

PORTFOLIO

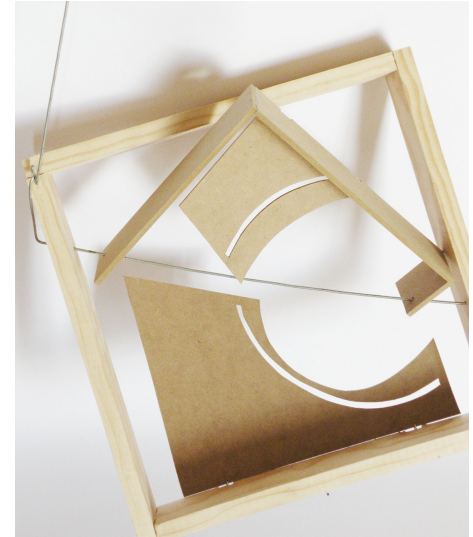
Caterina Forno Ríos
Industrial design

First year



Mechanism for the Construction course

The assigned task was to display a character (in this case a Garamond “O”) by moving a wooden frame. At first, the character must stay hidden, and appear only after activating the mechanism.



Second prototype

The frame makes two movements: first, the upper part goes down and picks up the inner frame. When the upper part goes up again, the “O” comes down from the inner frame.



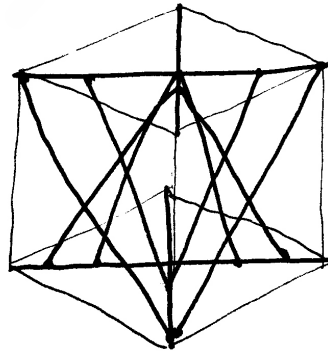
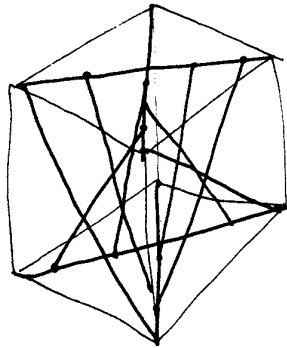
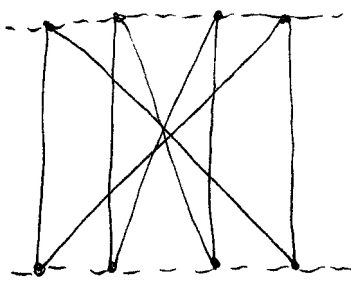
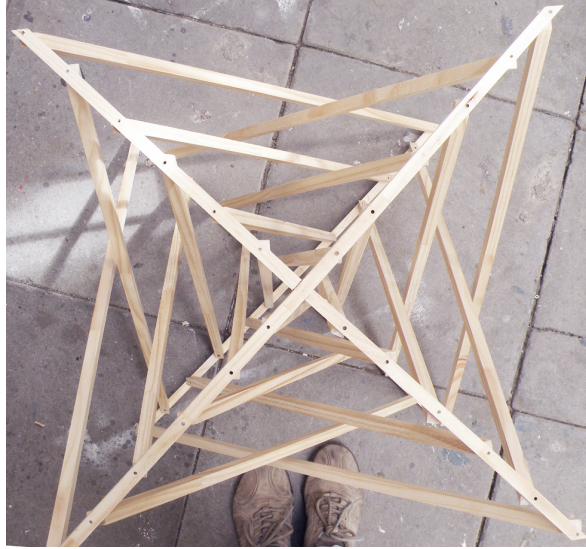
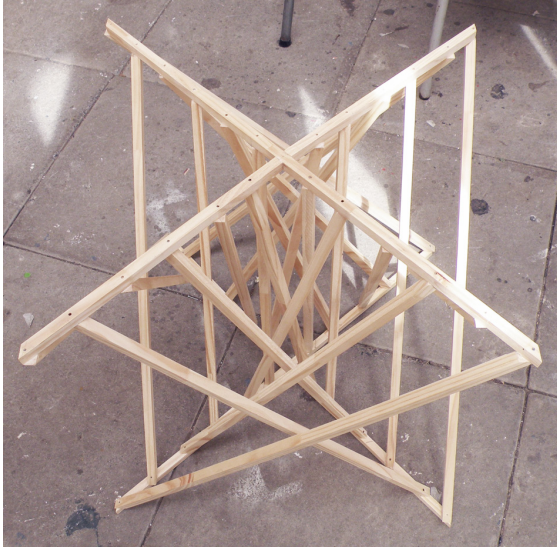
Final project for the First Year Workshop course

The project consisted of rendering the concept of temperance through a spatial construction (50 x 50 x 250 cm).

I defined temperance as the projection of an interior into the exterior of an object.

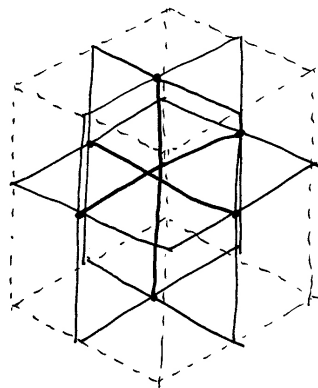
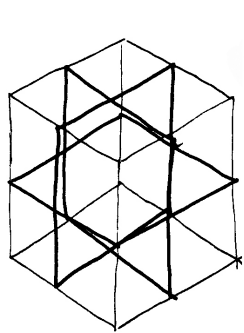
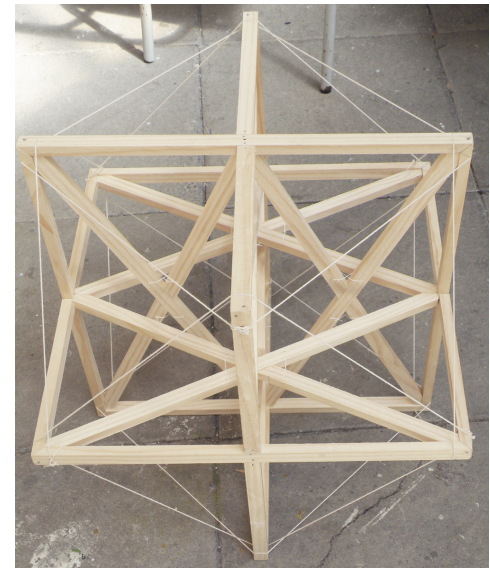
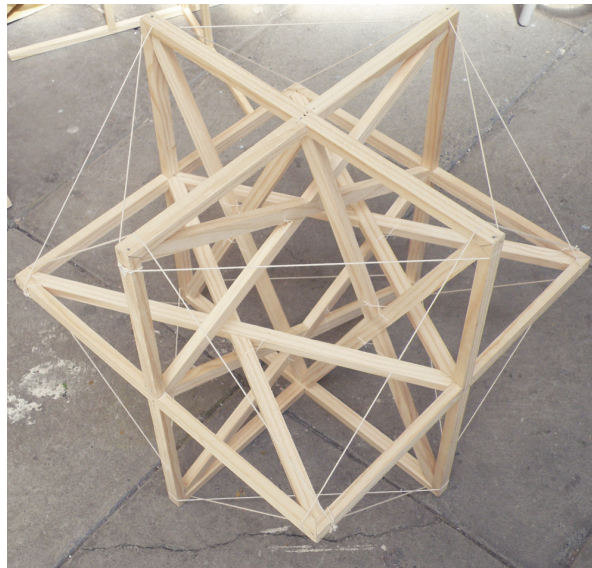
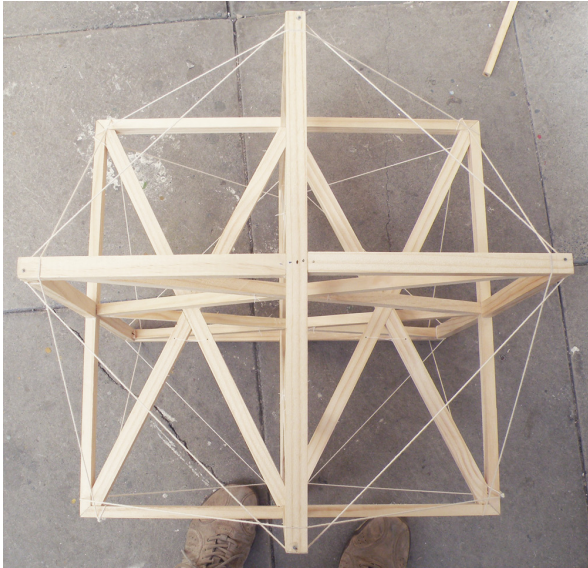
The back of the unit comes forward as it opens, so that the interior space comes out.

Second year



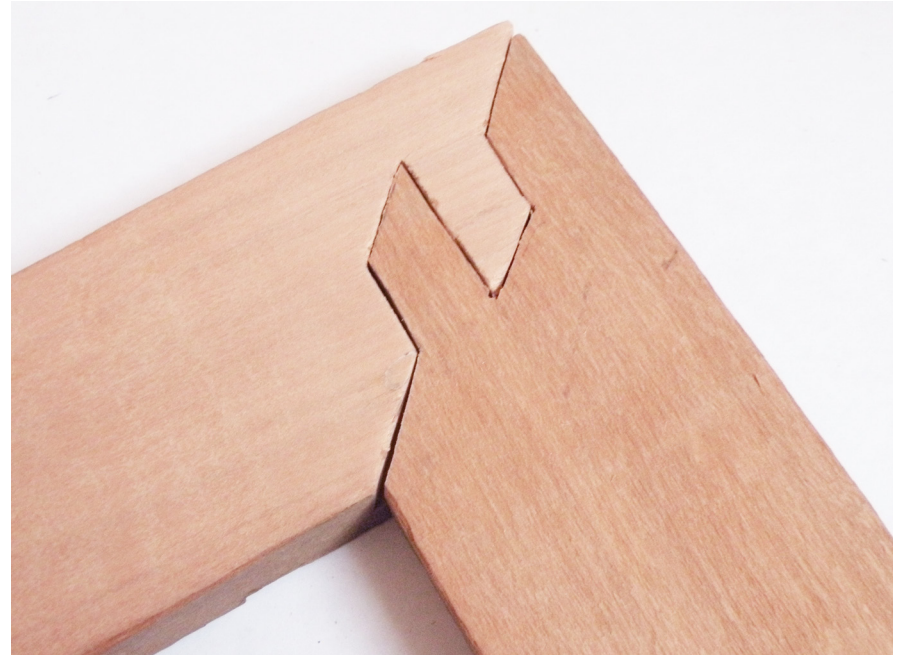
Support unit

A unit that fits into a 50-cm cube, but does not use any of the edges. It has to be as light as possible, yet capable of supporting the weight of an adult.



Second prototype

Built with three identical frames, which configure a modular unit.
The frames act as compressors, the strings as tensors.



Joints for the Construction course

Variation of the lock mitre joint.

This first version of the joint was made with manual tools, such as chisels and hammer



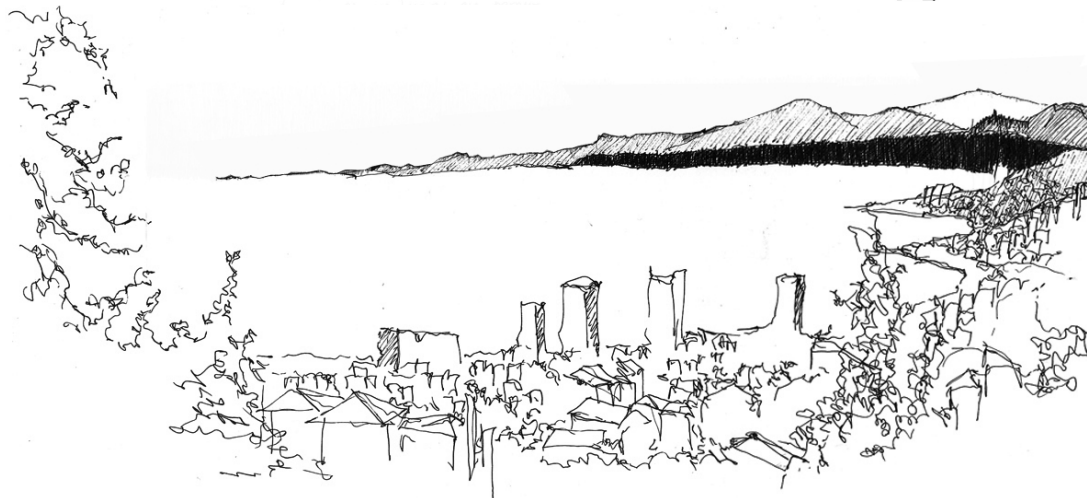
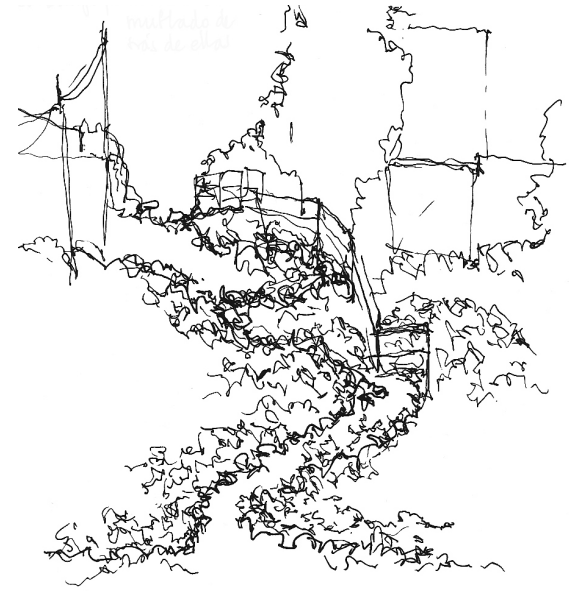
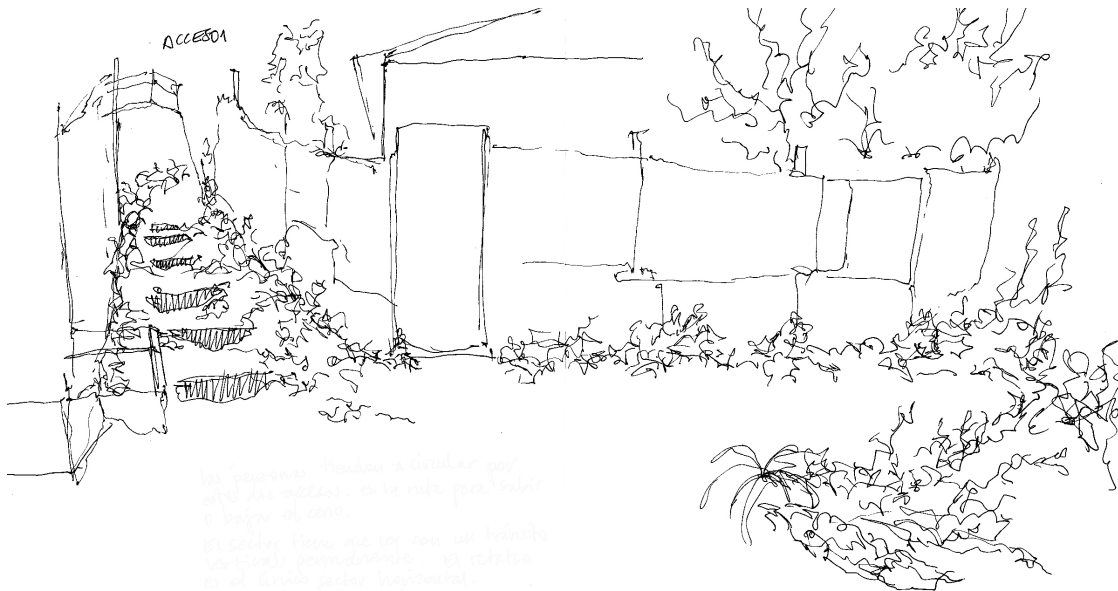
Joint made with electric tools, such as a manual milling cutter and electric saw

Empty Urban Spaces project



Final project for the Second Year Workshop course

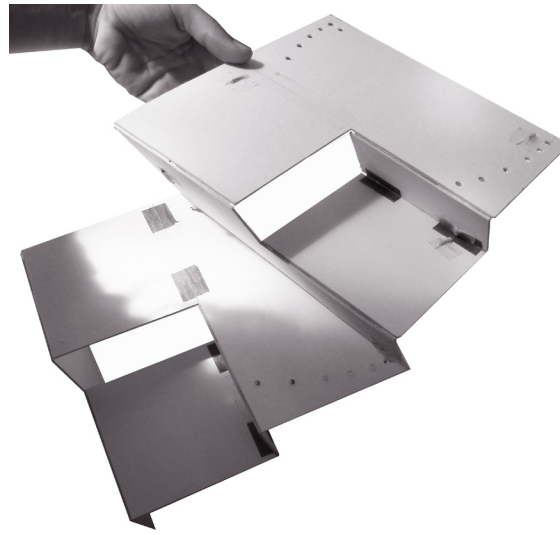
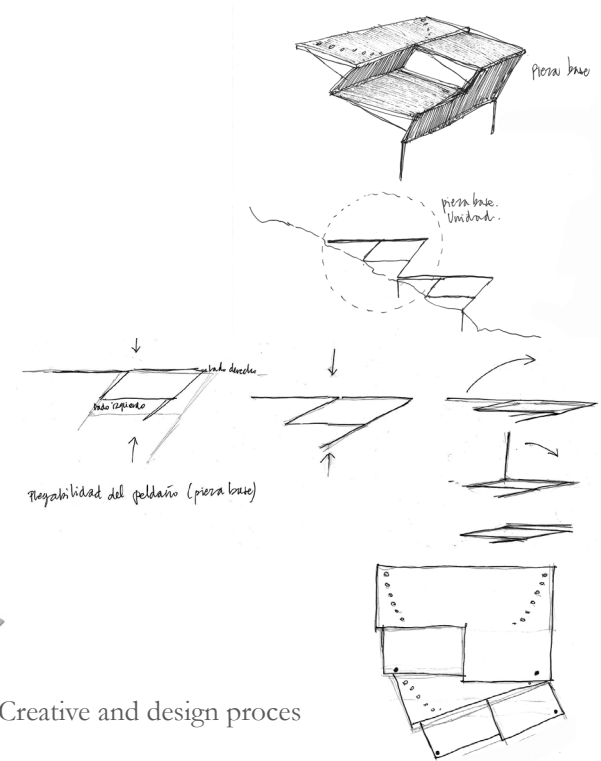
The project consisted in finding an empty place in the city and, through a process of observation and research, to create an object for that space.



Observation process

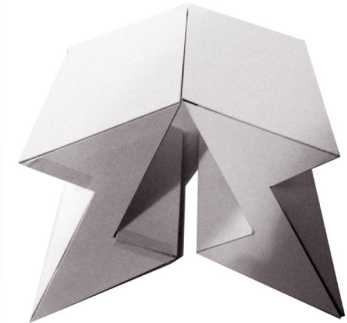
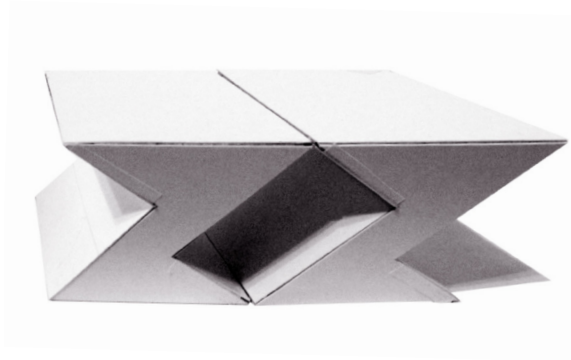
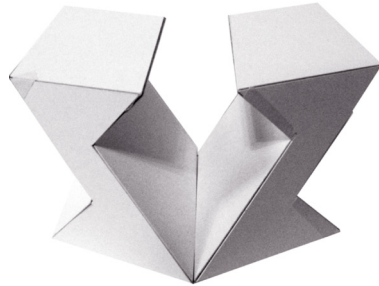
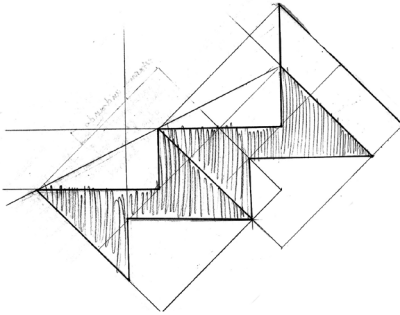
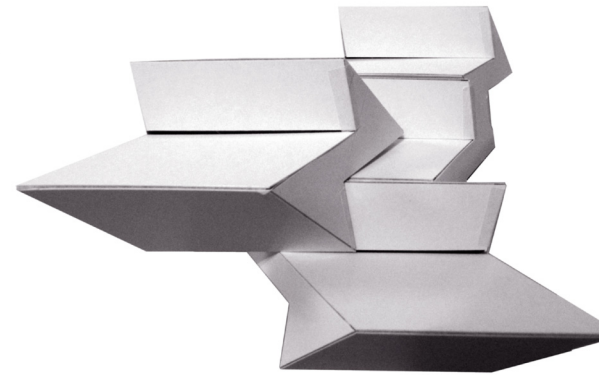
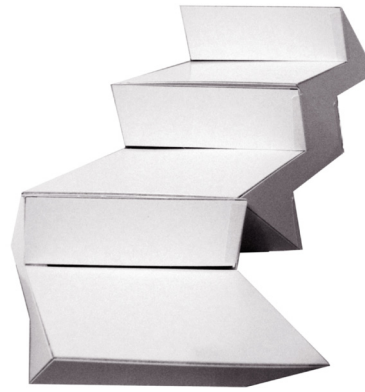
Sight was deemed to be of the foremost importance. The project was aimed at conferring dignity to the previously empty space through both appearance and spaciousness.

Users of this road can't enjoy the view because of the uneven ground and the rudimentary, insecure stairs.



Creative and design proces

To allow people to enjoy the view, the project focused on improving the ground. The chosen object is a modular step, which can be used to form stairs. The step is serviceable even on irregular ground. It is also foldable, so that it can be left in place or moved around by the users according to ground conditions (the ground is variously molded by rainwater). The step has a stairs side and a bench side, to allow both passing through and sitting down.



Second prototype

The object is still a modular step, but in this case it is fixed to the ground. The unit can be situated in different positions, creating different rhythms as it unfolds on the hillside.

Third year, design of celebration



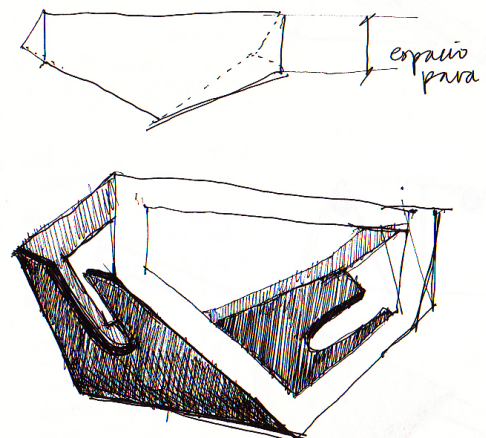
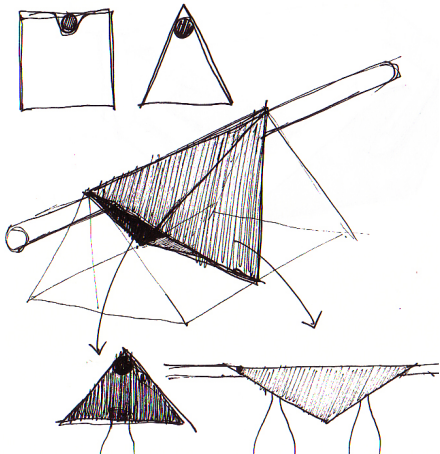
First feast

The third year workshop involved the design of meetings and celebrations. Every week a feast is organised for the School of design and architecture. Funding for food supplies increases with each new weekly feast.



Second feast

My personal assignment consists of planning the position and the mechanism to support and activate the bottles containing fruit juice.



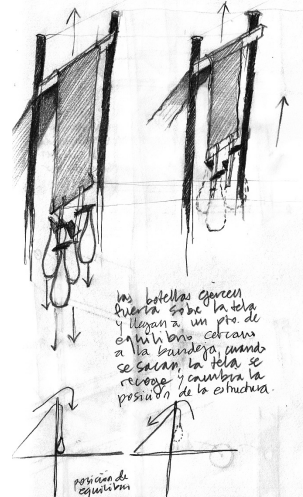
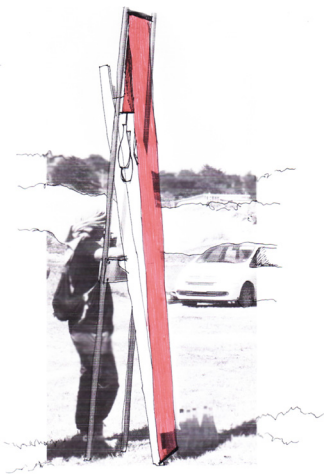
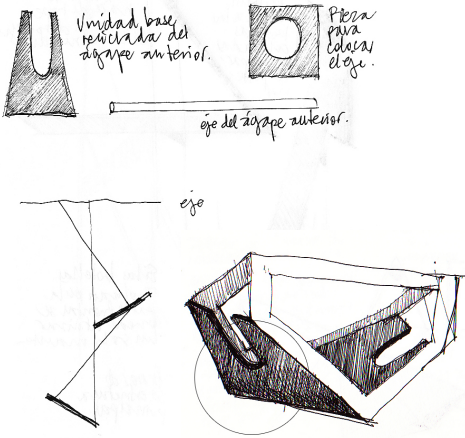
First prototype

For the second feast, the bottles are no longer on the floor, but at the back of the supporting frame. When the whole structure rotates so that guests can reach the food, the bottles spin and remain vertical; they can then be pulled off to serve the juice.



Third feast

The assignment is again the location of the bottles. The mechanism is now inserted into the supporting frame.



las botellas giran
sobre su eje y
llegan a un pto de
equilibrio cercano
a la bandeja, cuando
se sacan, la tela se
recoje y cubren la
posición de la estructura.

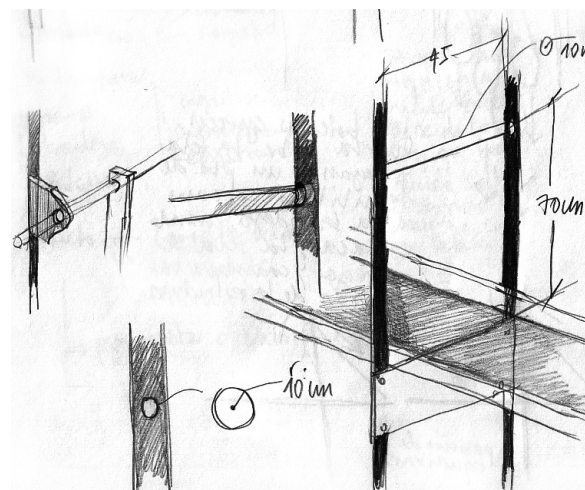
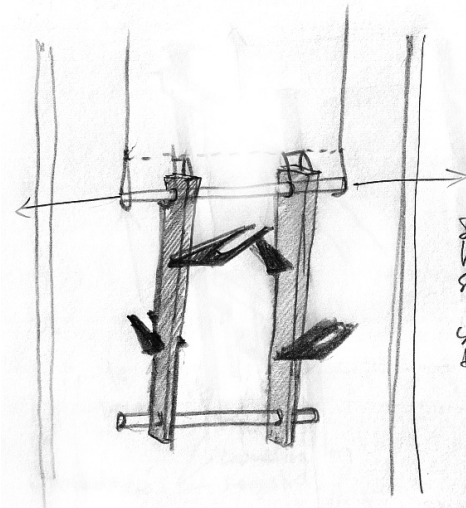
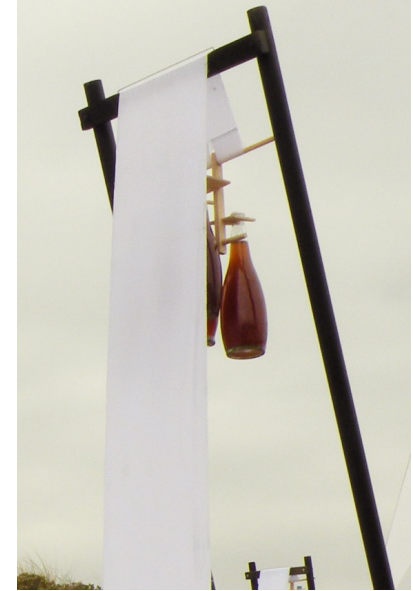
Second prototype

This mechanism hides the support and keeps the bottles on the upper side. When the structure unfolds, the bottles come down so that the guests can reach them.



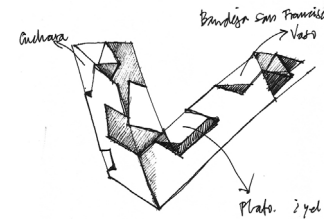
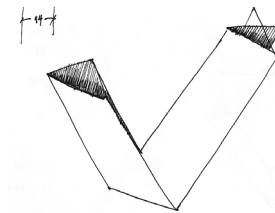
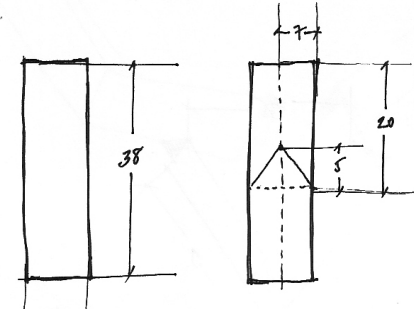
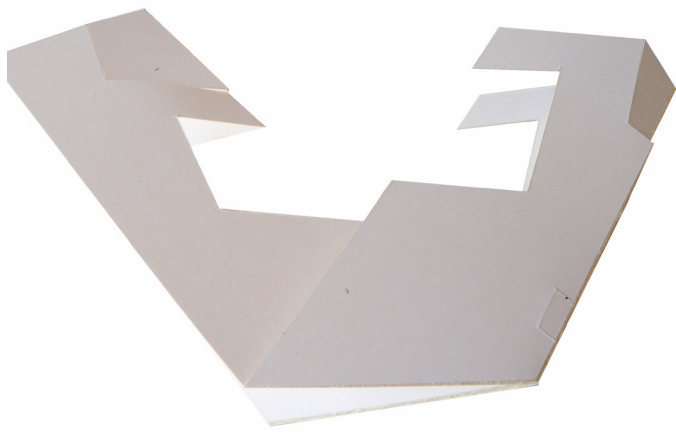
Fourth feast

The mechanism remains the same; the structure incorporates pieces to hold the bottles in place once the structure is unfolded.



Third prototype

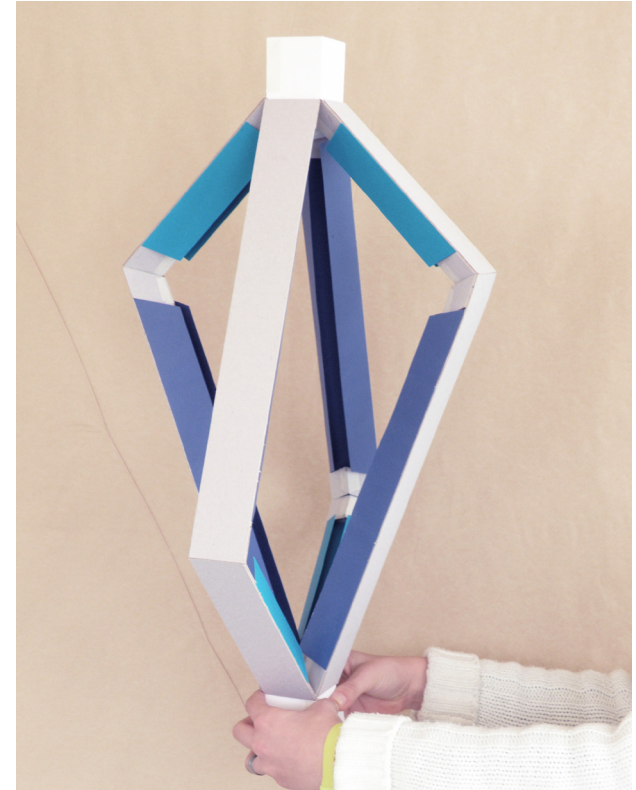
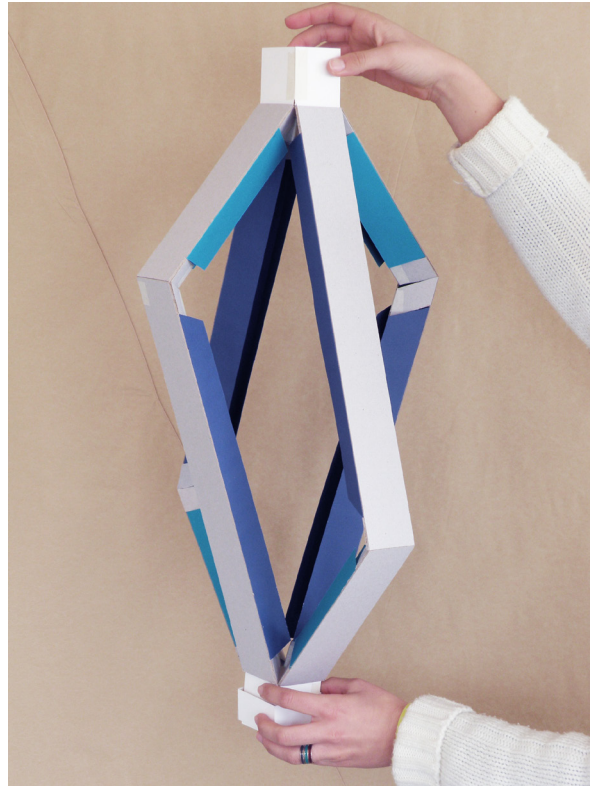
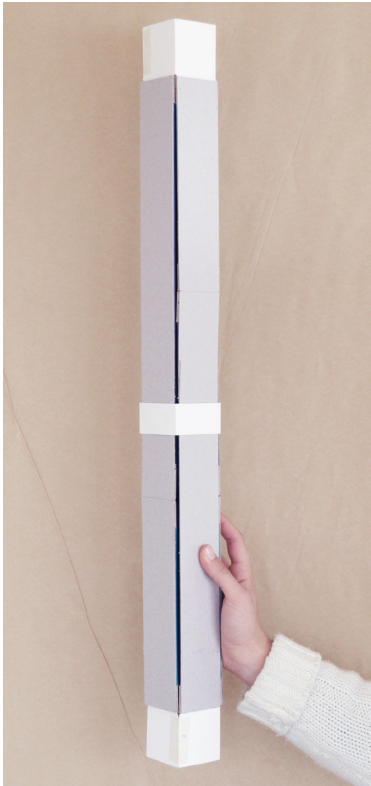
It incorporates a piece to hold the bottles in place when the structure as a whole unfolds. This prevents the fabric from going up or start moving when the bottles are empty. It also sets the horizontal part at a fixed height.



Tray for Saint Francis' Day

The tray has to be very simple, since five hundred of them have to be made in only two days. It must hold a plate, a spoon and a plastic glass.

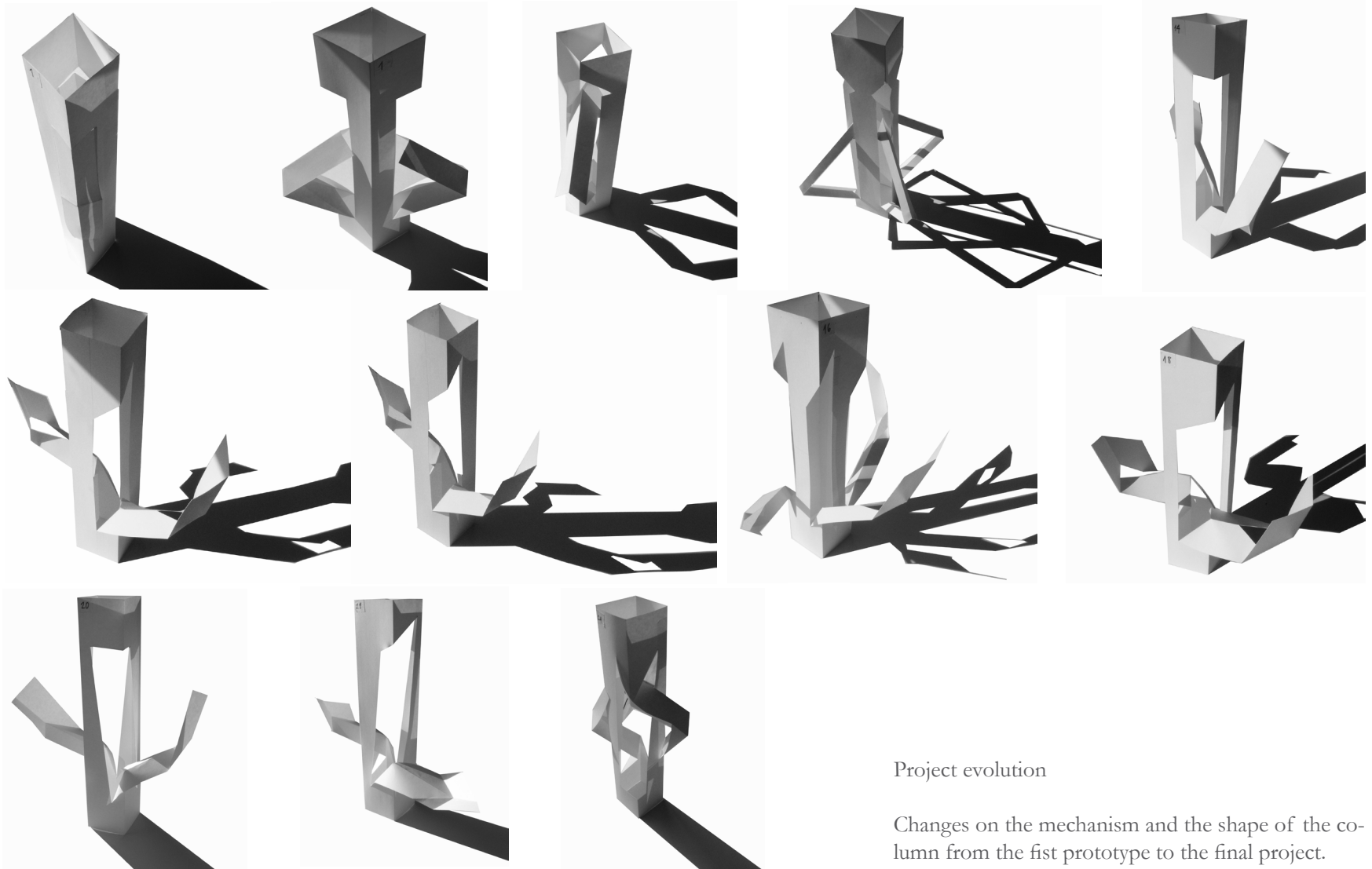
The tray begins as a flat piece of paper, and three folds turn it into a volume of adequate strength.



Pillar for the 60-years celebration of the School of architecture and design

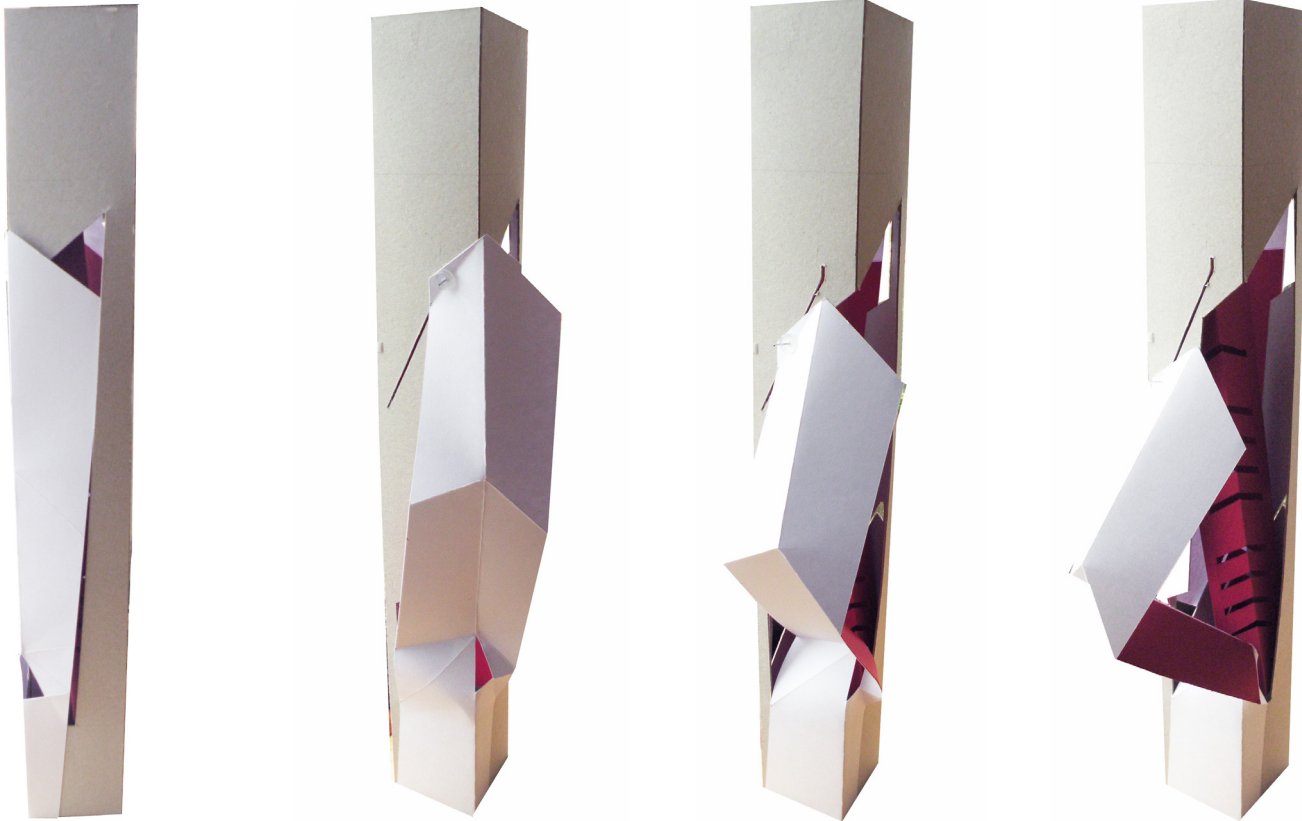
The assignment is to make a pillar that contains food on the inside. The pillar has to unfold by making only one simple movement.

In this case the mechanism is gravity-activated.



Project evolution

Changes on the mechanism and the shape of the column from the fist prototype to the final project.



Final project for the Third Year Workshop course

The mechanism works through the geometry of the folds. In order to activate the mechanism, the lower end of the paper has to be pressed. The fold goes from pointing outwards to pointing inwards, so that the paper that covers the exterior goes down and reveals an opening on the pillar.



Final project for the Third Year Workshop course

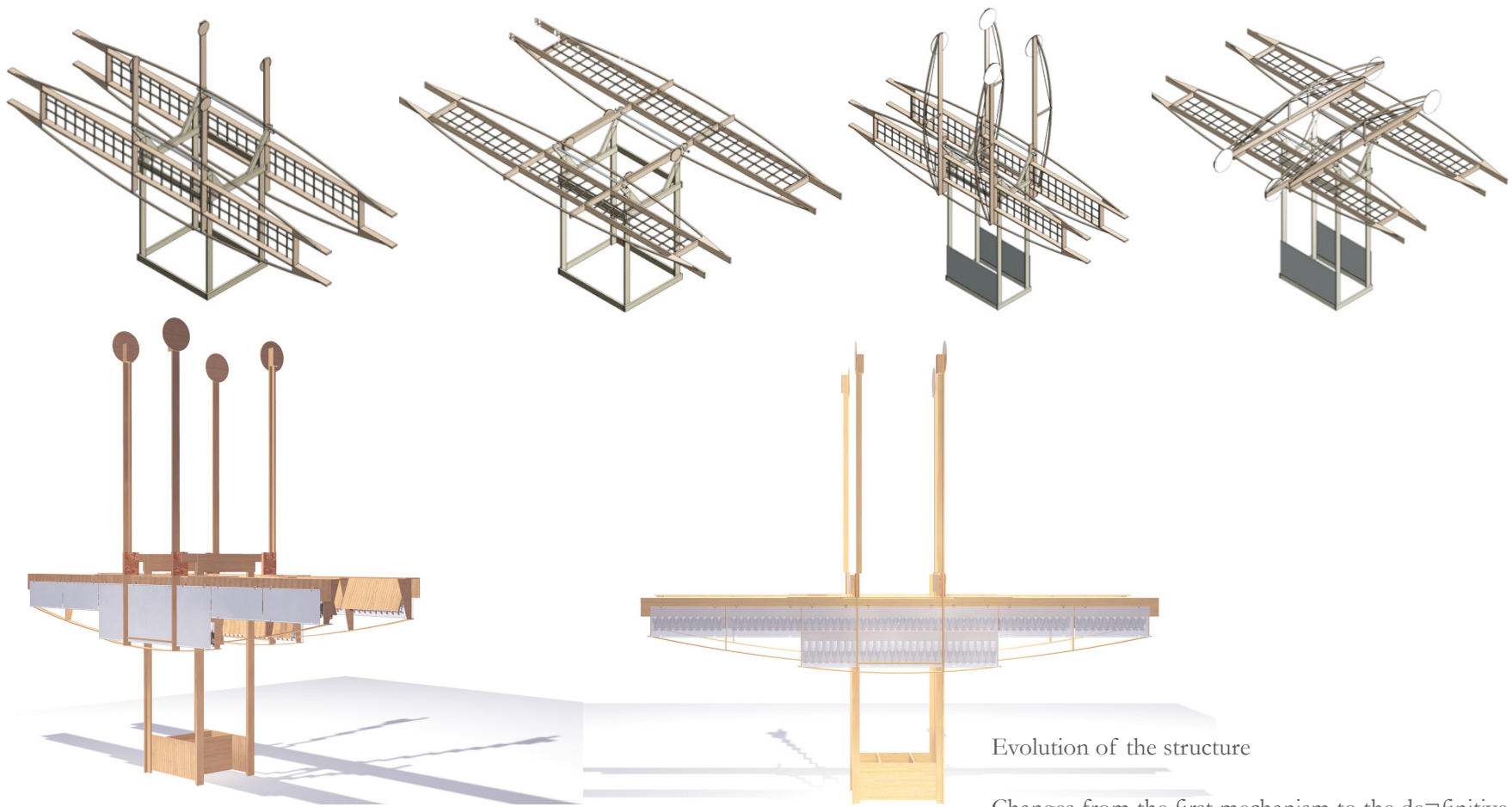
Using the same concept, the paper is already subject to traction, so that it goes down fast and automatically. Inside the pillar there is a long column that holds the food. This column is part of an inner mechanism that pushes it up when the food has been consumed, thus creating a second moment.

Fifth design biennial



Evolution of the food and glass support element

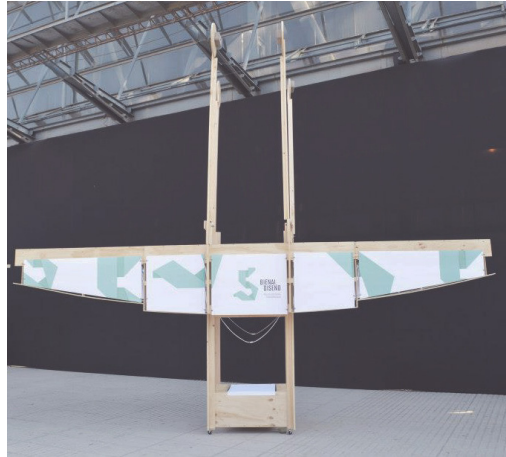
The assignment is to make a vertical element that locks with a small box which contains the food. The idea is to incorporate the glass into the element. In the first two prototypes, the glass is fixed to the element; in the last prototype, it can spin to prevent the liquid from spilling when the guests move it.



Evolution of the structure

Changes from the first mechanism to the definitive version.

The “wings” of the structure unfold, revealing the food inside, which spins as the wing moves while remaining vertical at all times.



Fifth design biennial

1- General view of the dispensing assembly. 2- Folded structure. 3,4- Unfolded structure. 5- Opening mechanism. 6- Guests taking the food from the dispensing structure