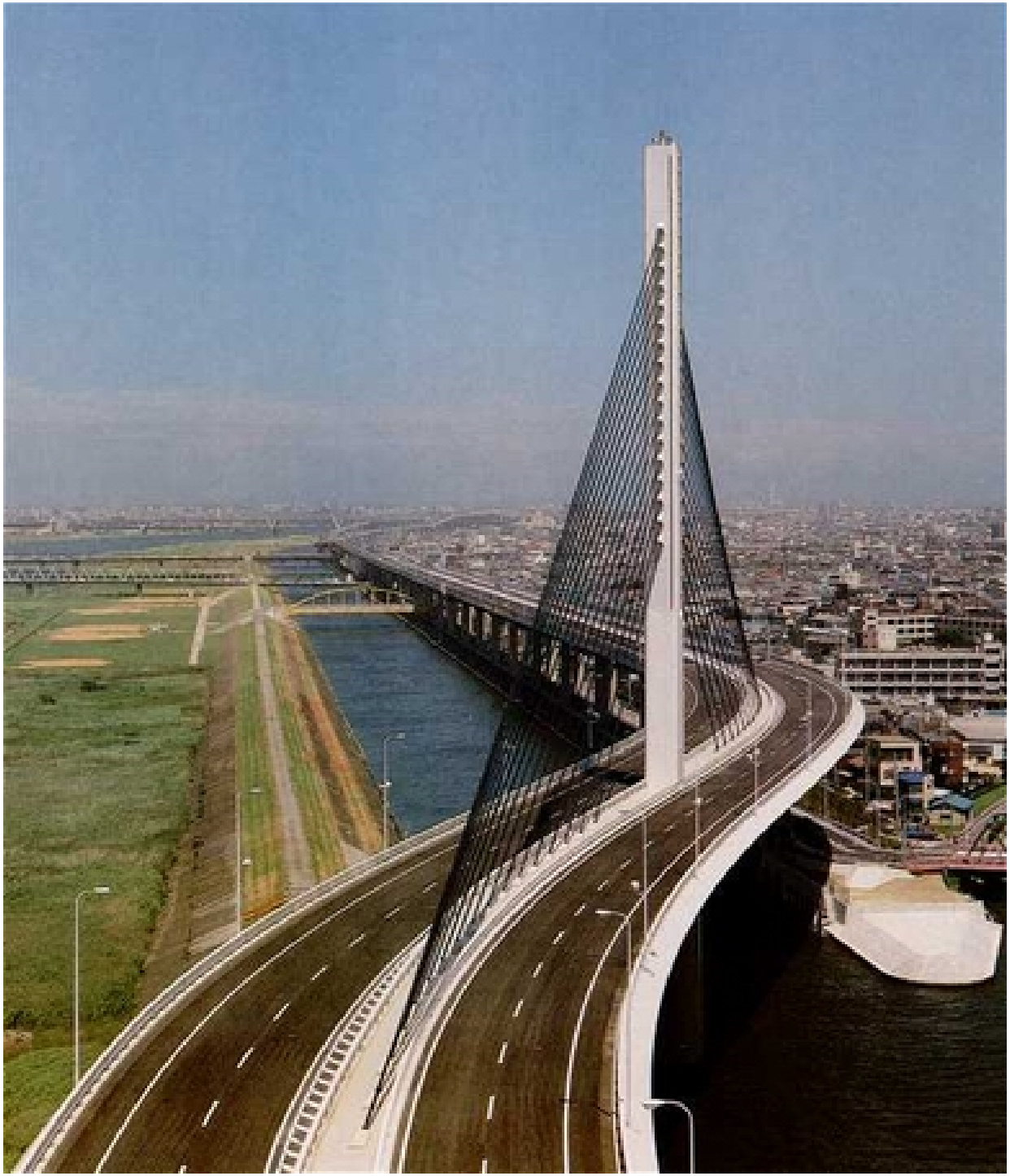


生口橋

تم بحمد الله