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PRODUCT DESIGN AT FISKARS CONSUMER OY.

BY
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This Thesis is dedicated to my parents

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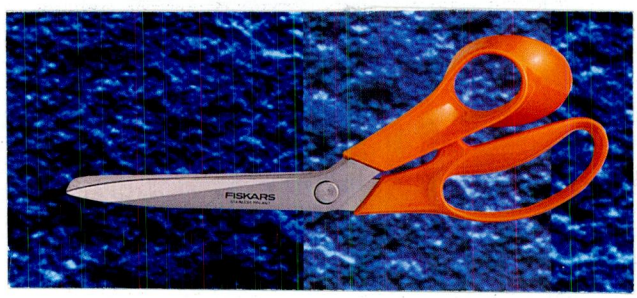
CHAPTER 1.

INTRODUCTION

> Fiskars, which has conquered global markets with its orange-handled scissors, knows that world-class design isn't just a matter of looks. A successful design product is above all a simple functional entity (Tirkkonen, 1995, p.40).

This thesis is an examination of the Finnish design and manufacturing company Fiskars Consumer Oy (Company). Fiskars are the manufacturers of the world famous O-Series Scissors (Orange-Handled Scissors). This scissors earned them global success in the 1960s due to the design of the unique ergonomic handle. They established Fiskars as manufacturers of products that were not only user friendly but durable and of high quality. Fiskars has upheld this tradition for more than 30 years and as a result their products are respected the world over.



1.1 Fiskars O-Series Scissors, 1960.

Finnish designers such as Alvar Aalto (1898-1976), Eero Saarinen (1910-1960) and Kaj Franck (1911-1989) are recognised for the natural inspiration in their designs for industrial products. They also posses the excellent ability to design for mass production whilst still maintaining the quality and style expected from a hand made product. This evolves from an ability to understand and use materials of every kind to their maximum. The result is a product that is highly complex yet understated in appearance. This has become the trade mark of Finnish design.

In 1961 a group of Scandinavian designers were invited by the Irish Trade Board to come to Ireland with the aim of improving Irish Design. The group was led by Kaj Franck the Finnish Designer famed for his work at Arabia ceramics factory. This was the first time that there had been collaboration between Ireland and Finland in the study of design. The most important result for Industrial Design was the establishment of Kilkenny Design Workshop and a third level curriculum in Industrial Design at N.C.A.D.. The project was very successful and a strong bond between Irish and Finnish designers has developed (Turpin, 1986, pp 4-21).

The tradition of Fiskars is much older than the 30 years the O-Series Scissors have been in production. It is in fact 348 years old and it has evolved from a small town called Fiskars 30 miles North East of Helsinki in rural Finland. Initially it was an iron refinery but developed into one of Europe's leading manufacturers of quality steel products including scissors. Scissors became the back bone of the company and are now its biggest selling product, more than 30 million variations of the O-Series Scissors are sold every year.

Much of the success of Fiskars products is attributed to the company's high standard of Industrial Design. Olaf Backstrom was the designer responsible for the O-Series Scissors. The combination of plastic and steel was both extraordinary and revolutionary. This is common place nowadays but Backstrom was breaking barriers in the 1960s. Olavi Linden is the director of product development at Fiskars today. He is responsible for the international success of the company in the 1990s. His approach to design is not unique but it does encompass all that is important in design. This includes function, aesthetics, mass production and durability. Each of these areas deserves attention and it is Lindens ability to combine them all that results in a successful Fiskars product. However, Linden is not deserving of all the praise. 1990s Fiskars products are a result of teamwork.

In 1995 I spent 4 months studying at the University of Industrial Arts Helsinki (UIAH). This was a very important experience where I learned about a totally new way of designing and became very interested in Finnish product design. The concept of Brukskunst or useful art was most intriguing. It implies that beauty in a product comes from its function. I was always aware of the unique properties of Fiskars products through the O-Series Scissors. However it was the outstanding simplicity of the design and function of the power loppers that motivated me to study further into the company.

1.2 Fiskars Power Loppers, 1995.

Fiskars products have become successful because they lead the market in their functional application. They are also highly regarded for their build quality and their ability to design for user needs. "The guiding ideal of product development at Fiskars is that the object should last at least one generation" says Olavi Linden (Tirkkonen, 1995, p.40). These qualities have matured over the 348 years of Fiskars' existence. When other companies were emphasising style in their products, Fiskars were combining it with function. The aesthetics of Fiskars products simply reinforce their function and durability. The result is an 'honest to goodness' aesthetic that the consumer can trust.

As designers, we should aspire to supply the consumer with products that are pleasant to use. It is a Finnish tradition in design to enhance the every

day lives of the user. Fiskars have shown that aesthetic appeal and function are a winning combination. Aesthetic appeal alone is common to many products. It is applied in preference to the more important aspects such as durability, user needs and function. Fiskars designed a number of products with modern and sporty connotations. These make the user feel that gardening is a sport and as a result they enjoy it more. The consumer will benefit from the Industrial Design profession if we follow the road laid by Fiskars and design for the consumer and not for the image. This thesis will prove that this approach to design will create a desirable image that evolves from the physiological and psychological needs of the user.

The most important factor of Fiskars design is their universal appeal. Fiskars products appeal to all kinds of people regardless of their age, ability or race. They are appealing through their form and their function. We should understand where this appeal has come from. It might be the company's Finnish background or it could be the Fiskars tradition. It might be a thorough understanding of user needs. Whatever these factors are they are unique to Fiskars. The greatest possibility is that it is a combination of these factors and many more that make Fiskars successful. At the moment we can only speculate. This thesis will analyse the Fiskars company to discover where these desirable qualities come from.

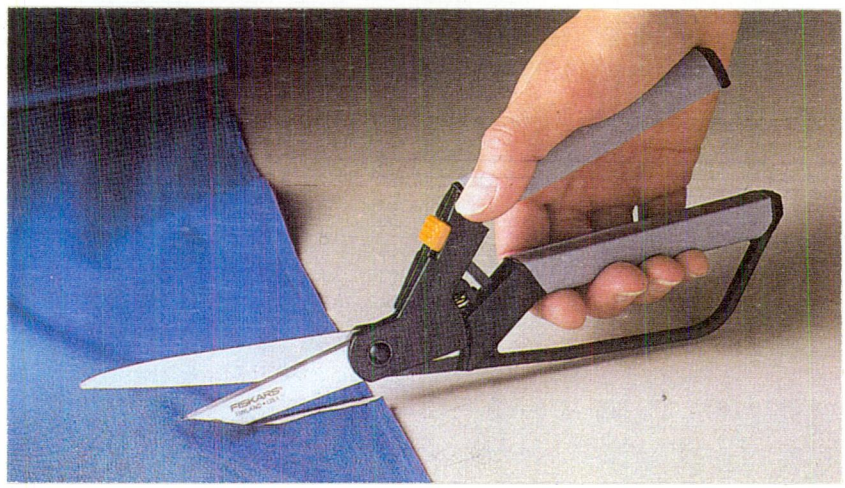
Chapter 2. analyses how the Fiskars tradition has affected design at the company. Fiskars have a strong tradition that is 348 years old. Over these years a strong community spirit has been built up in the company. This community spirit has evolved into team work which is of great importance to the company today. The global appeal of Fiskars products is important for their success. This appeal could be a result of the many foreign workers employed at Fiskars over the years. Fiskars' tradition as a manufacturer of high quality steel products has extended into the 1990s. They have a skill for designing for mass production which is still evident in their modern day products.

The link between Fiskars and its Finnish background will be explored in chapter 3. The style of the O-Series Scissors is supposed to come from ergonomic needs. However, it is very similar to the freeflow style which was popular in the 1960s. The form of the O-Series Scissors might have been as much the result of the trends in Finnish design during the early 19th century as they were the result of ergonomics. The use of colour, proportion and raw material in the O-Series Scissors is very accurate. It would be interesting to see if this is a result of a Finnish background. Yrjo Sotamaa rector of the UIAH is a very influential figure in Finnish design. He has strong ideas about spirituality in design. It addresses the psychological needs of the user in a product. It would appear that some of Fiskars most recent products are influenced by these ideas.

1.3 The range of Handy Axes by Fiskars, 1994.

An analyses of Fiskars design under Olavi Linden will be carried out in chapter 4. The handy axe and the power loppers are two very desirable products manufactured by Fiskars. They are both functionally exceptional

and very stylish. The design of them will be explored under the headings of Aesthetics, Function, materials and manufacture.



1.4 Fiskars Softtouch Scissors (1993).

Chapter 5 will discuss Fiskars ability to design for people of all ages and all needs. This is called transgenerational design. Fiskars' leading transgenerational product is the Softtouch Scissors. Similar to other Fiskars products the functional needs of the user are very well catered for. However, this is one design where the aesthetics applied seem to be inappropriate.

In chapter 6 the thesis will be concluded with a summary of the major points and findings made in the thesis. Any flaws in Fiskars products will be highlighted.

In Design in Finland 1995 Olavi Linden gives a descriptive interview to Marja-Liisa Tirkonen on design at Fiskars (Tirkonen, 1995, pp 40-44). This interview has been very important for this thesis especially in chapter 3. The interview lacks analyses from the author and the text is mostly quotes from Linden. Ideally a personal interview would have been had with Linden because this thesis addresses topics not featured in the interview.

I did meet one designer from Fiskars during a visit to the old town of Fiskars. He provided some interesting opinions on Fiskars but he was more involved in designing products for the army than for consumer markets.

Interviews with Yrjo Sotamaa, the rector of UIAH, in Form Function Finland (Anon., 1996, pp 8-12) and Design (Perainen, 1990, pp 54-56) were important sources of information regarding the modern thinking of Finnish design. Four months was also spent studying at the UIAH where a strong understanding of Finnish design and culture generally was gathered.

Fiskars focus ,Fiskars publications, supplied up to date information on the company. They included an article by Olavi Linden called "the thousand challenges and possibilities of raw material" (Linden, 1996, p. 6). In this article Linden discusses the use of plastics in Fiskars products. They also include an article on the success of the Plastic axe called "the scissors trick with an axe" by Jarl Prahl (Prahl, 1996, pp 14-17). Both articles praised Fiskars products for their innovation and user friendliness. Other articles such as "science took the leading role at garden fair" (Anon., 1996, p.8) reinforced Fiskars claims of exceptional function with scientific research.

In learning about Transgenerational design Transgenerational Design, Products for an Ageing Population (1994)by James J. Pirkill was the most important source of information. A seminar by Professor Pirkill was also attended. The seminar aided in the further understanding of the area because it was based around a workshop. These sources of information provided good insight into Transgenerational design.

Kaj Franck, Designer (1992)a book written by the museum of Applied Arts Helsinki in 1992 gave a very good discussion of Kaj Francks life and how he influenced many other Finnish designers, especially through his

teaching at UIAH. From this book it was established that some of Fiskars attitudes to product design are a direct result of Kaj Francks influence.

To research the history of Fiskars the historic town of Fiskars was visited. This provided a good impression of the old Fiskars community. Fiskars 1649 (1993) a publication celebrating the history of the company was also a good source of information. The book was important for reference purposes but it only provides a history of Fiskars and it has no development or analyses.

Scandinavian Design, Objects of a Lifestyle (1975) by Eileen Harrison Beer gave some insight into how Scandinavian people have influenced the design of products in Scandinavia. The book by Harrison Beer discusses general Scandinavian design but this thesis is more interested in how Finnish people have affected design. Therefore not all of the text was relevant and it did not go into enough detail. Most of the information gathered from this book needed backing up from other sources relating to Finnish Design such as a number of articles from Form Function Finland (Anon., 1996, pp 8-15), (Stenros, 1995, pp 22-23) and Design (Gardner, 1993, pp32-36) (Rogers, 1985, p. 11) (Perainen, 1990, pp 54-56) (Jones, 1990, pp 42-53).

Design in Plastics (1989) by Doug Cleminshaw, Materials and the Designer (1987) by E Cornish and Plastics Design and Materials (1978) by Sylvia Katz were all helpful in the understanding of mass production with plastics. The main problem with these books were that they were out of date and did not cover some areas relating to this subject. So they too had to be backed up with articles from Design (Bates, 1990, pp 23-24)and I.D. (Blumfeld, 1984, pp 62-63)

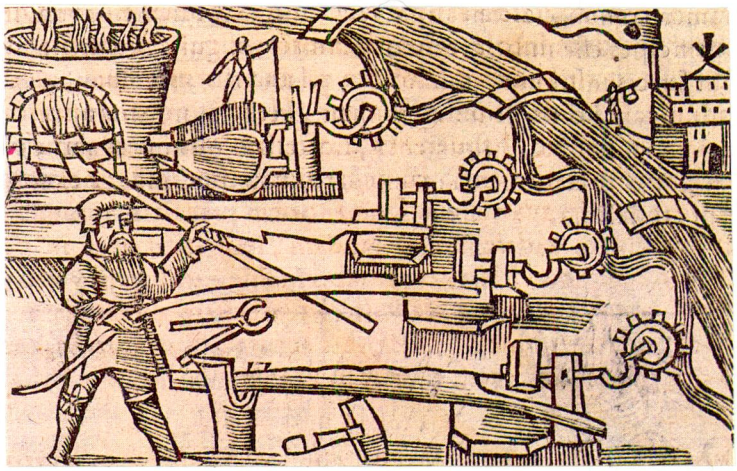
CHAPTER 2.
THE FISKARS TRADITION

THE ORIGINS OF FISKARS.

In the 17th century Finland was ruled by the monarch of Sweden, King Gustavius Vasa. Sweden had established many successful iron mines and refineries. However it lacked vast forests needed to fuel the refineries such as existed in Finland. In 1630 King Gustavius Vasa ordered the transportation of iron ore and crude iron from Sweden to Finland for refining. The Ojamo mine in Southern Finland was the first to be established.

2.1 Location of Fiskars.

In 1647 Peter Thorwosten, a Dutch businessman, gained control of the Ojamo mine. Through his association with Ojamo he became aware of the natural benefits of Finland for iron refinery. In 1649 he gained permission to forge cast iron products with the exception of cannons. That same year he set up a blast furnace and bar hammer at Fiskars village 30 miles North East of Helsinki.



2.2 Print of water wheels being used for bellows and hammers at Fiskars.

Fiskars was a very inspired option for the location of an iron refinery. It did not have the abundance of iron ore, but the landscape offers everything needed create a community and an Iron refinery. It had vast amounts of unused woodlands and rivers. The woodlands were an important source of huge quantities of wood needed to make charcoal. Charcoal supplies the carbon, which is used to remove some of the impurities from the Iron ore. These vast woodlands would also prove to be the source of a building material for the town that was to evolve around the company. Between the woodlands lay rich agricultural land, ideal for pastoral and crop farming. The unharnessed water was an ideal source of power needed to keep the large bellows working twenty four hours a day. The bellows fuel the fire with Oxygen a necessary ingredient for the intense heat needed to melt the Iron. The rapids also brought the rock crusher and metal hammer to life

Södermanlanders and
extract ore from the
used by the Finns was
From Utö, the ore was
lodjas owned or rented
of Pohjankuru and fro
the River Fiskars to the

Making iron from

Along the River Fiska
about one kilometre o
hammers on the east
powered by a water-wh

and the river supplied access to the the Gulf of Finland which provided all the necessary trade links.

COMMUNITY.

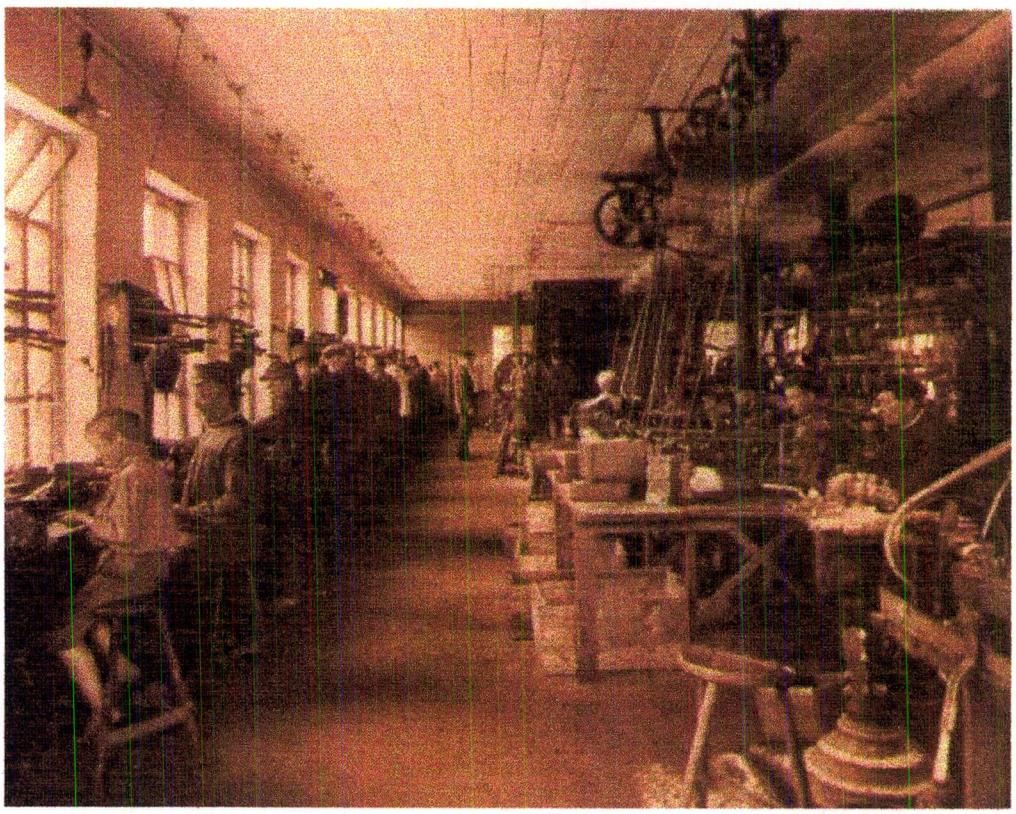
The community spirit at Fiskars, which has grown over the last couple of centuries, has become an integral part of the company's success. It has evolved from the town of Fiskars where a close community was built up around the business and in harmony with nature.

2.3 Johan Julin, born 1787.

In 1882, a revolution in the community of Fiskars began when Johan Julin, a pharmacist and intellectual, gained control of Fiskars. He instigated a great turning point in the workings of the company and the community. He elevated Fiskars to a standard of production higher than any other refineries in Finland. It was at this stage that Fiskars started manufacturing scissors, knives and spoons which are now the backbone of the company. He achieved this by applying technological innovation which he learned during his travels around America and Europe.

It is the way Julin transformed Fiskars from a manufacturing business into a manufacturing community that had the long lasting impression on

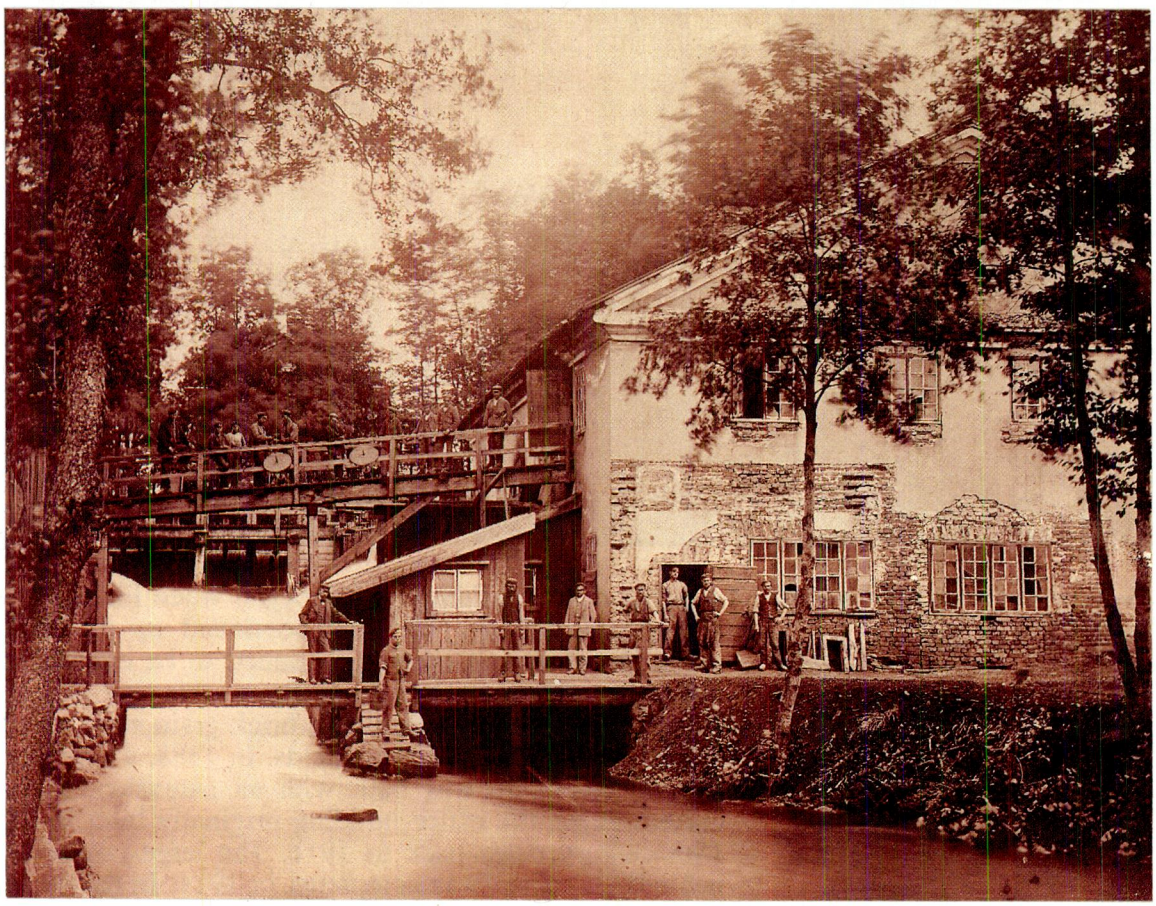
Fiskars. He structured the community in such a way that the workers helped each other out in the areas of farming, education and work. Almost anything that the community needed could be got at Fiskars. He had a school built in 1826 which was soon followed by a hospital. The teaching methods applied at Fiskars encouraged students to help each other, the weaker students learned by observing the stronger ones. Similarly the workers learned from each other, so development of skills was fast and the standard of manufacture improved. This would eventually lead to its global success. The way Julin treated his employees instilled a sense of company loyalty and job satisfaction. Johan Julin established a community tradition almost like a family that remains the back bone of the company today.



2.4 machine shop at Fiskars

GLOBAL APPEAL.

One could safely say that Fiskars have become a global company. Their products have become recognised all over the world. However, the globalisation of Fiskars did not start in 1900s with the success of the O-Series Scissors. There has always been a global dimension to the company.



2.5 The water powered workshop and some of its foreign workers at Fiskars.

The founder of Fiskars Peter Thorwoste employed many foreign workers to run the large Iron works. He lured specially trained people to Fiskars form England, Germany and Holland. In the 1800s three English directors and a team of expert English smiths were employed. In the 17th Century every worker had an important input into the manufacture of a product. The foreign staff added a positive dimension to the products that the Finnish company were producing. Fiskars saw the benefits of many cultures

The upper works in the 1920s; some of the warehouses have been pulled down, as has the rolling mill in the middle of the picture. Fiskars had its own narrow-gauge railway, which ran left the way to Fiskarsbruk harbour.

working and living together. This has obviously been an advantage in designing products for global markets. This international staff was the first step for Fiskars in manufacturing the global products it is famed for today.

It was said that the only true way for a company to produce a global product is to have factories all over the world, to employ local staff and appoint them design and managerial positions (Aldersey-Williams, 1992, p. 8). Fiskars is living proof that the employment of global staff in a factory regardless of the location can be equally successful.

MANUFACTURE.

in a small remote country living in quite harsh conditions you can't compete with price any more, you have to compete with quality and direct your products to very specialised markets (Sotamaa, 1990,p.44).

2.6 scissors dating from the late 18th century
1. Rubber Scissors, 2. Cigarette Scissors, 3. Sewing Scissors

The success of Fiskars throughout its history has always been attributed to the quality of its products. Fiskars products are bought by discerning people who are prepared to pay the premium price for quality products. Cheap Eastern imports cannot compete with Fiskars products because they are targeting different types of people. The three scissors, shown above, from the 18th century are fine examples of the quality craftsmanship found at Fiskars. The rubber scissors emphasises Fiskars ability to manufacture for the mass market without sacrificing the quality and durability of the product. Something to which Fiskars can attribute their success in the 20th century. The lower two were designed for a specialised and more expensive markets. The sewing scissors has a finesse associated with the upper classes. The Cigarette scissors illustrate Fiskars' ability to produce specialised products with accuracy and intricate detail.

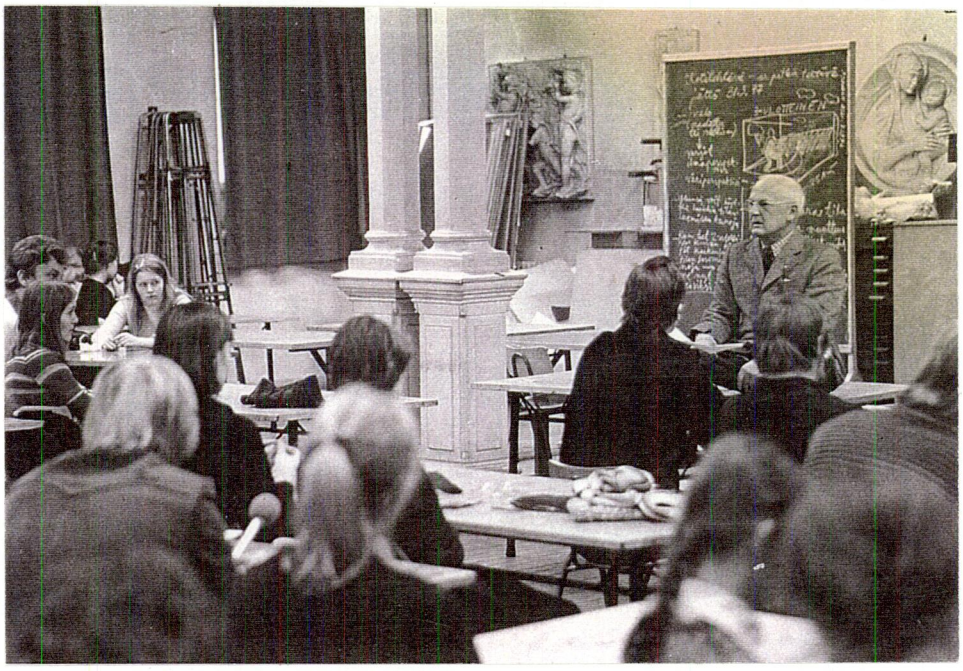
Today, Fiskars products are selling exceptionally well in the global market. Their products incorporate an earthiness which derives from the original Fiskars company and the town. A history of manufacture, community and globalisation has meant that the company was perfectly poised to be one of the great product manufacturers of the 20th century.

2.7 the idyllic Community of Fiskars.

CHAPTER 3.
FISKARS AND FINLAND.

FINNISH APPLIED ARTS AND FISKARS

It is important to acknowledge the influence of past designers on modern Finnish design and Fiskars. Finland has a very strong tradition in the applied arts. Many of the internationally influential figures in design over the last century have been Finns. Among them would be Eero Saarinen (1910-1961), Alvar Aalto (1898-1976) and Kaj Franck (1911-1989).



3.1 kaj Franck teaching at UIAH

Kaj Franck had a very important influence on the applied arts in Finland. He may not have received as much international acclaim as Saarinen and Aalto, however it was through his teaching at the University of Industrial Arts Helsinki that he made his greatest impact on Finnish design.

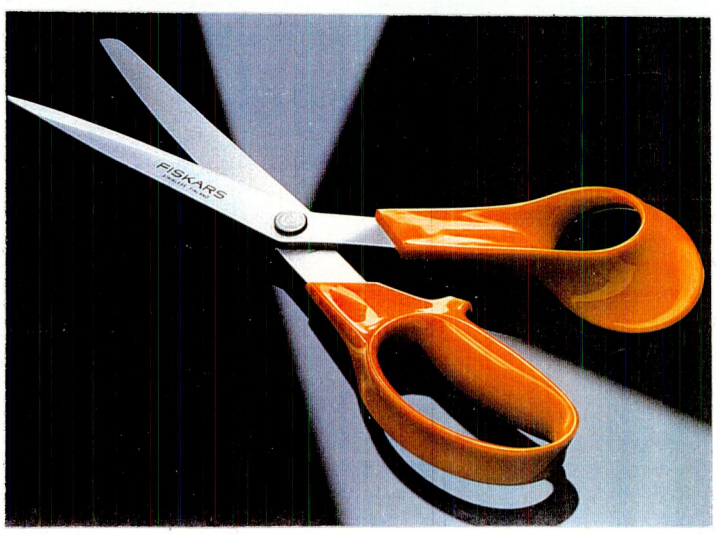
Kaj Franck is most famed for his Killta range of tableware for the Arabia ceramics company between 1948 and 1952. Through Killta he emphasised the social importance of design. He used manufacture and design to create a range of quality tableware at affordable prices. The styling is very modest but attractive and it embraced traditional Finnish forms. It was not aimed at any class of person. It had a universal and timeless appeal. The individual pieces are multifunctional and can be collected over a period of time. This meant that anyone could afford killta. The influence of Kaj Franck as a designer and a teacher has been so strong that he has been recognised as the "conscience of Finnish design"(Peltonen, 1992, p.11).

3.2 The timeless appeal of Killta is such that variations of it ,like this tapered glass (1995), are still popular today.

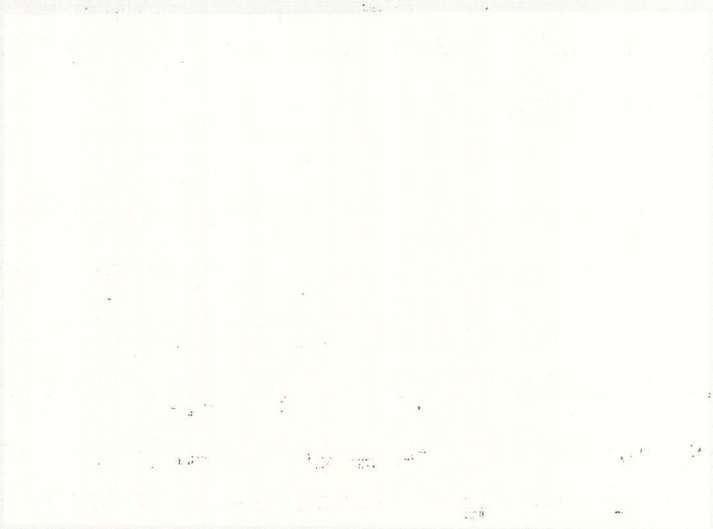
There are many similarities between Killta and Fiskars products. Not in appearance but in the ideas behind them. Similar to Franck, Fiskars are a very socially aware company. Their products are not aimed at any particular class of people. Fiskars products are designed for people who wish to enhance their lives with good, durable implements. Not for people who appreciate status symbol. The designs of Fiskars and Franck emphasise the appeal of quality and not fashion. The results are timeless products with everlasting appeal.

Fiskars are constantly aiming to reduce the manufacturing costs of their products. This means that the person with less money can still afford to buy a quality product. The manufacturing of Killta was revolutionary for its time. It was double glazed for extra durability. It also used manufacturing to reduce the price without losing quality. Similarly, Fiskars are constantly researching into manufacturing methods with a view to producing more cost effective and better products. A fine example would be the new developments in injection moulding glass fibre reinforced plastic which enabled Fiskars to manufacture the affordable Power Loppers and the Plastic Axe.

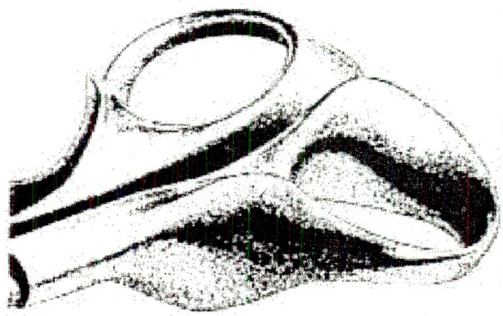
According to Stuart Wrede, Curator of the Museum of Modern Art New York, Killta was an "instant classic, it was both contemporary as well as exuding a vernacular familiarity" (Museum of Applied Arts, 1992, p.9). One of the important features of a Fiskars design is the mix between traditional and contemporary design. "many successful products are new combinations of familiar things" says Olavi Linden(Tirkkonen, 1995, p.15). This is a contributing factor in Fiskars' success and will be explored further in the next chapter.



3.3 O-Series Scissors by Olaf Backstrom, 1960.



The Fiskars O-Series Scissors were designed by Olaf Backstrom in 1960. The use of plastic in the scissors was their most revolutionary aspect. It enabled the designer to use the complex forms needed to cater for the ergonomic needs of the user. Plastic also made it possible to mass produce the complex form without raising the costs of the scissors.

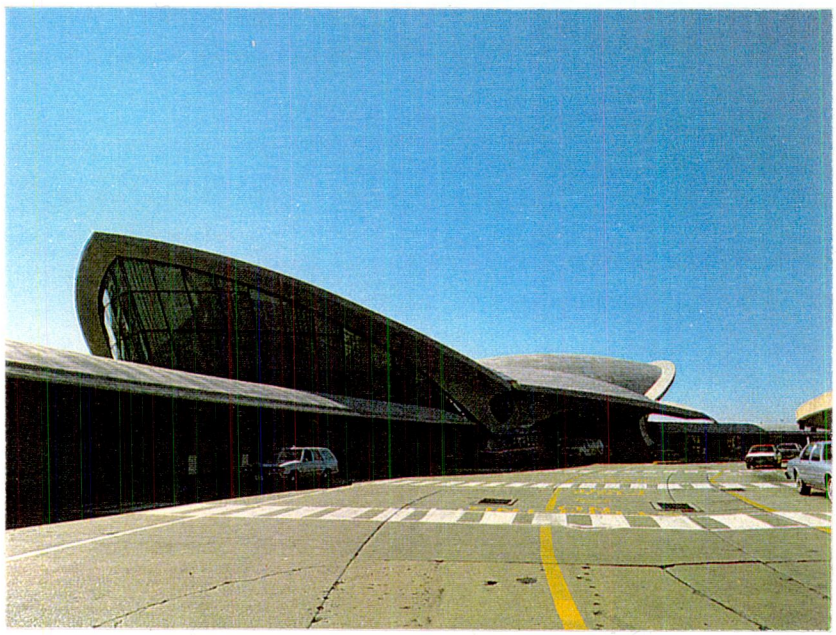


3.4 Handles of Scissors by Zdnek Kovars (1952).

The O-Series were inspired by the Zdenek Kovar scissors handles (1952) designed to reduce calluses, cuts and blisters in factory workers hands. The handles comfort and work with the hand through their ergonomic form. The form is not as pleasing to the eye as the freeflow form of the O-Series Scissors. The big difference between Olaf Backstrom's design and Kovar's design is Backstrom's ability to simplify the form for mass production and aesthetic qualities.

Eero Saarinen, son of the architect Eliel Saarinen, was a Finnish American Architect famed for his design of the TWA terminal at JFK airport (1956-1962). A building that critics say was greatly influenced by Le Corbusier's chapel at Ronchamp, (Dormer, 1991, p.114). However the comparison to Finnish architecture is stronger. The freeflow forms of the building display his great relationship with nature. According to Matti Rinne "The Winter simplifies your sense of form, develops it to the point where you realise so much can grow from so little" (Kirjayhtyma, 1989, p. 6). The roof of the TWA Terminal is reminiscent of a snow covered plateaux in Lapland. It is

covering the very complex structures of the building with a smooth blanket of concrete.

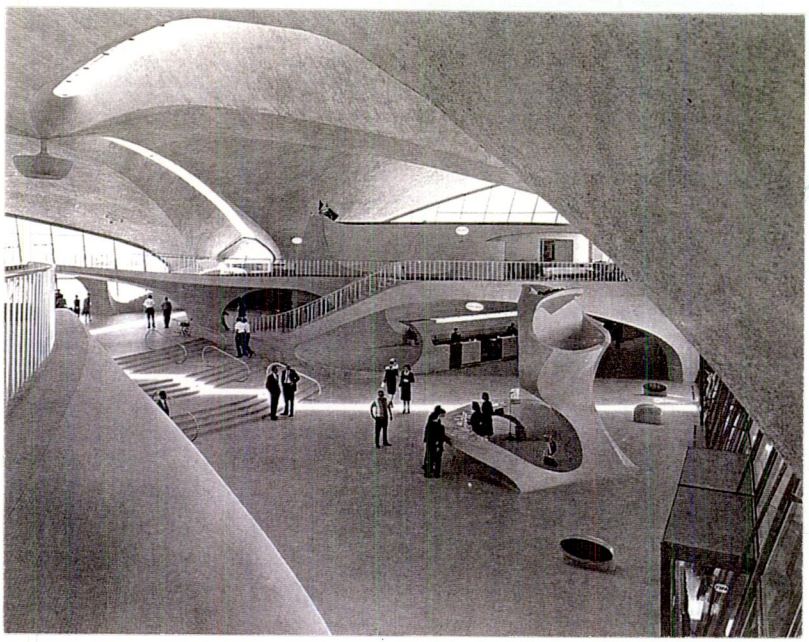


3.5 TWA Terminal at JFK Airport by Eero Saarinen, (1956-1962).

The form of the O-Series Scissors was not totally derived from the need for human engineering. They were designed in 1960 by Olaf Backstrom. At the same time Eero Saarinens TWA terminal was being constructed. Both designs were inspired by freeflow forms which were popular in Scandinavia. They both use organic forms to make their structural members look more dynamic. The juxtoposition of steel and plastic in the O-Series Scissors is similar to the balance between concrete and glass in Saarinens terminal. The use of materials in such a precise and balanced manner is a very Finnish attribute. Something which both Fiskars and Saarinen have been greatly influenced by.

The O-Series Scissors was the first Fiskars product to receive international recognition. The popularity of the Freeflow style and especially the TWA Terminal in America offered Fiskars an ideal opportunity to establish

themselves in foreign markets using the O-Series Scissors as their market leader.



3.6 The use of organic forms in the interior of the TWA Terminal..

3.7 Alvar Aalto vase for Littala glass, 1930

One of the first Finns to gain international recognition for the organic style was Alvar Aalto. The most famous of his designs is the vase he designed for Littala, Finland,(1930). It is one of the classic Finnish designs and is still a huge seller in the 1990's. The reason for its success is its natural form inspired by Scandinavian fjords. It is dynamic yet understated. The O-Series Scissors are very similar to Aalto's vase. Their forms are inspired by nature and are exciting to look at and at the same time their simplicity understates their superior function and quality.

FINNISH PEOPLE AND FISKARS

The Finns have a very high standard of living. They therefore expect nothing but the best in product design. "The most important influence is the Finn who buys a well designed product" (Sotamaa, 1996, p.10). Fiskars is a supplier of high quality products which it tests on the Finnish market. If they can withstand harsh Finnish criticism and come out as a market leader then they are nearly sure to do exceptionally well in the much larger European market. This next section addresses the question of how the Scandinavian consumer has affected Fiskars design.

> The Scandinavian has a fundamental belief in enhancing his daily existence with beautiful things, both in his home and in public parks and buildings. His intimate relationship with nature is obvious in his feeling for proportion, colour and efficient use of raw materials. (Harrison Beer, 1975, p.3).

Eileen Harrison Beer was referring the design needs of Scandinavian people. However she might just as easily have been referring to the design philosophies of Fiskars. Fiskars believe that their products can make the fundamental jobs of life, like gardening and house maintenance, more enjoyable through the use of form, colour and material. This point will be illustrated with reference to the Fiskars O-Series Scissors because they were the first of the Fiskars products to receive international acclaim.

Proportion is an important aspect of the design process. It can be the difference between a product having the look of quality or of having no appeal. It can instil a feeling of confidence or distrust. Fiskars products are a delicate balance of hard metals and soft warm plastics. The steel has the feeling of precision and accuracy because it is sharp and well finished. Most precision tools, like scalpels, are made of steel. However too much steel is uninviting and cold. This is because it is hard to touch and can often be uncomfortable to hold. It is also more difficult to create a form which is comfortable to hold with steel than with other materials such as plastic.

The plastic in the Fiskars O-Series illustrates the understanding of human needs. That is the need for comfort and control in a product. Plastics have the properties which allow the manufacturer produce the proper form and texture to create a truly user friendly product. The handle on the classic is designed to comfort and work with the hand. The amount of plastic used to do this is precisely the correct amount.

The application of colour to a Fiskars product requires a lot of thought. Each product has its own individual uses and the colour chosen has to be the appropriate one for each of these uses. It is not by chance that Fiskars has developed a brand identity that includes repetition of the colour orange. The orange colour is not just a decoration that Fiskars decided to apply to their products. The bright orange colour allows Fiskars products to be found easier in their storage space. Many homes have a drawer in the kitchen which is used only for holding kitchen utilities, e.g. ladles, egg flips etc., so you can understand how full these can become of stainless steel implements. Try to imagine how difficult it would be to find a stainless steel scissors in that drawer and compare that to finding a bright orange handled scissors. The whole process of using the scissors is instantly easier even before the user starts to cut things.

The Fiskars O-Series Scissors is a fine example of efficient use of raw material. A similar ergonomic scissors might have twice as much material used in it to achieve the same goal. Fiskars believe in giving their buyer the best value their money can buy. This is achieved through an understanding of the user needs the material and the process by which it was produced. It is only through this understanding that Fiskars are able to manufacture top quality products at affordable prices.

Fiskars had a difficult problem with the O-Series Scissors, how to combine structure and comfort. They had a good understanding of the material used in the O-Series Scissors. This enabled them to structure the material in such a way that minimum material was used but strength was not compromised.

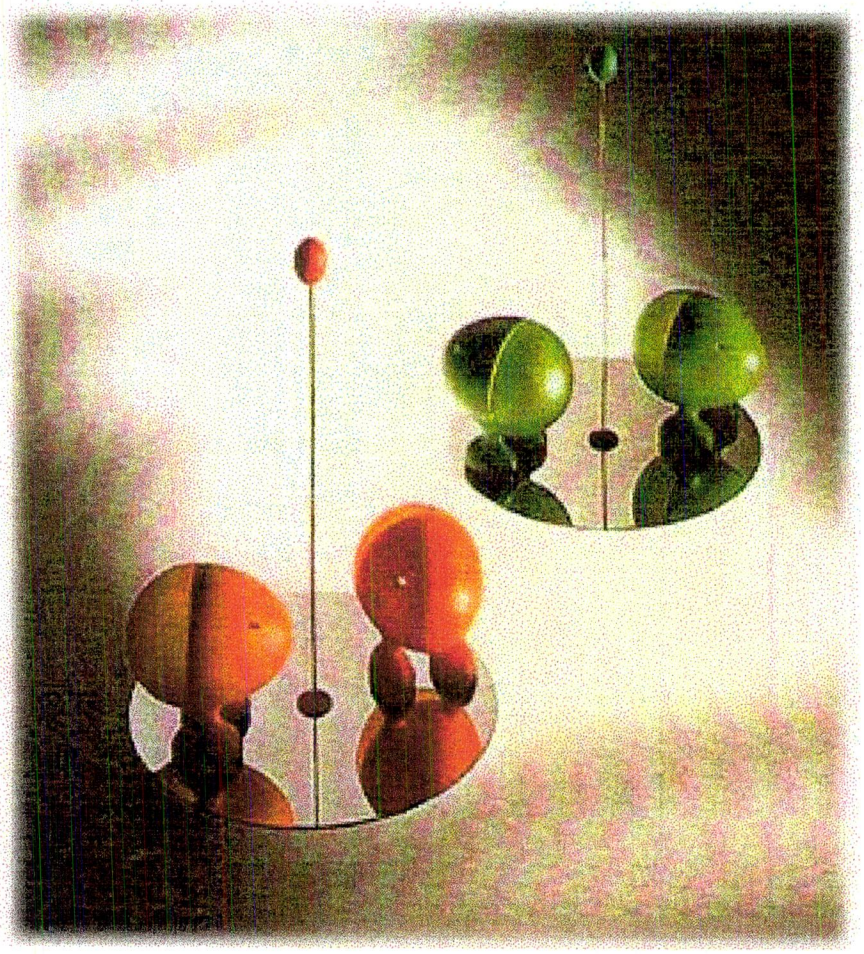
The understanding of users needs and materials can lead to new and interesting design solutions. The Fiskars O-Series Scissors is an example of this. Fiskars designed brilliantly for the user and combined this with mass production and economics. Fiskars forms not only accommodate man but also the machine.

The use of material in the Fiskars O-Series Scissors is economic without looking cheap. It has the exact amount of material to make it look sturdy without looking clumsy, and it has little enough to make it look precise without looking flimsy. It has a certain delicate look about it because it is a precision cutting instrument. The shape encourages a grip which gives the user most control.

MODERN THINKING IN FINNISH DESIGN.

It is important that products are more than just functional. Function can only satisfy a certain amount of the users needs. Post modernism brought about many new ideas in design and architecture, like the mixing of emotion and art with design.

The Alessi product range is a fine example of this kind of attitude towards design. Their salt and pepper shakers are humorous and fun whilst still functioning perfectly. Their character-like form playfully interacts with the table and the users, helping to create an atmosphere unique to Alessi products.



3.8 Salt and pepper shakers by Alessi (1994).

This approach to design is very important in Finland. It has been described as being the "spiritual quality of our design" by Yro Sotamaa of UIAH (Sotamaa, 1990, p.41). A product should have some consideration for the environment surrounding it. That is, the people using it and where it is used.

3.9 Ergonomic Shovels and Forks by Fiskars, (1995)

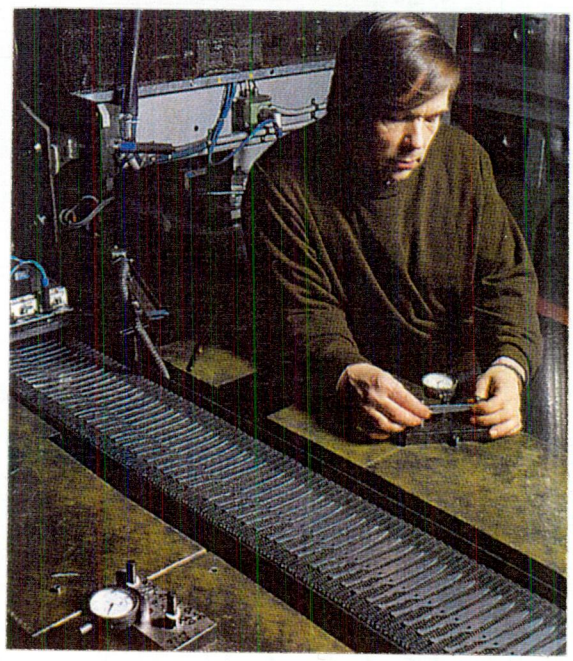
3.10 Adidas three stripe logo

It is important that all products enhance the lives of the user both functionally and aesthetically. The tools being used in the garden can create a certain emotion in the user. Fiskars have designed their garden products with a sports image. The matt black handle of these Fiskars garden tools is reminiscent of a carbon fibre tennis racket and the orange stripes on the handle can do nothing bit remind me of the Adidas three stripe logo. Fiskars transformed traditional mundane products into exciting gardening equipment that offer the user a type of satisfaction that they did not previously get from gardening. In the case of Fiskars products they are making the user feel more active. It makes them feel like they are doing more than just gardening. They are keeping fit as well.

CHAPTER 4.
DESIGN AT FISKARS

It is important for an international company to ensure that their products are designed without flaw. Fiskars tackle this with a strong team of designers and engineers. It is only through these people working together that Fiskars can be certain that their products are of an exceptional design standard. According to Olavi Linden,

> Design is a very democratic process at Fiskars, its old fashioned to think that somebody can design a product all by himself. A modern product is born as a result between several people. (Tirkkonen, 1995,p.41)



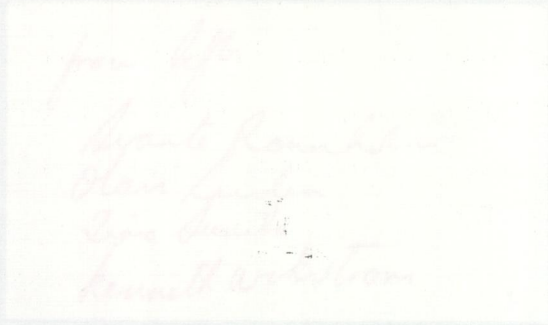
4.1 Olavi Linden, Director of Product Development at Fiskars.

Olavi Linden is the director of product development at Fiskars, he is therefore directly responsible for their great success in the 1990's. The above quote grasps the design principles of the company. The handy axe and the power loppers are two of the more successful products generated

by Olavi Linden and his team. This chapter will use these two products to illustrate and analyse why Fiskars products are so successful.

4.2 The Fiskars design team responsible for the Handy Axe (from left) Svante Ronnholm, Olavi Linden, Timo Sunila, Kenneth Wikstrom.

4.3 Fiskars Handy Axe Range (1994).



In 1995 Fiskars designed a new axe for the global market called the handy axe. One of the aims was to introduce the axe to non traditional users. The Handy Axe has a plastic composite handle as a replacement for the traditional wooden handle. It is more durable, ergonomic, lighter and safer. Despite the tradition surrounding the wooden handled axe the Handy Axe has sold millions world-wide and revolutionised the axe market. They are even making appearances in department stores.

4.4 Fiskars Power Loppers and user, note the unique geared mechanism (1995).

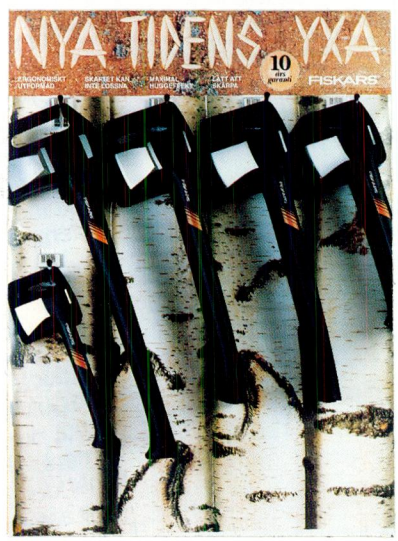
The power loppers are a product designed for taking the physical strain out of cutting branches. The geared blade ensures that people with different levels physical strength can use it. They are an example of excellent manufacturing techniques combined with function and user needs. It is possibly one of the most cleverly designed products in the Fiskars range.

According to Olavi Linden,

> Brand name design products are often only judged aesthetically. Beside the looks, Fiskars also considers functionality, material, manufacturing methods and production costs. (Tirkkonen,1995,p.40).

AESTHETICS

"Many successful products are new combinations of familiar things" (Tirkkonen, 1995, p.40). When Olavi Linden made this statement he had the handy axe in mind. For the handy axe is clearly a modern interpretation of the axes used in prehistoric times. The axe had to be visually unique so it would grab the attention of the consumer. However if it looked too different it might not be perceived as a proper axe, more as a gimmick. The play with the image of the prehistoric axe give the handy axe a character unique to Fiskars. It is substantially different but instantly recognisable as an axe. The shaft of the axe wraps around the metal head in a similar way that cave men wrapped the wooden shaft around the sharpened stone head.



4.5 Using the prehistoric image of the axe in advertising

When a product is designed to encourage non-traditional users to buy it aesthetic appeal becomes very important. It is this that causes the initial interest from the consumer. The handy axe aesthetic appeal is function

combined with style. The people who might have been deterred by the rustic and heavy feel of the traditional axe might feel more at ease with the lighter and safer looking axe. The matt black spark finish is sleek and sophisticated, its detailing is delicate. It is therefore appealing to all types of people. Its almost cold look is warmed by the application of the Fiskars orange in the form of five stripes. Women can identify with it because its character is in keeping with the Fiskars kitchen range. It is therefore more likely to be seen hung up in the utility room than in a tool box in the garage.

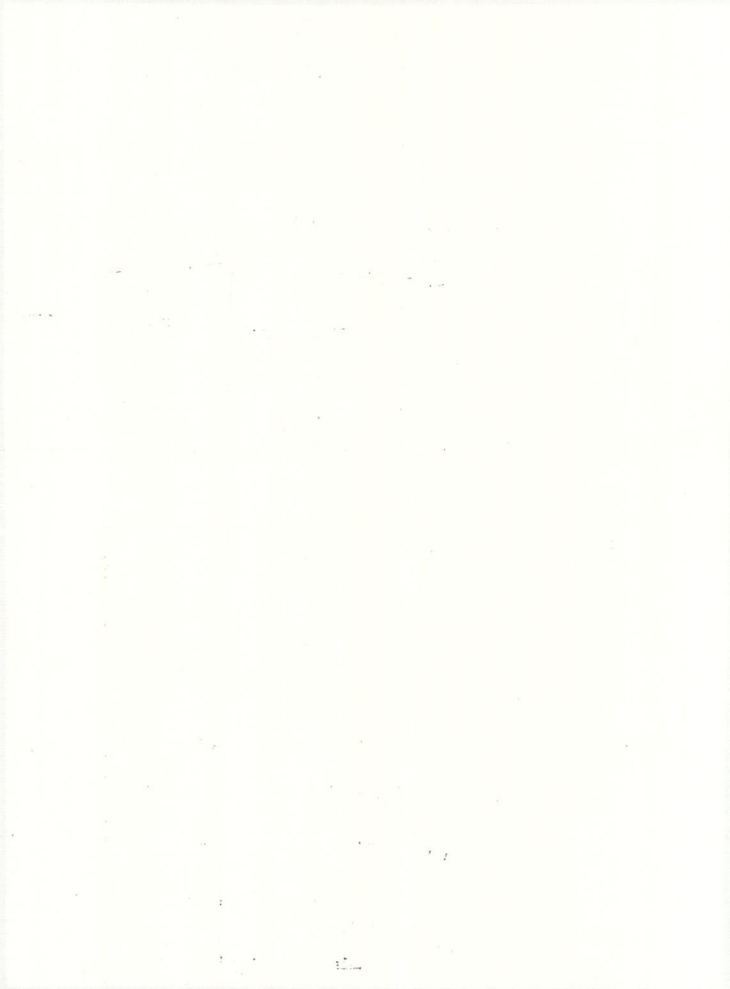
Fiskars have managed to make a mass produced plastic axe look more durable than the traditional heavy duty axe. This is quite an achievement considering the common misconception of plastic being a low cost disposable material. The importance of this cannot be overemphasised because even though tests might have proved that the Handy Axe was more durable if it did not look durable then it would not have sold . Raymond Lowey designed a series of radios using black on white instead of gilt on gold fabric so the radio had the no nonsense look of the kind of equipment found in military aircraft (Dormer,1993, p.56). Fiskars designed the handy axe with similar ideas. By colouring it matt black , like industrial steel, and not decorating it with unnecessary ornament they have given it a no nonsense look of pure function.

Fiskars realised that a functional product can have a massive impact on the consumer. It is for this reason that when Fiskars were designing the power loppers they put a huge amount of emphasis into creating a strong functional aesthetic. They did this to such an extent that the unique cutting mechanism became the personality of the design. They could have very easily made the gear blend into the handle, creating a hi-tech look for the product. However, the loppers are superior to any of its competitors and this is because of the geared cutting mechanism. So it was in Fiskars best interest to overemphasise this feature. This had a very dynamic result, the aesthetic impact of the product reflects its superior cutting power.

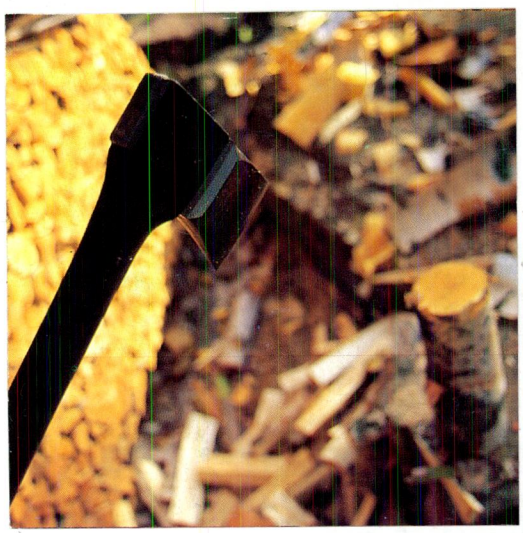
FUNCTION

If you were to ask a traditional axe user, were there any major functional differences between the handy axe and the traditional wooden axe, they would more than likely say no. However studies prove that functionally the handy axe beats the traditional axes. The impact strength of the axes was tested as a criteria of how quickly the work could get done. The American axe required 377 strokes, the Finnish wooden axe 307 strokes and the handy axe only required 266 strokes (Prahl,1997,p.17). Therefore the handy axe is not just a success because of its styling and its unique material application, it is functionally superior.

4.6 The plastic body of the Handy Axe wraps securely around the metal blade.



In traditional axes the large steel blade had a tendency of falling off the wooden shaft when in use. The danger of this is one of the reasons why certain people avoided using the traditional axe. To ensure total safety in the Handy Axe Fiskars designed a mechanism where the steel blade was secured by wedging it into a pre-moulded socket that gripped the blade in the axes body. The way the plastic wraps around the metal blade also serves aesthetic qualities. Visually the axe looks safer. The user is reassured by the strong looking hold the axes body has on the blade. It is no longer a potential hazard.



4.7 The chopping power of the Handy Axe.

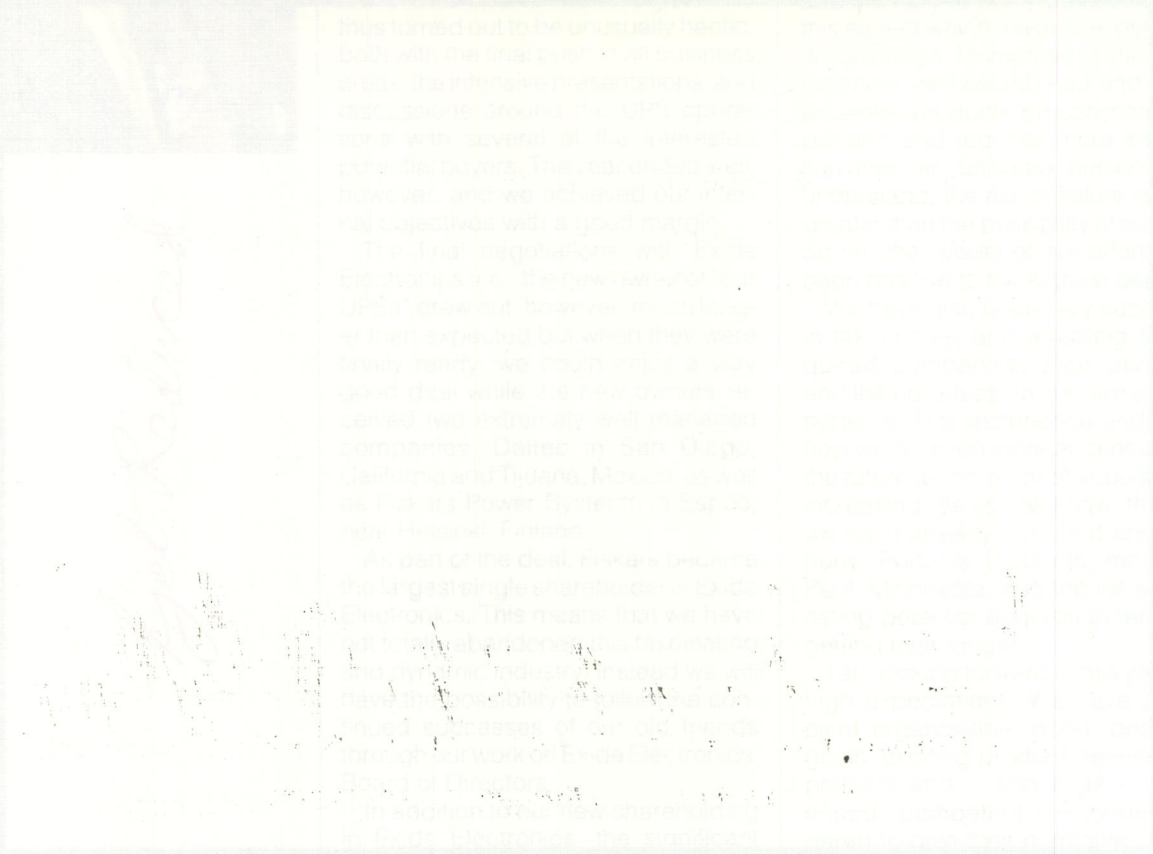
Fiskars domesticated the axe. The traditional wooden axe was difficult for women and older people to use. The heavy metal blade was hard to control and the type of steel used was inappropriate for the job, it was too difficult to sharpen accurately. There was also no need to use such a huge amount of steel to make the head. The type of steel chosen by Fiskars was tough enough to enable them to have a smaller lighter head which retained its sharpness better. The Fiskars axe can be sharpened like a knife by passing it through a special sharpener. This enables the more timid of people to sharpen the axe. The lighter head and body now offers more control and accuracy. There is a sharper blade with a specific cutting angle so less force is required to chop a piece of wood.

According to Milan Kundera "a good tool knows exactly how it is meant to be handled, while the user of the tool can only have an approximate idea." (Johnson-Gross, 1995, p.11). The user of a tool must be perceived as being ignorant to how a tool is used. Therefore the way the product is supposed to be held and used should be obvious from its form, it should be self explanatory. There is no point in having an ergonomic shape if the user is not able to decipher how they are meant to hold it.

The power loppers is a highly complex cutting tool. However it looks very basic. The designers could have applied a very complex and specialised ergonomic shape to the product. This would be acceptable for specialised use by a skilled and trained gardener. However, this would only complicate the product and be confusing for the everyday consumer. The form used in the loppers is a good balance between specialised ergonomics and being self explanatory.

4.8 The Power Loppers cater for the user needs exceptionally well.

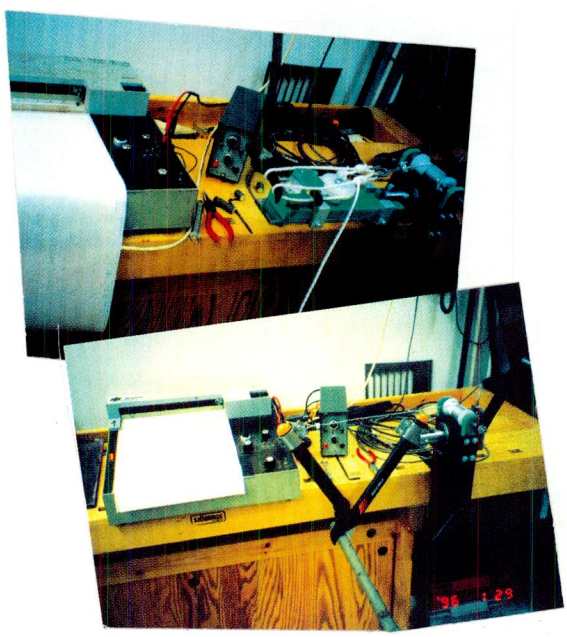
The user does not require as much strength to use the loppers as they would with any other pruning device. This makes the gardening experience easier and more enjoyable. This is because it is geared (ratio of 2.3:1) to offer extra leverage. Students at the Tampere university of technology tested the loppers using the EMG method, (EMG measures muscular activity). The higher the activity the greater the energy requirement. "the difference between the anvil and by pass models was clear, the anvil strained muscles clearly less" (Focus,1996, p.8), (The anvil is the power loppers and the by pass are its competitors). Fiskars have proved that the loppers put the muscles under less strain than other pruning products. The loppers offer people who could not previously partake in many gardening experiences a new lease of horticultural activity. These people could be the elderly, disabled or arthritic people who would not have the strength to get involved in the everyday upkeep of a lawn.



MATERIALS AND MANUFACTURE

> Plastics have made possible the design and economical manufacture of light, durable and comfortable tools. The reputation of plastics which deserves to be better depends on the quality of the product development. (Linden, 1995, p.10)

The handy axe and the loppers are products whose success is a result of teamwork between designers and materials engineers. Both of whom deserve equal praise for their input. The material chosen is as important as the way it is applied. The fibre glass reinforced plastic used in most of the latest Fiskars products was developed over three decades,(Linden, 1996,p.12). It is only in recent times that the material has been acceptable for use in production items. Some desirable properties include: impact strength, stiffness, chemical resistance, stress corrosion resistance, hardness, UV resistance and fatigue endurance. The cost of the material offers the biggest restrictions.



4.9 Materials testing being carried out on the power loppers.

"The development of composite materials has yielded a new generation of lightweight, yet immensely strong materials" (Dormer, 1993,p.51). The

plastic composite allows products to be light weight without compromising strength. This is a very important factor if you consider the amount of work done with an axe. The lighter the product the easier it is to use. It also means that the user will not get tired as quickly as they would when they were using the traditional axe. However, the combination of lightness and strength is difficult to achieve. There would have been no point in producing a light weight axe if it was going to break on first use. If the handy axe was to be a success it was crucial to develop the correct composite.

The use of composite materials by Fiskars means they can use modern production techniques unique to garden tools. The entire body of the plastic axe is injection moulded. Injection moulding is a process where hot molten plastic is injected into a mould. When it cools it hardens and it takes on the shape of the tool. This allows for very sculptured, functional and ergonomic forms not available from other production techniques at equally low costs.

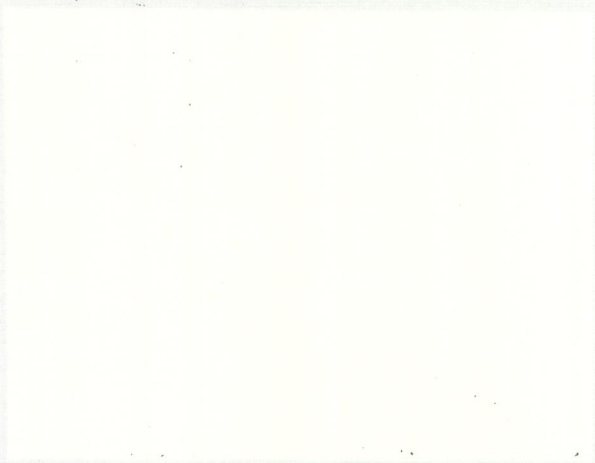
The texture of a product such as an axe is very important because the user has direct intimate contact with it. If the texture is not comfortable to hold then the whole product becomes unappealing regardless of how brilliant it is. When a product is injection moulded an appealing texture can be applied to it while it is in the mould. The handy axe and the loppers have a very soft spark finish applied to them. As a result they are very comfortable whilst also having the function of being easy to grip.

To engineer a material that enables Fiskars to design with all of the above properties is a great challenge. However the design is not a success unless it is low cost to purchase and not expensive to process. When a product is expected to have sales into the millions injection moulding is the appropriate manufacturing process. The initial cost for the research and development can reach up to millions especially with products of quality, like Fiskars. However the cost of the individual moulded components is

cheap so the initial cost for the tool is compensated for very quickly. Mass production means that Fiskars can produce quality products at low costs.

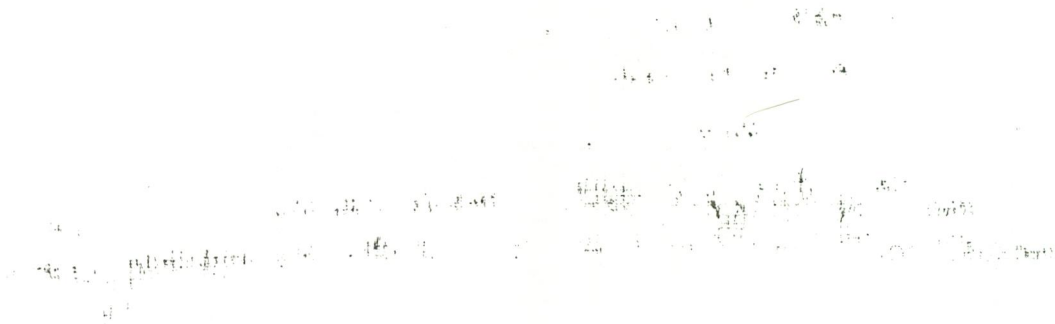
Injection moulding also allows for most of the product to be completely finished in one process. Therefore once the component comes out of the mould it is fully finished and ready for assembly. In the case of the handy axe the product comprises of two main components, the body and the head. The body is complete in a matter of seconds thanks to injection moulding. The head is more expensive to make because after it is cast it also has to be sharpened. However it is cheaper to manufacture than the head of the traditional axe. The head of the traditional axe needs a hole drilled in it so the wooden body can be wedged into it. There is no hole needed in the Handy Axe because it is wedged into the body of the axe. Similarly the gears in the power loppers are not free moving, they are actually moulded into the plastic to reduce manufacturing costs. The more stages involved in making a component the more expensive the production costs. Fiskars reduce the production costs by reducing the number of processes in the manufacturing process. Therefore the consumer benefits because they can purchase a well made product at reasonable price.

4.10 The gear is built into the body of the Power Loppers to reduce manufacturing costs.



I will sum up this section in the words of Olavi Linden,

> The consumer doesn't notice all the technical finesses of a product. But it is the combination of technical know how and sensible production costs that comprises such a key element of design (Tirkkonen, 1995, p.40).



CHAPTER 5
TRANSGENERATIONAL DESIGN

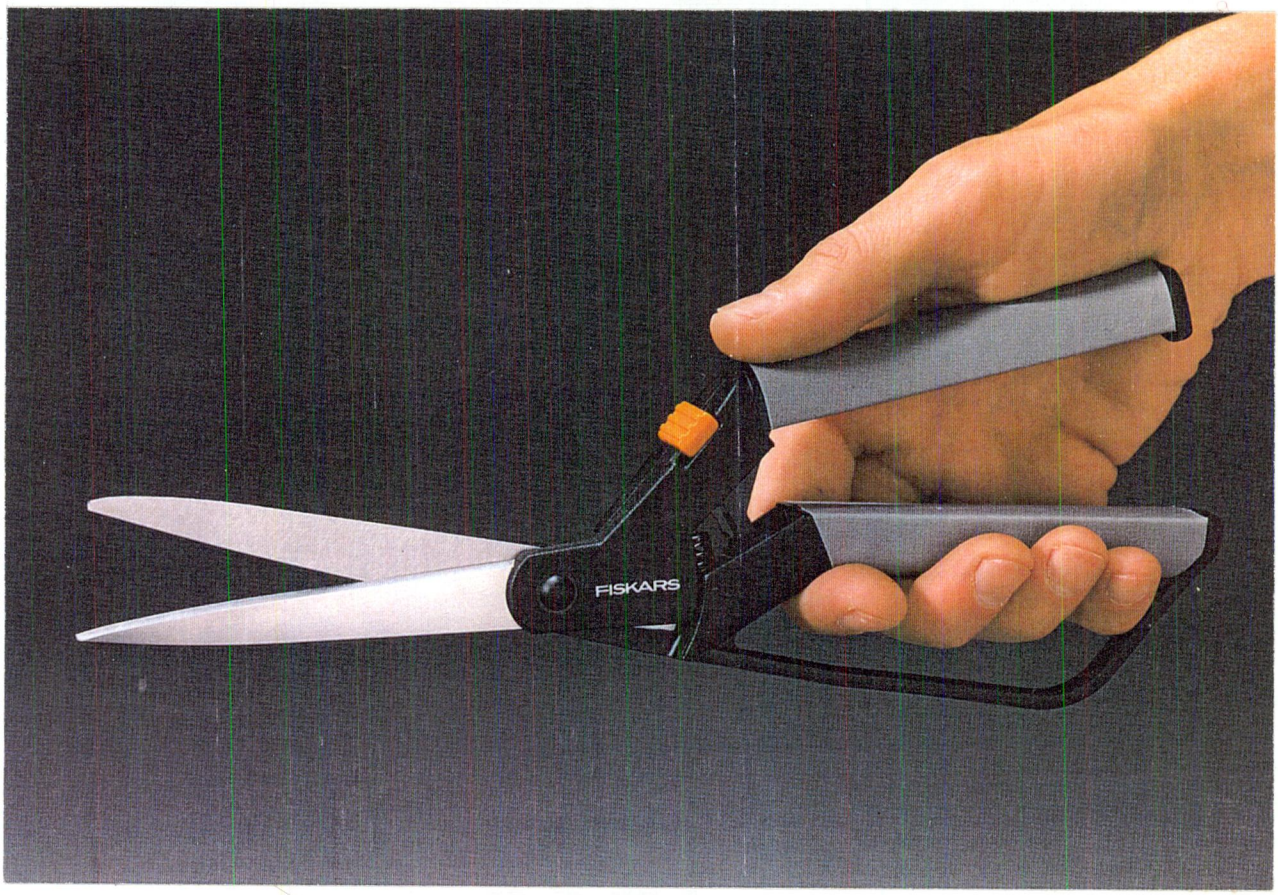
Transgenerational design is the "practice of making products and environments compatible with those physical and sensory impairments associated with human ageing, which limit major life activities" (pirkill, 1994, p.25). Transgenerational design is not design for the aged. A transgenerational product should be compatible with the lifestyles of people of any age.

5.1 AT&T Big Button Telephone by Henry Dreyfuss associates (1974)

A classic example of transgenerational design is the Big Button Telephone by AT&T. This phone has proved to be incredibly popular in America over the last twenty years, and not just with the aged but with younger generations as well. Due to the large size of its buttons and their touch sensitivity, it allows people with manual limitations, who have very little accuracy , to use the phone very easily. The large bold numerals provide easy vision for the visually impaired. The buttons also stay in the standard positions so the blind can easily learn to use the phone without help. The big button phone has a very fun look, this helped to make its appeal universal, so it was quickly accepted by the hip and trendy.

5.2 Professor James Pirkill at work

James J. Pirkill, professor of design and author of Products for an ageing population, transgenerational design is the leading figure in transgenerational design. He has organised seminars for designers all over the world. The seminars consist of a lecture which explains the concept of transgenerational design, how it is applied and how it effects the consumer. He then organises a workshop where designers can apply transgenerational philosophies to design under the guidance of professor Pirkill.



5.3 Fiskars Softtouch Scissors (1993)

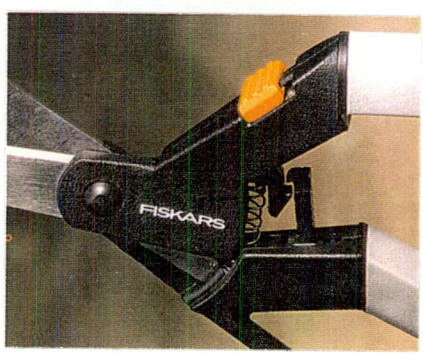
The Softtouch Scissors were designed in the USA by Doug Birkholtz to enable people with limited hand movement to cut with ease. It utilises a spring mechanism. The user only has to squeeze the scissors to cut because a spring returns the scissors to the open position again. The soft

touch utilises the whole hand in the cutting process whereas others only use the thumb and fingers. There is therefore less fatigue on individual fingers.

Within the topic of transgenerational design there are countless sub-topics relating to the functional attributes which a transgenerational product should have. The most important of these are safety, convenience, ease of use, comfort and bodily fit. The scissors will be studied further using these headings.

SAFETY.

A transgenerational product should be "providing safe supporting features before they are needed" (Pirkill, 1994, p.108). The soft touch scissors has an injection moulded non slip grip. This gives increased cutting stability for the user. When a person ages they find it more difficult to maintain a strong grip on normal products, a scissors slipping from their grip could cause personal injuries as well as causing frustration. The Softouch Scissors also have a strong clasp which keeps the spring assisted blades closed when not in use,(see diagram 5.4). A visually impaired person might not see the hazard when they are searching for them or anything else in a drawer full of utensils.



5.4 locking mechanism of Softouch Scissors.

CONVENIENCE.

The soft touch scissors might not be the most convenient scissors on the market. They are larger than most scissors so they would be more difficult to store. That is justified by the fact that the scissors would be easier to find due to their size and that orange colour synonymous with Fiskars products. However, I do not appreciate the minimal amount of orange used on the scissors. The initial idea of the orange handle was so the product could easily be found. This idea would be most applicable to a Transgenerational Design product. The product would be much more conveniently found if the black or the grey was replaced with a substantial amount of orange.

The Softtouch Scissors would not be conveniently repaired if they happened to break. It has a large number of components in it and the clip and the spring lack that look of rigidity,(see diagram 5.4). This is quite strange for a Fiskars product, particularly as they pride themselves on their quality of produce, and their corporate success is attributed to by simple, functional entities. The large number of components would also make the Softtouch difficult to clean.

EASE OF USE.

The softouch is undoubtedly easy to use. The user simply squeezes the scissors to operate the blade. The spring returns the scissors to the open position. This method takes the work normally done by the thumb and transfers it across the palm, the load is distributed across four fingers rather than one. This is important because as people age their range of movements also decreases. The muscles and joints associated with large and small motor movements become less efficient and reduce our ability to perform complex tasks (Pirkill, 1994, p.52). If the soft touch required use with only one finger and a thumb many of the elderly would not be able to

COMFORT.

The hand becomes very fragile at the latter stages of life. The Softouch's unique injection moulded thermoplastic grip cushions the hand from any hard surfaces. Hard surfaces would cause a lot of discomfort to the user and pain in the more extreme of cases. The scale of the scissors allows for the user to grip the scissors with the whole hand and not just the fingers. The distribution of the force along the whole hand is pain free.

BODILY FIT.

The soft touch scissors are designed to accommodate and fit the widest possible range of users. The large finger space allows for a huge variety of finger sizes, e.g. a person with a swollen hand could get use out of the product. Yet it is still capable of being used by people with small hands.

Functionally the soft touch caters for most of the users needs. They are not very convenient, (i.e. large number of components, uneasy to wash), but hopefully that is compensated for by the superior build quality that Fiskars is famed for. Its negative points are over-shadowed by its terrific userfriendliness. It is safe, easy to use, comfortable and it fits all body sizes. The lack of convenience is over compensated for when the user gets hours of pleasure out of the product.

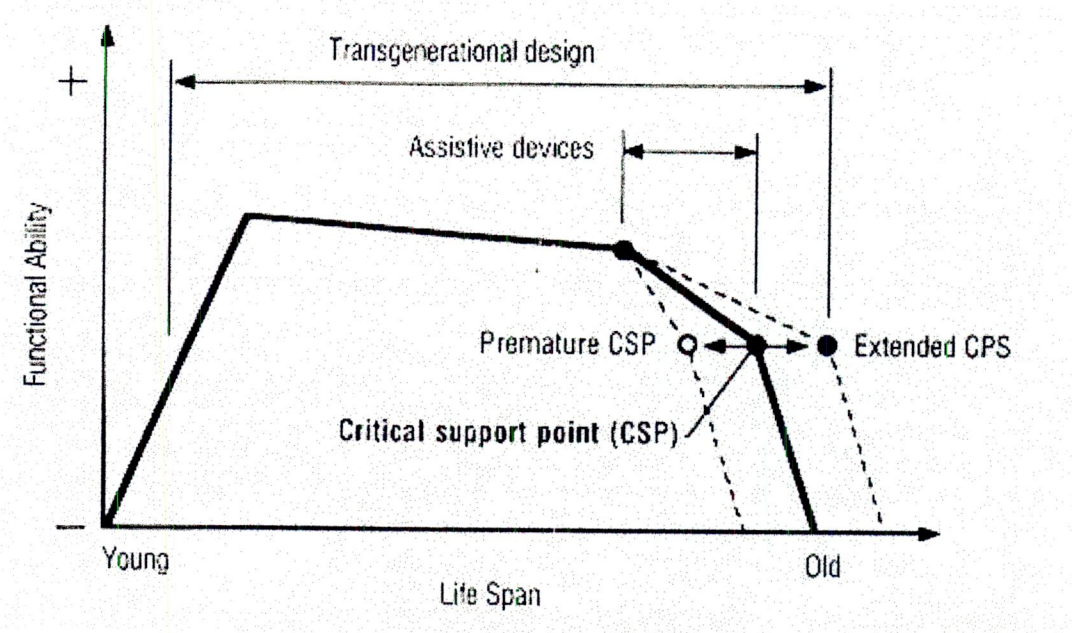
Aesthetically the soft touch scissors is not attractive. It lacks the finesse associated with other products in the Fiskars range. The soft touch is aimed too much at the aged market. It looks too much like an elderly aid. Its large size makes it look akward, almost silly. A scissors should be a simple product, the complexity of this product makes it obvious that the target market is the elderly. The problem then is that "these products often become stigmatised and are rejected by those for whom they were intended", (Pirkill, 1994, p.23)

become stigmatised and are rejected by those for whom they were intended", (Pirkill, 1994, p.23)

5.5 advertisement which recently appeared in arthritis today

This of course does not mean that the soft touch does not sell, on the contrary it does. However, the only people who would buy it are those with severe disabilities. Hence it is advertised in magazines for people with disabilities like arthritis today. In reality a transgenerational product should be popular with all people. Many people with minor disabilities may refuse to use the soft touch because of the stigma attached. It is very important for transgenerational products to encourage usage by people who are at the earliest stage of a disability, and of course people with no disability at

all. This applies to people of all ages because injuries to the hand are very common and rheumatism and arthritis can set in a very early stage.



5.6 critical support point

The critical support point is (C.S.P.) is the point in the ageing process where the person becomes so disabled that they can not live independently without assistance. This assistance can come from other people or products designed for the aged. Transgenerational design can delay the C.S.P. by maintaining the weakening muscles of the ageing. It can have positive psychological effects on the user as well. Using the soft touch scissors gives the elderly satisfaction because they feel independent and youthful. These positive psychological thoughts can also delay ageing. They can give an elderly person an extension of a number of years extra independence.

The Softouch Scissors helps maintain the hand muscles by putting them under minimal strain. This will only work if the product is used at an early stage of, or before, muscle weakening. If the damage is done at an elderly

age no product will repair the damaged muscle. It is also common to see optimum participation in activities in later life due to the application of Transgenerational Design. It is therefore important, if the soft touch were to be a complete transgenerational success, that the aesthetic appeal would encourage everyone to use them, regardless of their current state of health.

The soft touch scissors are guilty of the all or nothing attitude to design. The people in between suffer because Fiskars are only catering for the disabled with the Softouch and for the perfectly fit with the O-Series Scissors. People with mild disabilities could definitely benefit from the Softouch, but they do not. They might be too embarrassed to use them because they are associated to much with old people. These people would definitely benefit from a much more subtle pair of scissors.

In many senses the Power Loppers, discussed in the previous chapter, are more successful transgenerational products. Like all good products they have a strong functional purpose. The elderly users benefit from them due to the geared mechanism. The process is very simple and it does not require a lot of force to cut the branch. Unlike the Softouch Scissors it can not be stigmatised, so everyone will use it.

> Products that shelter us with excessive behavioural insulation can strip away the physical and mental stimulation necessary for a healthy mind and body (Pirkill, 1994, p.89).

Another important factor of Transgenerational Design is the need for stimulation. The Softouch Scissors still enable the user to cut any shape from almost anything. They are merely a variation of the normal scissors, they are not replacing them with an object that does everything for you. The user still requires the same amount of skill and thought that they needed when using a normal scissors. The Softouch Scissors aids the skill needed to use the scissors, it does not replace it.

The key to designing a successful transgenerational product is to design it at the peripherals of its use and to support the unique identities of the user. Unfortunately the soft touch is aimed straight into the aged market, but there are other Fiskars products which are designed at the peripherals. Fiskars should apply an image similar to the Power Loppers to the Softouch Scissors. That would make them a very successful transgenerational product.

It does do everything else right. It enables the user to carry on their every day life with independence. They do not loose their personal touch and the functions of the Softouch Scissors enable them to continue their involvement in social activities through hobbies, cooking or just every day necessity.

CHAPTER 6
CONCLUSION

Initially it was thought that Fiskars were a success because of their ability to design for user needs. However, Fiskars products are more complicated than they may appear to be. There are many factors which have influenced design at the company.

Fiskars exceptional ability to design for mass production is a tradition that lasts as long as the company. It has always been the secret to their success. By understanding and exploring production techniques over the centuries Fiskars have enabled themselves to produce a top quality components at the minimum cost. This has given them the ability to be the best. The power loppers illustrate how this understanding and exploring can result in a product with exceptional function at a low cost.

The Fiskars O-Series Scissors which were initially thought to be designed solely for ergonomic purposes actually have a number of influences. The concept of the plastic handle shaped to flow with the movement and the form of the hand did not come from Fiskars. The O-Series Scissors were inspired by the Zdenek Kovar scissors handles (1952) designed to reduce calluses, cuts and blisters in factory workers hands. The aesthetic quality of the scissors did not only come from the function mentioned above. The Free flow style inspired by nature which was popular all over Europe and in America in the 1960s was very evident in the O-Series Scissors. The use of the free flow style made it very easy for Fiskars to introduce its product into global markets. Its initial success might be attributed to this. What is most important about the O-Series Scissors is its everlasting appeal. This comes from its nature inspired form. Fiskars has an intimate relationship with nature which has evolved from the company's tradition and Finnish background.

Fiskars believe that they can make the fundamental jobs of life, like gardening and house maintenance more enjoyable through the use of form colour and material. The sports connotations in the latest Fiskars products have made them very desirable items. This is because they make the user feel that gardening is not a labour, it is a sport. Fiskars have used aesthetic qualities to lift the users spirits.

Fiskars have managed to encourage women to buy an axe which is traditionally a male oriented product. They did this by domesticating it. The imagery used in the product is similar to that used in the Fiskars kitchen ware range. The axe is lighter and easier to use. It is sharpened like a knife so it also becomes associated with a precise cutting instrument. It is functionally superior than any other axe on the market and the overall aesthetic quality is still similar to the traditional axe so it has not lost its appeal to the traditional consumer whilst trying to appeal to the non traditional user.

Fiskars has proved that a simple functional aesthetic can be universally appealing. This is because a functional aesthetic looks honest. The consumer is inclined to trust a product that looks as though the most important factor in its design is its function. According to Linden "Its job is to persuade the customers our products are functional and solve their problems." (Joensuu, 1995, pp10-15).Functional products can also have an exciting aesthetic unique to their function. The gear on the power loppers is visually interesting and appealing. The Finns call this useful art or brukskunst.

The issues raised by Transgenerational Design have not been fully tackled at Fiskars and this presents a challenge for design developments in the 21st Century. Even though they are able to design for the physical needs of the elderly. The psychological needs of the elderly are equally important. If a transgenerational design is to be successful it must appeal to people of all ages. The problem with the soft touch scissors is that

because it looks like a product designed for the elderly it barley appeals to any ages. The elderly will not use it because it stigmatises them as being cripples. The only people who are buying the soft touch scissors are those who have a disability that requires them to use it to carry on with normal life. Transgenerational design can be beneficial to us all. Fiskars should design a product that is not aimed at the elderly market. It should be designed for the every day consumer but it should also be equally beneficial to the elderly and disabled user.

Kaj Franck as the conscience of Finnish design has had an influence on Fiskars. He stressed "the social responsibility of industry and designers alike" (Peltonen, 1992, p. 10). Fiskars products are not designed for any particular class of person. They are not designed for a person who likes status symbol, they are designed for the person who simply wants to improve their lives with well designed products. The most important thing that Fiskars are offering the consumer is a product that is durable and functional at an affordable price.

APPENDIX A:
A CHRONOLOGY OF FISKARS

1100 Finland annexed by Sweeden.

1630 First iron works founded in Finland at Anstog.

1649 Fiskars was established by Peter Thorwosten. Specially trained workers from England, Germany and Holland were brought to Fiskars.

1657 Peasants worked at Fiskars to avoid Military service.

1688 Main markets were Tallin and Stockholm.

1696-1697 Famine in Finland

1700 Great Northern War, many Fiskars workers lost their lives.

1748 Work began on construction of Suomenlinna, Helsinki Island Fortress, economy of Fiskars boosted.

1750 Finlay and Jennings bought Fiskars, terminated in bankrupsy.

1171 Bengt Magnus Bjorkman took over Fiskars.

1802 Blast Furnace at Fiskars closed down.

1809 Finland was ceded to Russia.

1822 Johan Julin bought Fiskars, re-established as iron refinery.

1826 School was built at Fiskars.

1837 First machine shop established in Finland at Fiskars.

1865 Finland establishes own currency, the Markka.

1883 Fiskars limited company was founded.

1906 Finland acquired a new unicameral parliament.

1917 Finland issues Declaration of Independence.

1930 Trend towards mass production begins.

1960 O-Series Scissors manufactured for the first time.

1995 Fiskars Handy Axe along with Porsche, Siemens and Philips wins top prize at Industrial Design Forum in, Germany.

1995 Net sales of Products amounting to £212 Million, 95% outside Finland.

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