

Table-Distortions

Nick Gelpi
Florida International University

Table-Distortions is a recently completed table proposal based on Thonet's 214 chair introduced in 1859, the first flat pack chair, and first bentwood piece of furniture manufactured on a mass produced scale. Thonet's original chair design was constructed of six components, ten screws and two nuts. "At a time when furniture was an artisan product, the idea of a table or chair with legs that could be screwed on or off a frame was revolutionary." With this in mind this table design proposes six tables which become one. Each individual table has a unique shape, which fits snugly together with the others, to form an oversized communal table eighteen feet long by six feet wide, which can seat 24 chairs or can be separated in space as individual tables.

The individual table shapes are drawn with a consistent bending radius suggesting the bentwood manufacturing forms of Thonet's original manufacturing process, which steamed wood to soften it for bending around heavy iron molds. Our table reinterprets Thonet's bent wood manufacturing, utilizing computation and lightweight digital manufacturing techniques instead of heavy industrial tooling to suggest new yet consistent forms. Each table appears to push on the others inflecting the shape of each neighboring table as if they are soft and malleable. An open webbing pattern is cut through the top, based on the location of the non-uniform structural frame below.

The legs are CNC milled from solid ash with curved detailing suggesting bentwood despite being flat to form manufacturing. Each table contains a single central post with four stabilizing legs which could be removed, leaving six main legs to support the entire weight of the table when each top is bolted together. Much fabrication research went in to solving the organic locations of the structural columns below. The frame had to be thickened and because the table is one-hundred percent wood, the socket connection had to be mocked up several times to secure a connection between legs and table tops.

All of the design development of this project is located on the underside of this table, much more closely resembling a structural frame model. With 30 individual legs plugging into 6 separate frames, the table had to be mocked up iteratively to test the stability of such designs as material artifacts. We wanted to control the design detailing and not resort to steel, eventually thickening the underside in certain locations and allowing it to remain thin in others. Softening a standard table shape to reflect the distortions of material present in Thonet's original chair produced a design which was also much more unpredictable, requiring the combination of design and build to test our designs for material quality marking an exchange between design and fabrication. In the end not only is the shape distorted but the sequence of design to production is also distorted as the process produced feedback between materials and representation, iteratively distorting itself.



REARRANGABLE
Individual tables can be placed tight to form a single oversized communal table, or separated into individual tables, or combined as double and triple sets. Tables can be arranged to form a regular rectangular boundary or an organic meandering edge as seen above.

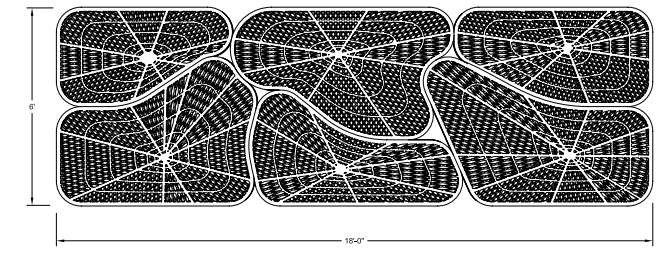


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FABRICATION
Individual frames were fabricated to accept legs which plug in to custom sockets. Frames were steamed and glued and thin wooden tops were attached to the frames to act as a structural skin. Seen at bottom left is the detail of an individual leg plugged into the organically shaped frame below the thin table top.



ELEVATION
Long side elevation of all table fit snugly together. Due to the non-repeating structural grid below, the structure needed to be selectively thickened to provide stability once all tables were assembled side by side.



UNDERSIDE
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