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# National College of Art and Design Faculty of Design, Craft Department

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# "A Cut Above The Rest – Fiskars And The Finnish Design Ethos."

by

Sally Hasson

Submitted to the Faculty of History of Art and Complementary Studies in Candidacy for the Degree of Bachelor of Design in Craft – Metal.

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As a Design student I strongly believe that all objects should be very well designed, especially those destined for mass-production. I have always admired the distinct style of Finnish design, renowned for its simplicity, functionalism and respect for nature. For this thesis I wanted to focus on a Finnish company that is famous for it's contemporary industrial design and examine whether or not it had followed the central tenets of Finnish design in order to achieve success. My research led me to the products of Fiskars, a design-driven Finnish company known throughout the world for it's "Classic Scissors". I was drawn to the simple, yet highly functional quality of Fiskars products and decided that this company would form the emphasis of this thesis.

I begin the thesis with a general overview of the Finnish Design Ethos, describing the political and historical reasons that have brought about Finland's design image and pinpointing the main characteristics of Finnish design.

This is followed by a look at Fiskars company history and then an outline of where the company is today. Fiskars different business interests are explained with particular emphasis on the products of the Consumer Products Group.

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## **The Finnish Design Ethos**

Today, the world is a smaller place than it has ever been before. Modern technology has blurred international boundaries while mass production is making the same products available all over the world. This has lead to a homogenisation of products and design, however some countries still manage to hold onto their national identity through their design ethos. Finland is one such country. Finland's history, its geographical location and its people have all played a part in forming the country's distinctive design aesthetics.

Finland has always been caught, politically and culturally, between East and West – the Orient and Europe. The country has thus developed independently and its culture could neither be described as European or as Oriental. For 600 years, until 1809, Finland and Sweden were united in one country. From this time on Finland was a Grand Duchy under Russian rule until it gained its independence after the Russian Revolution in 1917. Due to its unsettled history the Finns were keen to assert themselves and to establish a national identity. For them design has always been a prominent way of demonstrating their national unity.

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In the 1920's and 1930's, just after Finland had won its independence, the Finnish government began to invest heavily in the industrial arts. They knew that this would establish them internationally as an important country with a distinctive style.

Designers and artists were encouraged to work for large companies and Finland began to gain a reputation for the high quality of its design and its products.

World War II caused huge disruptions in the world of design and when the war was over Finland was forced to pay an enormous war debt to the Soviet Union. The war had brought a hunger for beauty and a desire to build a better world. New challenges faced designers who were now able to give life to the ideas that they had been forced to suppress during the war. Finland exploited design as an instrument of goodwill in its export efforts. They provided generous state support and achieved excellent results. Finnish objects won many prizes and put Finnish design in the spotlight of the design world.

The 1960's saw an emphasis on everyday products in Finnish Design. There had been a call for more beautiful things for everyday use and this has now become an important aspect of the Finnish design image.

We have heard that Finnish Design has very distinct characteristics, but what exactly are these characteristics and how did they come about?

#### Simplicity

Traditionally Finnish people have been seen as solitary people who seek simplicity in life. This can be traced back to the time of the Reformation of the Protestant Church (16<sup>th</sup> Century). The Finns were a very religious race at this time and they took heed

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when the simple expression of visual forms was advocated. From that time on simplicity has been synonymous with Finnish design.



#### Illustration 1 – "Kajakki" (Kayak), Timo Sarpaneva (b. 1926)

Finnish ceramics, metal work and glass, such as Timo Sarpaneva's "Kayak", are all famed for their elegance, minimalism, frugality and complete lack of superficiality.

#### Links to Nature

Compared to Central European Cultures, Finnish culture can be regarded as young. Also, as a nation, Finland has only become industrialised comparatively recently. However, traditional ways of life and links to nature are deeply rooted in Finnish behaviour. This means that Finnish people feel a close affinity with nature, a fact which is still evident in most examples of Finnish design and product development.





### Illustration 2 - Tree Leaf Platter, Tapio Wirkkala (1915-1985)

Tapio Wirkakala's "Tree Leaf Platter" has its inspiration in nature – the leaf of a tree. The natural material – birch wood – also allowed him to suggest the veins of the leaf.

The entire country of Finland is situated above the 60<sup>th</sup> latitude (close to the Arctic Circle). There are huge differences between the seasons – winter means 4 months of snow and sub-zero temperatures, while summer heralds warmth, growth and light nights. These extremes of weather have caused the Finns to respect nature and the materials it provides. Finnish people have learned to be frugal and economical with natural materials such as wood. Even today Finnish products show strong links to nature in their organic forms, their honesty of materials and their dislike for waste.



#### **Functionalism**

Finnish design is famed for the clear, recognisable forms of its objects. They are all highly functional, their purpose being obvious in the design. The climactic extremes have forced the Finns to place an emphasis on function. Traditionally Finns spent the winter evenings perfecting tools of extreme functionality that could be used during the short summer to gather provisions for the winter. After World War II Finland gave 10% of its land to the Soviet Union, this led to an influx of several thousand people into Finnish territory. It was therefore necessary to rapidly build a large amount of housing to cater for these people. Small houses were built in order to house them quickly and cheaply, but space was now at a minimum. Finnish designers now had to design furniture and china compact enough to fit into these new homes – the "Heteka" sofa bed was commonly found in small high rise flats after the war.



Illustration 3 - Heteka Sofa Bed



Finnish products are now designed to work at very low temperatures so that they can be used all year round. The Finns lead the world when it comes to textile design. They have developed garments to keep themselves warm in arctic weather conditions.

#### The Whole

When designing an object Finnish designers consider "the whole". They think about the environment that their object will fit into. They ask themselves – Who will use this product? How will it be used? Where will it be kept?



#### Illustration 4 - Vase, Alvar Aalto (1898-1976)



In Finland there is a tendency for architects to design interiors and furniture as well as buildings for just this reason. Alvar Aalto, Finland's most famous architect, designed furniture and household pieces such as the vase illustrated. They believe in designing beautiful objects for everyday use and strive to satisfy the user emotionally as well as physically.

#### Eco Design

Ecological matters are very important to the Finns due to their love of nature. They try hard to save energy by using minimal materials and production stages and by simplifying technical constructions. Ergonomics is also of great importance to them.

#### **Design Intensive Factories**

Most factories in Finland today are design intensive and have an extremely high standard of design. Many of these factories may have only one designer or one design idea. Fiskars is a design intensive factory, employing only a handful of designers and integrating design at every level.



**Illustration 5 – Fiskars Factory Floor** 



This allows the designer great freedom to work on new ideas and also means that he is closely involved in the production process and able to get feedback from the endusers of his products.

Finnish design is thus famous throughout the world for its simplicity, respect for nature, functionalism, its concept of "the whole", its ecological concern and the proliferation of design intensive factories. This thesis will now examine Fiskars design to see if it echoes the Finnish design ethos and, if so, if this is the reason for the company's success.

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# **Fiskars Company History**

Today Fiskars is an internationally recognised company, but how many people are aware that as the oldest industrial company in Finland it is one of the oldest companies in the western world? In 1649 Peter Thorwoste established an ironworks on the banks of the River Fiskars in Western Finland. In the 17<sup>th</sup> century water and wood were the basic requirements needed to successfully mine for iron. Water was utilised to power a mill for crushing lumps of iron ore, while wood was needed to make the charcoal that was burnt in the blast-furnaces to separate the iron from the rock during heating. Fiskars was an ideal location for an iron works as there are 2 sets of rapids within one kilometre of each other. In 1649 a crushing mill was built on one side of the river and a blast-furnace was built on the other. Fiskars produced knives, nails, wires, hoes and metal reinforced wheels at this time. Most of the company's output was shipped to Sweden who controlled Finland at the time. With the success of the company came an increased need for charcoal. The owners of Fiskars ironworks therefore began to acquire the neighbouring farms thus creating a large estate, which in 1780 amounted to 30,000 hectares.

In 1757 copper was found in land owned by Fiskars. This was the first time that a high-grade metal had been found in Finland. Fiskars made the most of their discovery and mined the copper. Fiskars' blacksmiths then went on to make copper goods for the whole country. Copper was to be Fiskars main business for many

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years, but by the end of the 19<sup>th</sup> century the copper industry was on its way out and iron was once again the most important metal.

In 1822 Johan Jacob Julin, a pharmacist from Turku in Finland, bought Fiskars. At this time it was still mainly a copperworks, but over time he shifted the emphasis towards iron refining. Julin is considered to be the founder of modern Fiskars and he was knighted in 1847 for his contribution to industry. The buildings that we can still see today in Fiskars village date back to his time. He employed several prominent Finnish architects to design the buildings which included both factories and housing for the employees. Julin himself lived in a mansion designed by Charles Bassi. Julin's time was one of great industrial, economic and social development. He provided accommodation and education for all his employees and made sure that Fiskars village had everything that the employees needed; a shop, a doctor, a pharmacy, a hospital and a school.

Julin travelled in Sweden and Great Britain gathering information and skilled employees to bring back to Finland with him. He set up Finland's first fine forging workshop that was run by Englishman Edward Hill and the skilled smiths that he had brought with him. This workshop produced cutlery and scissors.

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In 1837 Fiskars opened a mechanical engineering workshop which made Finland's first steamship engine. It also produced farm machinery and sewing machines. Julin was a great pioneer of agriculture and went on the help the agricultural development of Finland. Fiskars is estimated to have produced over 1 million ploughs in 100 years. During the 350 years since Fiskars was established Finland has undergone many political and economic changes. 1865 saw the introduction of Finland's own currency, the markka. The years following this heralded the urbanisation and industrialisation of Finland. Trade agreements meant a large amount of Finnish products were exported to Russia, resulting in great profits for Fiskars. In the 1890's 45% of Fiskars products were exported. World War One was good for the metal industry in Finland as it led to an increased demand for artillery from the Russian army. In 1917 Finland issued a Declaration of Independence, which was followed by a Civil War in 1918. These events led to the loss of the Russian export market. In 1920 Finland was accepted as a member of the League of Nations and the post World War One period was a time of great expansion and success for Fiskars. Like the rest of the world Finland was hit by the Depression in the 1930's, But they were on the up again by the mid 1930's. World War Two put a temporary stop to the company's planned transformation from its small-scale corporate structure to something more suited to mass production.

## A New Era for Fiskars

Fiskars became a limited company in 1883 and went on to merge with or purchase several steel companies. In the 1960s iron and steel still dominated Finland's oldest industrial company, but the emergence of new materials and new ways of designing led to a change of direction for Fiskars towards the end of the decade. In the 1950s

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and 1960s Fiskars had attempted to diversify into many new areas, but this proved unsuccessful for them so they adopted a new business strategy of developing niche markets. At the same time they also decided to adopt a new design strategy. In the 1960s Fiskars had a large design department of around 100 people working from their Head Office in Helsinki. In the late 1960s Fiskars took the dramatic step of closing down this department and instead employing only 5 or 6 designers to work alongside their production units in the various branch plants. Fortunately for Fiskars however, their success began to rise with the fall in designers.

In 1967 Fiskars launched their new "Classic" Scissors. These scissors went on to become the world's best known scissors and today when Finnish people see a pair of them they feel a surge of patriotism. Within 30 years of their creation 300 million pairs of these scissors had been sold worldwide. So how did such an everyday item as scissors become so successful for the little-known Finnish Company Fiskars?

In 1967 Olaf Backstrom was the chief designer at Fiskars. He wanted to create a new pair of scissors by combining functionality, attractive appearance and efficient production methods in one successful package. New technology allowed him to design what was to become the biggest selling pair of scissors in the world. Materials testing and tool development were carried out on site at the scissors factory to find innovative ways of producing the scissors. Whereas before the steel blades had been clipped out of bars of cold rolled steel, they were now punched out of steel strips.

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The appearance of these scissors was a great novelty to consumers. With ergonomically designed orange plastic handles and steel blades they were unlike any other pair of scissors available at the time. The scissors were launched in Finland first, before being shipped to Europe and the US in the early 1970s. Orange was a fashionable colour at the time, but their shape seemed strange to customers. Their popularity grew however when people began to realise how functional they were and even though the colour is no longer trendy, it is still synonymous with the reliability of Fiskars products.

Until the end of the 60's Fiskars had produced scissors, knives, ploughs and aluminium boats for a purely Finnish market. However the "Classic" scissors launched them internationally and today 80% of their turnover comes from outside Finland. They no longer see themselves as a Finnish firm as is evident in this statement from Fiskars Deputy Director Ingmar Lindberg:

"We prefer to think of ourselves as a firm which produces the best blades for the home." (Hoyna, 1991, p. 22)
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## Fiskars Today

In 1980 Fiskars began to move out of the traditional iron and steel industries and towards consumer products. Consumer Products is now the most profitable area of the company and Fiskars is the world leader in cutting tools for a consumer market. The company's main emphasis has always been scissors and other modified or related products for the home, office, school or garden. The Fiskars range has extended to include knives, crafting tools, home, office and craft accessories, lawn and garden tools and accessories, outdoor recreation products and homewares. Fiskars products are manufactured in 10 countries and are marketed in more than 40 (mainly Europe and the USA). The company's business interests cover more than just consumer products. They also manufacture aluminium boats, building components and rail fastenings at their Inha Works. Fiskars also has some long-term industrial investments and has an interest in real estate.

# **Consumer Products Group**

This is the main focus of Fiskars operations. It is the market leader in many of its selected areas of expertise. It has a reputation among consumers as a leading manufacturer and supplier of ergonomically designed high-quality products. To encourage business growth Fiskars places a heavy emphasis on new product development, expansion into new markets and new geographies for existing products. The products are destined mainly for home or office use. Distribution channels for Fiskars products are Mass merchants, home centres, independent retailers, office centres and hardware centres. For business purposes Fiskars Consumer Products are

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split into 5 groups – Lawn and Garden Accessories, School, Office and Craft Products, Homewares, Outdoors and Recreational Products and Home and Electrical Accessories.

# Lawn and Garden Accessories

This is the largest sector of Fiskars Consumer Products Group. It also has a long history with the company – spades and other gardening tools have been manufactured by Fiskars for more than a century. Today Fiskars produces nearly every kind of garden accessory from pruners right through to irrigation equipment. The range includes forks, spades, rakes, trowels, axes, hoes, shears, pruners and loppers. This product group is greatly affected by seasonality. Spring is obviously the busiest season and production has to be carefully planned to meet demand.



**Illustration 6 - Fiskars Power Loppers** 



In 1997 Fiskars won the European Design Prize for its continued commitment to quality and systematic application of ergonomic principles. The power loppers are a fine example of ergonomic design and convenience of use.

# School, Office and Craft Products

This sector covers a large range of products for crafts and hobbies. It includes a large selection of scissors, rulers, compasses and textile accessories. Fiskars is the leading global manufacturer of scissors and they produce a pair of scissors for any person (left or right handed), of any age, doing any job.



**Illustration 7 - Fiskars Scissors** 

The Creative Works range of products was made specifically to appeal to children. It features rulers, compasses, protractors, sharpeners and scissors in bright colours and safe designs.



Stationary and craft products include scissors, rotary cutters, cutting mats, paper trimmers and rulers. Soft-touch scissors have been developed especially for the elderly.



### **Illustration 8 – Fiskars Creative Works**

# Homewares

This sector includes knives, cutlery, kitchen tools and other household products. A deep understanding of the customers needs and of the markets is needed to develop innovative ideas and products. For example every knife has a handle made from tough, shockproof polypropylene, contoured for maximum comfort in use. It has no unhygienic gaps between the handle and the blade and the blade is made from high



quality stainless steel for long lasting edge retention. Fiskars also guarantee a free replacement without question if the knife becomes defective through normal use.

# **Outdoors and Recreational Products**

These products, under the brand name Gerber as well as Fiskars are very popular with hikers and campers. The products include knives for camping, hunting and fishing and multi-purpose tools. The multi-purpose tools contain a saw blade, pliers, wire cutters, wire crimper, file, sharpener, 3 screwdrivers, a punch, a bottle opener and a scale. One such tool was developed especially for the US armed forces.

This sector also includes a range of axes. One range of axes – the Handy Axes, has created a growth in the sales of axes.

# Home and Office Electrical Accessories

This is the most recent addition to Fiskars Consumer Products Group. It includes a range of products that offer powersurge protection for home and office, as well as for telephone and satellite antennas.

quality statuless steel for long lasting edge retention. Fiskars also gualantee a free replacement without question if the knife becomes defective through normal use.

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# **Chapter Three**

# **Fiskars Design Concept**

In 1967 Olaf Backstrom, Fiskars' then chief designer introduced the world's first ever pair of plastic handled scissors. These orange handled scissors, named the "Classic Scissors" are today recognised world-wide although only a few people are aware that they originate in Finland.



#### Illustration 9 - Fiskars Classic Scissors

The Classic Scissors have today developed into a series of 18 pairs of scissors each designed to serve a different purpose. The series includes pinking shears, hairdressing scissors, thread nippers, manicure, embroidery and dressmaking scissors, snips, left handed scissors, kitchen scissors and scissors for cutting paper. This series also includes knives and other gadgets for household use.



How does a company design and develop its products into a range like this? The answer is found in the Product Development Department. The Fiskars Product Development Department consists of Olavi Linden, the Product Development Manager and 6 team members. In recent years the team at Fiskars has developed and launched the Handy Axe range, the Planters range of nursery tools, the Fiskars Clippers range and a multi-use garden cutter. The Clippers, which were launched in 1996, are a range of cutting tools for the garden. These tools combine innovative new technology and production methods with ergonomic design. They have a completely new and unique gear mechanism that increases cutting power and makes the job easier

The Fiskars Product Development Department has summarised their **Design Concept** as follows:

+

DESIGN MAKES BENEFITS OBVIOUS, VISIBLE AND CONVINCING

+

+

NEW FUNCTION – BENEFIT (PATENTED)

> MATERIALS & NEW TECHNOLOGY

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The Fishars Product Development Department has summarised their Design Concept



In order to fully understand their diagram it is necessary to examine each box individually and then bring them all together.

#### **New Function – Benefit**

This statement could refer to either the design of an existing product or of a new product. In one sense it encourages designers to improve existing products to allow them to carry out new functions which will be of benefit to the consumer. In another sense it advocates the development of a completely new product that will carry out a function that is not fulfilled by any alternative products on the market and that will be of great usefulness to customers.

#### Design makes Benefits Obvious, Visible and Convincing

This statement maintains that all products must be designed to be simple, clean and honest. Their form must express their function rather than try to hide it. The product must look strong, durable, efficient and well capable of the job for which it is being designed. This will allow customers to see at a glance what the product does and how it works.

#### Materials and New Technology

When developing a product, designers must try out and consider all the available materials before they decide on which one would be the most effective for the product in question. New technology means that more effective production techniques are

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always being invented and that new materials are constantly being developed. The designers must keep up to date with all new technological developments as they will allow them to improve on existing products and offer them new opportunities for new product development and production.

The Fiskars design team is often seen sporting wellingtons and gardening gloves. They believe that you cannot develop a gardening tool without getting your hands dirty. The same applies for kitchen products or children's products. As the consumer products are of such a workable size the designers make their own prototypes and test them themselves.

Many of Fiskars products have been around for centuries, so it may seem hard to imagine that there is still room for improvement in these products. However, the Product Development Department believes that no product is ever perfect – it can always be improved upon. Ergonomics is an area that is of great importance to Fiskars designers. They are constantly striving to improve the ergonomics of their products to make them more comfortable and more efficient to use.

Fiskars do not set a limit to their production costs. They do not want cost to be a factor in designing the ultimate product. However good design should be able to improve the product and simultaneously drive down the cost to both the consumer and the producer.

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When developing a new product the design team has to consider many aspects at the same time. What technology will be used in its production? What new materials should it be made of? How should it be manufactured? How should it be packaged? Testing for possible problems also plays a large role in developing a product. Numerous tests must be carried out every stage to eliminate future problems. The manufacturing process and the product itself have to be checked out by the design team. Test tooling is put into practice to examine the manufacturing process. Along with the design team, real customers are brought in to try out the new products.

The Fiskars Product Development Department specifies 8 criteria that must be considered when developing new products. They are as follows:

- 1. Market need
- 2. Functionality
- 3. Design (honesty, simplicity)
- 4. Low cost manufacturing (good cost/quality ratio)
- 5. Visual shelf differentiation
- 6. Longevity
- 7. Environmental aspects
- 8. Enthusiasm and motivation in development and product launch

Interestingly, the design team sees number 8 – enthusiasm and motivation in development and product launch - as the most important criterion. They believe that

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Product x enthusias  $m^2 = success$ 

At Fiskars product design and development is a collective affair. The members of the Product Development Department discuss all new products, sharing ideas and making suggestions at every stage. As a result it is impossible to specify that any one person has designed a new product.

Developing a new product is not the easy, flowing process that one might expect. The designers believe that the best inventions are born out of stress and frustration along with a constant traffic of ideas throughout the whole organisation. The design team is in close contact with all other areas of the organisation. They will monitor the product from its production right through to its distribution. The designers particularly like to be included in the product start-up, launch and sales.

Distribution is another area that must be considered when developing a new product. It will be impossible for it to succeed if it does not have proper channels of distribution. a new product is dead unless it is surrounded by enthusiasm. If the designers are excited and motivated by a product, they will breathe life into it. The fiskars formula for the success of a new product is expressed as follows:

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Distribution is another area that must be considered when developing a new product it will be impossible for it to succeed if it does not have proper channels of distribution. The majority of Fiskars products are sold in super/hypermarkets. In this environment there is no specialised salesperson to advise customers on the features and benefits of various products. In this case the product and its packaging are the only things which can sway the customer one way or the other. The average customer will make his choice in a matter of minutes. It is therefore of great importance that the design of the product and its packaging show clearly and convincingly that it is the best tool for the job.

"Shelf differentiation" is very important. All Fiskars products must look like part of a family and yet separate from their competitors. Brand recognition is also very important - if a customer is satisfied with one Fiskars product, he will probably choose them again. Therefore the quality of the product is of utmost importance.

### **Fiskars Design Team**

The design philosophy at Fiskars could not be further removed from the phenomenon of the "star" designer in the 1960s. Even towards the late 60s many marketers still insisted on using a clique of "star" designers. However by this time industrial design was moving towards product development and industrial production and there was a distinct distancing from superficiality. Traditionally in Finland designers have been celebrities, but at Fiskars they have a very low profile. It is unusual for an individual designer to be associated with a product as they always work as a team. Design and product development have also merged into each other. Olavi Linden and his team of The majority of Fiskars products are sold in super/hypermarkets. In this environment there is no specialised salesperson to advise customers on the features and benefits of various products. In this case the product and its packaging are the only things which can sway the customer one way or the other. The average customer will make his choice in a matter of minutes. It is therefore of great importance that the design of the product and its packaging that it is the best tool for the product and its packaging that it is the best tool for the job.

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Linden's design philosophy could be described as unaffected functionality. He sees design as essential to the product and not merely as superficial decoration. The team believes that a successfully designed product will be a simple, functional whole. As well as functioning to its optimum level the designers at Fiskars place an equal emphasis on the appearance, safety and ergonomics of the products they design.

The appearance of a product is important to any designer. While Fiskars designers are not influenced by passing trends, they do acknowledge that a product should be a pleasure to look at. However mere style is not enough to make a successful product, it must be functional as well. Hundreds of years ago there was no such thing as design, but products, such as Fiskars large tailor's scissors, appeared beautiful because they worked. In the article Ergonomy versus Esthetics'' Olavi Linden demands:

"How could a useless object be beautiful?"(Focus, 2/1996, p.16) He believes that:

"The ultimate objective of industrial design is to find solutions to consumer needs, not to create them" (Focus, 2/1996, p.16)

He also says that when it comes to product development functional and aesthetic goals should go hand in hand:

"It's a kind of symbiotic relationship, so you can't draw a line between them." (Focus, 2/1996, p. 16)

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"It is a kind of symbiotic relationship, so you can't draw a line between them." (Focus, 2:1996, p. 16) The appearance of a product is often all that a customer has to rely on when making a purchase. Therefore Fiskars designers insist that their products have simple forms, and their using purpose must be clear to those who are to use them. Larry Carter, Manager for Product Planning and Design in the United States, sums it up in the following words:

"Although the looks of a Fiskars product should invite people to use them, they must above all provide superior functionality over other similar offerings." (Focus, 2/1996, p.16)

Functionality must be an ongoing consideration for them. They do not believe that any product is ever perfect. Products can always be improved upon, especially when it comes to functionality. An existing product can be improved upon by making it safer, more easily maintained or more convenient to use.

In addition to being seen as a compromise between appearance and functionality, design is also seen as a compromise between appearance, functionality and manufacture. Fiskars is not a design driven firm; rather, their design is production friendly. Olavi Linden sees himself as a bridge builder between departments:

"We believe that the success of the scissors was due to production innovation rather than design." (Focus, 2/1996, p. 17)

The design team is prepared to spend a lot of time and money to ensure that they arrive at a successful product. They refuse to cheat or take shortcuts and are quite happy to make a number of unsuccessful products before they reach a successful one. Fiskars products have a simple elegance that belies the hard work and creative influence of many different people.

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# **Fiskars Design Strategies and Products**

### **Fully-Integrated Design**

At Fiskars the Designers have a very strong idea about what the role of design is and what their goals and objectives are, but what strategies are employed by the company to ensure success? The attitude of the whole corporation towards the importance of design is perhaps one of the main reasons behind its history of design successes. Design is not treated as a separate element, instead, it forms an integral part of the company's way of thinking, managing and operating. This is made evident in the following statement from the Managing Director of Fiskars Consumer Products.

"Design embraces all activities from the first product idea to production, use and disposal. It is fully integrated into our strategy." (Joensuu, 1/1997, p. 6)

Design is a shared and democratic process and not the domain of an elite few. It is usually carried out by groups of 5 or 6 people encompassing designers, technicians and market researchers. Designers also like to be involved at all stages of product development. The product planning team follows the progress of the product from the original idea through manufacturing, serial production, marketing and finally to distribution. This allows the designers to see how complicated or easy their product will be to manufacture and to get an idea of how economical or attractive the end result will be. Involvement at every stage allows the designer to become aware of and eliminate negative qualities as they arise, thus ensuring that the end product will be the most successful that it can be.

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#### Knowledge of Consumer Needs

A product can never be successful unless there is a demand for it. Demand for a product is a direct result of a consumer need. It is therefore very important for designers to be aware of what the public wants. This may involve improving an existing product to make it more efficient or creating a completely new product to satisfy a need that is brought to the designer's attention. Olavi Linden's main objective is to make life better for his customers:

"We make traditional tools in a new way. Simpler, with fewer parts, better methods, new materials and new technology. The goal is to make things better for those who need the tools. The benefits should be obvious." (Wickman, 5/1998, p. 67)

The designers at Fiskars take consumer needs very seriously. Suggestions and feedback from consumers form the launchpad for many of their new products. It is the designer's job to take their consumer's problems very seriously and to try and solve them as best they can. Linden is constantly striving to fulfil consumer needs with his products:

"Tools should also let you work in the right way and enjoy your work. We try to make small things seriously and with great earnestness." (Wickman, 5/1998, p68)

As well as covering existing consumers, knowledge of consumer needs should also extend to cover the needs of possible new consumers, as they could constitute a new market that has yet to be tapped into. Fiskars did just this, in the late 1980's in America in an attempt to find new users for their scissors. They knew that middleaged people were already using their scissors, so younger and older people were

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possible target markets. Steve Ramsey is Chief Product Designer at Fiskars Scissors Factory in Wausau in the United States. He had a strong desire to design something for the elderly after a direct consumer contact. Ramsey was approached by an elderly lady who assured him that she had always used Fiskars scissors. She showed him her aged hands and said that she needed new scissors. She informed him that while she had changed Fiskars had not. Her weak, brittle hands could no longer cope with Fiskars existing scissors. Ramsey went on to develop a series of scissors especially for the needs of the elderly. He took into account the weaknesses of the hand and the co-ordination problems and came up with the Softouch scissors.



**Illustration 10 – Fiskars Softouch scissors** 

These scissors are also suitable for people suffering from arthritis. The Softouch scissors have one elongated loop and a straight handle instead of two awkward finger loops. This design means that people with weak fingers can grip them more easily



and do not have a hard time getting their fingers through the loops. The real innovation of these scissors if the self-opening mechanism. A spring in between the handles means that the blades are constantly in an open position and just have to be squeezed closed to cut. This gives the user great control and makes cutting a far easier task for the elderly or disabled person. The Softouch line of includes 5 pairs of ergonomic scissors and snips and has been an enormous market success.

Fiskars Softouch scissors have won prizes from Business Week Magazine for Industrial Design Excellence and from the American Society on Ageing for their consideration for the elderly. All of the elderly people who I asked to try the Softouch scissors were very impressed with them. They said that the cushioned handles allowed them to comfortably use their whole hand to cut with and they felt no pressure on the thumb or fingers. Older people often find normal scissors too stiff to open, so they were very impressed by the gentle spring-opening of the scissors after every cut. I have no problems with my hands, but I too found the Softouch scissors very comfortable to use and good for cutting all types of materials from fabric to paper and cardboard. However I feel that the shape of the handles allows less control than the Classic scissors. I particularly like the shape of the Softouch scissors – it is very aesthetically pleasing and vaguely reminiscent of a bird's head.

Although these scissors are guaranteed for life, several of the people whom I spoke to were worried that the spring appeared too flimsy and could bend, break or fall off. This does not appear to be in keeping with Fiskars policy of using as few and as
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simple parts as possible in their products. I am sure they could find a more attractive and durable method for opening the scissors.

The only other negative comment that I have about the Softouch scissors is on the subject of their packaging. The scissors are held onto a cardboard backing with a clear plastic casing. The background colours of muted orange and blue are a little dull and dated and I feel that the plastic casing cheapens the look of the product. I believe that this packaging does not do the product justice and that Fiskars could improve their image with a rethink of their packaging.

#### Knowledge of New Materials

It is essential that designers keep abreast of new materials as they can offer them opportunities for creating new products or improving existing ones. Fiskars has been in operation for almost 350 years and there have been many breakthroughs in materials over this time. The staff at Fiskars have always been ready to try out new materials – the company that began life as an ironworks, diversified effortlessly into copper in the 18<sup>th</sup> century and then into steel in the 19<sup>th</sup> century. With modern technology materials are changing at a far faster rate, but they offer designers a multitude of new possibilities. At Fiskars developments in plastics and steel are of particular interest. The qualities of plastics have allowed designers to take a different approach to traditional tools. Since the launch of the Classic scissors in 1967 with their innovative plastic, ergonomic handles, plastics have allowed Fiskars to economically manufacture light, durable and comfortable tools.

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#### Knowledge of Yew Materials

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Like many Fiskars products the axe has been around for centuries, but now new materials have allowed designers to reinvent the axe. Axes were first used during the Stone Age. The first axe was a sharp stone with a handle tied to the stone with ligament or bast. Later on, an eye for the handle was drilled through the stone and even down to the present day iron axes usually had a forged eye for the handle. Axes have been made at Fiskars since the 17<sup>th</sup> century and although the axe has undergone a great deal of development over the years, production methods and materials have varied little. The axehead was forged and manually ground from steel and the wooden handle was wedged or glued into the eye of the axe. The wooden axe handle had weaknesses however. If the wood dried out it could come off, crack or even break. As wood is not a homogenous material, it had to be carefully selected with great waste as a result. Aware of these problems in the traditional axe Fiskars management asked the Product Design and Development team to look for alternatives. They were asked to design an ergonomically correct and efficient axe

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that fulfils today's product safety requirements and suits modern serial production. The wooden handle posed the largest problem and, after many experiments and tests, glass-fibre reinforced plastic was chosen as the handle material. The designers chose to keep the carbon steel that was used in the forged axeheads of Fiskars previous axes. The choice of glass reinforced plastic for the handle material offered new design possibilities. It allowed the whole length of the handle to be ergonomically shaped and hollow to save weight. The fastening of the axehead to the handle also had to be resolved. Instead of the eye, the designers returned to the original Stone Age construction and let the axehead be firmly gripped by the plastic of the handle over a wide surface. The shape of the axehead is designed to suit accurate machine grinding and the resulting sharp blade is protected by an ingeniously designed carrying sheath.



### Illustration 11 - Fiskars Handy Axe



The finished product, the Handy axe is a result of numerous tests. The handle is almost straight with an oval cross-section. The axe is comfortable and requires less energy to use.

The series of 7 Handy axes was launched in 1993. The weight and shape of each head is adapted to a different field of use. The arrival of the Handy axe series revolutionised the axe market. Demand for axes soared, firstly because people could see that this product was an innovative improvement on traditional axes and they felt compelled to buy it even if their old axe was still functional. Fiskars generated a need for these axes, each serving their own purpose, by giving advice on how and when to use each axe. People now wanted different axes for different jobs, much as they had with scissors when Fiskars launched its Classic range. When previously one axe was enough, now people collect the whole series. Their slick new appearance has also caused them to become commonly given as presents in Finland. Fiskars Managing Director says:

"Thanks to their good looks, they've actually become popular gift items, they're now collectibles." (European Design Prize, 1997, p. 2)

I am not a regular axe user; I only have vague memories of struggling to help my Dad chop firewood, but I was very impressed as soon as I picked up a Handy Axe 1000. Firstly, I found the appearance very stylish – it was very contemporary and the axe no longer represented a primitive tool from the Dark Ages. At 17.5 inches long and weighing 1.5 pounds it was very easy to swing. The head felt very securely attached to the shaft, so I was not worried about it flying off mid-swing. The impact strength

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The shaft is made of unbreakable fibreglass and the axe is guaranteed for life. I think Fiskars have done a great job reinventing the axe.

#### Ergonomics

Ergonomics is the applied science of equipment design to reduce operator fatigue and discomfort. Ergonomic products are designed to do their job as efficiently as possible while minimising the strain and exertion of the user. At Fiskars this boils down to creating the greatest rapport between the potential user and the object. All Fiskars designers are required to have an excellent knowledge of the human anatomy. In particular they must be very familiar with the hand and arm, as all Fiskars products are hand held. Where the hand is concerned an important element is the four different types of grip. The first two, the power grip and the precision grip, are the most important as they are the only two which involve fingers and thumb in opposable action. The other two are subsidiary: the hook grip, as used when holding the handle of a suitcase, and the scissors grip, as when holding a cigar. As Olavi Linden says:

"It is the hand that distinguishes us from the ape, we have a different grip." (Joensuu, 1/1997, p. 8)

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similar to some of their large tailor's scissors from the 18<sup>th</sup> and 19<sup>th</sup> centuries. Olavi Linden claims that:

"Producing ergonomically designed scissors is nothing new. At the beginning of the 19<sup>th</sup> century such scissors were already being produced, but they were only for use by skilled workers." (Wickman, 5/1998, p. 53)

Ergonomics may be nothing new, but what is new however is the fact that Fiskars are making ergonomically designed products for everyday use. They were the first company to believe that ergonomically designed products should be available to everyone. The Product Development team work closely with the Department of Industrial Safety at Tampere University of Technology in Finland .to develop more energy-efficient, user-friendly tools. One result of this collaboration has been the inventively titled Ergonomic range of garden spades and forks.



<u>Illustration 12 – Fiskars Ergonomic Spade</u>



When digging with traditional tools you must automatically bend your back. This range of tools however has been designed with a 40° lifting angle to eliminate strain on the back and shoulders. The new longer shaft allows you to work in an upright position more efficiently and for longer periods of time. The handles have a soft plastic coating to insulate from the cold and to give the user a firm grip. The shape of the handle is designed to keep your hand in a natural position when working and avoid any unnecessary strain. The blades of the spades are sharpened to make digging easier. This range of garden tools is now recommended by experts as a safer alternative to traditional tools. They were originally developed for the Finnish and Scandinavian market and then successfully launched onto the British market. In Britain the Spades were displayed upright on a large stand creating a strong visual impact and within a year they had become the top selling range of garden tools in the United Kingdom.

Fiskars is aware that gardening is meant to be a pleasant experience, but that this ceases to be the case if one becomes exhausted or injured by using inappropriate equipment. At almost 6 feet tall I often find that I strain my back using equipment that is not specifically designed for tall people. Anything from chopping vegetables at a kitchen bench to withdrawing money from a bank machine can force me to bend over at an uncomfortable angle. I was therefore very impressed when I discovered that Fiskars produce spades with various shaft lengths (from 118cm to 130cm long). I was able to choose the spade with the longest shaft to match my height. This allowed me to dig comfortably without bending over. At first I was worried that the

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lightness of the spade (facilitated by its tubular steel shaft) might not be sturdy enough for heavy digging, but in actual fact the spade worked very effectively and was not too heavy for me to lift. I also found that the sharpened steel blade meant that the spade entered the ground very smoothly and easily. I doubt whether digging will ever be my favourite job, but with the help of a Fiskars Ergonomic Spade it was a strain-free procedure.

At Fiskars the designers are constantly striving to improve their products, even those that already do a good job. As Olavi Linden says:

"Products are never finished. There is always room for improvement and alterations." (Focus, 2/1997, p. 27)

Developments in technology and materials mean that designers can improve the ergonomics of their products. The Classic scissors may appear to have remained unchanged for the last 30 years, but they are actually in their fifth incarnation. The product development focuses on production methods to reduce costs, improve functionality, safety, appearance and ergonomics.

## Prototypes

When designing a new product Olavi Linden places a great emphasis on model making. He will do a few quick sketches and then start straight into a model. He believes that computer aided design has its place at certain stages of the designing process, such as for calculations, but when dealing with bent surfaces nothing beats the craft of hand-making a model. Craftsmanship is very important to the Fiskars designers, as they all make prototypes of their designs.

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### **Constant Testing**

All new products at Fiskars undergo a rigorous series of tests to ensure that they are as good as they can possibly be. Testing is very important once a product idea has been fixed on and is at the development stage. The new product is tested by in-house sales and marketing people to ensure that it will be a good seller. Technical and functional testing is carried out by the design team in conjunction with the University of Technology at Tampere and finally focus groups of consumers are brought in to give their opinions and suggestions on the new product. The designers are present at every stage of the testing process as it keeps them informed on every aspect of their product's development and allows them to solve any problems as they arise. Once the designer has made a model of a new product, he will then show it to his colleagues to get teedback from them. They will bring any negative aspects to his attention, allowing him to change them before he goes on to make a prototype. It is important that new product prototypes are as close as possible to the real end product so that they can be tested in real conditions. In order for the prototype to be as similar as possible to the end product it has to be injection moulded. At this stage the product designer has to work in close co-operation with the mould engineer. This allows them to work out if it is possible to make the product by injecting plastic into the mould or if it will prove too difficult or too expensive.

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## **Illustration 13 – Fiskars Power Gear Hand Pruner**



The ergonomics experts carry out functional testing. They work closely with the Product Development team and have developed tests to measure the energy required to use Fiskars tools. The results have allowed them to create more energy-efficient tools such as the Power Gear Hand Pruner. The technical aspects of this tool have been developed as a result of the ergonomy research at the Tampere University. The unique feature of the pruners is their innovative gearing. By a rotating movement of the hand, you can employ the strength of all your fingers to increase cutting power. Strain to the hands is minimised as the point of contact between the fingers and the handle remains the same. Strain and chafing are thus reduced, especially when cutting for long periods of time. This tool demands less muscle power than other corresponding models on the market. The opening span of the handles can be adjusted to fit any size of hand.

One innovative new energy-saving product was developed as a direct result of Olavi Lindens own experience. One of his neighbours fell off a ladder while cutting his apple tree. This led Linden to look for a safe way to cut the branches of trees from the ground. The tool Linden wanted to make had to fulfil many demands. It had to be light to make it possible to work upwards. It had to have an adjustable cutting angle and compact cutting head to allow it to reach everywhere and it had to have an adjustable length and simple grip. For research Linden visited gardens to watch gardeners trimming branches. He saw how difficult the job was, but was assured that it was an essential procedure to eliminate parasites. Linden also realised that it was not just strong young men who worked in the garden: The ergonomics experts earry out functional testing. They work closely with the Product Development team and have developed tests to measure the energy required to use Fiskars tools. The results have allowed them to create more energy-efficient tools such as the Power Gear Hand Fruner. The technical aspects of this tool have been developed as a result of the ergonomy research at the Tampere University. The unique teature of the pruners is their innovative gearing. By a rotating movement of the hand, you can employ the strength of all your fingers to increase cutting power barries their innovative gearing are the set of the teature of the cutting power and the hand, you can employ the strength of all your fingers to increase cutting power barring for long periods of time. This tool demands less muscle power than other other set increase of time. This tool demands less muscle power than other adjusted to fit any size of finand.

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The resulting product is the Universal Cutter that can cut tree crowns, thin dense bushes and cut stems. It is simply designed in black injection moulded plastic so that it is easy to wash and there is no risk of rust. Linden developed a new cutting mechanism for this tool. A gear mechanism was constructed with the help of a bicycle chain and a polyester band that runs around a reel inside the 150 cm long aluminium shaft. Pulling on the band increases the cutting force and allows optimum utilisation of muscle power. The lifespan and durability of the polyester band have been tested – it can handle up to 300kg. The cutting head can be adjusted through 240° to reach any branch or stem. It is adjusted by opening the lock on the side of the cutting head, moving it to the desired angle and then locking it in place.

The cutting blade is made from a special alloy and coated with xylan for less friction, the lower blade is made from hardened stainless steel. The pull handle, half way down the shaft is made from plastic, its ergonomic design stops the hand from slipping. The adjustment strap is used for cutting if the cutting head is in an extreme position. The plastic end knob can be used for cutting when reaching high into the top branches of the tree. "Most gardenwork is done by women, lots of them elderly lacking strength in hands and arms. If I can create something suitable for them it will work for everyone else as well." (Wickman, 5/1998, p. 53)

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## Ilustration 14 - Fiskars Universal Cutter

Most gardeners complain that cutting and trimming trees is an extremely difficult task. They often have to cut branches up to 3 metres above the ground and carrying a heavy tool up a ladder can be very dangerous. When I first encountered the Universal Cutter I thought that it looked very peculiar. It is unlike any other tools on the market and at a length of 150cm I was dubious about its precision and maneuverability. However when I picked up the Universal Cutter I was struck by how light it is - it weighs only 31 ounces. It extended my reach to 12 feet but its lightness made it very easy to hold up and direct towards various branches. It is a little bit time consuming changing the angle of the cutting head to suit the branch, but, from the safety of the ground, the branch is gone with one pull of the handle.

Like most people I get a sore back if I have to bend over for too long. Therefore bending down to prune shrubs or bushes or to cut low stems would put pressure on my back. With the Universal Cutter I was able to do this job from the comfort of an upright stance.



## **Consumer Testing**

Consumer testing is the final stage of product development. They are the ultimate users of the product so it is important that they are satisfied with it. Consumer groups are shown prototypes of new products and asked for their thoughts and suggestions. By this stage the staff at Fiskars are fairly confident that the product will be a success due to the many other stages that the product has undergone to get this far. However, it is the consumers who ultimately make or break a product, so it is vital to hear their feedback and to respond to it.

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Fiskars is one of Finland's most famous and successful companies and Finnish design is unique and recognised throughout the world. Design is of utmost importance at Fiskars and although it seems like a highly individual company its design ethic fits neatly into the framework of Finnish design.

A change in company structure in the late 1960s caused a dramatic upturn in fortunes and allowed the firm to leave behind its traditional, industrial past and to become the most successful scissors manufacturer in the world. This turning point occurred when Fiskars became a design intensive company like many others in Finland. They closed down their 100 strong design department in Helsinki and replaced it with a Product Development team of 6 people to work onsite at the Fiskars production unit in Billnas, Finland. From this point onwards design was fully integrated into the company's way of thinking, managing and operating.

When creating a new product the Design Team has various considerations. As with all Finnish design functionalism is of great importance to them. They believe that any new product should demonstrate a function or benefit that is not offered by any existing products and that the product's function should be clear and recognisable to the potential user. Fiskars Universal Cutter allows the user to cut high branches from the safety of the ground – a task that was not previously catered for by any tool manufacturer.

## Conclusion

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They believe that all Fiskars products should be simply designed so that the benefits are obvious to the consumer. This can be linked with one of the central characteristics of Finnish Design - simplicity, all superficiality being stripped away.

All Finnish design demonstrates a concern for nature and ecology – Fiskars products are no exception. The designers believe in keeping abreast of new technology and materials. This allows them to develop more efficient production techniques to save energy and materials. They can also improve on existing products with new materials. The Fiskars Design Team was able to reinvent the axe with the aid of new materials. The Handy Axe has a blade made of dropforged Finnish Carbon Steel and the handle is made of glass-fibre reinforced polyamid. The result is a light, durable and easy to use axe.

All potential new products are tested at every stage of their development to ensure that they are as effective as they possibly can be. Like many other Finnish designers the designers at Fiskars like to get "the whole" picture. This means knowing who will use their product, how they will use it and where it will be used. This also allows them to consider ergonomics and minimise strain and fatigue for the user.

The rigorous product design and development process at Fiskars, based on the quintessentially Finnish characteristics of simplicity, functionalism, respect for nature, ecological concern, "the whole" and design intensive industry, ensures that most of their products are market leaders and firm favourites with the consumers.

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