

**In the Thonet Tradition**

*This article was written in December 1999 to celebrate the launch of a new range of furniture for Thonet at the Cologne Furniture Fair in January 2000.*

If I think back to my first days of practice as an architect, my earliest sketches often featured a Thonet bentwood chair. A friend later pointed out that these images always sought to convey a particular life style. The table in the foreground would usually have glasses and a bottle of wine – a suggestion of good taste complemented by the associations with classic furniture. Sometimes the chairs would be tubular steel pieces inspired by the early modernists. I was later to discover that many of this next generation of chairs, bent metal tubes rather than wooden rods, also originated from the factories of Thonet.

At the time I made those early sketches I could never have imagined that nearly forty years later I would be with the three Thonet brothers in their factory at Frankenberg in Germany, discussing the designs of a new generation of furniture for their company. With my colleagues, John Small and Mike Holland, I proposed a concept which would combine the advanced production possibilities of today, with the Thonet tradition dating back to the last century. But what was the essence of that heritage?

The answers were to be found in the Thonet Museum, a small building adjacent to the Frankenberg factory. Here it is possible to view those past classics in their extraordinary variety and abundance. How could so many richly sculpted forms be derived from the ostensibly simple idea of bending pieces of wood or metal – and then just screwing them together? This collection is like a treasure trove in a Victorian museum. But all these pieces are simple assemblies from a kit-of-parts.

What we proposed for today's needs is a surprisingly diverse range of individual pieces, chairs and tables, all derived from a limited range of components. Each one is a 'knock-down' assembly of pieces joined together by today's equivalent of the wood screw, but now using a power driven Allen key instead of a screwdriver.

Moving on from steaming lengths of ash into curved forms, or bending steel tube into Bauhaus inspired shapes, we have developed a family of aluminium extrusions that can be stretched into curves and joined together with straights. Each one is specifically tailored for its role - a technique that was not available to previous generations of designers.

I am fascinated by the interactive nature of designing. If you change one parameter – for example the ergonomic priorities, choice of materials or critical dimensions – then the effect ripples throughout the design to influence all the other criteria. Furniture is like architecture in microcosm, with the big difference that the time between cause and effect can shrink dramatically – the response time to a decision can be a few weeks or even hours.

For instance, we considered that one version of the chair might feel better with a softer, more tactile point of contact where your hands touch the arms – leather rather than bare metal. But the curved aluminium arm is the very essence of the chair – its identity. How could this be retained and the warmth of a softer, more organic material introduced without compromising the design? I suggested that a strip of leather could be bonded directly onto the metal and to make the point I drew attention to the brown suede belt that I was wearing at the time.

This was one of the developments that we reviewed at a follow-up meeting several weeks later. For all of us, clients and designers alike, the outcome was successful and the variation was universally adopted.

However, at that same working session we surveyed the prototype dining table with great anxiety. To put it mildly the structure was very wobbly! There were two tops to consider – one expressed its true thickness, the other had edges that tapered to a finer margin – reminiscent of the cantilevered floors slabs of our Willis Faber building designed some 25 years ago. The latter looked like a horizontal blade – great! But how to resolve the wobbly structure that was to support it?

By rocking the table to and fro we could identify its points of weakness – the legs and their connection to the horizontal structure. Time was of the essence because we had flown into the local airfield – a very basic landing strip in the middle of hilly country – through a minor snowstorm. Snow ploughs were keeping the runway open and our aircraft was safe in a hangar. But conditions at our destination were more uncertain and the slot time with air traffic control was another fix. A sense of urgency can often be helpful to focus the mind!

I had the idea to double the legs by adding another length of the same extrusion that formed the supports of the chair. We mocked it up with a spacing gap so that you could see that it was a double structure. It may have provided the necessary rigidity but it simply did not look right - so we all rejected it.

Then one of the Thonet brothers suggested trying a different extrusion – only to find disagreement with the others. I was not sure, but I pushed everyone to at least try it. Faces were creased with doubt and somebody started to point at his watch. I suggested that we went to a DIY store to buy some tools and do it on the spot. The message was received and in minutes two technicians in their overalls arrived from the factory next door and performed the 'transplant'. It looked great but when we pushed it and sat upon it the table was still wobbly – not as much as before but not rigid enough to be marketable – what next?

First thoughts were to beef it up – add more material, create more fixings. But if you stood back away from the table it was looking better than ever. The combination of its slim edged top and the consistent use of the same family of extrusions was visually convincing – in other words it was looking very good, even if it was a trifle unstable.

The inspiration, at the meeting some weeks earlier, which had launched the original concept, was a traditional refectory table. This had led us to a structure, framed at the top, with a horizontal cross bar which connected the legs lower down. I suddenly had the idea of cross-bracing the whole structure with a diagonal cable in the plane of the cross bar. First efforts were a crossed diagonal, rather like the structure of the Reliance Controls building dating back almost 35 years.

By then we were all on our hands and knees underneath the table and a simpler version emerged. The idea was to tension a cable from the top outer edges down to the centre point of the cross bar – an evocative V-shape – that might do the trick.

With minutes to go the technicians appeared wielding drills and steel cable. It all happened remarkably quickly; the cable was magically in place and tensioned up. For the first time the table was rock-solid – stronger than we could ever have imagined and looking even lighter and more sparsely structured than before.

Now the bracing of that table is as central to its image as it is to the structural stability of the piece. One can draw analogies to earth-bound structures and waterborne sailing craft, which have been braced by tension cables in the quest to combine economy and high performance.

I can think of times when an urgent time scale has compromised design but working against the clock has more often than not quickened the creative pulse. That Thonet meeting was a race against two timescales – one to meet the deadline of a launch at the Cologne Fair, a mere eight weeks away. The other was our snowy departure from Frankenberg.

As a footnote, we managed both to fly out on schedule and to make the product launch in Cologne.

**Norman Foster**

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