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Steel, Style and Status:  
The Economics of the Cantilever Chair,  
1929-1936

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## **Abstract**

The cantilever chair is an iconic consumer product of the twentieth century and stands for a modern, progressive lifestyle. It is expensive, often used to furnish exclusive spaces and thereby the opposite of its original artistic vision from the late 1920s.

By way of comparing historical prices and wages, this paper establishes that the cantilever chair was never a cheap mass commodity but almost immediately acquired an upmarket status with corresponding prices. This is accounted for by programmatic demands of the creative environment from which the chair originated, through the chair's legal status as artwork, consumer tastes, strategic marketing choices and ultimately institutions.

The cantilever chair is a modern classic. It is part of the collections of the Victoria & Albert Museum in London and the MoMA in New York, it furnishes the VIP rooms at Berlin's Olympic Stadium and many other exclusive spaces and it is the subject of exhibitions, monographs, coffee table books and scholarly research. Since the early 1930s it has brought a cold touch and sterile look into offices, conference spaces but also into the privacy and warmth of the living room.



**Figure 1:** Current copy of Stam's S33



**Figure 2:** Current copy of Stam's S43

The chair's characteristic feature is a steel frame construction that requires no rear legs. Executed in numerous variations, current retail prices for a cantilever chair begin at €250 for the model S43 and easily reach €750 for the S33 (cf. fig. 2, p. 5 & fig. 1, p. 5).<sup>1</sup> Opposite to the rather pricey, upscale and conspicuous object that the cantilever chair is now, its creator, architect Mart Stam had something quite opposite in mind in 1926:

[Representation] testifies to unscrupulousness, to an anti-social way of life at times when the claims to a minimal standard of living remain unsatisfied for thousands amongst the working population.<sup>2</sup>

This self-deprecating and communitarian attitude is the base for Stam's work as an architect and designer. He attempted to implement a maxim of 'general economic efficiency of construction' as a response to a time of scarcity and material grievance.<sup>3</sup> In

<sup>1</sup>Retail price as of August 22, 2011 at Adero Design, an online retailer. Prices refer to the models S43 and S33 by producer Thonet.

<sup>2</sup>Mart Stam. "Das Mass, das richtige Mass, das Minimum-Mass". In: *Das neue Frankfurt : internationale Monatsschrift für die Probleme kultureller Neugestaltung* 3 (1929), cited in Werner Möller and Otakar Mácel. *Ein Stuhl macht Geschichte*. Prestel-Verlag & Bauhaus Dessau, 1992, pp. 43-4.

<sup>3</sup>Ibid., p. 38.

order to understand why the cantilever chair did not develop into the functional, low-key mass commodity that its creator envisioned, this paper will attempt to reconstruct the early economics of the cantilever chair.

### **Historiographical conjectures on economy and style**

As of now, there is no systematic understanding of the economic forces to which the cantilever chair was subject in the early 1930s. Art historiography, however, has made a number of partly contradictory suggestions and assumptions.

Art historian Christopher Wilk posits that the market for cantilever chairs was, from the start, very difficult, due to the high prices of the products. High prices, in turn, were a consequence of managerial deficiencies, high cost of material and complexity of production for Wilk. To him, mismanagement by Kálmán Lengyel, of Standard Möbel, one of the developers and first producers of cantilever designs and steel tube furniture, was responsible for the company's failure in 1929.<sup>4</sup> For the early 1930s, he refers to the 'improvement of steel technology', which allegedly resulted in increasing strength and consequently allowed the use of thinner steel tube.<sup>5</sup> Furthermore, he credits a 'less-expensive and sometimes better product' with incremental improvements in the production process.<sup>6</sup> Thus, Wilk's assessment of a difficult, yet improving market environment is probably adequate, he unfortunately fails to present evidence. In contradiction to the high prices on a slow and difficult market that Wilk sketches in one instance, he claims elsewhere that mass production of Thonet, a furniture manufacturer, 'had lowered the price substantially'.<sup>7</sup> He admits that the 'simplest steel side chair could cost three times as much as the least expensive bentwood chair', but goes on to argue that it would 'unquestionably outlast a wooden chair'.<sup>8</sup>

Werner Möller and Otakar Mácel claim that the high cost of steel tube was responsible for the high prices of New Objectivity's furniture, which put a limit to the

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<sup>4</sup>Christopher Wilk and J. Stewart Johnson. *Marcel Breuer : Furniture and Interiors*. The Architectural Press, 1981, p. 75.

<sup>5</sup>Ibid., p. 72.

<sup>6</sup>Ibid., pp. 72-3.

<sup>7</sup>Christopher Wilk. *Thonet : 150 Years of Furniture*. Barron's, 1980, p. 100.

<sup>8</sup>Ibid., p. 100.

potential group of buyers in the very early phase of the market. They present evidence from the 1929 exhibition 'The Chair' in Frankfurt, where the price of steel tube designs ranged from Rm25.00 to 65.00, while Thonet's sleeker and simplified bentwood model A7 was available at Rm14.00.<sup>9</sup> Möller and Mácel then relate prices to the nominal average weekly wage of an iron foundryman or engine fitter, ranging from Rm38.40 to 48.24.<sup>10</sup> Concerning the market after 1932, Möller and Mácel maintain that the high prices of the cantilever chairs was one of the main barriers to greater dispersion.<sup>11</sup> For the Dutch market, they compare 1933 prices of a simple wooden chair from Thonet with lacquered steel tube chairs from Gispen and Thonet, the former ranging from 8.75 to 13.75 guilders, the latter ranging from 12.50 to 80.00 guilders.<sup>12</sup> To indicate the costliness of the chairs, they quote the wage of 90 guilders, the monthly earnings of a worker bending wood in furniture production in 1937.

Furthermore, Wilk as well as Möller and Mácel see the particular aesthetic and tactile features of steel made furniture as a key obstacle to quicker dissemination of the cantilever chair. Wilk sketches out contemporary criticism that included 'robot modernism', violation of the private sphere with materials and appearances belonging to the realms of sanitation, commerce and science as well as designers' and producers' ignorance for the human psychology and a lacking knowledge of the allegedly invariable response of 'soul and heart' to the beauty of art.<sup>13</sup> Möller and Mácel point to the cantilever chairs 'optical chill' as one of two major obstacles to a broader market appeal.<sup>14</sup>

Sonja Günther takes a different view on the matter of customer taste. She concedes that initially only a 'few artists and intellectuals - Bauhäusler or their friends and acquaintances - furnished their homes' with steel tube furniture.<sup>15</sup> With the publication of Thonet's first catalogue in 1929, however, a broader public was familiarised with the new look and it was 'in fashion' by 1930.<sup>16</sup>

<sup>9</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 42-3.

<sup>10</sup>Ibid., p. 43.

<sup>11</sup>Ibid., p. 64.

<sup>12</sup>Ibid., p. 64.

<sup>13</sup>Cf. Wilk and Johnson, *Breuer*, pp. 68-9 & Wilk, *Thonet*, p. 99.

<sup>14</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 64.

<sup>15</sup>Sonja Günther et al. *Thonet-Stahlrohrmöbel : Steckkartenkatalog : Erste vollständige Zusammenstellung der deutschen und französischen Ausgabe von 1930-1931*. Ed. by Vitra Design Museum. Portfolio. 1989, card 9.

<sup>16</sup>Ibid., cards 9, 12.



**Figure 3:** Interior with Breuer's S32 in Thonet's 1932 catalogue

Alexander von Vegesack takes a third position. In his opinion, three factors are responsible for Thonet's success. First, the company's size, international reach and financial strength in the 1930s.<sup>17</sup> Second, the adoption of the 'new ideology of architecture', which meant purchasing the copyrights to the best designs of the leading progressive architects.<sup>18</sup> Third, a successful adaptation of New Objectivity to the demands of the market. Hence, Vegesack presumes either a growing or existent underlying demand for the cantilever chair. By scrutiny of Thonet's mode of visual presentation, *cf.* fig. 3, p. 8, he further qualifies his assessment:<sup>19</sup>

The catalogue of 1932 shows the forceful designs of the architects in contrast to a saleable product line, accommodating contemporary tastes [of which] the checked pattern and the flower bench give a vivid testimony.<sup>20</sup>

To Vegesack, the integration of the cantilever chair into a conventional homely atmosphere marks the 'transformation of steel tube furniture from the avant-garde to the bourgeois squareness of the thirties'.<sup>21</sup> Although it predated Germany's shift towards

<sup>17</sup>Alexander von Vegesack. *Das Thonet Buch*. Bangert, 1987, p. 158.

<sup>18</sup>*Ibid.*, p. 158.

<sup>19</sup>Taken from Thonet AG. "Thonet 3209". National Art Library Special Collections, SC.92.0033. Sept. 1932, p. 18.

<sup>20</sup>Vegesack, *Das Thonet Buch*, p. 171.

<sup>21</sup>*Ibid.*, p. 171.

National Socialism, Vegesack sees the stylistic reframing of New Objectivity in the broader context of social and political changes and the constraints they brought on artistic and aesthetic life after 1933.<sup>22</sup>

Otakar Mácel hints at a market dynamics similar to those cited by Vegesack. Researching the tangled story of copyright matters surrounding the cantilever chair, Mácel states that 'in the 1930s production [...] spread throughout Europe, and even Japan'.<sup>23</sup> Thus, he presumes a market that grew throughout the decade, accompanied by a gradual transformation of the cantilever chair from 'novelty [to] commonplace'.<sup>24</sup>

### **Designing for an egalitarian society**

The idea to design a chair without rear legs originated from Mart Stam and dates from 1926 (cf. fig. 10, p. 32). It was quickly adapted, however, by numerous other architects and designers. The most salient figures were Mies van der Rohe and Marcel Breuer.

Van der Rohe and Breuer both belonged to the Weimar Bauhaus, a German school of crafts and fine arts, and its immediate environment. In 1925, Breuer became master of the school and leader of the furniture workshop. Mies was the school's director from 1930. Bauhaus was founded in March 1919 by Walter Gropius with an ideological core of unity and equality that extended into several directions. In the practical domain, Bauhaus sought the unity of fine arts and handicrafts, of academy and industry, of design and production in order to achieve an integrated 'building activity' or *Bauen*. This aspiration in reverse shaped the curriculum, led to the recruitment of artists, practitioners and theoreticians as teachers and steered the school towards partnerships with manufacturing, design and construction firms.

The academy's official name, *Staatliches Bauhaus in Weimar*, points to its political and financial backing. Bauhaus was the state academy of Thuringia and came into existence by the merger of the Grand-Ducal Saxon Academy of Fine Art and the

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<sup>22</sup>Vegesack, *Das Thonet Buch*, p. 173.

<sup>23</sup>Otakar Mácel. "Avant-garde Design and the Law: Litigation over the Cantilever Chair". In: *Journal of Design History* 3.2-3 (1990), pp. 125–143, p. 135.

<sup>24</sup>Ibid., p. 137.

Grand-Ducal Saxon School of Arts and Crafts.<sup>25</sup> Thuringia's motivation to fund Bauhaus, subscribe to its unifying approach and make Walter Gropius director was the demand for skilled labour in the state's crafts industries (pottery, textiles, basket-making, furniture).<sup>26</sup> Furthermore, it was expected that the combination of creative and technical skills would reduce the surplus of artists, which had created the so-called 'artists proletariat'.<sup>27</sup>

Bauhaus's notion of *Bauen* far surpassed the practical goal of construction and extended its meaning into the political domain. *Bauen* was considered a social activity that meant, in the words of architect Bruno Taut, the creation of 'houses for the people'.<sup>28</sup> It was intended to 'level class differences and bring layman and artist together'.<sup>29</sup> Hannes Meyer, Bauhaus director from April 1927 to August 1930, sharpened the school's claim towards social reform even further. He issued the catch phrase '*Volksbedarf statt Luxusbedarf*' (German: 'Popular necessities, not elitist luxuries') and wanted Bauhaus to meet the 'needs of the people [...] the proletariat'.<sup>30</sup> Magdalena Droste spells out how he envisioned the future market of consumer goods:

Meyer wanted to create just a small number of universally-valid standard products which, thanks to mass-production, would be within the reach of the broadest possible public and which would be anonymously absorbed into everyday life.

Given Bauhaus's reformist, aggressively communist ideals under Meyer, the political quarrels that befell it came as no surprise. The most salient feature of the social and political conditions surrounding Bauhaus is the fact that the school's existence coincided with and depended on the Weimar Republic.<sup>31</sup> Within a month after the victory of the NSDAP at the elections of March 5, 1933, the new government physically closed up the school, which subsequently dissolved itself on August 10, 1933.<sup>32</sup>

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<sup>25</sup>Magdalena Droste. *Bauhaus 1919-1933*. Ed. by Bauhaus-Archiv Museum für Gestaltung. Benedikt Taschen, 1998, p. 17.

<sup>26</sup>Ibid., p. 16.

<sup>27</sup>Ibid., p. 17.

<sup>28</sup>Cited in: *ibid.*, p. 18.

<sup>29</sup>Ibid., p. 19.

<sup>30</sup>Cited in: *ibid.*, p. 174.

<sup>31</sup>Ibid., p. 17.

<sup>32</sup>Éva Forgács. *The Bauhaus Idea and Bauhaus Politics*. Central European University Press, 1995, p. 4, 194ff.

In design and architecture, the practical and political aspirations outlined above came to expression in the style of New Objectivity or *Neue Sachlichkeit*. As a distinct formal language, New Objectivity is characterised by reductionist clarity and a focus on functionality. Moreover, it encompasses strong preferences for industrial materials and production. It developed in the course of the 1920s, as a combination of Bauhaus's aspired unity between artistic creation and production, the strict and parsimonious formal language of De Stijl and a focus on consumer goods and housing.

The unification of arts and crafts that marked the outset of Bauhaus in 1919 still promoted expressionist and naturalistic elements. With the emergence of New Objectivity, however, these elements were abandoned as the programmatic notions of the Bauhaus movement evolved over the following years. Dutch artist Theo van Doesburg criticised Bauhaus for overemphasising individual expression, lacking discipline and rigour, hence failing to create a 'unified work of art'. To van Doesburg, Bauhaus was producing 'expressionist jam' because it lacked an overarching creative principle, something he aimed to supply by teaching a *Stijl Course* at the Bauhaus in 1922. There, he developed and applied the tenets of the De Stijl group of artists, founded by van Doesburg himself, Piet Mondrian and others in 1917.<sup>33</sup>

For De Stijl, artistic creation had to be a solution to the problem of fundamental polarities - nature and intellect, male and female, the static and the dynamic, positive and negative. Moreover, if artistic creation wanted to 'overcome the supremacy of the individual' and offer truly 'collectivist solutions', its means of articulation had to be universal. Hence, the formal elements of choice were the three primary colours supplemented by white, black and grey and the 90° angle.<sup>34</sup> These were the necessary elements, so van Doesburg, with which 'to meet the general need for a positive, contemporary form of expression'.<sup>35</sup> The radical stylistic change that van Doesburg precipitated at Bauhaus is palpable when one compares students' work from the preliminary course before his *Stijl Course* with work after his course (fig. 4, p. 13). On the

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<sup>33</sup>Droste, *Bauhaus 1919-1933*, p. 54.

<sup>34</sup>Ibid., p. 54.

<sup>35</sup>In *ibid.*, p. 54.

left is a study of thistle from 1920, on the right an abstract sculpture from geometric shapes of different materials from 1923.

Van Doesburg's creative dogma resonated well with students and the administrative body of the Bauhaus. It coincided with Gropius's efforts to increase the school's financial leeway and allowed him to move Bauhaus closer to the consumer goods industry. Gropius drew on De Stijl's principle of universalism to demand that the school's workshops 'create typical [...] forms symbolising the outside world'.<sup>36</sup> He founded a limited company that marketed Bauhaus products in order to offer its masters and master students an economic perspective within the school. The idea was to retain Bauhaus's human capital, differentiate the school in the competition with the traditional artisan guilds and become financially independent from the state of Thuringia.<sup>37</sup> For this strategy, Gropius coined Bauhaus's new slogan - 'Art and technology, a new unity'. Thus, by the end of 1922, the school had chosen the emerging sector of contemporary design for industrial production of consumer goods as its new playing field.<sup>38</sup> Accordingly, the initial aspiration of unity between arts and crafts was updated. Art was no longer to be wedded to traditional manufacture, but to the emerging future of mechanic mass production.<sup>39</sup>

If it was van Doesburg who finalised Bauhaus's aesthetic superstructure and Gropius who used it to signpost the path of development, it was László Moholy-Nagy who implemented it on the ground and forced the school into the confrontation with industrial material, form and process. In order to push his students' creativity towards the design of basic commodities, Moholy-Nagy instructed them to build three-dimensional objects from industrial materials, at the expense of drawing and the study of nature.<sup>40</sup> The link between actual production and design was furnished by Josef Albers's class on materials, which was built around visits to factories and businesses.<sup>41</sup>

The influence that Stam's reforming political ideals had on his work can be seen throughout his career. He participated at the first *Congrès International d'Architecture Moderne* (CIAM), which took place in June 1928, in La Sarraz, Switzerland. The congress

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<sup>36</sup>Droste, *Bauhaus 1919-1933*, p. 58.

<sup>37</sup>Ibid., p. 60.

<sup>38</sup>Ibid., p. 57-8.

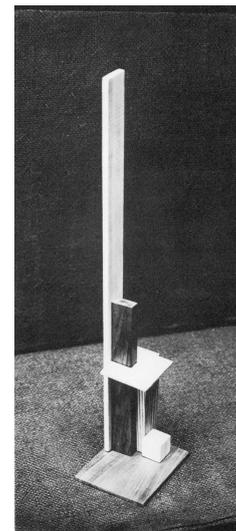
<sup>39</sup>Ibid., pp. 59-60.

<sup>40</sup>Ibid., p. 60.

<sup>41</sup>Ibid., p. 60.

was initiated by host Le Corbusier in order to discuss the aesthetic challenges of the twentieth century to architecture. Yet, a group of participating architects, amongst them Stam, imprinted their own, decisively different mark on the final declaration of the congress. Instead of addressing formal questions, their declaration focused on the social and ethical responsibility of contemporary architecture and the first of four demands was for a general economic efficiency.<sup>42</sup> The strong socialist convictions of Stam and other signatories are apparent throughout the text, whose section on urbanism, according to Eric Mumford, echoes the Communist Manifesto of Marx and Engels.<sup>43</sup>

CIAM's closing declaration of 1928 also saw the introduction of the notion of the 'functional city', a city whose order is derived from its three capacities, 'dwelling, producing and relaxation'.<sup>44</sup> Between 1930 and 1934, true to his political and architectural convictions, Stam was part of the *Brigade May*, a group of 20 architects and urban planners under the lead of Ernst May. Travelling the Soviet Union, they tried to build the rational worker city in Magnitogorsk, Makijiwka and Orsk.<sup>45</sup>



**Figure 4:** Student work from Bauhaus's preliminary course: left, study of a thistle from 1920; right, an abstract sculpture from 1923

<sup>42</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 37-8.

<sup>43</sup>Eric Mumford. *The CIAM Discourse on Urbanism, 1928-1960*. The MIT Press, 2000, p. 28.

<sup>44</sup>*Ibid.*, p. 28.

<sup>45</sup>Werner Möller. *Mart Stam 1899-1986 : Architekt, Visionär, Gestalter : Sein Weg zum Erfolg 1919-1930*. Ed. by Evelyn Hils-Brockhoff. Schriftenreihe zur Plan- und Modellsammlung des Deutschen Architektur-Museums in Frankfurt am Main. Wasmuth, 1997, pp. 101-9.

## Historic prices, wages and the household budget

Today, the cantilever chairs are certainly not egalitarian mass commodities. The question is, however, if that goal was achieved when they first entered the market in the late 1920s, early 1930s. The historic prices of three models - S32, S33 and S43 - will be related to wages and expenditures of daily life, in order to determine if they were affordable to an average worker's household.

The construction of a time series of historic prices is hampered in several ways. The idea and the first designs of a cantilever chair were around as early as 1926. Industrial production sporadically began in 1927. It took until 1929, however, that the production of the chairs was in the hands of a company that was willing and able to make a long-term commitment as manufacturer. This company was Thonet, a well-established player in the furniture industry that had made herself a name with bentwood chairs. Only in the hands of Thonet did the production of steel tube furniture grow to reach a sizeable scale.<sup>46</sup> Other early producers like L & C Arnold, Lämmle or Mauser Waldeck have ceased to exist in the meantime or stopped to manufacture cantilever chairs, like Horgen-Glarus. Conversely, the many companies who produce the most iconic cantilever designs today and attempt to compete with Thonet on price, e.g. Cesca from Italy, had not yet entered the market in the early 1930s. Therefore, the most promising source in terms of production scale, rationality of prices as well as availability of data is Thonet.

Thonet's archive, however, was destroyed when an aircraft bomb was dropped on its site in Frankenberg on March 12, 1945.<sup>47</sup> Presumably, the actual target was the nearby train station. Another hypothesis states that the furniture factory was confused with a ammunition repository, because railroad tracks entered and left Thonet's site. In any case, the entire archival material predating the Second World War that is available in Thonet's archive today has been brought together retroactively. Available are price lists of Thonet's

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<sup>46</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 49-77.

<sup>47</sup>Alexander von Vegesack, Brigitta Pauley, and Peter Ellenberg. *Thonet : Classic Furniture in Bent Wood and Tubular Steel*. Hazar Publishing, 1996, p. 57. For an eyewitness account of the incident see Gebrüder Thonet GmbH, ed. *100 Jahre Thonet Frankenberg 1889-1989*. Centenary Brochure. 1989, p. 20.

steel furniture line for the German market from the years 1934 to 1936.<sup>48</sup> A price list for 1931 is available for the Austrian division Thonet Mundus.<sup>49</sup>

The holdings of Thonet's archive are complemented by those of the Bauhaus Archiv in Berlin. There, two undated price lists are held, one from Thonet Germany, one from Standard Möbel, an early producer that was bought by Thonet in 1929. In the case of Standard Möbel's list only a single of several page has survived on which no company name is printed (*cf.* fig. 5, p. 16).<sup>50</sup> Nevertheless, attribution of the list to Standard Möbel is beyond doubt because of the unmistakable graphic design and typographic minutiae, e.g. placement of the German language diacritical signs inside the letter.<sup>51</sup>

Thonet's list most likely dates from early 1930. Given it features most of the items that appear on the Standard Möbel list of 1929, it presumably stems from the time after Standard Möbel was taken over by Thonet.<sup>52</sup> At the same time, it must date from before 1931, as it is much shorter than the 1931 list of Thonet Mundus.<sup>53</sup> Furthermore, it is visually akin to Standard Möbel's list and Thonet developed the visual language in which it presented its steel tube furniture only in the course of 1930.

Besides, two price lists of DESTA, from 1930 and 1931, have found their way into Thonet's archive.<sup>54</sup> They should only be used, however, as loose reference points for the figures gathered from Thonet's production. DESTA closed its production in 1932 after successfully licensing her rights to Thonet. Hence, it would be a surprise to find that DESTA competed with Thonet on price beforehand. In fact, DESTA offered its chrome-plated SS33 for Rm88.- in 1931 while Thonet's equivalent, the S33, was priced at Rm61.- (*cf.* table 1, p. 19).<sup>55</sup> DESTA was almost 50% more expensive than Thonet.

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<sup>48</sup>Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 3405". Thonet archive. May 1934; Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 935". Thonet archive. Sept. 1935; Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 1036". Thonet archive. Oct. 1936.

<sup>49</sup>Thonet-Mundus GmbH. "Thonet-Stahlrohrmöbel Preisliste Nr. 31". Thonet archive, F/82. 1931.

<sup>50</sup>Standard Möbel. "Das neue Möbel". Thonet archive, F 6599/4. 1929.

<sup>51</sup>Herbert Beyer at the Bauhaus designed Standard Möbel's catalogues, parts of which are reproduced in Wilk and Johnson, *Breuer*, p. 56.

<sup>52</sup>Thonet AG. "Stahlrohrmöbel Preisliste". Thonet archive, 2002/31. 1930, p. 2.

<sup>53</sup>Thonet-Mundus GmbH, "Thonet-Stahlrohrmöbel Preisliste Nr. 31".

<sup>54</sup>DESTA. "Preisliste für DESTA-Stahlmöbel Nr. 301". Thonet archive, sig. F/23. Jan. 1930; DESTA. "Preisliste für DESTA-Stahlmöbel Nr. 311". Thonet archive, sig. F/24. Jan. 1931.

<sup>55</sup>*Ibid.*



The second series ranges from 1934 to 1936 and is given in table 2, p. 20. It contains prices for the S33, nickel-plated and chrome-plated, for a minimal version of the S43 and for the S32, chrome-plated. The S33 is chosen to achieve some degree of continuity with the 1929 to 1931 period. The minimal S43 is chosen to test for affordability. With its lacquered steel frame and unfinished wooden parts, it is the model that comes the closest to a truly functional cantilever chair. Finally, the chrome-plated S32 is relevant as it is the single most distinctive cantilever model today and indicates the trajectory, which the business of cantilever chairs followed in the early 1930s.

The wage data in tables 1 and 2 are taken from the *Statistisches Jahrbuch für das Deutsche Reich* from 1938.<sup>56</sup> It is a weighted average, building on the hourly standard wage of 17 trades in 13 sectors.<sup>57</sup> The hourly wage was multiplied by 47, reflecting the overall average number of hours worked per week; along with labour agreements, weekly hours varied between sectors, ranging from 51 hours in the steel industry to 43 hours in the textile industry.<sup>58</sup> In order to allow for a more nuanced evaluation wage figures in tables 1 and 2 are given for skilled and unskilled labour.

The hourly wage is known to somewhat understate actual earnings, referred to as 'effective wage' by the *Reichsamt für Statistik*. It gave up calculation and publication of the effective wage after 1931, because it was an inconsistent measure across trades. Trade agreements differed with respect to social insurance contribution, weekly hours of work, work flexibility, amount of overtime compensation and even kind of compensation, e.g. workers in the construction and brewing industry were entitled to *Freitrunck*, that is free provision with beverages while at work.<sup>59</sup> Furthermore, a large part of the differential between standard and effective wage came from overtime compensation, which should not be considered part of a reasonable income expectation. Hence, the weekly wage data used in tables 1 and 2 was constructed particularly for this purpose, building on the

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<sup>56</sup>*Statistisches Jahrbuch für das Deutsche Reich 1938*. 57. Statistisches Reichsamt. Verlag für Sozialpolitik, Wirtschaft und Statistik Paul Schmidt, 1938, p. 339.

<sup>57</sup>*Vierteljahreshefte zur Statistik des Deutschen Reichs*. Vol. 40. 2. Statistisches Reichsamt. Verlag von Reimar Hobbing, 1931, p. 101.

<sup>58</sup>*Ibid.*, pp. 275, 281.

<sup>59</sup>*Statistisches Jahrbuch für das Deutsche Reich 1931*. 50. Statistisches Reichsamt. Verlag von Reimar Hobbing, 1931, p. 280 and *Vierteljahreshefte zur Statistik des Deutschen Reichs*, p. 100. Cf. *ibid.* for details on the methodology used to calculate hourly wages.

hourly standard wage as the most reliable unit that is consistently available throughout the space and time in question.

The last columns in tables 1 and 2 give the annual budget that was available to an average worker's household, consisting of 4.2 individuals, to maintain and furnish his residence. Complimentary to the weekly wage, this measure gives a better sense of the affordability of the cantilever chairs. The household budget is taken from a survey for the years 1927/28, published by the *Reichsamt für Statistik* in 1932 and in subsequent years in the *Statistisches Jahrbuch für das Deutsche Reich*.<sup>60</sup> For the years 1929 through 1936, the budget was calculated based on the ratio of hourly wage to budget in 1928; that ratio is assumed to be stable throughout. The original survey was conducted for a total of 2000 households, of which 896 subsisted via wage labour, 546 via employment and 498 via public service; households were differentiated according to annual income. In the case of workers' households, the income of more than 70% was below the average.<sup>61</sup> Thus, the average can be taken as a reliable figure to indicate the affordability of the chairs for a vast majority.

### **Not a necessity - Affordability of the cantilever chair**

A strong sense of the relative price of Thonet's first cantilever chair is ascertainable from the figures listed in table 1, p. 19. The table makes clear that the goal to design a widely affordable mass commodity was not achieved with the S33. Even the cheaper, nickel-plated version of the chair would have consumed more than a weekly wage of skilled labour, the chrome-plated chair more than 1.5 weekly wages of unskilled labour. A household's entire furnishing and maintenance budget for the year would have been expended by the purchase of two, at the most three chairs in any given year. When compared to the average household expenditure on rent, the relative price of the S33 becomes even more transparent. In 1929 average monthly rent was Rm29.-, slightly more

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<sup>60</sup>*Die Lebenshaltung von 2000 Arbeiter-, Angestellten- und Beamtenhaushaltungen: Erhebungen von Wirtschaftsrechnungen im Deutschen Reich vom Jahre 1927-1928.* Einzelschriften zur Statistik des Deutschen Reichs 22. Statistisches Reichsamt, 1932.

<sup>61</sup>*Statistisches Jahrbuch für das Deutsche Reich 1933.* 52. Statistisches Reichsamt. Verlag von Reimar Hobbing, 1933, p. 325.

than half of the S33's retail price.<sup>62</sup> Thus, it is safe to assume that hardly any worker furnished his home with the S33. It was simply not affordable to him.

**Table 1:** Thonet retail prices, weekly wages and household budget for furnishing and maintenance, 1929-31

Year	S33, np/l <sup>2</sup>	S33, cp <sup>2</sup>	Weekly wage <sup>3</sup>		Budget <sup>4</sup>
1929	(50.00)	(55.00)	48.32	37.32	134.4
1930	50.00	60.00	47.52	37.93	136.7
1931 <sup>1</sup>	43.71	60.84	45.78	36.00	129.5

<sup>1</sup> The prices for 1931 are originally given in Austrian Shillings. They were converted into Reichsmark using the average rate for 1931, published in *Statistisches Jahrbuch für das Deutsche Reich 1933*. 52. Statistisches Reichsamt. Verlag von Reimar Hobbing, 1933, p. 360.

<sup>2</sup> 'Np' refers to nickel-plated, 'l' to lacquered and 'cp' to a chrome-plated finish of the chair.

<sup>3</sup> Skilled and unskilled labour.

<sup>4</sup> Taken from *Statistisches Jahrbuch für das Deutsche Reich 1936*. 55. Statistisches Reichsamt. Verlag für Sozialpolitik, Wirtschaft und Statistik Paul Schmidt, 1936, p. 359, table 'Die Einnahmen und Ausgaben für den Durchschnitt einer Arbeiterhaushaltung'; calculated via 1927/28 ratio of gross annual salary/annual expenditure for furnishing and maintenance of accommodation.

The situation is slightly different in the years 1934 to 1936 as given in table 2, p. 20. Overall, the cantilever chairs were now significantly cheaper. In 1935, the lacquered version of the S33, having replaced the harmful nickel-plated model, was available for half the price of 1929. Moreover, with the minimal S43 Thonet now offered a model that significantly undercut the S33 and the S32 in price. Along with prices and wages, the annual budget has decreased by almost a quarter. Nonetheless, a weekly wage of skilled labour could now afford two S43 and the annual budget was probably large enough to purchase four chairs and a table and thereby furnish the eat-in kitchen or dining room of a family with two children.

Relative to the S33 and S32 of both periods, the minimal S43 is indeed economical. In absolute terms, however, it was probably still a rather expensive piece of furniture. This becomes evident if it is compared to a conventional chair, such as Thonet's bentwood model 214. The so-called *bistro chair*, itself a classic that had already sold more than 50 million units at the time, was available for Rm10.20 in 1935.<sup>63</sup> In other words, Thonet's wooden model 214 is almost half as expensive as its most parsimonious version of a steel

<sup>62</sup> *Statistisches Jahrbuch für das Deutsche Reich 1933*, p. 325; rent expenditure extrapolated from 1927/28 via ratio of standard wage to rent.

<sup>63</sup> Thonet AG. "Gebrüder Thonet A.G. Preisliste Nr. 3508". Thonet archive. Aug. 1935, p. 2.

**Table 2:** Thonet retail prices, weekly wages and household budget for furnishing and maintenance, 1934-36

Year	S33, l <sup>1</sup>	S33, cp <sup>1</sup>	S43, min <sup>1</sup>	S32, cp <sup>1</sup>	Weekly wage <sup>2</sup>	Budget <sup>3</sup>	
1934			16.20		36.80	29.23	104.1
1935	25.50	34.50	18.00	42.00	36.80	29.23	104.1
1936	27.72	37.50	20.94	45.00	36.80	29.23	104.1

<sup>1</sup> 'l' refers to a lacquered, 'cp' to a chrome-plated finish of the chair. 'min' indicates the most economical version available.

<sup>2</sup> Skilled and unskilled labour.

<sup>3</sup> Taken from *Statistisches Jahrbuch für das Deutsche Reich 1936*. 55. Statistisches Reichsamt. Verlag für Sozialpolitik, Wirtschaft und Statistik Paul Schmidt, 1936, p. 359, table 'Die Einnahmen und Ausgaben für den Durchschnitt einer Arbeiterhaushaltung'; calculated via 1927/28 ratio of gross annual salary/annual expenditure for furnishing and maintenance of accommodation.

tube chair.<sup>64</sup> Notwithstanding the absolute and relative decrease in price from the first to the second period, the conclusion remains the same. It is highly unlikely that cantilever chairs furnished workers' households in the mid-1930s. The social utopia in designing a 'necessity, not a luxury' was not even remotely achieved.

The development of prices between 1929 and 1936 characterises two separate movements in the development of the cantilever chair. On the one hand, there is the outwardly parsimonious strand. With the minimal S43 one model became affordable to a much greater income group, although it was still far away from fulfilling its social utopia. Still today, the S43 is a rather strict implementation of the principles of functional design and construction. Backrest and seat are made from wood and the steel frame can be ordered without plating or lacquering. The look of the minimal S43 would not sport the glossy reflections of fig. 2, p. 5, because a surface coating of nickel features a lacklustre appearance. Its frame would have looked more like Stam's 1927 version of the S33 (fig. 6, p. 21).<sup>65</sup>

On the other hand, there is the subtly copious strand, represented by a chair like Breuer's S32, cf. fig. 7, p. 21. It marks a strong move away from strict simplicity in design, economical serial production and low consumer prices. Backrest and seat feature a reed mesh, a rather elegant solution compared to the solid wooden parts of the S43. In the 1930s, plaiting the reed into seat and backrest was done by hand, directly into the

<sup>64</sup>For a brief business history of Thonet as bentwood manufacturer, cf. Albrecht Bangert. *Thonet-Möbel : Die Geschichte einer großen Erfindung*. Heyne Antiquitätenbücher. Wilhelm Heyne Verlag, 1979.

<sup>65</sup>Figure taken from Axel Bruchhäuser, ed. *Der Kragstuhl - The Cantilever Chair*. Verlag der Buchhandlung Walter König, 1998, p. 93.



**Figure 6:** Stam's 1927 version of the S33



**Figure 7:** Current copy of Breuer's S32

wooden frames, and therefore required substantial manual labour. Furthermore, while the S32 was offered in a chrome-plated and lacquered version in 1935 for Rm42.-, respectively Rm36.-, only the more expensive chrome-plated version was offered in 1936, priced at Rm45.-.<sup>66</sup> From today's perspective, it is apparent that the copious strand eventually dominated over the parsimonious strand.

### **Litigating over ownership**

The different versions of the cantilever chair entered into industrial production through a gradual process that began in 1926 and was largely completed by the end of 1932. Thonet prepared to enter the market in 1928 and offered its own, quickly expanding line of steel furniture the following year. The transformation of the cantilever chair from a creative novelty to a consumer good took shape as a consequence of multipartite profit seeking, bound by legal, material and technical constraints as well as consumer desires.

It was a designer who took the first step to actively convert the cantilever chair into a market good. On August 28, 1927, three days before his version of a cantilever chair gained broader visibility at the *Werkbund* exhibition in Stuttgart, Mies van der Rohe filed patent no. DRP 467 242.<sup>67</sup> The feature that rendered Mies's chair worthy of legal

<sup>66</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 935", p. 4 & Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 1036", p.3.

<sup>67</sup>The account of Mies's patent case follows: Mácel, "Avant-garde Design and the Law", pp. 137-140. The figure of Mies's cantilever chair is taken from Bruchhäuser, *The Cantilever Chair*, p. 117.



**Figure 8:** Mies van der Rohe's 1927 cantilever chair

protection was not of artistic but of technical nature. The crucial element was the use of a single piece of 'cold-drawn steel tube, bent in a semi-circle to form a continuous line from the supporting part to the seat and the back', resulting in a frame that has sufficient springiness for comfort.<sup>68</sup> §1 of the patent law of the German Reich from April 7, 1891 allowed for the protection of all inventions that could be commercially exploited.<sup>69</sup> An application for a patent cost Rm25 and protection was given for up to 18 years, provided the patent holder paid the annual fee, which started at Rm30 in the first year, increased progressively to Rm300 in the tenth year and peaked at Rm1,200 in the eighteenth year.<sup>70</sup>

Mies eventually began to defend his patent in 1936 against Mauser Waldeck, then the second most important producer after Thonet, and L. & C. Arnold.<sup>71</sup> Mauser and L. & C. Arnold responded with a lawsuit, aimed at voiding Mies's patent, and argued that 'already in 1927 chairs existed which incorporated the characteristics of the invention which was being defended'.<sup>72</sup> The lawsuit lasted several years during which Mauser continually produced new evidence to substantiate her claims. Finally, in 1944, six years after Mies had emigrated to the United States, the *Kammergericht* rejected Mauser's case and confirmed Mies's right to compensation.

In the course of the process, the court faithfully observed formal law's differentiation between technical innovation and artistic production. Mies was attributed

<sup>68</sup>Mácel, "Avant-garde Design and the Law", p. 137-8.

<sup>69</sup>Robert Jungmann and Hans Elten. *Das internationale Patentrecht nebst einer kurzgefaßten Darstellung der Patengesetze sämtlicher Staaten*. 2nd ed. Carl Heymanns Verlag, 1933, p. 88.

<sup>70</sup>*Ibid.*, p. 92.

<sup>71</sup>Thonet was not targeted because she had entered into an agreement with Mies in 1931, see below.

<sup>72</sup>Mácel, "Avant-garde Design and the Law", p. 138.

with the former, the latter, however, had been credited to Mart Stam; Mauser brought forward Stam's very first design of a cantilever chair as evidence, *cf.* fig. 10, p. 32. Stam's 1926 archetype was built from several pieces of steel tube, connected by clamps and was initially not strong enough to support the weight of a person. Hence, Stam reinforced his frame by inserting iron rods into the tubes. Consequently, the chair was made stable, yet rigid.<sup>73</sup> Mies was familiar with Stam's archetype and drew heavily on the form in his own designs. Concerning the feature of resilience, however, Mies procured a certificate from the Institute for Materials Testing, the *Reichsamt für Materialprüfung*, confirming that Stam's design did not have the springiness of Mies's chair. In addition, the court accepted Mies argument because Stam never objected to his patent claim, despite having had the possibility to do so. Stam's cantilever chair, was also on first public display at the 1927 *Werkbund* exhibition. Legally then, van der Rohe had the claim to the technical feature of resilience, achieved through cold-drawn steel tube, bent in the characteristic shape of the cantilever chair. Stam, on the other hand, had the claim to the artistic copyright to the shape of the cantilever chair.

Thonet's entry into the market for steel tube furniture coincided with the beginning of a three-year long law suit. On April 11, 1929, she bought Standard Möbel for Rm30,000.<sup>74</sup> Standard Möbel was the first serious attempt to bring steel tube furniture to the market. It was founded by Marcel Breuer and Kálmán Lengyel in late 1926, early 1927, without an industrial partner.<sup>75</sup> Still in 1927, Breuer and Lengyel brought in Anton Lorenz to run the company, allowing themselves to focus on the creative work.<sup>76</sup> Yet, as Standard Möbel's revenue remained poor throughout and debt was growing, the company was eventually taken over by Thonet. Consequently, a situation unfolded in which Lorenz temporarily became Thonet's prime contender for the emerging business of the cantilever chair.

Obviously, Thonet believed that there was an opportunity in steel tube furniture and the cantilever chair, in spite of the failure of Breuer's Berlin based venture. In July of 1928, Breuer had transferred the rights to his existing designs to Standard Möbel, possibly as

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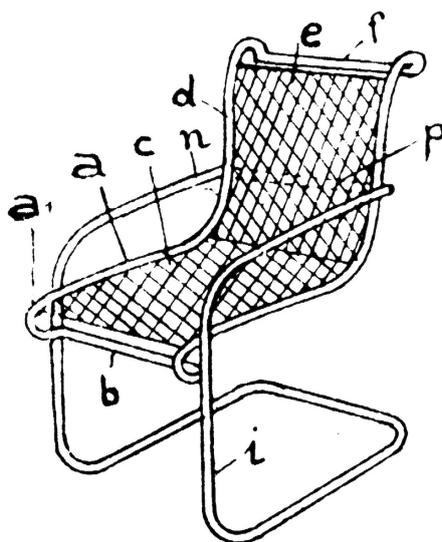
<sup>73</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 82.

<sup>74</sup>*Ibid.*, p. 53.

<sup>75</sup>*Ibid.*, pp. 31, 49.

<sup>76</sup>Mácel, "Avant-garde Design and the Law", p. 129.

collateral for the rising debt. Also in 1928, Thonet contracted Breuer to design for her future line of steel tube furniture, an activity that Breuer then pursued in the workshops of Standard Möbel.<sup>77</sup> Later that year, in the process of transferring Standard Möbel's assets to her new owner, Lorenz managed to exclude Breuer's designs of the S33 and S34, then named L33 and L34, from the inventory and physically withheld the prototypes of the chairs.<sup>78</sup>



**Figure 9:** Lorenz's 1929 drawing for an application as utility model

Previously, on February 12, 1928, Lorenz had registered an allegedly self-developed model for protection as utility model or *Gebrauchsmuster*, cf. fig. 9, p. 24.<sup>79</sup> According to §1 of the law for utility models from December 7, 1923, 'models of equipment or articles of daily use or parts thereof can be protected, in so far as they serve the intended purpose of labour or use by a new design, arrangement or contrivance'.<sup>80</sup> The application for a utility model cost Rm15 and guaranteed protection for three years; for a fee of Rm60 protection could be extended by another three years.<sup>81</sup> Lorenz's patented utility model had all the features of Mies's technical patent but received separate protection for the

<sup>77</sup>Mácel, "Avant-garde Design and the Law", p. 129.

<sup>78</sup>Ibid., p. 130.

<sup>79</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 53.

<sup>80</sup>Jungmann and Elten, *Das internationale Patentrecht*, p. 96.

<sup>81</sup>Ibid., pp. 96-7.

transverse reinforcement of the frame, denoted with the letters b and f in the drawing, which was offset from seat and backrest and thereby improved the comfort of sitting.

On June 18, 1929, Lorenz bought from Stam all rights relating to the cantilever chair, all of Stam's existing designs and the exclusive right to produce, license, sell and distribute them in return for 1% of future revenue. Lorenz committed himself to protect Stam's future inventions in Germany and abroad and to 'ensure their widest possible distribution through economical production and propaganda'.<sup>82</sup> The basis for their deal was their shared assumption that Stam was the author of the cantilever chair as a work of art in the judicial sense. Their contract was explicitly based on the 1907 law, which regulates artistic copyright.<sup>83</sup> Formally, however, Stam's authorship was established only three years later in court. On the very same day of the copyright contract with Stam, backed his patent for a utility model no. DRP 1069 697, Lorenz approached Thonet:

Your particular request to hand over to you models L33 and L34 cannot be complied with, as these models are patented and copyrighted by our Mr. Lorenz who does not intend to transfer these rights to you. There is no doubt whatsoever that these pieces had been assembled from your materials and in your working-time; our Mr. Lorenz will be pleased to receive your invoice for assembly and labour, upon receipt of which he will reimburse you in cash.<sup>84</sup>

After his prank, the situation in 1929 was that Lorenz held patented utility models to designs of Breuer and the artistic copyright to the cantilever chair. The letter leaves no doubt that Lorenz wasn't simply going to let go of these rights. In September of 1929 he underlined his claim to the future business by founding Deutsche Stahlmöbel. His company, short DESTA, resided at the same address as Standard Möbel previously, at Teltower Straße 47/48, Berlin. By the end of the year, his argument with Thonet had turned into a full-fledged legal dispute.

In 1930, the civil division of the *Landgericht Berlin*, i.e. the regional jurisdiction, ruled in favour of Lorenz. Based on his copyright contract with Stam and his own patent,

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<sup>82</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 54.

<sup>83</sup>Ibid., p. 56, footnote 32.

<sup>84</sup>Quoted in: Mácel, "Avant-garde Design and the Law", p. 130.

Thonet was enjoined from producing any cantilever chair.<sup>85</sup> Thonet appealed on grounds that the cantilever chair was not a work of art but a technical innovation, hence that it could not receive copyright protection.<sup>86</sup> In the same vein, Thonet argued that Stam's original cantilever chair was made from 'enamelled cast iron tubing'.<sup>87</sup> Thus, it did not have the technical feature of resilience of Thonet's cantilever models, a particularity that could only be achieved by using precision tensile steel tube, which was captured by van der Rohe's technical patent with whom Thonet had an agreement since 1931.<sup>88</sup>

Thonet's technical line of argument, along with others, did not catch on and her appeals were conclusively rejected by the civil division of the *Reichsgericht*, i.e. the federal jurisdiction, on June 1, 1932.<sup>89</sup> It confirmed both Lorenz's patent to the utility model and Stam's authorship, the protection of which would expire 30 years after his death.<sup>90</sup> Thus, according to §1, sections 7 & 8 of the Act Concerning the Copyright in Works of the Fine Arts from January 7, 1907, the *Urheberrecht an Werken der bildenden Künste*, the cantilever chair was legally established as an 'individual creation' of 'original value, that rests in its entirety on a primary, individual vision', the vision of Mart Stam.<sup>91</sup> Hence, by law every cantilever chair produced afterwards had and has to be considered a replica, protected by copyrights of which the sole owner was Lorenz.<sup>92</sup>

Throughout the legal dispute, from 1929 to 1932, DESTA offered its own line of cantilever models.<sup>93</sup> Yet, less than two months after Lorenz's rights were formally and finally established within the German jurisdiction, he licensed them to Thonet on July 22, 1932 and gave up production at DESTA.<sup>94</sup> This move is entirely comprehensible in light of his noteworthy cleverness in taking advantage of Stam's and Breuer's naïvety in legal matters as well as his unsuccessful stint as producer while directing Standard Möbel.

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<sup>85</sup>Mácel, "Avant-garde Design and the Law", p. 131.

<sup>86</sup>Ibid., p. 131-2.

<sup>87</sup>Quoted in: *ibid.*, P. 133.

<sup>88</sup>Ibid., p. 133.

<sup>89</sup>Ibid., p. 131.

<sup>90</sup>§25 of the *Urheberrecht an Werken der bildenden Kunst*, Albert Osterrieth. *Das Kunstschutzgesetz : Das Urheberrecht an Werken der bildenden Künste und der Photographie. Gesetz vom 7. Januar 1907*. Carl Heymanns Verlag, 1907, p. 188. When Stam died in 1986, authorship protection had been extended to 70 years.

<sup>91</sup>Ibid., p. 21.

<sup>92</sup>Mácel, "Avant-garde Design and the Law", p. 134.

<sup>93</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 58.

<sup>94</sup>Mácel, "Avant-garde Design and the Law", p. 134.

Lorenz had recognised the business opportunity in the cantilever chair, if only by proxy of Thonet's commitment. Yet, he did not have the means to actualise a profit by producing and selling the chair; instead, he chose to monopolise and license the rights to the chair. Once the argument between Lorenz and Thonet was settled, their interests were temporarily aligned. Lorenz held the rights and sought to protect his intellectual property. Thonet was franchisee and producer and sought to protect its market. From 1933 to 1935, the former adversary Lorenz was director of Thonet's department for intellectual property.<sup>95</sup>

Between 1929 and 1934, Lorenz pursued the protection of his rights with such a vengeance that Mácel dubs his activities as 'Lorenz's Crusade'.<sup>96</sup> Amongst others, he sued the company C. Beck & A. Schulze, or CEBASCO, in Ohrdruf in spring 1931, for producing a steel tube chair designed by Erich Dieckmann. Unwilling to go to court, CEBASCO settled for a licensing agreement with DESTA on March 3, 1931. The agreement ended in 1934 when CEBASCO discontinued Dieckmann's chair 'due to financial considerations'.<sup>97</sup> Between 1933 and 1935, Lorenz unsuccessfully targeted L. & C. Arnold in Schorndorf, involving designer Heinz Rasch. In 1933, the newly formed duo Lorenz-Thonet went abroad and successfully sued Fritz Hansens Eftf. in Denmark.

For Thonet, purchasing and protecting copyright was part of a broader effort to build a business and secure her share of a growing market. Breuer was contracted in 1929. In 1931, forestalling Anton Lorenz, she purchased Mies's rights for a share of 5% in the future revenue from his designs.<sup>98</sup> In 1932, she reached an agreement with designer Walter Knoll and purchased production rights from Lorenz. Emerging as the largest producer, Thonet's arrangement was comparably favourable. Lorenz received 4% of the retail price from Thonet while CEBASCO, a much smaller manufacturer, had to pay 10%.<sup>99</sup> Lorenz had to transfer a share of the licensing fees to the designers. Initially, there was a considerable spread with Stam receiving 1% of the revenue and the Luckhardt

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<sup>95</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 73.

<sup>96</sup>See Mácel, "Avant-garde Design and the Law", pp. 135-7.

<sup>97</sup>*Ibid.*, p. 135.

<sup>98</sup>Vege sack, *Das Thonet Buch*, p. 171.

<sup>99</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 74.

brothers 5%.<sup>100</sup> Later on, these arrangements converged towards an equal split between rights broker and designers.<sup>101</sup>

The licensing fees directly forced the producers to increase the margin on their products. On the one hand, one might contend that Thonet's additional cost in fees was offset in the long run by the quasi monopoly in Germany and a less competitive market abroad. On the other hand, the number of producers who exited the market, such as CEBASCO in 1934 for example, are indicative of the tight margin on which they were operating. When the legal arguments around the cantilever chair started out in the early 1930s, it was by no means self-evident that this was a profitable business. Through her 1931 and 1932 agreements with Mies and Lorenz, Thonet committed 5% and 4% respectively of her future revenue. Thonet was investing in a market in which by 1930 no producer had turned a profit yet. In addition, imitators, i.e. companies that had not purchased the production rights, competed incessantly unless they were stopped by legal action.<sup>102</sup>

The legal defence of rights was a costly endeavour and part of Lorenz's responsibility in his self-created role as broker. In a letter from 1940 he mentions that DESTA racked up a debt of Rm130,000 prior to his 1932 victory in court.<sup>103</sup> Between 1933 and 1935, during his employment at Thonet, the company paid for applications and extensions of patents if it concerned chairs from her own product range. Furthermore, Thonet advanced the charges for the lawsuits. If a case was lost, however, Lorenz was liable to carry half of the cost.<sup>104</sup> In 1934 cases were lead in Rotterdam against Dutch producer Gispén and in Malmö against Swedish A. W. Nilsons Fabriker. Both were lost, just like the 1935 case against V.A. Høffding S.A. in Copenhagen.<sup>105</sup> In all instances, the courts ruled that 'a chair with bent tubes instead of back legs' was not an artistic creation

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<sup>100</sup>Architects and designers Wassili and Hans Luckhardt continued to work with Lorenz after his emigration to the United States on the development of adjustable lounge chairs; see Fridtjof Frank Schliephacke. "Erinnerungen an Hans Luckhardt - Erfinder, Konstrukteur, Architekt". In: *Brüder Luckhardt und Alfons Anker - Berliner Architekten der Moderne*. Ed. by Achim Wendschuh. Schriftenreihe der Akademie der Künste. Akademie der Künste, 1990, pp. 98–112.

<sup>101</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 74-5.

<sup>102</sup>Ibid., pp. 65, 73, 75.

<sup>103</sup>Ibid., p. 73, footnote 68.

<sup>104</sup>Ibid., p. 78, footnote 106.

<sup>105</sup>Ibid., p. 78.

but a technical innovation.<sup>106</sup> The Thonet-Lorenz partnership lost not only copyright protection and business, but had to shoulder the cost of the trials as well. For the Copenhagen process, this amounted to Rm6,000, burdening Lorenz with Rm3,000.<sup>107</sup>

Again on his own from September 1935, Lorenz's business model showed to be practically unsustainable. Certainly, this was due to his fleeting success in Europe's courtrooms but also to the increasing and uncontrollable popularity of the chairs. By the mid-1930s, they had spread throughout Europe and as far as Japan. In Mácel's words, 'what had been a novelty in 1927 was now a commonplace'.<sup>108</sup> On October 28, 1935, the broker apologised to his designer Stam for a delay in payment:

The licensing fees I receive [from Thonet Germany] I need to cover my living expenses and the costs for my office. Furthermore, I have to pay patent fees abroad, [...] finance the lawsuits and expense my business travels. The German licenses are not enough to cover all this, so that I'm unable to set anything aside from my incoming payments.<sup>109</sup>

Personal prosperity then was not amongst the economic outcomes of Lorenz's successful monopolisation of the cantilever design in Germany. Quite the opposite, it might have had the potential to ruin him. The only party that immediately and beyond doubt benefitted from the contested legal status of the cantilever chair was the legal profession to which all market players turned. The designers on whose behalf Lorenz acted, traded in a part of their potential royalties to liberate themselves of the duty and the financial risk associated with rights protection. For the producers, the licensing fees had a double-edged effect. While it restrained competition, it also forced them to add greater value to their products. Litigation turned the idea of the cantilever chair into a scarce good before the chair itself had become a commodity.

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<sup>106</sup>Quoted in: Mácel, "Avant-garde Design and the Law", p. 135.

<sup>107</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 78, footnote 106.

<sup>108</sup>Mácel, "Avant-garde Design and the Law", p. 137.

<sup>109</sup>Cited in: Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 75.

## Imagining and manufacturing a luxury

Concurrently to the direct and indirect costs of litigation, production itself was not the low-cost industrial process either that Stam and the designers at Bauhaus had envisioned. The price differential between Thonet's classic bentwood model 214, selling at Rm10.20 in 1935, and the minimal S43, selling at Rm18.00, was certainly also a reflection of differing costs of material. The foremost question then is why the furniture of New Objectivity had to be built from steel, when traditional materials like wood or wicker were more economical. In this matter, Breuer's reflections on the relationship between steel furniture and modernity at large are illuminative:

Metal furniture is part of a modern space. It is styleless, for it should express no intentional form beyond its function and the design its function requires. [...]

Since the external world affects us today with the most intense and various impressions, we change the form of our lives in more rapid succession than in earlier times. It is only logical that our surroundings must undergo corresponding changes. We are approaching furnishing, spaces, and buildings which, to the greatest possible extent, are alterable, mobile, and accessible to various combinations. Furniture, even the walls of the space, are no longer massive, monumental, apparently permanently rooted, or in fact permanently installed. They are much more injected with air, drawn, so to speak, in space; it hinders neither movement nor the view through space. The space is no longer a composition, no rounded-off whole, since after all its dimensions and elements are subject to essential changes. One comes to the conclusion that any correct, usable object fits in the space in which it is needed, similar to how a living being fits in nature: a person or a flower. [...]

I have specifically chosen metal for these pieces of furniture to achieve the characteristics of modern spatial elements just described. The heavy, pretentious upholstery of a comfortable armchair has been replaced by tightly stretched fabric surfaces and a few easily dimensioned, springy, cylindrical brackets. The steel used, and particularly the aluminium, manifest

conspicuously little weight given the large static demands made (the tensile stress of the fabric). The sled form increases mobility. All of the various types are constructed of the same standardised, elementary parts that can be disassembled and interchanged at any time. The pieces of metal furniture should be nothing more than necessary instruments of contemporary life.<sup>110</sup>

For Breuer, a 'correct, usable object' fulfils the requirements of the 'space in which it is needed'. Because modern space is fleeting and changes in 'rapid succession', modern objects have to be 'alterable, mobile, and accessible to various combinations', they have to be 'injected with air' and 'drawn in space'. Metal allowed for the removal of cushioning while maintaining comfort and springiness, it facilitated a lightweight construction without compromising sturdiness and ultimately enabled the conversion of the chair into a vehicle, a sled. Hence, modern furniture had to be made from metal in order to fit into modern space just like a flower fits into nature.

Breuer maintained that steel furniture is 'styleless', i.e. it has no stylistic features. Yet, some of the demands he derived from the nature of modern space are evidently aesthetic in nature. They are the stylistic traits of New Objectivity. Hence, in Breuer's case the social and economical goal of the cantilever chair was interspersed with an artistic vision that directly resulted in higher material costs. For Stam, in contrast, the problem of high material cost was amongst the core motivations to arrive at the cantilever chair.<sup>111</sup> A comparison of his design with a contemporary alternative of Heinz and Bodo Rasch shows that Stam's chair required approximately 50% less steel tube (*cf.* figs. 10 and 11, p. 32).<sup>112</sup> His target price for the chair was Rm18.00, nominally identical to the minimal S43 in 1935; Stam intended to reduce the cost of material by using several scrap pieces of tubing, connected with clamps, instead of one continuous component.<sup>113</sup> Manifestly, he

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<sup>110</sup>Originally published as Marcel Breuer. "Metallmöbel und moderne Räumlichkeit". In: *Das neue Frankfurt : Monatsschrift für die Probleme moderner Gestaltung* 11.1 (1928), p. 11, p. 11; reprinted and translated in Anton Kaes, Martin Jay, and Edward Dimendberg, eds. *The Weimar Republic Sourcebook*. University of California Press, 1994, p. 453.

<sup>111</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 42.

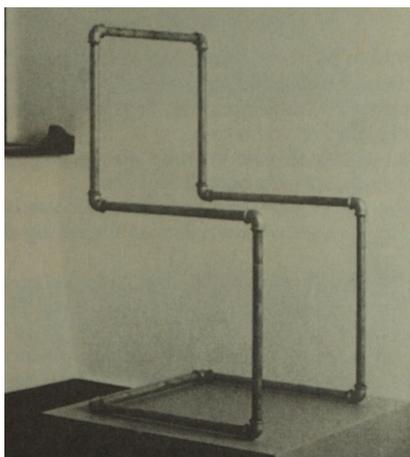
<sup>112</sup>Bruchhäuser, *The Cantilever Chair*, p. 91 & Heinz Rasch and Bodo Rasch. *Der Stuhl*. Ed. by Alexander von Vegesack. Facsimile. Vitra Design Museum, 1992, p. 20.

<sup>113</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 43.

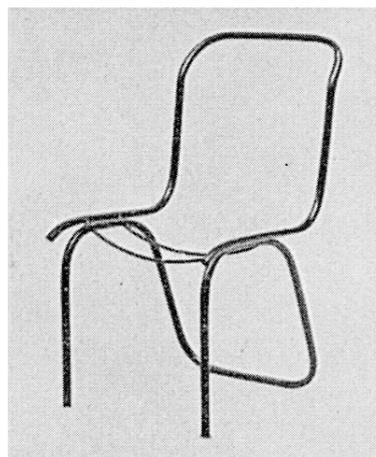
shared Breuer's demand for metal, but sought a solution that was economically and politically satisfactory:

None of us is entirely free of this desire, which was engrained in our parents and grandparents, the desire for representation. And representation is not a human measure, it is boundlessness, it is the desire to impress, the desire to be more than the truth. And boundlessness testifies to unscrupulousness, to an anti-social way of life at times in which the claims to a minimal standard of living remains unsatisfied for thousands amongst the working population.<sup>114</sup>

Stam's cantilever design is both a consequence of and testimony to his aesthetic and political convictions. Industry took great interest in the silhouette 'drawn in space', as the copyright and patent arguments prove. Yet, the chair was commercially never made from scrap parts and clamps because industry's concern was not with the economising features of Stam's design but with its fusion of functional and aesthetic traits.



**Figure 10:** Stam's original cantilever chair from gas pipes, 1926



**Figure 11:** Steel tube design by Heinz & Bodo Rasch

Manufacturer's like Standard Möbel, DESTA, Thonet and Mauser used expensive cold-drawn, seamless steel tube. It was available only since the late 1880s, after the Mannesmann brothers had developed the so-called pilgrim step method or *Pilgerschrittverfahren*.<sup>115</sup> This method facilitated the production of resilient steel tube of

<sup>114</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 43-4.

<sup>115</sup>F. H. Stradtman and Dieter Schmidt. *Stahlrohr-Handbuch*. 7th ed. Vulkan-Verlag, 1973, pp. 122-8.

any length, smaller diameters and thinner walls. The new material showed hardly any fatigue and since no welding was involved, its structure had no weak points.<sup>116</sup> Initially, it was used in industries revolving around transportation and mobility - aviation, automotive and shipbuilding; later it was also employed in apparatus engineering.<sup>117</sup> A price and inventory list of the *Mannesmannröhren-Werke* from October 1935, named steel tube furniture as application area.<sup>118</sup> Complying with DIN standard 2385, the 1935 Mannesmann tubes had an intrinsic fatigue resistance of 35-45 kg/mm<sup>2</sup>. In other words, they were resistant to fissure against several millions of repetitive strains of up to 35 kg/mm<sup>2</sup>.<sup>119</sup> According to the 1904 *Encyclopaedia of Technology*, this is equivalent to the resistance of Krupp's steel used in railway axles and 25% greater than that of Bessemer's steel used in cross-sills.<sup>120</sup>

The S32 today is made from a single piece of steel tube, 3484mm long, with a diameter of 25mm and a wall thickness of 2mm.<sup>121</sup> The dimensions of S43, with a negligible variation in length, are identical and have not changed substantially since 1929. In October 1935, the cost of one meter of Mannesmann precision steel tube of said dimensions was Rm1.32.<sup>122</sup> It is known that Mannesmann was a supplier of Thonet.<sup>123</sup> Assuming that Thonet bought batches of at least 250m, she typically received a discount of 30%.<sup>124</sup> Hence, the cost of material in a cantilever chair like the S43 was Rm3.22 for steel tube alone.

The actual price differential between seamless, cold-drawn steel tube and more economical welded steel tube is unknown. It is the case, however, that furniture producers have resorted to cheaper steel tube in order to compete via price, which had a tangible impact on the comfort of the chairs and their life cycle.<sup>125</sup> Thonet meanwhile, by

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<sup>116</sup>Stradtman and Schmidt, *Stahlrohr-Handbuch*, pp. 122-3.

<sup>117</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 14.

<sup>118</sup>Mannesmannröhren Lager GmbH. "Preis- und Vorratsliste : Nahtlos kaltgezogene Mannesmann-Präzisionsstahlrohre". Salzgitter AG-Konzernarchiv/Mannesmann-Archiv, M 32.103a. Oct. 1935, p. 3.

<sup>119</sup>Otto Lueger, ed. *Lexikon der gesamten Technik und ihrer Hilfswissenschaften*. 2nd ed. Vol. 1. Deutsche Verlags-Anstalt, 1904. URL: <http://www.zeno.org/nid/20005957540>, pp. 283-4.

<sup>120</sup>*Ibid.*, pp. 283-4.

<sup>121</sup>Nils Schiffhauer. "Gebogen aus Holz oder Stahl und mit viel Gefühl". In: *Frankfurter Allgemeine Zeitung* 31.5. (2010).

<sup>122</sup>Mannesmannröhren Lager GmbH, "Mannesmann-Präzisionsstahlrohre", p. 7.

<sup>123</sup>Confirmed by Bernd Gaydos, former purchasing manager at Thonet, in a conversation on April 11, 2011.

<sup>124</sup>Mannesmannröhren Lager GmbH, "Mannesmann-Präzisionsstahlrohre", p. 4.

<sup>125</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, pp. 72, 105.

using consistently cold-drawn steel tube, created a high-quality product with the appeal of simplicity. Her choice of steel, however, merely fulfilled another of Breuer's stipulations:

The starting-point for the chair was the problem of creating a comfortable seat and combining it with simple design. This led to the formulation of the following requirements.

- a) Elastic seat and back rest, but no heavy, expensive or dust-collecting cushioning.
- b) Angling of the seat so that the full length of the upper leg is supported without the pressure arising from a horizontal seat.
- c) Angled position of the upper half of the body.
- d) Spine left free, since any pressure on the spine is both uncomfortable and unhealthy.<sup>126</sup>

In addition to his aesthetic, modernist demands, Breuer required the chair to be comfortable and healthy. The physiological demand for elasticity is intertwined with the stylistic demand for simplicity. This conjunction is the technically innovative core of the cantilever chair and translates directly into the choice of resilient, expensive steel tube. Again, in the mind of Breuer the original idea of the cantilever chair had been transformed in a way so that it could not become an affordable mass commodity.

It has not been possible to determine Thonet's cost structure during the 1930s in a sound accounting framework. Yet, fragmentary evidence and anecdotal reports paint the picture of a cost intensive process throughout, aimed at creating a high quality product. A detail of Thonet's cost structure is given in a letter of director Albert Schmitt to the joinery of Wilhelm Körner from May 2, 1935. As a reseller, Körner received a 30% discount on the list price of all items, except for glasses and upholstery; delivery charges were separate.<sup>127</sup> Hence, Thonet sold the minimal S43 to her intermediaries for Rm12.60, which in turn implies that the average acquisition cost of an end customer was greater than 30% of an item's retail price. Less the 4% in revenue to Lorenz and Rm3.22 in cost

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<sup>126</sup>Marcel Breuer. "Die Möbelabteilung des Staatlichen Bauhauses in Weimar". In: *Fachblatt für Holzarbeiter: Illustrierte Monatshefte für die fachtechnische und kunstgewerbliche Fortbildung* 20 (1925), p. 18; translated in Droste, *Bauhaus 1919-1933*, p. 82.

<sup>127</sup>Albert Schmitt. "Letter to joinery Körner on May 2, 1935". Thonet archive, GT. May 1935.

of steel tube, Thonet's earnings from the minimal S43 were now a mere Rm8.88. From this, the cost of labour, of other materials like wood, glue and screws, running costs e.g. from sanding belts and finally overhead costs had to be covered.

The production of a cantilever classic like the S32, fig. 7, p. 21, involved certain production steps that were obviously cost intensive, either via labour, materials or both. Its special rattan plaiting, the so-called Viennese netting or *Wiener Geflecht*, was done by hand directly into the wooden frames of seat and back rest. The bling finish of the metal frame with chrome accounted for 10% of the cost.<sup>128</sup> Yet, even the minimal S43, without the chrome finish and modest wooden seat and backrest, went through sumptuous working stages.

The steel tube was protected against corrosion. Underneath the chrome or lacquer finish, there were at least two further layers, first copper followed by nickel.<sup>129</sup> So that the different platings would stick and effectively protect against corrosion, the depth of the pores on the steel surface had to be reduced. Hence, the tubes were sanded down and polished thoroughly with several abrasive belts of increasing granularity.<sup>130</sup> Again, companies that tried to compete with Thonet on price were more lax with the polishing or simply skipped the copper plating; consequently the chrome plating did not adhere as reliably and the chairs rusted quickly.<sup>131</sup>

Furthermore, the cantilever frame that looks like a single line 'drawn in space' was initially made from two pieces of tube.<sup>132</sup> This did not impair the chair's resilience and sturdiness, since the joint of the two parts must have been in the horizontal segment of the frame's base, where very little tensile stress occurs. It is unknown why the frame was constructed in this way, yet it added an extra step of welding to the production process. In addition, all wooden parts were ergonomically shaped and built up as composite work pieces from sheets of wood, which were glued together. Today, every piece of wood is sanded, polished and bated at least three times.<sup>133</sup> Assuming that production also

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<sup>128</sup>Standard Möbel, "Das neue Möbel".

<sup>129</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 935", p. 1.

<sup>130</sup>Information on the sanding process was gathered during a conversation with Mr. Wende on April 11, 2011. Mr. Wende worked in Thonet's production from 1955 to 1987. There is agreement that the production process remained largely unchanged over time, except for the introduction of machinery.

<sup>131</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 73.

<sup>132</sup>Mr. Wende confirmed this in a conversation with the author on April 11, 2011.

<sup>133</sup>Information given by Bernd Gaydos in a conversation with the author on April 11, 2011.

remained unchanged in this respect, the minimal S43 went through the same stages in the 1930s, adding further cost of labour and material.

Finally, an overarching impression of customisation, quality manufacture and attention to detail is deducible from all the price lists, right from the beginning in 1929. Standard Möbel in 1929 as well as Thonet in 1930 offered its clients to customise their steel tube chair according to personal taste in several dimensions. The plating could be nickel or chrome, wooden seats were available bated black or in eggshell finish of any colour, seating covers could be ordered from black, grey, ferruginous, red, orange or blue steel thread or from rattan.<sup>134</sup> In 1934 there were even more options for customisation. The steel tube could be chrome plated or lacquered with a choice from 15 different colours, seating covers from steel thread were available in seven colours and again from rattan, wooden parts could be ordered in eleven 'normal colours', an indefinite number of 'special colours' or enamelled in white, any colour or the special lacquer 'Thonet Velvet', all differentiated by price.<sup>135</sup>

Clearly, the corollary of a highly customisable product is a slower and more sophisticated manufacturing process. Allowing for customisation placed a limit on the integration of separate production steps and their complexity increased as they needed to be adapted to the ordered model options. In addition, offering customisation heightened the intricacy of Thonet's entire work flow, from marketing, to distribution, to accounting, and generally resulted in greater costs.

Tying the realities of industrial design and the manufacturing of the cantilever chair back to Stam's original idea and Bauhaus's intentions, a host of fundamental incongruities are apparent. It was not the aspired necessity that was produced through an industrial, serial production, but a high-quality good through a manual, artisan activity. Why a chair like the S43 has never been a true necessity in Hannes Meyer's sense is explained by a number of interlocking elements. Beginning with its conception and ending with its production, the chair was priced out of the mass market. First, the commodification of the chair's design, prior to and independently of its production, resulted in high legal costs. Intellectual property rights had to be established through

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<sup>134</sup>Cf. Standard Möbel, "Das neue Möbel" & Thonet AG, "Stahlrohrmöbel Preisliste".

<sup>135</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 3405", pp. 1-2.

litigation, copyright fees had to be paid to the owners of the rights and finally the acquired legitimate claim to production had to be defended continuously. Second, there was the designers' shared preference for metal, a relatively costly material. Third, functional demands, foremost that of resilience, required the use of expensive cold-drawn steel tube. Fourth, the chair's high quality and customisability were only achieved via a sumptuous, labour and material intensive production process.

Thus, there was no single obstacle that conclusively hindered the furniture of New Objectivity to become a mass commodity. Although, since New Objectivity apparently had to be made from steel in the case of the cantilever chair, its failure to gain a broader market appeal is engrained in its original artistic vision. This and other price increasing demands were merely absorbed and enacted by industry in its production.

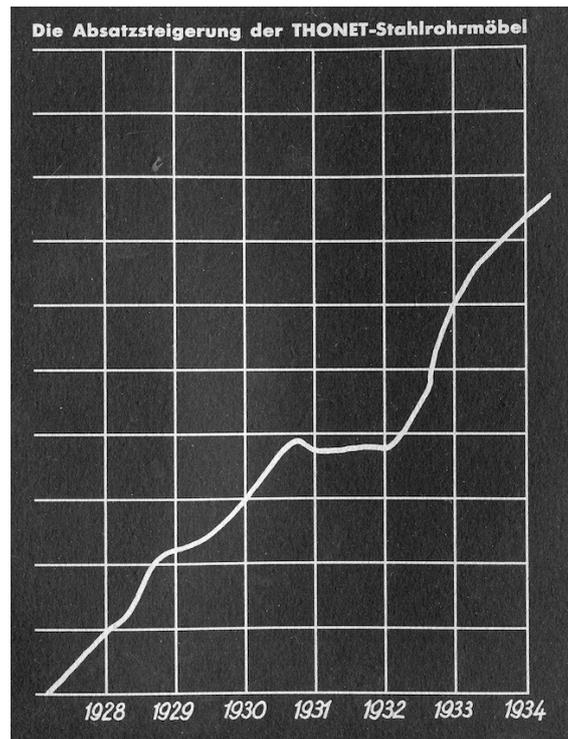
### **Making a profit from the cantilever chair**

For the prewar period, there is no comprehensive data on the market size for steel tube furniture. Yet, the few surviving fragments show that Thonet's turnover was consistently and quickly growing. The inside of the front cover of the reprinted Thonet catalogue from 1935 shows a line graph from 1928 to 1934 (*cf.* fig. 12, p. 38).<sup>136</sup> Its title reads 'The increase in revenue of Thonet steel tube furniture' but neither numbers nor units are given. The chart's grid, however, allows to measure the relative increase in revenue. The vertical axis probably indicates the absolute revenue, given in Reichsmark, not in units sold. Turnover for 1927 and 1928 must be for Breuer's Standard Möbel, for 1929 of Standard Möbel and Thonet combined and after 1930 of Thonet alone.

According to fig. 12 then, revenues from 1928 were more than doubled in 1929, tripled in 1930 and close to fourfold in 1931. During 1931, revenue stagnated but grew faster than before from 1932 to 1934. If the 1934 value is taken to be 7.25 the value of 1928, the compound annual growth rate of Thonet's steel tube furniture business in its first six years was 39.12%. The attractiveness of the market is further corroborated by the continuous emergence of new competitors and an indicator of the size of the cantilever chair segment. In 1937, Thonet's revenue from Mies's designs alone totalled

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<sup>136</sup>Thonet AG. *Thonet Stahlrohrmöbel Katalog, Reprint*. 1935, inside of front cover.



**Figure 12:** Thonet's revenues from steel tube furniture, 1928 - 1934

Rm600,000.<sup>137</sup> The counterpoint to Thonet's success is the string of faltering companies, beginning with Breuer's venture, which speaks of the difficulty to turn a profit in this fast growing market.

Converting the cantilever design's artistic value and appeal into monetary value was not a trivial feat. In this respect, several factors favoured Thonet. Her name and position in the furniture industry were firmly established and, as the 1929 purchase of Standard Möbel and the year-long lawsuits show, she had the financial clout for a long-term investment. Amongst her competitors, she was one of the few who had the time, knowledge and possibly scale to build a sustainable manufacturing business from a design idea whose potential value was apparent to many. Thonet's material success with the cantilever chair, it turns out, is built on one single material and visual feature that so far has been consistently overlooked. This feature is chrome.

Table 3, p. 39, gives the development of the price differential between the cheaper nickel-plated, later lacquered and the more expensive chrome-plated versions of the S33 from 1929 to 1936, expressed as percentage of the price of the cheaper version. It started

<sup>137</sup>Vege sack, *Das Thonet Buch*, p. 171.

with 10% in 1929, increased to 20% in 1930, then jumped to 39% in 1931 and levels at 35% thereafter. Calculated for the entire range of items, the differential was at 38% for 1931 and at 27% thereafter.

**Table 3:** Retail prices and differential between nickel-plated/lacquered and chrome-plated S33

Year	S33, np/l <sup>1</sup>	S33, cp <sup>1</sup>	Differential <sup>2</sup>
1929 <sup>3</sup>			10%
1930 <sup>3</sup>	50.00	(60.00)	20%
1931	43.71	60.84	39%
1934 <sup>4</sup>			
1935	25.50	34.50	35%
1936 <sup>3</sup>	(27.72)	37.50	35%

<sup>1</sup> 'Np' refers to nickel-plated, 'l' to lacquered and 'cp' to a chrome-plated finish of the chair; prices in Rm.

<sup>2</sup> Share of the price of the nickel-plated, respectively lacquered model option.

<sup>3</sup> Price for option in parenthesis is not explicitly given on price list.

<sup>4</sup> The S33 is not on the 1934 price list.

Source: Standard Möbel. "Das neue Möbel". Thonet archive, F 6599/4. 1929; Thonet AG. "Stahlrohrmöbel Preisliste". Thonet archive, 2002/31. 1930; Thonet-Mundus GmbH. "Thonet-Stahlrohrmöbel Preisliste Nr. 31". Thonet archive, F/82. 1931; Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 3405". Thonet archive. May 1934; Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 935". Thonet archive. Sept. 1935 & Thonet AG. "Thonet-Stahlrohrmöbel Preisliste Nr. 1036". Thonet archive. Oct. 1936.

The numbers reflect three underlying currents. First, a real decrease of prices and wages after 1929 in the economy at large, to which part of the decreasing cost of the nickel-plated S33 has to be attributed (*cf.* table 1, p. 19 & table 2, p. 20). Second, Thonet's production increased its efficiency, which is responsible for the greater share of the price drop. Third, and most importantly, the differentiation of Thonet's product offering which aimed at building a profitable business by charging a premium for chrome. Standard Möbel billed an extra 10% for chrome versions in 1929, which was increased to 20% by Thonet in 1930. In 1931, the price for the nickel-plated model option decreased while the price for the chrome-plated model remained stable, resulting in a differential of 39%. This trajectory, in combination with Thonet's modifications to its market offering from year to year, tells the intertwined stories of the gradual formation of the market for steel tube furniture on the one hand, of Thonet's learning curve in building her business on the other hand.

When the cantilever chair first appeared on the market in the late 1920s, consumers had not yet formed their attitudes towards it. Hence, a preference for nickel or chrome, amongst others, was still concealed, both to the customer and the producer. Consequently, Standard Möbel had little knowledge of which designs, finishes and models would become popular and what the price elasticity of demand was. Thus, she minimised her costs and her entrepreneurial risk by producing the cheaper, nickel-plated version as a standard. Simultaneously, in order to give consumers a choice, she offered customisation to the more expensive, chrome-plated version. This gives us the list of 1929, in which for all items only the nickel-plated versions were explicitly priced and optional chrome-plating was charged at an additional 10% of the retail price, more precisely, whatever the additional cost was.<sup>138</sup> By and large, Thonet's 1930 approach was identical. The default is the nickel-plated version, except that chrome-plating was charged with an additional 20%.<sup>139</sup> Hence, since the cost of chrome-plating was known and demand was evident, this was a way to test out price elasticity.

In 1931 both prices for nickel- and chrome-plated finish were explicitly given for all items, now with a differential of 39% in the case of the S33.<sup>140</sup> The increase to 1930, just like the increase from 1929 to 1930, cannot be a reflection of increased cost as prices for the three major inputs - labour, chrome and energy - had decreased significantly.<sup>141</sup> Furthermore, as the prices for the lacquered version indicate, overall production became increasingly more efficient. Hence, the increased price differential, as well as the explicit pricing of the chrome version, are a reflection of Thonet's insight gathered into the customer's desires and his willingness-to-pay. Thonet's three key learnings must have taken the following shape: First, finishing the chairs to the glossy chrome reflex has either always been a popular feature or it was easy to turn it into one. Second, because demand for the chrome-plated version was relatively price-inelastic, a premium substantially above the additional cost could be charged. Third, customers did not only care about the chair's

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<sup>138</sup>Standard Möbel, "Das neue Möbel".

<sup>139</sup>Thonet AG, "Stahlrohrmöbel Preisliste", p. 2.

<sup>140</sup>Thonet-Mundus GmbH, "Thonet-Stahlrohrmöbel Preisliste Nr. 31", p. 14.

<sup>141</sup>See *Statistisches Jahrbuch für das Deutsche Reich 1932*. 51. Statistisches Reichsamtsamt. Verlag von Reimar Hobbing, 1932, p. 256 for the decreasing cost of coal, chrome and other metals.

functionality, its price or its form, they also cared greatly about the surface appearance of the metal frame.

By 1936, chrome was the new standard for the cantilever chair. In 1935, the mark-up for chrome for the S33 was at 35% and thereby slightly smaller than in 1931. More importantly, however, it is the last year in which a lacquered version is explicitly priced.<sup>142</sup> The following year, only one price, the price of the chrome-plated model option is given.<sup>143</sup> Thus, the chrome finish turned from an optional customisation to the new standard for Thonet's cantilever chairs within seven years. This allowed the company to build an additional margin of more than 15% into her cantilever chairs.

The shift to chrome happened hand in hand with the verbal and visual rhetoric that was employed to market the cantilever chair. Starting point is Standard Möbel's price list of 1929, where the price table was set in the middle of the page, surrounded by eleven items that demonstrated the breadth of the furniture range; fig. 5, p. 16 shows the top left section. The paragraph under the divan bed gives Standard Möbel's sales pitch:

WE bring the furniture of the newest time, of the modern man, who does not confine his environment with inexpedient stuff and who moves through bright spaces, without constraint and with a clear mind. OUR element of construction is steel tube. WE create furniture, in the simplest fashion and with the simplest means, that adapts to all desires of the modern civilised man. OUR furniture satisfies the aesthetic sense of the man, who is rooted in the pace of the XX. century with all his productive and intellectual forces.<sup>144</sup>

As could be expected, the cadence of the marketing prose was very different from Breuer's systematic development of New Objectivity. Yet, the selling points were functionality, mobility and the choice of metal; they were remarkably close to the original programme. Noteworthy are also the absences, omissions and additions. First, there was no mention of chrome. Second and not surprisingly, ideals of social reform were not mentioned. Finally, what Breuer initially called 'styleless' design, for 'it should express no

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<sup>142</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 935".

<sup>143</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 1036".

<sup>144</sup>Standard Möbel, "Das neue Möbel".

intentional form beyond its function and the design its function requires', now promised to satisfy the 'aesthetic sense of the man of the twentieth century'.

In comparison, Thonet's 1930 list was the epitome of sobriety. It merely contained information on prices, measurements and options for customisation, furthermore terms and conditions of delivery, points of sale and Thonet's contact details. Not a single word or image was dedicated to marketing. Marginally more emphatic was the 1931 list. The furniture's pedigree was pointed out by referring to the designers as 'authoritative architects' and a rationale was provided as to why chrome-plating was preferable to nickel:<sup>145</sup>

Considering today's technical standards chrome-plating guarantees optimum protection against rust and should thus be preferred to a simple nickel-plating. Chrome-plated tubular steel furniture has a platinum-like, subtle blueish-white colour and a shiny surface. Cleaning is superfluous. It is sufficient to wipe the furniture from time to time with a soft cloth.<sup>146</sup>

The arguments presented for chrome were functional - state of the art protection against corrosion, hygiene and low maintenance - and its visual qualities were described in rather sober prose. In lockstep with the increased mark-up for chrome, the architectural reference and a descriptive, functionalist reasoning for chrome were in place in 1931. These two elements made up the entire repertoire of Thonet's verbal rhetoric around the cantilever chairs right through 1936. The lists of 1934 to 1936 employed the above paragraph virtually unchanged and the most noteworthy modification is that the hygiene selling point was underlined in 1935 and 1936.<sup>147</sup>

In comparison, the visual language was much less modest, yet remarkably economical. Despite the very poor quality of the reproduction, it is likely that already the images on Standard Möbel's 1929 list were pervasive with strong, bright reflections from the metal parts(*cf.* fig. 5, p. 16). In 1930, Thonet issued the first edition of her seminal *Steckkartenkatalog*, a catalogue published as portfolio of approximately 35 cards of

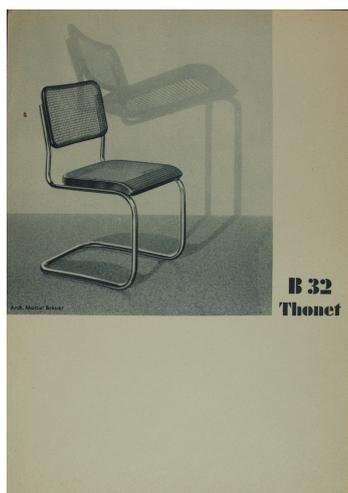
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<sup>145</sup>Thonet-Mundus GmbH, "Thonet-Stahlrohrmöbel Preisliste Nr. 31", p. 1.

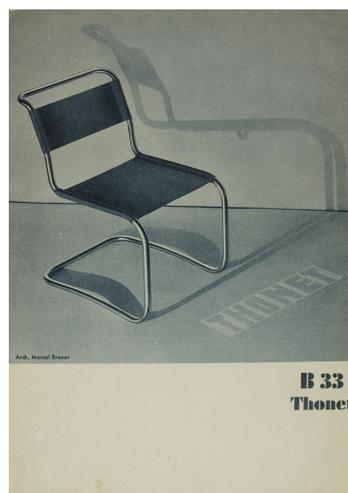
<sup>146</sup>*Ibid.*

<sup>147</sup>Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 935", p. 1; Thonet AG, "Thonet-Stahlrohrmöbel Preisliste Nr. 1036", p. 1.

photographic reproductions of her steel tube furniture.<sup>148</sup> The catalogue measures 21x15.5cm, was produced for Germany and France and contained varying sets and numbers of cards. A comprehensive set of all 62 cards was published as annotated edition by the Vitra Design Museum in 1989.<sup>149</sup> The rare format of the catalogue, according to Günther, is explained through its initial purpose. It was designed to allow the company's salesmen to present only those items to a potential customer that matched his target group.<sup>150</sup>



**Figure 13:** S32 card



**Figure 14:** S33 card

The nature of the sales activity has shaped the format of the catalogue, the choice of model options displayed and their mode of presentation. The cards that show cantilever models like the S32 and S33, use reduced, yet strong visual means, *cf.* figs. 13 & 14, p. 43. Consistently, one single-chrome plated chair is shown in front of a wall on which a spotlight casts an oversized hard shadow, dramatising and monumentalising the appearance. The item's character and rarity are emphasised by the name of the designer, titled architect, which is inset in the bottom left corner of the image. Just like an artist's

<sup>148</sup>Today, the portfolio catalogue is a highly sought after collectible, selling at approximately £1,500. For the purpose of this paper, the original copy held at the National Art Library was accessed; Thonet AG. "Thonet Stahlrohrmöbel Steckkartenkatalog". Portfolio. National Art Library Special Collections, SC.92.0035. 1930.

<sup>149</sup>Günther et al., *Thonet-Steckkartenkatalog*.

<sup>150</sup>*Ibid.*, card 12.



**Figure 15:** B60 & B61 card



**Figure 16:** B256 card

signature on his work, it marks artistic ownership and links the item's origin back to a creative individual.<sup>151</sup>

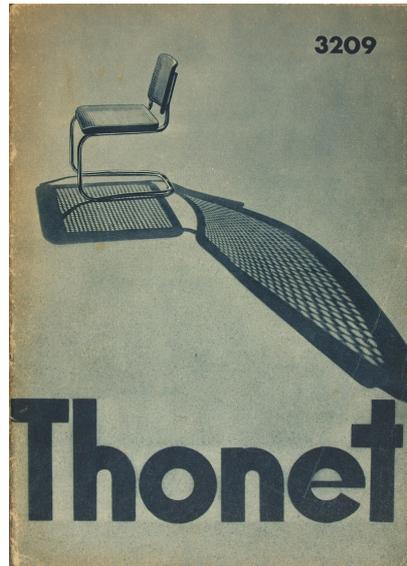
Juxtaposed with other models from Thonet's steel tube range, the cantilever models' pronounced style of presentation is set in stark relief, *cf.* figs. 15 & 16, p. 44. The models B60 and B61 have to share a card, are left to hover in an indefinite space, their surface is dull and dark and shows hardly any reflections, no light stages them and no author claims ownership. The B256 model occupies a physical space, yet five copies of it are stacked on top of each other, demonstrating its practicality and robustness. The reflections on the steel frames are weak, the chairs throw grizzly and soft shadows in various directions.

The cover of Thonet's 1932 catalogue showed the S32, presented in the familiar style, *cf.* fig. 17, p. 45. The chair is turned sideways to emphasise its silhouette. The chrome shimmers in a spot light that casts a hard and monumental shadow on the floor, magnifying the detail structure of the reed plaiting.

Today, the appearance of the cantilever chair is inextricably linked with the white, glossy reflections. Almost all chairs are sold chrome-plated.<sup>152</sup> Initially, however, no such quasi standard existed nor was the chrome-plating amongst the aesthetic demands, put

<sup>151</sup>The portfolio catalogue of 1930/31, as well as the catalogues from 1932 and 1933 did not employ verbal language beyond product designation; *cf.* Thonet AG, "Thonet 3209" & Thonet Frères. "Thonet 3311 : Meubles en tubes d'acier". National Art Library Special Collections, SC.92.0034. Nov. 1933.

<sup>152</sup>According to Bernd Gaydos, in a conversation with the author on April 11, 2011.



**Figure 17:** The S32 on the cover of Thonet's 1932 catalogue

forward by designers. It was part of Thonet's effort to increase her margin. Yet, the company's marketing strategy probably only worked because the chrome glimmer interlocked seamlessly with the aesthetic appeal of New Objectivity and matched an initially hidden preference of the consumer. Building the cantilever chair business meant to establish chrome-plating as the new standard.

The failure of the cantilever chair to become a mass commodity in the 1930s is foremost a consequence of the many competing facets of the New Objectivity. In the course of the programme's practical execution, its aesthetic, economical and political aspects came into conflict with each other and proved to be ultimately irreconcilable. The cantilever chair could not be affordable to a large part of the population and at the same time meet the aesthetic criteria that its creators had set out for modern space and life.

The economics of the cantilever chair is thus a case study of the relationship between art and economy, and more specifically of the conversion of an artistic achievement into a consumer product. It was through the litigation costs incurred by its producers that the cantilever chair was set on its trajectory towards becoming a high-end, high quality product. Stam's 'line drawn in space' and the underlying creative effort could only become a tradable commodity within the German jurisdiction because the courts formally recognised it as a work of art in the legal sense.

The consequence was that the economic value of any single copy of the cantilever chair is neither captured by the total cost of material, labour and capital that has gone into its production, nor is it entirely determined by its utility. There is a surplus, the 'original value', which the law captures in the terms of an 'individual creation that rests in its entirety on a primary, individual vision'.<sup>153</sup> Artistic copyright law protects the particular material configuration of an object, in difference to its material or use value. Hence, the matter of original value is a matter of form. Moreover, copyright law protects the creative and intellectual effort of the artist, which has 'come to visible expression' in the work of art.<sup>154</sup> Thus, the form of an artwork is protected in itself and by being the material proxy of an immaterial creative effort.

Lorenz set the economic value of Stam's effort in creating the cantilever design, between 4% and 10% of the retail value of a copy. Hence, the economic value of Stam's creativity is not fixed but increases with price and number of copies sold.

Artistic merit, in differentiation to creative value, is typically not measured in monetary terms. Yet, just like the features that render it worth of copyright protection, it is a matter of form. The criteria that determine artistic merit have undergone numerous transformations over time, typically driven by technological change. After all, different approaches to establish the quality of an artwork have merely put different weight on the relative importance of certain qualities that a form lacks or displays. Determining artistic merit has always remained a matter of form.

In antiquity, Aristotle coined the notion that epic poetry and tragedy, generally all art was a result of mimesis.<sup>155</sup> His conception is linked to the presumed origin of art, an innate human propensity to take pleasure in and learn through imitation; accordingly, the pleasure in experiencing a work of art is a sensation of recognition.<sup>156</sup> The value of an artistic creation then is determined by two criteria, a topical and qualitative one. First, art is only art if it is concerned with the right subject. Necessarily, it has to be an imitation of 'either the kind of thing that was or is the case; or the kind of thing that is said or thought

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<sup>153</sup>§§7, 8 in Osterrieth, *Das Kunstschutzgesetz*, p. 188.

<sup>154</sup>*Ibid.*, §1, p. 16.

<sup>155</sup>Aristotle and Malcolm Heath. *Poetics*. Penguin Classics, 1996, 47a.

<sup>156</sup>*Ibid.*, 48b.

to be the case; or the kind of thing that ought to be the case'.<sup>157</sup> In order for an artist to be an artist, he has to have the intellectual ability to identify a valid subject. Second, mimetic recreation can be executed to different degrees of quality, a good work of art and a bad of work of art can be told apart.<sup>158</sup> A good work of art will come from an artist, who is not only able to identify a valid subject, but also to capture and, most importantly, to recreate it as closely as possible. Yet, artistic merit in Aristotelian is not always achieved by greatest possible realism. Rather, in light of the wide range of permissible subjects for art, the general criterion is truthfulness. This, in turn, translates into realism where art imitates 'the kind of thing that was or is the case'. Thus, a good artist sets himself apart by his superior technical skill to make his imitation resemble its archetype as closely as possible.

Obviously, the Aristotelian paradigm to value art by its degree of mimetic perfection has not been the measure that the courts applied in order to establish its creative value, nor is it the criterion for its artistic merit. The same is true for collections of contemporary art. There is no attempt at mimesis, not even a loose reference to an object, in Jackson Pollock's drip paintings; if the artistic value of Picasso's *Guernica* were derived from its realism, the conclusion would probably be that there is hardly any. In the twentieth and twenty-first century, mimesis is neither the dominant artistic intention nor an important criterion to determine artistic value. Applied to earlier centuries, the paradigm of mimesis also falls short, although to a markedly different degree. There is no archetype of the giants, battling the Olympian gods, on the frieze of the Pergamon Altar from the second century BC nor of the gargoyles on a gothic cathedral from the thirteenth century AD. Painterly techniques that create a greater sensation of realism were always used playfully, e.g. Botticelli ruptured the central perspective in his *Venus* but skilfully applied it on many other occasions. Finally, parts of non-western art altogether seem to have followed a creative, rather than a re-creative approach.<sup>159</sup> Hence, mimesis alone has probably never been universally accepted as criterion for artistic value, neither by artists nor by their audience nor by scholars.

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<sup>157</sup>Aristotle and Heath, *Poetics*, 60b.

<sup>158</sup>*Ibid.*, 60b.

<sup>159</sup>Ernst Hans Gombrich. *Meditations on a Hobby Horse and other Essays on the Theory of Art*. 4th ed. Phaidon, 1985.

Yet, it was only with the emergence of aesthetic discourse in the eighteenth century that mimesis came under systematic attack and was ultimately superseded by the notion of artistic subjectivity.<sup>160</sup> Plumpe recounts that art asserted its autonomy by demarcating itself from manufacturing and later from industrial techniques as well.<sup>161</sup> Fine arts differentiated themselves from the applied arts by ascribing to them a reducibility to scientific knowledge, which is general, non-exclusive and non-individual. For themselves, the fine arts claimed a particularity, exclusivity and individuality and could do so only by tying the work of art categorically to the unique subjectivity of its creator.<sup>162</sup> Immanuel Kant symptomatically describes this fault line, separating and protecting the artist from scientist and engineer, in his *Critique of Judgement* of 1790:

One can learn everything that Newton expounded in his immortal works on the Mathematical Principles of Natural Philosophy, but not how to write ingenious poetry. [...] The reason is that Newton would be able to demonstrate and teach all the steps he had to take, from the first elements of geometry to the great and deep inventions, not only to himself but to anybody; yet, neither Homer nor Wieland would be able indicate how their fanciful, though musing thoughts appear and convene in their minds, because they don't know themselves, hence they cannot teach anybody else.<sup>163</sup>

According to Plumpe, the notion that creative subjectivity is distinct from the Renaissance concept of individuality is generally agreed.<sup>164</sup> Beyond that, however, a host of reasons have been put forward to motivate the segregation of applied and fine arts and the anchoring of the latter in the artist's singular subjectivity. Intellectual history, as put forward by Bäumler and Cassirer, examines the role of the philosophy of enlightenment. Social historians, e.g. Hauser, link the rising notion of subjectivity to the rise of the bourgeoisie. The ensuing shift in art production, away from patronage,

<sup>160</sup>Gerhard Plumpe. *Der tote Blick : Zum Diskurs der Photographie im Zeitalter des Realismus*. Fink, 1990. URL: [http://digi20.digitale-sammlungen.de/de/fs1/object/display/bsb00043446\\_00001.html](http://digi20.digitale-sammlungen.de/de/fs1/object/display/bsb00043446_00001.html), See pp. 15-42, for a more detailed history of the aesthetic discourse after the seventeenth century.

<sup>161</sup>Ibid., p. 17.

<sup>162</sup>Ibid., pp. 17-8.

<sup>163</sup>Immanuel Kant. "Kritik der Urteilskraft". In: *Werke*. Vol. 10. Suhrkamp Verlag, 1968, p. 403, cited in Plumpe, *Der tote Blick*, p. 18; translated by the author.

<sup>164</sup>This historiographical overview follows *ibid.*, p. 19.

precipitated a greater market orientation of the artist and provided him with a stronger incentive to build his comparative advantage on individuality. Finally, the Marxist perspective, as adopted by Fontius and Eberhard, maintains that the replacement of the handicrafts, first by specialised manufacturing, later by industrial production, lead to a compensation of integrated, wholesome and individual activity in the production of art.

The explanation that Plumpe and others give for modernity's dominant aesthetic criterion provides the link back to the starting point of this excursus. On the one hand, there is the economic value of an art work, resulting from a twofold legal codification of creative ownership by proxy of a specific form. On the other hand, there is the notion that the artistic merit of a form is derived from the singular subjectivity of its creator:

[The] frequently presented 'judicialisation' of literary and artistic practice since the second half of the eighteenth century has not remained external to art and literature's self-conception, in fact it has been fundamentally seized [by 'judicialisation'], which contributed to its restructuring, in the sense of an epoch-making turn.<sup>165</sup>

Plumpe maintains that the rise of ingenious subjectivity is a consequence of the legal codification of art in particular, the rise of the legal discourse in general. Martha Woodmansee makes the same argument by reconstructing the rise of the notion of the 'genius author' in the eighteenth century.<sup>166</sup>

The growing significance of the legal discourse in the second half of the seventeenth century is preeminent in the modern origin of the term 'rule of law', going back to Samuel Rutherford's *Lex, Rex or the Law and the Prince* in 1644, the reigning in of absolute monarchy with the Glorious Revolution of 1688 and John Locke's *Two Treatises of Government*.<sup>167</sup> Locke starts out his chapter "Of Property" by assuming a natural state, in which 'God [...] hath given the World to Men in common' from which follows that

<sup>165</sup>Gerhard Plumpe. "Eigentum - Eigentümlichkeit : Über den Zusammenhang ästhetischer und juristischer Begriffe im 18. Jahrhundert". In: *Archiv für Begriffsgeschichte*. Ed. by Hans-Georg Gadamer, Joachim Ritter, and Karlfried Gründer. Vol. 23. 2. Bouvier Verlag Herbert Grundmann, 1979, pp. 175–196.

<sup>166</sup>Martha Woodmansee. "The Genius and the Copyright : Economic and Legal Conditions of the Emergence of the 'Author'". In: *Eighteenth-Century Studies* 17.4 (1984), pp. 425–448.

<sup>167</sup>Samuel Rutherford. *Lex, Rex, or The Law and the Prince : A Dispute for the just Prerogative of King and People*. Robert Ogle and Oliver & Boyd, 1843 & John Locke. *Two Treatises of Government*. Ed. by Peter Laslett. Cambridge University Press, 1988.

initially no 'private Dominion, exclusive to the rest of Mankind' exists; however, in order for those dominions to be 'at all beneficial to any particular Man', there needs to be 'some means to appropriate them'.<sup>168</sup> This appropriation then is facilitated as follows:

Though the Earth, and all inferior Creatures be common to all Men, yet every Man has a *Property* in his own *Person*. This no Body has any rights to but himself. The *Labour* of his Body, and the *Work* of his Hands, we may say, are properly his.<sup>169</sup>

Locke derives private property from the right of a person to herself in combination with individual labour and thereby provides the noetic structure that has been employed in various stages of copyright legislation throughout the eighteenth century. Alfred Osterrieth recounts how Locke's conception of property and labour was applied in England's 1709 *Statute of Anne* in order to protect publishers from illegal reproductions of their books.<sup>170</sup> He credits William Warburton with delivering the 'first application of Lockean principles to literary property'.<sup>171</sup> In his 1747 *Letter from an Author*, the clergyman, author and literary critic Warburton petitioned for better legal protection of writers, in opposition to publishers:

[Their] property being in the truest sense, their *own*, as acquired by a long and painful exercise of that very faculty which denominateth us MEN. [...] In a *book* composed, the principal expence is in the *form* given: which as the original maker only can supply, it is but reasonable, how greatly soever the copies of his work may be multiplied, that they may be multiplied to his own exclusive profit.<sup>172</sup>

Noteworthy is Warburton's indirect reference to labour, via the strain of creative work whose result is an artistic form. Crucial, however, is the extension of the notion of

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<sup>168</sup>Locke, *Two Treatises of Government*, §26, p. 286.

<sup>169</sup>Ibid., §27, pp. 287-8; italics in source.

<sup>170</sup>Albert Osterrieth. *Die Geschichte des Urheberrechts in England*. C.L. Hirschfeld, 1895, pp. 100-113.

<sup>171</sup>Ibid., p. 119.

<sup>172</sup>Lionel Bently and Martin Kretschmer, eds. *Warburton's Letter from an Author*. 1747. URL: [www.copyrighthistory.org](http://www.copyrighthistory.org), pp. 405 & 409; italics and capitalisation in source.

property to include literary achievements, captured by a specific form, which required Warburton to conceptualise the author as 'original maker'.

Thus, the notion of the author is intertwined with his singular work of creativity and both are rooted in the need for a discursive justification of creative property in the legal realm. The conclusive geographical and topical link between British legal discourse and continental, especially German, aesthetics, was made by Edward Young's *Conjectures on Original Composition* from 1759. Essential in developing genius aesthetic, Young's text was translated immediately after its publication.<sup>173</sup>

## Conclusion

The origins and early economics of the cantilever chair are certainly convoluted. Its artistic copyright was assigned to Mart Stam, Mies van der Rohe held the patent for the technical feature of suspension and Marcel Breuer is typically the first name associated with the chair. As a product, it became a financial success as an upmarket, high-quality commodity that simultaneously held the appeal of functional reduction and aesthetic refinement. Consequently, it attracted producers who promised, then and today, to deliver the same commodity at a much lower price.

Social contingencies and cultural institutions also played their role. The cantilever chair was a work of art in Germany while the courts in the Netherlands and Sweden denied artistic copyright altogether. Stam was serious in his effort to improve the livelihood of many through his work. Yet, in asserting his position as author, he also contributed to the upmarket positioning of the chair via the fees he received. In addition, his payment in percentages of revenue meant that he benefitted from Lorenz's attempt at monopolising the rights as well as from legitimate producers who tried to maximise their revenue. Droste points out that ideas at the Bauhaus were typically developed in workshops of ten or more people and Möller and Mácel rightly call the cantilever chair a 'collective invention'.<sup>174</sup> Yet, the different elements of the cantilever chair's intellectual property were sought by and assigned to various individuals. Likewise, Thonet's successful

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<sup>173</sup>Cf. Plumpe, "Eigentum - Eigentümlichkeit", p. 188-191; Edward Young. *Conjectures on Original Composition : In a Letter to the Author of Sir Charles Grandison*. Millar & Dodsley, 1759.

<sup>174</sup>Droste, *Bauhaus 1919-1933*, p. 77 & Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 79.

marketing strategy to sell her cantilever models as products of individual artistic origin was the polar opposite of Hannes Meyer's intention to create consumer products that were 'anonymously absorbed' into the mass market.

Ultimately then, the economy of the cantilever chair is not only the outcome of material factors and prices. It is also a manifestation of institutions, codified in the case of copyright law, discursively established in the case of the courts' actual rulings and psychologically engrained in the case of authorship.

Before the cantilever chair became the classic and museum piece it is today, it continued to follow a convoluted path of continued litigation and serious fluctuations in demand. Due to the war, overall production of steel tube furniture dropped after 1941. Lorenz emigrated to the US in 1939 and his income from licensing fees dried up almost completely. After 1945, some of his rights were lost due to limitation of time or unpaid patent fees. In addition, the number of knock-offs increased to such a degree that he had to focus on defending his copyrights in Germany and Switzerland.<sup>175</sup>

After the war, Thonet resumed production of her cantilever models in 1948 and for the period from 1949 to 1954, Lorenz received DM40,759 in licensing fees; hence, Thonet's revenue for the period was at least at DM815,000 or DM135,000 per year.<sup>176</sup> During the period 1955 to 1963, Lorenz's fees amounted to DM36,750, i.e. Thonet's revenue for the period dropped to the DM735,000 or just DM80,000 per year.<sup>177</sup> According to Möller and Mácel, the demand for the cantilever chair declined consistently until the middle of the 1960s and vanished almost completely.<sup>178</sup> Lorenz commented this development in a letter to Stam on February 29, 1962, referring to yet another law suit from 1951 to 1961, between Thonet and RASTA.<sup>179</sup> With resignation he states that 'now that we have finally won [...] the customers' taste has changed and the chairs are not well received anymore'; at the time of Lorenz's letter Thonet produced merely two cantilever models, the S32 and S64.<sup>180</sup>

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<sup>175</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 97.

<sup>176</sup>*Ibid.*, p. 101.

<sup>177</sup>*Ibid.*, p. 101.

<sup>178</sup>*Ibid.*, p. 105.

<sup>179</sup>*Ibid.*, pp. 99-101.

<sup>180</sup>*Ibid.*, p. 101.

From the end of the 1960s to the middle of the 1970s New Objectivity experienced a comeback, which Möller and Mácel dub as a stylistic revival under the term 'coolness', translating into a fourfold revenue increase from the late 1960s to the mid-1970s for Thonet.<sup>181</sup> Similarly, Vegesack points to a 'broad acceptance from a design-conscious elite' around 1965, which marked the conversion of the cantilever chair into a classic.<sup>182</sup>

In real terms the cantilever chair today is even more of an upmarket product than it was in the 1930s. Calculating with the prices of 1935, an average annual rate of price increase of 2.94%, a conversion rate of one Reichsmark to one Deutschmark from the 1948 currency reform and the conversion rate of Euro to Deutschmark at 1.95583, Thonet's chrome versions of S33 and S43 today should cost €160, respectively €113.<sup>183</sup> In fact, they are priced at €750 and €249.<sup>184</sup> A visit to Thonet's factory reveals that the production process has maintained a strong character of craft up to the present. To a surprising degree, standardisation and automatisisation is kept at bay in favour of manual labour. So much of it has been preserved, because customers have come to expect their cantilever chair to meet extremely high standards of workmanship, comfort and longevity, often for several generations. Hence, along with the cantilever chair, its own specific, little paradox has survived the decades. It was intended to be an industrial product and looks like an industrial product, but is in fact artisanry.

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<sup>181</sup>Möller and Mácel, *Ein Stuhl macht Geschichte*, p. 103.

<sup>182</sup>Supplement to Rasch and Rasch, *Der Stuhl*, p. 3.

<sup>183</sup>The average annual rate of price increase is calculated from Statistisches Bundesamt, Wiesbaden, ed. *Verbraucherpreisindizes für Deutschland : Revisionsbericht 2002*. Fachserie 17 Reihe 7.S.2. Metzler-Poeschel, 2003 and the electronic copy of the data in GESIS Köln. *Deutschland ZA8290 Datenfile Version 1.0.0*.

<sup>184</sup>Adero Design. 2011. URL: [www.adero.de](http://www.adero.de).

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