Balance between modern industrial design and "anti-modern" preindustrial design in the craft movements of the late nineteenth and early twentieth centuries: The case of chair-making

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Abstract: The article focuses on the craft movements of Europe and Japan from the late nineteenth to the early twentieth century, and clarifies how critic, designer, and craftsman practiced a balance of contrasting factors: machine-made and handmade, modern industrial design and "anti-modern" preindustrial design. Much discussion around these ideas occurred as the Industrial Revolution advanced and spread. However, the field of chair-making already realized this balance, offering masterpieces providing commentary on the history of design. Both John Ruskin and the Japanese critic Soetsu Yanagi, who greatly respected Ruskin, were regarded as critical of machine-made products but were actually in favor of a balance between handcrafted and manufactured elements. Designers and craftsmen who joined the craft movements, such as William Morris, Josef Hoffmann, Shoya Yoshida, and Sanshiro Ikeda, among others, designed chairs in which such contrasting elements were harmonized analogically, technically, and allegorically (designs of chair produced by craft movements shows their features). Although this balance was a common goal in the modernization of crafts, it is difficult to see its true impact by considering it simply in the historical context of modernism, since it also relates to the cross-cultural history of design. Thus, a look at these questions also unveils part of the history of consilience and innovation between the West and the East.

Keywords: Arts and Crafts Movement, Glasgow School, Vienna Secession, Mingei, machinemade, handmade

1. Introduction

The Industrial Revolution was prevailing across most of Europe from late nineteenth century to the early twentieth century. Major critics such as Herbert Read (1893–1968) and Nikolaus Pevsner (1902–1983) have focused on the contrast between machine-made and handmade products as discussed in the contemporary Arts and Crafts Movement. In the view of this perspective, the decline of handicrafts and the development of industrial design advanced simultaneously. This is surely historical fact. But in our prosperous modern industrial and post-industrial society, various cultures, lifestyles, and design perspectives still mix. It thus remains to more insightfully consider the early history of modern design to come to a new perspective adequate to our time.

A perhaps unlikely field, chair-making, had already realized this balance in the late nineteenth century. Designers and craftsmen created new designs, but strongly informed by past designs. This article focuses on the design theory and chairs of the era to show the balance between modern industrial design and "anti-modern" (or at

least showing oppositional characteristics) industrial design. The many-sided nature of these creations, employing analogy, technique, and allegory, is stressed. A plentiful historical genealogy is identified that departs from formal, contrastive, or linear views of history.

Industrialization was also prevailing in Japan during this period. This article considers the theory and works of the Mingei movement in Japanese crafts, and shows the transnational influence of Western design and the reciprocal influence of Japanese design on the West, demonstrating consilience and innovation between the West and the East in this era.

2. In Europe

The Arts and Crafts movement was founded by William Morris (1834–1896), and reviewed past styles such as the Gothic style. It greatly influenced on the Glasgow School and the Vienna Secession. Charles Rennie Mackintosh (1868–1928), who was a member of the former, and Otto Wagner (1841–1918) and Josef Hoffmann (1870–1956), of the latter, designed chairs with distinctive styles. They did not develop "merely" modern designs, but found ways to also simultaneously reflect on past beauty.

2.1 A balance of machine-made and handmade seen in Ruskin's philosophy

Morris was inspired by John Ruskin (1819–1900). Ruskin was regarded as a critic who respected handmade works and criticized machine-made products and the industrialization of society. But a close look at his philosophy shows that it actually focuses on a balance of machine-made and handmade. In *Seven Lamps of Architecture* (1849), he says as follows:

Ornament, as I have often before observed, has two entirely distinct sources of agreeableness: one, that of the abstract beauty of its forms, which, for the present, we will suppose to be the same whether they come from the hand or the machine; the other, the sense of human labour and care spent upon it. How great this latter influence [...] which has not a beauty in all respects nearly equal, and in some immeasurably superior, to that of the most elaborate sculpture of its stones [...]. (Ruskin, 1907, p.95)

Ruskin here clearly admits the equal beauty of machine-made and handmade products, but gives a greater status to the appearance of "human labour and care" than that of mere beauty of form. Ruskin had made beauty his career; what then made the appearance of "human labour and care" better than beauty? The superiority of the handmade is stressed again and again, as in the following observation in *The Stones of Venice* (1851–53):

You must either make a tool of the creature, or a man of him. You cannot make both. Men were not intended to work with the accuracy of tools, to be precise and perfect in all their actions. [...] All the energy of their spirits must be given to make cogs and compasses of themselves. [...] On the other hand, if you will make a man of the working creature, you cannot make a tool. Let him but begin to imagine, to think, to try to do anything worth doing; and the engine-turned precision is lost at once. Out come all his roughness, all his dullness, all his incapability; shame upon shame, failure upon failure, pause after pause: but out comes the whole majesty of him also [...]. (Ruskin, 1894, p.162)

The evidence of "human labour and care" thus has a distinct worth as testament to the free imagination of the craftsman that went into the work. It extends even to artlessness, and decisively outweighs the trivial beauty of the machine-made.

Ruskin later divided the concept of the handmade into two, in The Two Paths (1859):

ART is the operation of the hand and the intelligence of man together; there is an art of making machinery; there is an art of building ships; an art of making carriages; and so on. All these, properly called Arts, but not Fine Arts, are pursuits in which the hand of man and his head go together, working at the same instant.

Then <u>FINE ART is that in which the hand, the head, and the *heart* of man go together. (Ruskin, 1859, p.57)</u>

"Art" can be produced even by a machine, but "fine art" only by the hand, head, and heart of man, leading to a higher artfulness alongside his flawed technical skill or artlessness. Ruskin had separated the machine-made and the handmade theoretically, but he regarded them not only as manufacturing technique but also as a core of creativity.

His thinking did evolve over time; the fourth edition (1880) of Seven Lamps of Architecture observes as follows:

Again too much fuss and metaphysics about a perfect simple matter; inconclusive besides, for the <u>dishonesty of machine work would cease</u>, as soon as it become universally practiced, of which universality there seems every likelihood in these days. (Ruskin, 1883, p.55)

In the first edition (1849), Ruskin had regarded a contemporary architectural element such as roughcast (a coarse surface on outside walls intentionally damaged for decoration) to be a negative: "dishonest, meanest, least necessary." But he came to review this observation with regret as "fuss and metaphysics," and corrected it in the 1880 edition. Machine-made now becomes as honest as handmade. This development of Ruskin's perspective shows that he carefully reconsidered the relation between machine-made and handmade products. Creativity of machine-made and handmade got almost equal.

2.2 Two genealogies of the chair

A balance between the machine-made and handmade had already been realized in various areas of manufacturing at the advent of the Arts and Crafts Movement around 1860. The main woodworking tools, such as saws, lathes, planes, etc., had been mechanized by the end of the 18th century and were common in chair factories across England. For example, the factories of High Wycombe, an industrial center of furniture manufacturing around London, produced an estimated 4700 chairs daily (Kay and Woodman, 2001, p.40). Typical examples include the vernacular Windsor chair and the ladder-back chair, which had been country chairs that had been adopted in urban settings since the 17th century, and were simple to construct and plane. Contemporary industrial assembly was adequate to production of most parts. For example, the legs and backs of these chairs were made of turnery that could be mechanically be produced by lathe. The slats of the ladder-back chair were shaped by a

mechanized planer. The seat of the Windsor chair was a three-dimensional surface that had to be carved by a hand-plane, while the seat of the ladder-back chair was made of rushes, also woven by hand. Precise joining of parts also required handiwork by craftsmen. Therefore, in several ways, chair manufacturing harmonized the machine-made and the handmade.

2.3 Allegorical succession of turnery of back posts and stretchers from the Arts and Crafts

Movement to the Glasgow School

William Morris wrote regarding the merit of machine-made products, "I have spoken of machinery being used freely for releasing people from the more mechanical and repulsive part of necessary labour." The Sussex chair and the Morris chair, both produced by Morris, Marshall, Faulkner & Co. each came in a series of versions, and later modern design movements took inspiration from their designs.

The Sussex chair (Figure 1) was derived from the vernacular chair in Sussex near London, and made of various turnery (although it is to be noted that it had no rush seat). A Sussex chair has back posts comprising back legs and back frame. Stretchers of turnery fix the legs, enclosing a space under the seat. The stretcher features are also characteristic of the ladder-back chair seen in the late nineteenth century. Various designs in the turnery on the back are also a feature of the Windsor chair seen in the time.



Figure 1 Two in the series of Sussex chairs

The turnery was the traditional chair design. Additionally, it was applied to the high-backed chair (Figure 2), designed by Charles Rennie Mackintosh in 1897 for the Argyle Street Tea Rooms in London. The high-backed chair received a new appearance with an oval slat at the top of the back. Long vertical slats support this horizontal slat. This new style reflects a trend toward modern design. However, the back posts of the turnery support the oval slat outside of the vertical ones. The upside of the rectangular back posts is tapered to pass through the oval slat. They show lively beauty vertically. Two lined turneries as stretchers are affixed to the legs. These features follow the traditional appearance of the chair. Therefore, this chair symbolically combines the old beauty of the turnery and the new beauty of slats. This combination can be regarded as an analogical balance of the anti-modern and modern characteristics of time.

Mackintosh indicated another development in high-back chair (Figure 3) for the International Exhibition of Modern Decorative Art in Turin in 1902. This chair was exhibited in a room called the Rose Boudoir (a lady's bedroom made of rosewood). It is the same as the tea room chair described above, but colored wholly white, with a stenciled rose on canvas and a carved rose on the backboard, expressing a distinctive beauty. The two posts supporting the back are notable. They are not turnery, but rectangular lumber, and do not go through the top rail.

The back posts and top rail become a picture frame around the stenciled and carved roses, enhancing the graphical beauty. But the legs and stretchers of this chair are tapered or spindle turnery derived from vernacular style such as Sussex chair. Modern back and anti-modern legs coexist in this chair.

Mackintosh's design developed into a new phase with the chair for Hill House (Figure 4) in the same year, 1902. This ladder-back hair has legs and back posts made of tapered turnery. Although these orderly, lined rectangular lengths functionally make a back and exhibit a modern design, the tapered turneries of the past are alive in this chair.



Figure 2 High-back chair for Argyle Street Tea Rooms





Figure 3 High-back chair for



Figure 4 High ladder-back chair for Hill House

2.4 Allegorical succession of vertical latticework from the Arts and Crafts Movement to the

the Rose Boudoir

Vienna Secession

Around 1866, Morris, Marshall, Faulkner & Co. also marketed a reclining chair named after Morris (Figure 5). It has some variations, but all feature a low, upholstered square seat and back whose angle of back can be adjusted by a bar behind fixed in a row of pegs, holes, or notches at the rear of the arms. Some vertical lengths form a lattice pattern supporting the arm. The Vienna Secession explored the beauty of vertical lattice. An architect, Otto Wagner, designed an armchair (Figure 6) in 1900. Although the back is low and not adjustable, this chair also has an upholstered square seat and back, and shows a beautiful vertical lattice at the side of the seat.

In terms of design theory, Wagner and Morris were opposites. Wagner observed in his book Modern Architecture (1896) as follows:

Modern social conditions have allowed the type of the "artist-craftsman" to disappear completely and have made a machine out of every worker.

A natural consequence of this must be that this entire large domain of art has fallen to the artist, with the principal burden, however, falling to the architect. (Wagner, 1988, p.70)

Wagner denied the utility of the concept of "craftsmanship," and clearly separated the artist from the architect in his theory. However his armchair actually shows a artistic beauty: circular lumber joins into the lattice; the front corners of the wooden board under the seat cushion are carved into the curved surface; the tips of the four legs are capped with metal. Such details illustrate the beauty of contemporary woodworking techniques based on a combination of machine and hand production.

Josef Hoffmann designed a reclining chair using a vertical lattice around 1905, called the "Sitzmaschine" ("machine for sitting," Figure 7). This chair stands as a celebration of mechanism with its exposed structure, pegs standing in as rivets, boards with rounded edges as pressed iron, and linear bentwood as a steal frame. Such elaborate parts and construction demonstrates not only machine-age production values but also the influential genealogy of the previous works. For example, vertical rectangles piercing side boards, the square seat and adjustable back that can change the angle remind us of Morris chair. And the grid of squares piercing the back follow Macintosh's chair. The Sitzmaschine is a fusion of these previous works, and all serve as examples of the balance of anti-modern and modern.



Figure 5 Morris Chair, supervised by Morris, Marshall, Faulkner & Co since 1866



Figure 6 Armchair, designed by Otto Wagner in 1900



Figure 7 "Sitzmaschine": designed by Josef Hoffman around 1905

3. In Japan

The Mingei ("Art of the People") movement is a Japanese folk art movement that began in 1926. Its purpose was to discover the beauty in common handmade objects used in the past and apply it to the creation of presentday handicrafts. Thus, Mingei craftsmen aimed for a basically pre-industrial form of production in fields ranging from pottery to woodwork, dyeing and weaving, woodcuts, and others. However, various machines were becoming dominant in the production of everyday objects in the industrial, modernizing Japanese society of the early twentieth century. Soetsu Yanagi (1834–1896), the founder of Mingei theory and a central figure in the movement, observed that machines would inevitably supplement handiwork for reasons of efficiency, without rejecting this mechanization. Thus, in this context, the definition of pre-industrial does not mean anti-machine. As envisioned by Yanagi's Mingei theory, two of his followers, Shoya Yoshida (1898–1972) and Sanshiro Ikeda (1909–1999), founded guilds for production of Mingei crafts. Almost all these followers were individual artists, known as "Sakka" (artist-craftsmen), but these two joined the movement as instructors and trainers of local craftsmen. Shoya Yoshida has managed the Tottori Mingei Guild since 1931. The Guild designed various chairs inspired by the seventeenth-century English ladder back chair mentioned above; additionally, Chinese armchairs from the Ming dynasty (1368–1644) served as inspiration. Yoshida's design was so simple that local craftsmen could reproduce it with their primitive techniques. Their chairs also had rails (i.e., Tatamizuri) at the points of the legs to avoid damaging Japanese flooring (i.e., Tatami) developed for the contemporary Japanese lifestyle. Sanshiro Ikeda, who had great respect for Yoshida, has managed Matsumoto Mingei Furniture since 1944 (formerly Chuo Kozai Kogyo). This manufacturer has reproduced various vernacular chairs, such as the Windsor chairs, are characteristic of this manufacturer. The designs have followed the traditions of wonderful and elaborate turneries. The two producers noted here produced beautiful handiwork while introducing the machines necessary to improve the productivity of factories. The balance was essential to the creativity and design of the chair. Yanagi would focus on this feature for his folk art movement.

3.1 The balance of machine-made and handmade seen in Yanagi's philosophy

The industrialization of woodwork in Japan was initiated by the government around 1850. Machines such as the circular saw, band saw, lathe, plane, and steamer for bentwood were common in the early twentieth century. Yanagi pointed out the difficulty of achieving harmony between machine- and man-made production methods in his book *Kogei no michi (Way of Craft*, 1929):

The more complicated machines get, the more easily humans become their slaves. If a machine were like a tool, I could be its master. But (to need rapid mass-production) the increase in population does not permit time to be taken to improve one's skill with a tool as could be done in the past. We need machines more than ever before, [but] if we use them to excess, they restrict our humanity. We must deal with this issue and contradiction. The cleverest approach will be to rely on machines to deliver power and arrange preliminary assembly, but rely on handiworkers to finish the job. Thus, we can harmonize the different advantages [of these methods]. Work by hand only wastes our potential; work by machine only kills beauty.

Yanagi criticized machines, but also considered how they should be used in the assembly process. Bernard Leach (1887–1979), who promoted the Mingei movement with Yanagi, pointed out—in the context of a discussion of Yanagi's meeting with designer Charles Eames at the latter's home near Los Angeles in 1954—that Yanagi focused on a balance of modern design and craftsmanship in Eames's design:

He laid stress upon Eames's open acceptance both of the contemporary <u>scientific and industrial world as</u> <u>well as the traditions of the past</u>; upon his playful refusal to be chained by fear, and his constant inventiveness and domination of the mechanical by a freedom of intuition and joy in making. (Leach, 1972, pp.95-96)

Yanagi seemed to regard the inventiveness of Eames (who had designed many creative steel chairs) as derived from a balance between the "scientific and industrial world" and the "traditional of the past." He also pointed out that Danish modern designs realized the balance, as follows:

The machine, of course, came into being for man's use and advantage; therefore, we need not avoid it, but should find a way of using it more cleverly than we have done hitherto. The problem is not a matter of either hand or machine, but of utilizing both. [...] The best course, probably, is that handwork and the machine should co-operate and supplement each other's shortcomings. This had already happened in the industrial arts in Denmark. (Yanagi, 1972, p.108)

Yanagi asserted the interdependence of machine-made and handmade design, and said they should "co-operate and supplement each other's shortcomings." Danish wooden chair, "Y-Chair" (1950, Figure 8) designed by Hans Wegner (1914-2007) was successful product of mass production by industrial assembly with fine design. It was designed to make the production process more efficient and aimed to sustain high quality while achieving lower costs by automated mass production. Its front legs are shaped with a woodworking lathe, and its back legs actually form a two-dimensional curve but have a very convincing three-dimensional look as a result of shifting its center slightly during the assembly process by hand. The production process is strategic and highly efficient by a balance of machine-made and handmade.





Figure 8 "Y-Chair" designed by Hans Wegner in 1950

Figure 9 Chinese Ming-type chair designed in 15th – 16th century.



Figure 10 Armchair supervised by Yoshida in 1957

3.2 Allegorical succession of bentwood from the Danish modern design to Japanese folk art movement

Yoshida expressed his philosophy in the context of a discussion of machine-made Japanese paper, as follows: "Making paper by machine is reasonable. Handiwork is not only the way to create Mingei. It is important for us to create the best beauty, even if by machine. Machines can do it. The technique of machines and the power of science are needed." In the 1950s, Yoshida designed a series of Chinese Ming-type (Figure 9) chairs with a long piece of bentwood comprising the arm and back. Chinese Ming-type chair (Figure 10) released in 1957 distinctively had legs derived from the English Windsor chair. The chair reflects cross-cultural design between the West and the East. Moreover, it has noteworthy features. The inner side of the bentwood is smoothly hand-planed, yielding a softness to the touch. Similarly delicate detail is seen in above-mentioned Y-Chair. Therefore, the chair influenced by the Mingei Movement also shows the hybridity, or cross-culturalism of modern design, that harmonizes the traditions of domestic and foreign cultures. Thus, its beauty as a hybrid is based on a variety of influences.

3.3 Allegorical succession of apron from the Danish modern design to Japanese folk art

movement

In Ikeda's factory (in operation now), machines are introduced only in limited degree, so as not to affect the quality of handiwork. Woodworking machines are used in the early processes of production; however, automatic systems based on computer programs, such as Numerical Control machining, are not introduced. However, power tools are used throughout the process; since they simply augment the hand's natural motion, power tools are regarded as a permissible substitute for traditional saws, planes, and augers.

Yanagi designed a lounge chair (Figure 11) in the second half of the 1950s, and it was produced by Matsumoto Mingei Furniture, managed by Ikeda. The seat is low and the angle of the back is adjustable. This function recalls the Morris chair, but the design is quite different. The seat and back are made of rushes woven by Ikeda's wife and showing a handmade beauty. Yanagi also designed a stool with a rush seat. A prominent feature of this series is the design of the legs and the aprons below the seat. The aprons are a distinctive shape: wider at the join to the leg, to show a linear beauty with the tapered leg. Chinese Chair (Figure 12) designed by Wegner in 1944 inspired Yanagi who respected Danish design. Although it is Japanese at a glance, Yanagi's lounge chair actually shows an allegory of modern design.



Figure 11 Lounge chair supervised by Soetsu Yanagi around 1950



Figure 12 "Chinese Chair" designed by Hans Wegner in 1944

4. Conclusion

The balance between machine-made and handmade was not only technical harmony but also a philosophy for maintaining handmade beauty in modern times. Designers and craftsmen applied techniques associated with creating beautiful handiwork in the past to create modern designs. Therefore, the balance between modern industrial design and "anti-modern" preindustrial design was realized by allegorical successions such as turnery,

vertical latticework, use of bentwood, and ornamental aprons. This historical development of design can be regarded as consilience and innovation, reflecting collaboration between the West and the East.

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