

The Thonet tubular steel furniture – an invention from the Bauhaus era

Today, we take the form and aesthetics of tubular steel furniture for granted. They represent legendary milestones in design history. Art historians and materials scientists have been dealing with the details of the development of this design innovation for a long time. When were each of the particular designs created? How did the first tubular steel furniture designers influence each other? After the end of the First World War, society and politics in Germany were struck by a general crisis, which also shook the foundations of everyday aesthetic forms and provoked changes. In 1919, the first post-war year, not only was the Bauhaus in Weimar established but the National Assembly discussed the Weimar Constitution right next door in the theatre, and the Treaty of Versailles divided society. First influenced by expressionism and the Dutch De Stijl movement, several designers, architects and craftsmen started looking for new technologies and forms in the 1920s. For the first time in furniture making, they began experimenting with tubular steel as a material. The concurrence of several factors contributed to the fame and sustainable success of Thonet's tubular steel furniture. There was the New Building design movement that developed with manifold tendencies, and the aesthetic-cultural educational institution Bauhaus, which repeatedly changed locations due to political changes and changes in its conceptual strategy resulting from its own development. The Bauhaus is a decisive point of reference, but it was not the birthplace of the new furniture. Thonet, already well-known for its diversified collection of bentwood furniture at the time and as an expanding company with international standing, offered itself as a natural partner for those designers who were striving towards typification in architecture and interior design. Thonet, after all, was a pioneer in the division of labour and the modular principle in furniture production. In addition to Michael Thonet, other pioneers of modernism including Josef Hoffmann, Adolf Loos and Bruno Paul had already designed bentwood furniture, and some of it was prefabricated in individual parts and could be disassembled.

An aesthetic-functional new beginning

By the mid-1920s, the obstacles of political-revolutionary change and hyperinflation were overcome and a short phase of stabilisation began. In housing construction, settlements were created in many German cities as practical examples of New Building, which needed to be furnished with the corresponding pieces of furniture. The traditional heavy and ornate furnishings of the pre-war era no longer fit in with the new floor plans or with the objective architectural language. A new generation of designers was trying to change both architecture and interior design styles. They focused on the function of their furniture. A new type of furniture was created, and Thonet still produces the most important designs from that era today.

Among the pioneers of this development are the Hungarian Marcel Breuer, who was the first to design living furniture made of tubular steel, the Dutchman Mart Stam, who created the first chair without back legs, and the German Ludwig Mies van der Rohe, who developed this type of chair into an aesthetic object that flexes when sitting on it: the cantilever chair. The three designers had different approaches and motifs, but the transformed understanding of life in a modern world was their common ground. All of them had contacts with the Bauhaus; however, they drafted their ground-breaking designs in different contexts.

Three steps to furniture innovation

The experiments of the joiner Marcel Breuer, who trained at the Bauhaus, stood at the beginning of the development. As a "young master" and head of the joinery workshop, he was influenced by the

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Dutch De Stijl group and especially by Gerrit Rietveld. In Weimar he had designed an expressive African chair. In 1925, when the Bauhaus was preparing its move to Dessau, in collaboration with external craftsmen – presumably in cooperation with a master locksmith from the Dessau Junkers Werke facility – he started expanding his knowledge and skills that had thus far been limited to working with wood. The inspiration for the selection of the material was provided by the shiny, bent bicycle handlebar of Breuer's new Adler bicycle. He tried to enlist the Frankfurt based company as a production partner or material supplier, but he failed. However, within a short period of time, Breuer designed a collection of furniture, some of which he was able to use to furnish the new Bauhaus building and Walter Gropius' Master Houses. Today's Thonet nested table B 9 was used in a specific version as a stool in several Bauhaus buildings, including the cafeteria. The permanently installed auditorium seating was realised with foldable Breuer tubular steel furniture. In 1926, together with his fellow countryman Kálmán Lengyel, he established a start-up business named Standard-Möbel in Berlin which dealt with the production and distribution of tubular steel furniture. At that time, the young company already offered a number of different models, but no tubular steel cantilever chairs. "Metal furniture is part of a more modern room," Breuer wrote, because "furniture, even the walls of a room, are no longer opulent, monumental, (...) they are rather cut out airy, (...) sketched into the room; they neither hinder movement nor the view through the room."

The Dutch Mart Stam, the youngest architect to participate in the architecture exhibit "The Dwelling" in 1927, created a building with three town houses at the Stuttgart Weissenhof Estate. The exhibit was organised by the Deutscher Werkbund, and Ludwig Mies van der Rohe, who also was the artistic director, had designed the master plan for the premises. In November 1926, a preparatory talk took place at a hotel in Stuttgart with Stam, Mies van der Rohe and Le Corbusier as well as Heinz Rasch, a young architect, who later wrote about the meeting in the Stuttgarter Tageblatt newspaper: "Stam picks up the wedding invitation of Willi Baumeister lying on the table and on the back of it draws a piece of furniture that he recently created for his pregnant wife. It consists of ten equal lengths of gas pipes connected with 90-degree pipe fittings. A wooden panel serves as the seat." Stam continued developing the idea until the exhibit in the following year. A metal construction company in the neighbourhood was to help with its realisation. Stam's goal was to "use the thinnest pipe with the smallest radius." First, this goal caused structural problems. The chair needed to be reinforced with solid steel inserts to prevent it from bending and snapping. This chair with two legs was called cantilever chair since it transferred a typical motif of modern architecture – cantilevering – to furniture. His cantilever chair was unable to flex or swing, but it still represented a revolutionary invention, the once-in-a-century object, which was to fundamentally change the future of furniture making. Stam was interested in social changes that architecture would support. He propagated an economy of scarcity in a way that was both rigorous and engaging. Stam furnished one of his three apartments at the Weissenhof Estate with Thonet bentwood furniture, and another with his black lacquered metal furniture without back legs. Breuer furnished the third apartment with his furniture, which was nickel-plated and had a shiny metallic look but did not cantilever. Two days before the beginning of the exhibit in Stuttgart, Mies van der Rohe filed a patent application for his tubular steel chairs. Contrary to Stam, he did not bank on scarcity but celebrated simplicity with a generous gesture. His cantilever chairs draw a large semi-circular curved line on both sides. In contrast to Breuer's first designs – and more than is true for Stam's cantilever chair – Mies was concerned with an overall aesthetic effect. Contrary to his colleagues' first tubular steel furniture, his chair (today Thonet S 533) communicated a visually and literally vibrant sense of sitting. It was the first cantilever chair. Mies van der Rohe, however, was only able to present this sophisticated chair made of cold bent tubular steel towards the end of the exhibit at the Weissenhof Estate. His chair is spatially extensive, a sculpture that embraces the person sitting in it from both sides.

Serial production and breakthrough

Subsequently, many designers began experimenting with the possibilities and limitations of tubular steel as a material. Mart Stam criticised “furniture artists” and discarded forms that did not comply with his ascetic principles as “impossible steel macaroni monsters”. Stam taught urbanism at the Bauhaus in Dessau for a short time in 1928/29. The company Standard-Möbel, to which Breuer transferred his rights, was acquired by Thonet in 1929. The seller was entrepreneur Anton Lorenz, who signed a licensing contract with Mart Stam and took legal action against competitors and plagiarism. Lorenz later also became a consultant for Thonet.

In 1930, the production of tubular steel furniture began with the establishment of the “steel department”. 70 years after the launch of the Thonet bentwood model no. 14 (today 214), the company established a new comprehensive collection based on tubular steel and increasingly perfected the technology and production methods. Based on Stam’s basic concept, Breuer designed additional models for Thonet, including the cantilever chair S 32 (S 64 with armrests), which developed Stam’s cubic and strict formal language in reference to the Thonet tradition: with a seat and backrest made of bentwood, covered with Vienna wickerwork. This combination of familiar and new materials enabled the breakthrough of the tubular steel cantilever chair. It is the best-selling piece of tubular steel furniture to this day.

In the midst of a global economic crisis, the Deutscher Werkbund presented a fully furnished high-rise apartment based on Walter Gropius’ design in 1930, following the invitation of the Société des Artistes Décorateurs at the Grand Palais in Paris. Marcel Breuer presented his Thonet armchair S 35 for the first time. While Stam was occupied with low income housing in Frankfurt, Gropius demonstrated a different approach, which Mies van der Rohe advanced with his contribution to the Berlin Bauhaus exhibit in 1931. Modern forms of living were luxuriously interpreted. The flowing spaces, shiny surfaces of the tubular steel furniture and fine woods were in harmony. Mies tried to push this orientation during his time as Bauhaus director from 1930 until 1933, entirely in opposition to the motto “the need of the people instead of the need for luxury” proclaimed by his predecessor Hannes Meyer as a guideline. And yet, Ludwig Mies van der Rohe never saw himself as a Bauhaus architect. The work he created before and after this phase was much too important in his oeuvre.

The future of the once-in-a-century invention

Both lines of development – of luxury and simplicity – play a decisive role for furniture design to this day and are no longer understood as polar opposites. From America, Breuer, Gropius and Mies van der Rohe influenced the development of the objective “International Style” in architecture and interior design starting in the late 1930s. Tubular steel furniture has been important as an aesthetic highlight of a transformed living style ever since. The renewal of architecture prepared the ground for office furnishings that follow the aesthetic principles of simplicity, characterised by objectivity.

Tubular steel furniture has always been subject to economic cycles due to the change of trends. Thonet has consistently pursued its development. Critics, also from among the ranks of modernists, at times blamed it for coldness and a lack of cosiness. In contemporary interior design, its role has changed; as classics, tubular steel furniture is added to interior design concepts that are based on an eclectic mix of styles. Thonet secured the rights to tubular steel furniture early on and consistently preserves them. Mart Stam was awarded the artistic copyright for his development by the German Federal Court of Justice (BGH) in 1961. The designs of Marcel Breuer and Ludwig Mies van der Rohe are protected by copyright as works of applied art. Today, Thonet produces the classics through manual craftsmanship, with the great expertise of its staff and in combination with cutting-edge technology. They are not museum pieces but living elements of the collection, which has been refined

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and made suitable for outdoor use with lines such as “Pure Materials” and “Classics in Colour” as well as “Thonet All Seasons”. Marcel Breuer already pointed out the durability of tubular steel as a material. Examples including the natural science reading hall of the German National Library in Leipzig prove the sustainability of high-quality tubular steel furniture. Model S 43 from the 1930s is in use there to this day.

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Thonet – future-oriented furniture design with a long tradition

The unique success story of Thonet began with the work of master carpenter Michael Thonet. Since establishing his first workshop in Boppard on the River Rhine in 1819, the name Thonet has stood for high-quality, innovative and elegant furniture. The breakthrough came with the iconic chair No. 14, the so-called Vienna Coffee House Chair: the pioneering technique of bending solid beech wood for the first time enabled the mass production of chairs. The second milestone in design history was the tubular steel furniture by the famous Bauhaus architects Mart Stam, Ludwig Mies van der Rohe and Marcel Breuer in the 1930s. At the time, Thonet was the world's largest producer of these tubular steel furniture designs, which are considered timeless today.

For the company today, the continuous process of innovation stands in the foreground alongside a focus on tradition and fine craftsmanship. Thonet collaborates with renowned national and international designers – in addition, some of the furniture is designed by the in-house Thonet Design Team. All of the furniture is produced in the company-owned manufacturing facility, and, following the motto “Individuality is our standard”, custom-tailored solutions are part of everyday life in Frankenberg. Chief Executive Officer Brian Boyd together with Chief Operating Officer Michael Erdelt and Creative Director Norbert Ruf manage the company at the corporate head offices and production site in Frankenberg/Eder (Germany). The descendants of Michael Thonet, the fifth and sixth generations, are actively involved with the company's business as partners and sales representatives.