

Contents

Introduction	2
Early Saarinen- shaping the designer	2
The Grasshopper Chair	4
Womb Chair (Model 70 Series)	5
Tulip Chair (Pedestal Collection)	6
Conclusion.....	9
Bibliography	10

Introduction

The aim of this paper is to begin with detailing the early life of the designer including his main influences and relevant academic achievements. Following on from this, the paper will set-out the designers three best known furniture designs beginning with his first, The Grasshopper Chair and ending with his last, The Tulip Chair. Interspersed throughout the paper are relevant pictures of each design with information relevant to each piece.

Eero Saarinen was an architect and industrial designer of Finnish American extraction. He was born in 1910 sharing the same birth day of the 20th of August, as his father the renowned Finnish Art Nouveau architect, Eliel Saarinen. It is well documented that this coincidental birth day casts light on Eeros driven search for his individual identity as an architect.

We get an interesting insight into Saarinen's childhood through an interview held on Oct 12th 1995 in which his daughter, Susan Saarinen recalled, "He was brought up underneath his father's draughting table; he never got any praise, unless he did extraordinarily well....When I was eight, he said to me, "What do you think of this political thing that's going on?" I don't remember now what it was. I was eight years old. How many eight year olds care about world politics? I didn't. So I gave him an eight-year-olds flip answer. And he came back on me and he said, "Don't *ever* give an answer unless you have studied it and you know the facts surrounding this subject. And you've thought carefully about what the proper answer is". (Serraino, 2006, p. 7)

It is interesting to note that Eeros father Eliel Saarinen was educated in the reactionary academic environs of late nineteenth century architecture. His book, *The Search for Form in Art & Architecture*, provided a concept where he argued, every period has an architectural form of its own. This concept goes a long way in explaining Eeros later varied styles of expression according to the demands of the brief: simplistic, sweeping, arching structural curves or machine-like rationalism. (Albrecht, 2006)

Early Saarinen- shaping the designer

In 1923, the young Eero Saarinen and his family followed his father to the U.S and it is there that the Saarinen legacy began to really unfold.

It was inevitable that Eero's future lay in the architecture and design domain. His father and both of his uncles were architects, his mother was a sculptress and textile designer and indeed his sister, Pipsan, was a designer and interior decorator.

Being Finnish, his romantic references to nature were to the forefront of his mind set on architecture and design. Eero studied sculpture at the Academie de la Grande Chaumiere in Paris from 1930-1931. In 1934 he earned a bachelor of fine art degree from the School of Architecture at Yale University.

After travelling the world working on various projects Eero eventually became absorbed into his father's firm. It is around this time that Eero struck up a friendship with Charles Eames who had been working in Eliel's office in 1939. This is also where he befriended Ray Kaiser, the future Mrs Eames. (Serraino, 2006)

Eero and Charles Eames were responsible for managing the Cranbrook design shop and collaborated on both furniture designs and the now, well documented, Case Study House #9.

The ending of World War Two in 1945, the death of Eero's father Eliel in 1950 and the unprecedented explosion in population between 45 and 65 ushered in a new era for the newly named Eero Saarinen & Associates. Eero Saarinen, the self-confessed second generation modernist, believed that, "architecture could serve other purposes and respond to the new concerns of post-war society". (Serraino, 2006, p. 10) This philosophy was evident in future projects.

In 1940 the Museum of Modern Art (MoMA) in New York announced a call for entries in which competition organisers requested designs centred around new parameters based on "affordability, functional suitability and up-to-date industrial process". Saarinen and Eames submitted eight designs and won 1st prize.

Within their proposals was the adoption of new technology used by the national defence force. What was being produced in these factories was both functional and efficient, with virtually no limits on form. The eventual result of their investigations and experimental techniques was the creation of "formfitting pieces made of a three-way-curve laminated shell construction and foam rubber". Using an iron mould the compound plywood shell was formed. (Serraino, 2006, p. 19)

These final pieces were issued in limited numbers due to the impending cloud of World War Two.

The Grasshopper Chair

Hans G. Knoll (1914-1955) founder of Knoll Associates was the husband of designer Florence Schust. Florence had studied with Eero Saarinen at the Cranbrook design shop.

After reviewing the product line of Knoll Associates and realising that there was no chaise longue or lounge chair in the collection, Saarinen was tasked with creating such a chair for Knoll. In 1946, Saarinen's long association with the renowned Knoll Associates furniture company began with his



first design, "The Grasshopper".

Figure 1

Post wartime restrictions on materials available to Saarinen restricted his creative efforts hugely. In the beginning, the Grasshopper chair used available materials such as laminated wood and surplus parachute webbing.

It was Saarinen's belief at this time that people wanted to sit lower and they wanted to slouch. He attempted to shape this slouch position in an organised way providing support for the back, shoulders and head.

The chair's base was two one-piece laminated wood arm-leg constructs connected to the seat frame. This assembly formed a triangular shape giving greater strength and stability than if it was done using a more conventional box-like base. (Lutz, 2012, pp. 99-102)

Production of the Grasshopper Chair ended in 1965 but examples can still be seen on display at the Yale School of Architecture Gallery.

Womb Chair (Model 70 Series)**Figure 2**

It was Florence Knolls suggestion that Eero should elaborate on the moulded plywood chair which he and Charles Eames had taken first prize in the 1940 MoMA furniture competition. It was this intervention that became the catalyst in the creation of the now famous “Womb Chair”, and which subsequently became a huge seller for Knoll Associates.

Eero Saarinen once said, “People sit differently today than in the Victorian era”. It was with this understanding that he created a chair that provided the human body with a variety of informal ways in which to occupy it. By introducing the slouch into the residential domain he displayed to the world that, modern furniture, without losing its contemporary edge, can be comfortable and inviting. He believed that to rest in the chair, people especially women, should feel safe and be able to relax.

The chair is composed of an upholstered fibreglass shell sitting fixed on a steel rod base with a polished chrome finish. In Saarinen’s own words, the chair provides “a flattering background when someone is in it, especially the female occupant”. (Serraino, 2006, p. 25)

This original design would form the basis of all subsequent designs launched by Knoll as part of the “Model 70” series and would revolutionise furniture design forever. The Womb Chair has been in continuous production ever since.

Tulip Chair (Pedestal Collection)**Figure 3**

Three years after Eero had completed his work on the Model 70 series chairs, Hans and Florence Knoll were eager for Saarinen to develop a new collection for Knoll & Associates. Hans Knoll was adamant that the project needed to be developed without delay so he enlisted Don Petitt, a member of the product development staff at Knoll.

He and Saarinen worked on the form of the Pedestal chair using quarter scale models and very basic moulding techniques. Petitt said, "I started out making little models, bending sheet metal and filling with plastic". (Lutz, 2012, p. 160) Eventually after developing many prototypes the concept of using a single material to create the entire piece was lost, due to the limitations in technology.

The Tulip Chair design was linked to Saarinen's architectural approach of that time. Similar to his design for the TWA terminal in New York (see picture), it was to be a fusion of structural elements into a single shape. The chair's performance was of great importance to Saarinen: it needed to be comfortable for all body types; contemporary materials were to be used; it needed to fit into many environments in order for it to be mass produced; it had to address the problem of chair legs. (Serrano, 2006, p. 59) At the time Saarinen said, "We have four-legged chairs, we have three-legged chairs and we have two-legged chairs, but no one has done one-legged chairs, so we are going to do this". (Lutz, 2012, p. 159)



Figure 4

In the end the pedestal base was made from aluminium and the seat shell composed of moulded fibreglass finished with a fibreglass resin. An additional feature on the seat was developed by Knoll employee Bob Savage. The memory return mechanism at the top of the base of the chair allowing it to return to the one position once a person left the seated position. The Tulip Chairs were used on the “Bridge” of the original Star Trek television show. (Eero Saarinen Design Archive, 2014)

Following on from the Tulip Chair development, the Pedestal Collection was added to in the form of dining tables, coffee tables and side tables. Cast iron was used instead of aluminium for stability at the table base. Today, re-enforced plastics are used to give Eero Saarinen’s designs their form and the tables are available in a wide range of materials, including marble, granite, plastic laminate and seven different wood veneers.

Before I undertook this assignment my familiarity with Eero Saarinen and his works was limited at best. Soon after starting the project I realised that Saarinen’s design legacy was all around me and still in everyday use. I had been looking at his influence on most everyday environments all my life and had no idea. What was ironic for me was that for first two pages of this assignment I had been sitting on a chair with an obvious likeness to one of Saarinen’s Model 70 series chair designs and hadn’t realised it.

For me, what was most impressive about Saarinen was his ability to overcome technological limitations and a shortage of suitable materials in a post-World War Two environment, to produce beautiful modern designs suitable for mass production.

The Grasshopper Chair is a good example of this. His willingness to use materials like parachute webbing and laminated timber to achieve what was needed indicated the true meaning of what a design pioneer should be. Personally speaking, as an avid admirer of all things “up-cycled”, I found much to admire in Saarinen’s approach.

The Grasshopper Chair for me represents a clever merging of form and function. The concealed joint connection points at the legs and arms displays Saarinen’s dedication to achieving singular form in his designs. Its ingenious triangular shaped position not only gave it maximum stability but when coupled with the laminated one piece timber sides, the chair became a comfortable, supportive piece of furniture to relax into (See Fig 5). I admire its simplicity and have learned from the functionality in its design.



Figure 5

Of the three designs discussed in this paper, the Womb Chair for me was the least favourite of all. Like all of his designs, it was innovative in its technology and daring in its concept, but for me, it lacked aesthetics in comparison to the Grasshopper and Tulip designs. It may have something to do with a large area of fabric meeting a small metal base that throws the aesthetics off a little too much. In terms of seating furniture, I prefer the ratios of material to be a little more even.

Saarinen’s strive towards producing furniture with singular form was pioneering and to be admired. This is again evident in his work on the Pedestal Collection where his design centred on producing the chair as a moulded single form made from one material. Unfortunately due to technological

limitations this idea was a bridge too far. Saarinen said, "I am looking forward to the point when the plastics industry will be capable of manufacturing the chair using just one material, the way I have designed it". (Tulip chair, No. 151, 2014)

The design is simple, beautifully organic and for its time, way ahead in terms of what could be achieved using fibreglass techniques. He addressed the issue of chair legs but with a solution so elegant in its shape and form that it must have been viewed, at the time, as something almost from the future. For me, its almost liquid-like shape was the perfect representation of the emerging mind-set of middle-class 1950's America.

Saarinen's written works are listed as follows:

- Eero Saarinen On His Work: A selection of buildings dating 1947-1964 (E Saarinen 1962)
- Eero Saarinen on His Work (Eero Saarinen & A.B Saarinen Oct 1968)
- Architectural Graphics Standards (E Saarinen, Sleeper, Ramsey 1965)
- (Books by Eero Saarinen, 1996-014)

Conclusion

I very much enjoyed this project and have gained a healthy understanding of what Eero Saarinen achieved. His use of materials and his uncanny ability to react to an ever changing environment is something to be admired but also to be learned from and replicated.

Bibliography

Books by Eero Saarinen. (1996-014). Retrieved 3 14, 2014, from www.amazon.com:

http://www.amazon.com/s/ref=nb_sb_ss_i_1_3?url=search-alias%3Dstripbooks&field-keywords=eero+saarinen&srefix=eer%2Cstripbooks%2C256

Eero Saarinen Design Archive. (2014). Retrieved March 14, 2014, from www.midcenturia.com:

<http://www.midcenturia.com/2011/06/eero-saarinen-design-archive.html>

Tulip chair, No. 151. (2014). Retrieved march 10, 2014, from www.design-museum.de:

<http://www.design-museum.de/en/collection/100-masterpieces/detailseiten/tulip-chair-no-151-saarinen.html>

Albrecht, P. a. (2006). *Eero Saarinen: Shaping the future*. Yale University Press.

Lutz, B. (2012). *Eero Saarinen: furniture for every man*. New York: Pointed Leaf Press.

Serraino, P. (2006). *Saarinen*. Taschen.