

M0054248NC

T2151 ✓

NC 0017947 7



National College of Art and Design
Faculty of Design
Craft/Metalwork

**Industrial Design:
Its history, its influences and its future.**

By Jennifer Walsh

Submitted to the Faculty of History of Art and Design and Complementary
Studies for the Candidacy for the Degree of B.Des Craft-Metal, 1999

National College of Art and Design
Faculty of Design
Craft/Metalwork

**Industrial Design:
its history, its influences and its future.**

By Jennifer Walsh

Submitted to the Faculty of History, Art and Design and Design
for the award of the Degree of B.A. (Hons) in 1991

Acknowledgements

I would like to thank my tutor, Dr. Nicola Gordon-Bowe, for all her enthusiasm, guidance and encouragement in both the research and writing of this thesis. I would also like to thank Briege Ellis for her time, patience and help.

Acknowledgements

I would like to thank my tutor, Dr. Nicola Gordon-Brown, for all her enthusiasm, guidance and encouragement in both the research and writing of this thesis. I would also like to thank all the other people who have helped me in various ways, for their time, patience and help.

Table of Contents

List of plates	4
Introduction	5
Chapter one:	
Design and mass production	7
Victorian 'Bad Design'	11
Improving Design	14
The Industrial Designer	18
 Chapter Two:	
Realising the importance of Design	22
Arts and Crafts Movement	24
Deutsche Werkbund	26
D.I.A.	29
Bauhaus at Weimar	30
Bauhaus at Dessau	32
Bauhaus in the United States	35
The Hochschule Fur Gestaltung at Ulm	38
 Chapter Three:	
Design as marketing, and the 'Designed' object	41
Memphis and Post-Modernism	44
Design as Art	46
Design of the 80's and 90's	48
 Conclusion	54
 Bibliography	57

Table of Contents

4	List of plates
5	Introduction
	Chapter one:
7	Design as mass production
11	Victorian "Good Design"
15	Improving Design
18	The Industrial Designer
	Chapter Two:
23	Reaction: the importance of Design
24	Art and Craft Movement
25	Deutscher Werkbund
29	D.I.A.
30	Bauhaus at Weimar
32	Bauhaus at Dessau
35	Bauhaus in the United States
38	The Hochschule für Gestaltung at Ulm
	Chapter Three:
41	Design as marketing, and the Designed object
44	Modernism and Post-Modernism
46	Design as Art
48	Design of the 80's and 90's
54	Conclusion
57	Bibliography

List of plates

	page
Figure 1 Pair of Ewers. (Boulton)	8
Figure 2 Candelabra. (Boulton)	8
Figure 3 Dinner set from 'Queen'sware' range, 1790. (Wedgewood)	10
Figure 4 M. Singer's first sewing machine of 1851.	19
Figure 5 'New Family' version of 1870.	19
Figure 6 Electric kettles for AEG from 1909.	20
Figure 7 The New Building at Dessau.	32
Figure 8 Tubular steel Chair of 1926. (Marcel Breuer)	34
Figure 9 The new iMac computer	41
Figure 9 'Kettle with a little bird shaped whistle,' Michael Graves.	47
Figure 10 'Juicy Salif' lemon squeezer, Philippe Starck.	49
Figure 11 'Teddy Bear Band', Philippe Starck.	50
Figure 12 'Fluocaril Toothbrush', Philippe Starck.	51

List of plates

Figure 1	Pair of Ewers (Boulton)	1
Figure 2	Candelabra (Boulton)	2
Figure 3	Dinner set from 'Queen'sware' (c. 1790) (Wedgwood)	10
Figure 4	M. Singer's first sewing machine of 1851	11
Figure 5	New Family version of 1870	19
Figure 6	Electric kettles for AEG from 1909	20
Figure 7	The New Building at Dessau	25
Figure 8	Tubular steel Chair of 1925 (Hans Brucher)	34
Figure 9	The new iMac computer	41
Figure 9	Kettle with a little bird shaped whistle	47
	Michael Graves	
Figure 10	Juicy Salif lemon squeezer, Philippe Starck	49
Figure 11	Teddy Bear Band, Philippe Starck	50
Figure 12	Plastic Technology, Philippe Starck	51

Introduction

Through my degree as a student of Metalwork, I have found an immense interest in the Design World. Designing is an integral part of my work, and in many ways, it is the most important.

Theories on 'design' and their stylistic manifestations have progressed and developed throughout the 20th century. From the formal and structured 'International Modern Style', to the vividly coloured and randomly patterned work of the Post- Modernists, the products of design have continually changed.

The reasons behind these changes, both sociological and economical are discussed in this thesis. It is important when studying design to consider not just the products involved, but also the social and economic conditions from which they evolved.

Various bodies and organisations have influenced and reiterated the importance of design throughout the past 150 years. Organisations such as the Deutsche Werkbund have informed both the public and the manufacturing sector on the importance of design. Others, like the Bauhaus, have tried to establish a correct curriculum for the training of designers for Industry, while other efforts have been made to reiterate the importance of quality in mass-produced goods.

The efforts made by these various bodies have had significant effects. The importance of design is widely recognised today by most nations in the Western world. Indeed, it is largely acknowledged that a country's awareness of design directly influences its ability to compete on the world market.

(Sparke, 1986, p.56)

Also, the system of education established at the Bauhaus has served as a blueprint for many colleges of Art and Design

Introduction

Through my degree as a student of architecture, I have found an immense interest in the Design field. Designing is a logical part of my work, and in many ways, it is the most important. Theories on 'design' and their stylistic manifestations have progressed and developed throughout the 20th century. From the formal and structured 'International Modern Style' to the widely collected and randomly patterned work of the Post-Modernists, the products of design have continually changed.

The reasons behind these changes, both technological and technical, are discussed in this thesis. It is important when studying design to consider not just the products involved, but also the social and economic conditions from which they evolved.

Various bodies and organisations have influenced and reflected the importance of design throughout the past 100 years. Organisations such as the Deutsche Werkbund have informed both the public and the manufacturing sector on the importance of design. Others, like the Bauhaus, have tried to establish a formal curriculum for the training of designers for industry, while other efforts have been made to reiterate the importance of design in mass-produced goods.

The efforts made by these various bodies have had significant effects. The importance of design is widely recognised today by most nations in the Western world. Indeed, it is largely acknowledged that a country's awareness of design directly influences its ability to compete on the world market.

(Spaak, 1985, p. 56)

Also, the system of education established at the Bauhaus has served as a blueprint for many colleges of Art and Design.

throughout the world, with many of them using the idea of a general 'foundation' course, followed by a number of years of specialisation. While refinements for the successful education of designers still need to be carried out, the curriculum of training has progressed and improved significantly since then.

Design, in general, plays a huge part in every day life. The notion of the expensive 'designer' object, that was popular in the 1980's, seems to be disappearing. Instead the idea of 'design' for the masses seems to be now more prevalent. This theory is discussed later, but essentially it means that 'design' is no longer just for those who can afford it, but can now be for everyone; an idea that dates back to the late 19th century, to William Morris and the Arts and Crafts Movement.

As long as we live in a capitalist society, design is bound to retain its important position in our daily lives.

In the industrialised world, the future of design, not simply as a process, within production but as a cultural phenomenon is largely in the hands of the manufacturers for they are the most important patrons of modern design.

(Sparke, 1986, p.189)

throughout the world, with many of them using the idea of a general 'foundation' course, followed by a number of years of specialisation. While refinements for the successful education of designers still need to be carried out, the curriculum of training has progressed and improved significantly since then.

Design, in general, plays a huge part in every day life. The notion of the expensive 'designer' object, that was popular in the 1980's, seems to be disappearing. Instead the idea of 'design' for the masses seems to be now more prevalent. This theory is discussed later, but essentially it means that 'design' is no longer just for those who can afford it, but can now be for everyone; an idea that dates back to the late 19th century, to William Morris and the Arts and Crafts Movement.

As long as we live in a capitalist society, design is bound to retain its important position in our daily lives.

In the industrialised world, the future of design, not simply as a process, within production but as a cultural phenomenon is largely in the hands of the manufacturers for they are the most important patrons of modern design.

(Sparks, 1986, p.185)

Chapter One

Daily life in the western world is cluttered with a vast array of mass-produced goods. From the simple plastic toothbrush to the microwave oven, design and industry affects every part of our lives. They are all around us, whether we are at home, at the office or on the road.

Design and mass production

Design as a separate subject or specialised skill is relatively new. The need to completely 'design' a product before production became apparent with the introduction of the machine. The concept of 'design' is thus specifically linked to Industrialisation and mechanisation that began with the Industrial Revolution in Britain in the 18th Century. It was not until the following century, however, that the real effects of Industrialisation were experienced. Through mechanisation, more and more goods were made available to the mass public and at prices many could afford.

Innovations in technology were happening at a rapid rate. This, accompanied by an increase in material wealth and a population explosion, meant that the 18th and 19th centuries were a time characterised by mass production and mass consumption. Design was becoming an important part of everyday life.

Although mass production is often associated with mechanisation and the Industrial Revolution, its roots can be traced back to the late medieval period. In the 14th Century there was a growth in demand for craft based products, especially from churches, courts and rich merchants. This resulted in a need to duplicate products at a fast rate. Many objects of the same type

Chapter One

Daily life in the Western world is cluttered with a vast array of mass-produced goods. From the work clothes we wear to the motor car we drive, design and industry are an every part of our lives. They are all around us, whether we are at home, at the office or on the road.

Design and mass production

Design as a separate subject or specialized skill is relatively new. The need for completely 'designed' articles before production became evident with the introduction of the printing press. The concept of 'design' is thus specifically linked to industrial production and mechanization that began with the Industrial Revolution in Britain in the 18th Century. It was not until the following century, however, that the real effects of industrialization were experienced. Through mechanization, more and more goods were made available to the mass public and at prices many could afford. Innovations in technology were happening at a rapid rate. This, accompanied by an increase in material wealth and a population explosion, meant that the 18th and 19th centuries were a time of advanced mass production and mass consumption. Design was becoming an important part of everyday life.

Although mass production is often associated with mechanization and the Industrial Revolution, its roots can be traced back to the late medieval period. In the 14th Century there was a growth in demand for craft based products, especially for churches, courts and rich merchants. This resulted in a need to duplicate products at a fast rate. Many objects of the same type

were made and much of the work produced by the skilled craftsmen was of superior quality. Essentially though, the mass production undertaken was, in fact, duplication of an existing product by craft methods. (Heskett, 1980, p.11)

Each craftsman was responsible for the whole production process of each piece, from initial concept to final piece. No division of labour was undertaken. It was not until the mid-18th Century that a higher degree of specialisation and division between stages of production began to happen.

Matthew Boulton was one of the first entrepreneurs in Britain to take advantage of the mechanised means of manufacture. Inheriting his father's Birmingham based business in 1759, Boulton set out to meet his fierce competition by producing larger quantities of commodities at cheaper prices. Initially he concentrated on producing products known as 'toys'. These included buttons, buckles, clasps and mounts. By 1766, however, he had expanded his business and his product range that now included larger metal ware such as candelabras and ewers. (Figure 1 and Figure 2)



Figure 1 Pair of Ewers



Figure 2 Candelabra

Boulton's most popular work was based on the neo-classical style that was popular in the 18th Century. He took simple basic forms and applied classical motifs, a process that was ideally suited to machine mass-production. In order to appeal to as wide a clientele as possible, Boulton diversified his product range, producing more specialised, higher quality wares that were to appeal to a higher class market. These luxury goods were labour intensive and more costly to make, they were not as profitable as his other ranges, but promoted his work as being of high quality.

At the same time that Boulton was experiencing the success of diversifying his product ranges, Josiah Wedgwood, his contemporary and close acquaintance, was also splitting his ceramic products into 'useful' and 'ornamental' wares. Like Boulton, Wedgwood's luxurious 'ornamental' wares were in the neo-classical style. They were enormously successful and gained him international recognition as the best in his field.

(Heskett, 1980, p.15)

The luxury goods produced by both Boulton and Wedgwood were more expensive and labour demanding to make. The 'useful' ware for domestic home use provided the human, financial and technical resources that kept both companies in business.

Wedgwood was noted for his experimentation's to simulate the whiteness and fine quality of porcelain; he also developed innovations in the mass-production process by replacing traditional hand-throwing techniques with new slip casting moulds. One of his first most successful achievements was the 'Queen'sware' range produced in 1763. Wedgwood described it as "a species of earthenware for the table, quite new in appearance... manufactured with ease and expedition, and consequently cheap".

(Heskett, 1980, p.16)

Bolton's most popular work was based on the neo-classical style that was common in the 18th century. He took simple basic forms and applied classical motifs, a process that was ideally suited to machine mass-production. In order to appeal to as wide a clientele as possible, Bolton diversified his product range, producing more specialised, higher quality wares that were an appeal to a higher class market. These luxury goods were labour intensive and not easy to make, they were not as profitable as his other range, but promoted his work as being of high quality.

At the same time that Bolton was experiencing the success of diversifying his product range, Josiah Wedgwood, his contemporary and close acquaintance, was also expanding his ceramic production into 'useful' and 'ornamental' wares. Like Bolton, Wedgwood's 'luxurious' ornaments were in the neo-classical style. They were enormously successful and gained him international recognition as the best in his field.

(Heskett, 1980, p.15)

The luxury goods produced by both Bolton and Wedgwood were more expensive and labour demanding to make. The 'useful' wares for domestic home use provided the human, financial and technical resources that kept both companies in business.

Wedgwood was noted for his experimentation to simulate the whiteness and fine quality of porcelain; he also developed innovations in the mass-production process by replacing traditional hand-throwing techniques with new slip casting moulds. One of his first most successful achievements was the 'Queen'sware' range produced in 1767. Wedgwood described it as "a species of earthenware for the table, durable, new in appearance, manufactured with ease and expedition and consequently cheap".

(Heskett, 1980, p.16)



Figure 2 Dinner set from 'Queen'sware' range

John Heskett describes Wedgwood as not only an "outstanding experimental scientist" but also as a 'perceptive entrepreneur'. (Heskett, 1980, p.17) Wedgwood saw that there was a gap in the market for good affordable domestic ware. He developed more effective and efficient production techniques and improved the quality of his materials. The precision of his repetitive mould casts was revolutionary and was to be adopted for modern large-scale ceramics production.

The use of these moulds had a radical effect on the production process. The accuracy they attained meant that the control over production no longer rested on the executive workers. The responsibility of the final product now lay on the initial prototype. Thus design was beginning to become a separate part of the production process. Boulton and Wedgwood were entrepreneurs and businessmen. Although the aesthetic appearance and design of their products were important to them; their concerns were more focused on selling products at as large a profit as possible. In both cases, as production expanded, designs and patterns from outside sources were used. These designs were applied to the production process but were not derived from it.

This meant that the full potential of the new production techniques were not be realised. Also, professionals from outside the industry such as artists and architects designed the patterns and motifs that were used. Although these industries were creative in their own right, they were not fully aware of the production processes involved in ceramics or metalwork. So by the turn of the 19th century, although design was beginning to become more important and recognised, a separate design profession was not established.

This meant that the full potential of the new production techniques were not realized. Also, professionals from outside the industry such as artists and architects designed the patterns and motifs that were used. Although these industries were creative in their own right, they were not fully aware of the production processes involved in textile or metalwork. So by the turn of the 19th century, although design was beginning to become more important and recognized as a separate design profession was not established.

Victorian 'Bad Design'

By the 19th century the Industrial Revolution was gathering pace. More commodities than ever were available to the mass public. Design was becoming more an important issue, but was still intrinsically linked to the whole production process. It was not universally undertaken to separate design from production. This, along with other factors had a detrimental effect on the quality of goods that were being produced. The British government was very concerned about the seeming inferiority of their products in comparison to the other industrialised counterparts, in particular Germany and France.

During the 1830 and 40's, Britain suffered her first trade depression and fear spread about whether the capitalist industry would survive. Britain was well equipped to produce goods cheaply and in high quantities. Her foreign counterparts, however, were seen to be producing products of a superior design and Britain feared her trading position and the risk of losing her share of the world market. (Forty, 1986, p.58)

Why were British goods of lesser quality?

Manufacturers of the 19th century were conscious that the mass public were uneducated and so were easily swayed to buy what was available. Producers were driven by profit and largely ignored the question of design opting for lower unit cost and more efficient production.

During the late 18th century and into the 19th century there was a huge interest in classical antiquities, which was part of the neo-classical movement that dominated European taste of the time. The intense interest in the past made it fashionable to study

By the 19th century the Industrial Revolution was gathering pace. More commodities than ever were available to the mass public. Design was becoming more an important issue, but was still intrinsically linked to the whole production process. It was not universally undertaken to separate design from production. This, along with other factors had a detrimental effect on the quality of goods that were being produced. The British government was very concerned about the seeming inferiority of their products in comparison with other industrialised counterparts, in particular Germany and France.

During the 1830 and 40's, Britain suffered her first trade depression. It is hard to say about whether the capitalist industry would survive. Britain was well equipped to produce goods cheaply and in large quantities. Her foreign counterparts, however, were seen to be producing products of a superior design and Britain feared her trading position and the risk of losing her share of the world market (Carter, 1986, p.58).

Why were British goods of lesser quality?

Manufacturers of the 19th century were conscious that the mass public were uneducated and so were easily swayed to buy what was available. Producers were driven by profit and largely ignored the question of design opting for lower unit cost and more efficient production.

During the late 18th century and into the 19th century there was a huge interest in classical antiquities which was part of the neo-classical movement that dominated the design taste of the time. The intense interest in the past made it fashionable to study

classical remains and to travel to Italy to view and purchase antiquities. (Forty, 1986, p.15)

The classical antiquities were very ornate and luxurious. Manufacturers of the 18th and 19th centuries took advantage of this neo-classical style and applied the ornate motifs and decoration to many of their mass-produced objects. The decorative and often over-ornate Victorian products that resulted were very popular, especially with the new middle classes, which bought these artefacts as a standing of their new wealth and position.

But why were the people of the 18th and 19th centuries so intent on holding on to the past?

Adrian Forty, in Objects of Desire attributes to a natural resistance it to the ever-expanding Industrial Revolution. The world was rapidly progressing and changing and it was partly this fast change that led society to turn to the past. The developments and progress that were experienced in the late 18th and 19th centuries were to change the world forever. But, for the people of the time, it was disturbing and unsettling. For all the obvious benefits that mechanisation and industrialisation brought, they also had negative side effects. The machine had overtaken hand-production, reducing the once master craftsman to a labourer. The new expanding Industrialised cities were creating unhealthy climates to live in. Population from factories, over crowding of cities and poor sanitation meant that disease spread fast.

(Forty, 1986, p.11)

The people of the 18th and 19th centuries showed resistance to their changing world. Capitalists relied on the design aesthetic of their products to help acceptance. For if the people did not accept and welcome the products of this new industrialised world, then capitalism would have failed. Thus manufacturers adopted

classical remains and to travel to Italy to view and purchase
antiquities. (Forty, 1986, p.12)

The classical antiquities were very rare and valuable.
Manufacturers of the 18th and 19th centuries took advantage of this
neo-classical style and applied the ornate motifs and decoration to
many of their mass-produced objects. The decorative and often
over-ornate Victorian products that resulted were very popular,
especially with the new middle classes, which bought these
artefacts as a statement of their new wealth and position.

But why were the people of the 18th and 19th centuries so keen on
holding on to the past?

Adrian Forty in *Objects of Desire* attributes to a natural
resistance to the ever-expanding industrial revolution. The
world was rapidly progressing and changing and it was only this
fast change that led society to turn to the past. The decorative
and progress that were experienced in the late 18th and 19th
centuries were to change the world forever. But for the people of
the time, it was disturbing and unsettling. For all the obvious
benefits that mechanisation and industrialisation brought, they also
had negative side effects. The machine had broken hand-
production, reducing the once master craftsman to a labourer. The
new expanding industrialised cities were creating unhealthy
climates to live in. Population from factories over-crowded in
cities and poor sanitation meant that disease spread fast.

(Forty, 1986, p.11)

The people of the 18th and 19th centuries showed resistance
to their changing world. Capitalists relied on the design aesthetic
of their products to help acceptance. For if the people did not
accept and welcome the products of the new industrialised world,
then capitalism would have failed. The manufacturers believed

the ornate aesthetic from classical antiquities and applied them to products in order to attract the public to purchase their goods.

John Heskett argues, however, that manufacturers highly ornamented and decorated their products in order to make them look more expensive and luxurious. In the 19th century there was a growing demand for products that were from a craft tradition, especially ceramics, furniture and metalwork. Craft objects were traditionally quite ornate and decorated as an expression of the craftsman's skill and expertise. These objects were considered to be of high quality and were associated with wealth and the aristocracy.

But with the introduction of the machine and new technology, new products could be made in a variety of new materials including cast iron, and using a variety of new techniques, including stamping, moulding, plating and veneering. The result was that it was made possible to simulate the precious materials and intricate skill of the craftsman. The decoration and ornamentation that was once associated with high quality and wealth, was made available to the mass public at affordable prices.

Unfortunately, Heskett explains, the "indiscriminate application of ornament resulted all too often in a gulf between style and function". (Heskett, 1980, p.19) As design at this time was not considered to be an important issue, the lack of trained designers exasperated the situation.

Pugin, in The True Principles of Pointed or Christian Architecture, summed up the poor quality of design, explaining that it was "the false notion of disguising instead of beautifying articles of utility". (Heskett, 1980, p.19)

the ornate designs from classical antiquity and applied them to products in order to attract the public to purchase their goods.

John Heskett argues, however, that manufacturers highly coveted and decorated their products in order to make them look more expensive and luxurious. In the 19th century there was a growing demand for products that were from a craft tradition, especially ceramics, furniture and metalwork. Craft objects were traditionally quite ornate and decorated as an expression of the craftsman's skill and expertise. These objects were considered to be of high quality and were associated with wealth and the aristocracy.

But with the introduction of the machine and new technology, new products could be made in a variety of new materials, such as cast iron, and using a variety of new techniques, including stamping, moulding, plating and veneering. The result was that it was made possible to simulate the previous materials and replicate the skill of the craftsman. The decoration and ornamentation that was once associated with high quality and wealth, was now available to the mass public at affordable prices. Unfortunately, Heskett explains, the "indiscriminate application of ornament resulted all too often in a gulf between style and tradition" (Heskett, 1980, p.19). As design at this time was not considered to be an important issue, the lack of trained designers exacerbated the situation.

Pugin's The True Principles of Pointed or Christian Architecture warned up the poor quality of design, explaining that it was the false notion of displaying instead of beautifying articles of utility. (Heskett, 1980, p.19)

Improving Design

By the middle of the 19th century concern over the low quality of products in Britain prompted a number of individuals to rethink the basic principles of design. Two approaches were taken to the design reform: one looked to tradition while the other was more forward looking. The former advocated the traditional craft approach of the Middle Ages while the latter considered the possibilities of the modern machine. The thinking of the craft revivalists, spearheaded by William Morris and John Ruskin, are discussed in the next chapter. In general however, design reformers of the middle of the 19th century were agreed that the use, or over-use, of ornamentation in Victorian design should be discarded for a more structured and systematic approach. The traditionalists stated that unless ornament was visible, natural and thoughtful, "then it was invalid". (Sparke, 1986, p.39)

They blamed the poor quality mass-produced goods on the machine, and so rejected industrialisation. Others, however, welcomed the new industrial world and attempted to come to terms with it more directly.

Henry Cole, a British civil servant, was one of the driving forces behind The Great Exhibition of 1851. This huge event, which was held in the Crystal Palace in London, was a celebration of industry and material progress. There were more than 100,000 exhibits from all over the world. Some were specimens of raw materials; others were samples of handcrafted and machined work. Ornamental and utilitarian products were exhibited side-by-side. The whole event was a celebration of "Europe's colonial expansion together with the Industrial Revolution".

(Honor, Fleming, 1995, p.643)

By the middle of the 19th century concern over the low quality of products in Britain prompted a number of individuals to rethink the basic philosophy of design. Two approaches were taken to the design reform: one looked to fashion while the other was more forward looking. The former advocated the traditional craft approach of the Middle Ages while the latter considered the possibilities of the modern machine. The thinking of the craft revivalists, exemplified by William Morris and John Ruskin, are discussed in the next chapter. In general however, design reformers of the middle of the 19th century were agreed that the use, or over-use, of ornamentation in Victorian design should be discarded for a more structured and systematic approach. The traditionalist stated that unless ornament was visible, natural and thoughtful, then it was invalid." (Spence, 1986, p.39)

They blamed the poor quality mass-produced goods on the machine, and so rejected industrialisation. Others, however, welcomed the new industrial world and attempted to come to terms with it more directly.

Henry Cole, a British civil servant, was one of the driving forces behind The Great Exhibition of 1851. This huge event, which was held in the Crystal Palace in London, was a celebration of industry and material progress. There were more than 100,000 exhibits from all over the world. Some were specimens of raw materials, others were samples of handcrafted and machine-work. Ornamental and utilitarian products were exhibited side-by-side. The whole event was a celebration of Europe's colonial expansion together with the Industrial Revolution."

(Honor Fleming, 1995, p.643)

Cole was a driving force behind design reform in the 19th century. In 1849 he founded the Journal of Design, which was edited by Richard Redgrave. The publication was a vehicle for the expression of Cole's theories and ideas. An early issue stated:

Design has a twofold relation, having in the first place, a strict reference to utility in the thing designed, and secondly, to the beautifying or ornamenting that utility. The word design, however, with the many has become identified with its secondary than with its whole signification - with ornamentation, as apart from, and often opposed to utility.

(Heskett, 1980, p.20)

The root of the problem was correctly identified as the need to separate design from the process of production. Utility was stressed but ornamentation was not to be totally discarded. A harmony between the two was to be found.

Henry Cole, through his journal, also made clear that improvements in design were not exclusive to manufacturers, the public also had a responsibility. "If the public are unable to appreciate excellence, surely we cannot call on the manufacturer to produce it at a sacrifice?" (Heskett, 1980, p.23)

The British government realised that the general public were uneducated in the areas of good design and, thus, good taste so, in a bid to rectify this, numerous museums were established and exhibitions organised, and a campaign was initiated to establish a copyright of design to protect manufacturers. The need to train designers specifically for industry became apparent. Before this, manufacturers relied on artists or architects that had been trained with a fine art background and on engineers and craftsmen who were educated under the apprenticeship system. With a more industrialised manufacturing sector, however, there was now a need for designers who were trained in both these areas.

Cole was a driving force behind design reform in the 19th century. In 1819 he founded the *Journal of Design*, which was edited by Richard Redgrave. The publication was a vehicle for the expression of Cole's theories and ideas. The first issue was

Design has a twofold relation, having in the first place a strict reference to utility in the thing designed, and secondly, to the beautifying or ornamenting of utility. The word design, however, when the many have become identified with its secondary, than with its whole signification - with ornamentation, as such, from, and often opposed to utility.

(Hickett, 1980, p.50)

The root of the problem was correctly identified as the need to separate design from the process of production. Utility was stressed but ornamentation was not to be totally discarded. A harmony between the two was to be found.

Henry Cole, through his journals, also made known that improvements in design were not exclusive to manufacturers. The public also had a responsibility. "If the public are unable to appreciate excellence, surely we cannot call on the manufacturer to produce it at a sacrifice." (Hickett, 1980, p.53)

The British government realised that the general public was uneducated in the areas of good design and, thus, good taste. In a bid to rectify this, numerous museums were established and exhibitions organised, and a campaign was initiated to raise the copyright of design to protect manufacturers. The need to train designers specifically for industry became apparent. Before this, manufacturers relied on artists or architects that had been trained with a fine art background and on engineers and craftsmen who were educated under the apprenticeship system. With a more industrialised manufacturing sector, however, there was now a need for designers who were trained in both these areas.

The government, around the middle of the 19th century, began to set up subsidised schools to train a new breed of designers. The initial approach was to apply the principles of fine art into the training system. Manufacturers, however, were disappointed with the results of this, as it failed to provide technical know-how about the mechanics of mass-production. The more successful attempts to establish a system and curriculum for the educating and training of designers for industry are discussed in chapter 2.

By the end of the 19th century it was becoming clear that a new approach to mass machine manufacturing and design was needed. The producers of the ornate and decorative objects from the Victorian age were not fully utilising the potential of the machine. For the most part, they merely used it to duplicate once-handcrafted objects. A new approach was needed to take control over the machine. We were to be master of the machine instead of a slave to it.

The government, around the middle of the 19th century, began to set up technical schools to train a new breed of designers. The initial approach was to apply the principles of fine art into the training system. Manufacturers, however, were disappointed with the results of this, as it failed to provide technical know-how about the mechanics of mass-production. The more successful attempts to establish a system and curriculum for the educating and training of designers for industry are discussed in chapter 2.

By the end of the 19th century it was becoming clear that a new approach to mass machine manufacturing and design was needed. The products of the ornate and decorative objects from the Victorian age were not fully utilising the potential of the machine. For the most part, they merely used it to duplicate once handcrafted objects. A new approach was needed to take control over the machine. We were to be master of the machine instead of a slave to it.

The Industrial Designer

Britain was the first nation to industrialise the traditional craft industries. However, it was the United States and Germany who were most rapidly expanding their output in these sectors.

At first it was Germany who posed the most threat to Britain but, by the end of the 19th century, it was the United States which dominated. Mass production mechanisation and thus the division of labour were even more encouraged in the United States where labour was cheaper and more abundant than in Europe.

The American approach to mass-production was based on industrial methods, which emphasised quantity and utility for wider sections of the population. Their European counterparts, however, concentrated more on craft traditions, where the value of the product rested both economically and aesthetically on the skill of work it embodied. (Heskett, 1980, p.55)

This meant that the aesthetic of American products was much different to that of Europe. The system that was established in America heralded a design reform that became known as 'functionalist'. To them the manufacturing process provided not only the means of production, but also the forms. (This theory was to be continued by the so-called 'Modernists' in the 20th century). (Sparke, 1986, p.7)

This had a radical effect on the appearance of the final product. In America, the new mechanical products were constructed with function as the major concern, aesthetic value and market appeal were secondary subjects. The initial products were often crude and had their functional mechanisms on show. The first Singer sewing machine, made in 1851 was plain in its

Britain was the first nation to industrialise the traditional craft industries. However, it was the United States and Germany which were most rapidly expanding their output in these sectors.

At first it was Germany who posed the most threat to Britain, but, by the end of the 19th century, it was the United States which dominated. Mass production mechanisation and the division of labour were encouraged in the United States where labour was cheap and more abundant than in Europe.

The American approach to mass production was based on industrial methods which emphasised quantity and ability for wider sections of the population. Their European counterparts, however, concentrated more on craft traditions, where the value of the product rested both economically and aesthetically on the skill of work it embodied (Hatchett, 1980, p.52).

This means that the aesthetic of American products was much different to that of Europe. The system that was established in America allowed a design reform that became known as 'functionalism'. In this system the manufacturing process provided not only the means of production, but also the form. (This theory was to be continued by the so-called 'Modernists' in the 20th century). (Spencer, 1986, p. 1)

It is not a radical effect on the appearance of the new product. In America, the new mechanical products were constructed with function as the major concern, aesthetic value and market appeal were secondary subjects. The initial products were often crude and had their functional mechanisms on show. The first Singer sewing machine, made in 1851 was plain in its

aesthetic design. Its form was dictated by its mechanical function. The later model of 1870 shows how the outer aesthetic appearance had to be altered and make it more marketable. (Figure 4 and Figure 5)

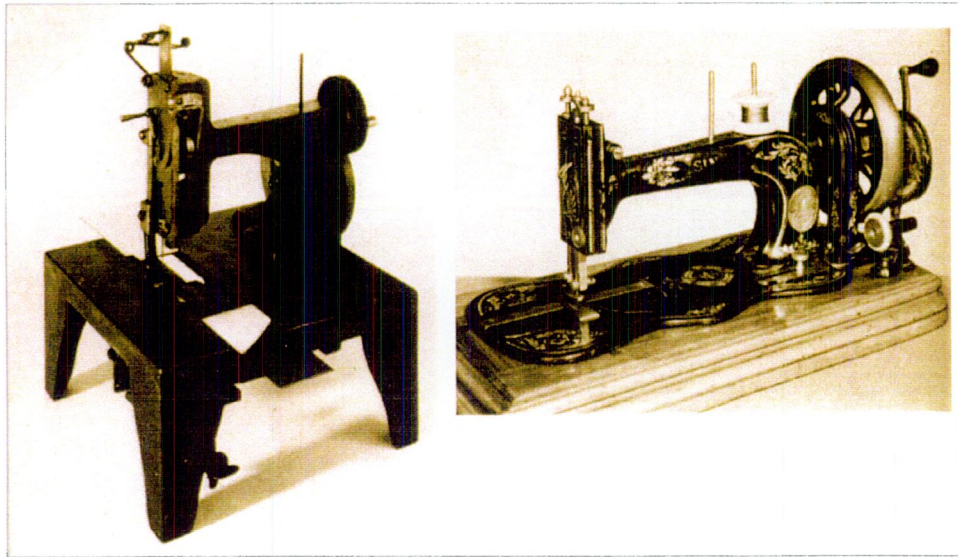


Figure 4 sewing machine, 1851 **Figure 5** 1870 version

The evolution of the American system demonstrated that in order to be mass-produced, a product had to be standardised; it had to be designed to precise invariable dimensions.

As industrial manufacture continued to grow, efficient production became more and more important. By the 20th century, the concept of standardisation had been extensively adopted, with many large firms using it to their advantage. This happened most significantly with the emergence of electrical goods at the end of the 19th Century and into the 20th Century. AEG exploited the idea, to produce a wide range of electrical home appliances. In 1907, a leading architect and designer, Peter Behrens was appointed artistic adviser to the company. He designed the company's electrical products based on a number of standard component parts. Combining different elements in

different ways, he was able to provide a broad range of products. (Figure 6) John Heskett distinguishes him as "one of the first industrial designers in the modern sense". (Heskett, 1980, p.70)



Figure 6 Electric kettles for AEG from 1909

The emergence of professional designers for industry did not happen until the middle of the 1930's. The First World War exerted enormous pressure on the United States to increase its productive capacity and efficiency. Standardisation was applied universally to improve production methods and form along with advertising, became an important marketing device.

But it was the events of the depression of the late 1920's that forced the professional designer to emerge. The Wall Street Crash of 1929 brought about changes in the manufacturing sector. The emphasis was moved away from concerns about the outward aesthetic form of a product, and was moved towards a more developed understanding of materials, the manufacturing process,

marketing, and consumer aspirations. Those firms that had survived the Crash had to develop sophisticated sales tactics, new forms and styling to persuade customers to buy.

A new specialised design activity became an intrinsic element within the division of labour. The specific designing of products to give them more market appeal, became an important part in the recovery of the American Industrial economy. At that time there was no vocationally oriented training available for this activity, so those who were employed came from a diverse range of backgrounds, including engineering, illustration, advertising and theatre design. Among those who were employed were: Norman Bel Geddes, Harold Van Doren, Henry Dreyfuss, Russell Wright and Raymond Loewy. These were the first professional Industrial Designers.

marketing, and consumer aspirations. These firms that had survived the Crash had to develop sophisticated sales tactics, new forms and styling to persuade customers to buy.

A new specialized design activity became an intrinsic element within the division of labor. The specific designing of products to give them more market appeal, became an important part in the recovery of the American industrial economy. At that time there was no vocationally oriented training available for this activity, so those who were employed came from a diverse range of backgrounds including engineering, illustration, advertising and theater design. Among those who were employed were Norman Bel Geddes, Harold Van Doren, Henry Dreyfus, Russell Wright and Raymond Loewy. These were the first professional industrial designers.

Chapter two

Realising the importance of design

With the emergence of the 'design' profession in the 1930's, many countries began to realise the importance of 'design' as a part of the manufacturing process. As technology continued to improve and progress, 'design' became ever more intrinsic to a company's market position.

By the middle of the 20th century many industrialised countries world wide, including Britain, Sweden and Japan were setting up government subsidised institutions and organisations to promote design. It was becoming evident that design was important, not only for individual companies, but also for a nation as a whole. Many countries were dependent on it to secure their trading position, and it was inevitably linked to economic stability and expansion. As Penny Sparke explains "an awareness of design has come to represent a country's ability to compete on the world market" (Sparke, 1986, p.56)

Organisations and bodies from many nations set out to inform manufacturers and the public of the importance of design, others set out to protect and educate the new design profession while some concentrated on the world-wide promotion of their products. For design to be successful, all parties had to support and welcome it, ensuring the economic stability of a nation.

In order to ensure that this happened, numerous efforts were made by numerous parties throughout the 20th century.

Alberto Alessi, from Alessi S.p.A., one of the most renowned and progressive design companies of the second half of the 20th

Chapter two

Realising the importance of design

With the emergence of the 'design' profession in the 1940s, many countries began to realise the importance of design as a part of the manufacturing process. As technology continued to improve and progress, 'design' became ever more important to a company's market position.

By the middle of the 20th century many industrialised countries were wide, including Britain, Sweden and Japan, were setting up government subsidised institutions and organisations to promote design. It was becoming evident that design was important not only for individual companies, but also for a nation as a whole. Many countries were dependent on it to secure their trading position, and it was inevitably linked to economic stability and expansion. As Penny Sparke explains, "an awareness of design has come to represent a country's ability to compete on the world market" (Sparke, 1986, p.56).

Organisations and bodies from many nations set out to inform manufacturers and the public of the importance of design, others set out to protect and educate the new design environment while some concentrated on the world-wide protection of their products. For design to be successful, all parties had to support and welcome it, ensuring the economic stability of a nation. In order to ensure that this happened, numerous efforts were made by numerous parties throughout the 20th century. Alberto Alessi, from Alessi S.p.A., one of the most renowned and progressive design companies of the second half of the 20th

Century, credited these efforts in an address at the North American Goldsmiths Conference in 1993:

Design seen as art and poetry took on other important forms and aspects from the arts and crafts in England and America. ... I should mention the Brilliant tradition of ... The Wiener Werkstatte, in Vienna at the beginning of our century, to the German Deutsche Werkbund, to the Bauhaus in Weimar and Dessau in the twenties, to the Ulm school in the fifties...

(Brown-manrique & Ewing, 1995, p.21)

Century, credited these efforts in an address at the North
American Goldsmiths Conference in 1903:

Design soon as art and poetry took on other important
forms and aspects from the arts and crafts in England
and America. ... I should mention the brilliant tradition
of the Wiener Werkstätte, in Vienna at the
beginning of our century, to the German Deutsche
Werkbund, to the Bauhaus in Weimar and Dessau in
the twenties, to the Ulm school in the fifties.
(Brown-Mandique & Ewing, 1992, p.21)

Arts and Crafts Movement

Alberto Alessi begins his acknowledgement of past pioneering achieves with the Arts and Crafts Movement of the late 19th century. This was one of the most influential moves against the deterioration of design at the time. The thinking of its two leading figures, John Ruskin and William Morris, was to influence many designers right through the 20th century.

The Arts and Crafts reformers believed that the industrial assemblies of the Victorian age had stripped workers of their individuality. They spoke out against the 'inhumanity' of the machine and its demoralising effect on the worker.

The ideological background to this thinking was started in the 1840's and 1850's by the writer and social critic John Ruskin. His values were continued later by the writer, poet and designer, William Morris through his essays, seminars and practical example.

William Morris was a man at odds with his own times, his own class and his own conscience and he was determined to do something about it. He believed that men had been enslaved by the Industrial Revolution and that few enjoyed pleasure from their work. So Morris looked to the Middle Ages, where, to him, Medieval craft values were the right approach. At that time the designer was also the craftsman, that is, from the original design concept to the finished product, the work of art remained in the hands of the same artist. This, however, is not the case when there is a split between design and production, where often the worker had no understanding or feel for the design, making his job mindless and unenjoyable.

The Scandinavian countries were the first to revive their craft industries. In 1845, the Swedish Design Society (the

Arts and Crafts Movement

Alberto Alessi begins his acknowledgment of past pioneering achieves with the Arts and Crafts Movement of the late 19th century. This was one of the most influential moves against the deterioration of design at the time. The thinking of the two leading figures, John Ruskin and William Morris, was to influence many designers right through the 20th century.

The Arts and Crafts reformers believed that the industrial assemblies of the Victorian age had stripped workers of their individuality. They spoke out against the 'inhumanity' of the machine and its demoralising effect on the worker.

The ideological background to this thinking was stated in the 1840's and 1850's by the writer and social critic John Ruskin. His values were continued later by the writer, poet and designer William Morris through his essays, sermons and practical examples. William Morris was a man at odds with his own times, his own class and his own conscience and he was determined to do something about it. He believed that men had been enslaved by the Industrial Revolution and that few enjoyed pleasure from their work. Morris looked to the Middle Ages, where, to him, Medieval craft values were the right approach. At that time the designer was also the craftsman, that is, from the original design concept to the finished product, the work of art remained in the hands of the same artist. This, however, is not the case when there is a split between design and production, where often the worker has no understanding or feel for the design, making his job mindless and unenjoyable.

The Scandinavian countries were the first to revive their craft industries. In 1845, the Swedish Design Society (the

Svenska Sløjdföreningen) was formed to protect the crafts during and after the abolition of the old guild system.

In Britain, the movement expanded most in the last quarter of the century. Morris, through his teaching and successful business operations gave the crafts a new status and dignity. The movement was as much an ideology as it was a style. Its motivations were both social and moral, and its followers advocated the premise that society produces the art that it deserves. The aim was to produce art for the people, by the people. Morris' designs soon became very successful and could be found in homes across Britain and abroad. This however was of little comfort to him when not everyone could afford his work. "What business have we with art at all" he said, "unless all can share it?" (Naylor, 1988, p.7).

This movement advocated the development of guilds, workshops and societies engaged in the revival of handicrafts. Groups such as Mackmurdo's Century Guild of 1882 and the Art Workers' Guild of 1884, the Arts and Crafts Exhibition Society of 1888 and C.R. Ashbees' Guild and school of Handicraft of 1888 were, in effect, Penny Sparke explains, private design pressure groups, aiming to protect designers, and to encourage a high level of aesthetic and moral standards in objects. (Sparke, 1986, p.58)

24
Evenska Sijfboerij) was formed to protect the crafts during
and after the abolition of the old guild system.

In Britain, the movement expanded most in the last quarter
of the century. Morris, through his teaching and successful
business operations gave the crafts a new status and dignity. The
movement was as much an ideology as it was a style. Its
motivations were both social and moral, and its followers
advocated the premise that society produces the art that it
deserves. The aim was to produce art for the people, for the
people. Morris' designs soon became very successful and could be
found in homes across Britain and abroad. This however was of
little comfort to him when not everyone could afford his work.
"What business have we with art at all," he said, "unless we can
share it" (Naylor, 1988, p.7).

This movement advocated the development of guilds,
workshops and societies engaged in the revival of handicrafts.
Groups such as Mackmurdo's Century Guild of 1882 and the Arts
Workers' Guild of 1884, the Arts and Crafts Exhibition Society of
1888 and C.R. Ashbee's Guild and school of Handicraft of 1888
were, in effect, Penny Sparke explains, private design pressure
groups, aiming to protect designers, and to encourage a high level
of aesthetic and moral standards in objects. (Sparke, 1988, p.28)

Deutsche Werkbund

Paradoxically, the anti-industrial philosophies of William Morris and John Ruskin were the roots of early 20th century European re-evaluation of aesthetic form.

The ideas of Morris and Ruskin were modified and updated, eventually becoming transformed into an acceptance of mechanisation and indeed a welcoming of the machine. In aesthetic terms, this change can clearly be seen by the shift away from ornamental decoration towards a more structural and functional ideal.

In Germany, the Deutsche Werkbund was set up in Munich in 1907 with the aim to "improve the design and quality of German Goods". (Sparke, 1986, p.55)

Like the arts and crafts movement, its main concern was the improvement in standard of the nation's produced commodities. The Werkbund, however, embraced mass production and industrialisation in opposition to the former who abhorred it.

The German organisation resulted from contacts between a variegated group of designers; industrialists, journalists and officials who were all concerned about the standards of their nation's design. (Heskett, 1980, p.88)

It was initially founded by Hermann Muthesius, the Belgian Henri Van de Velde and the politician Friedrich Naumann. Walter Gropius and Peter Behrens of AEG were later to join the group. By the turn of the 20th century Germany was beginning to follow Britain, and industrialise its traditional craft sector. There was great pressure put on German manufacturers to compete with foreign competition.

Naumann stressed the need for a new approach to industry. "In the craftsman," he stated "three activities of artist, producers

Historically, the anti-industrial philosophies of William Morris and John Ruskin were the roots of early 20th century European reaction to industrial form.

The ideas of Morris and Ruskin were modified and updated eventually becoming transformed into an acceptance of mechanization and indeed a welcoming of the machine. In essence, then, the change can clearly be seen by the shift away from ornamental decoration towards a more structural and functional ideal.

In Germany, the Deutsche Werkbund was set up in Munich in 1907 with the aim to "improve the design and quality of German goods" (Grosche, 1986, p.25).

Like the Arts and Crafts movement, its main concern was the improvement in standard of the nation's produced commodities. The Werkbund, however, embraced mass production and industrialization in opposition to the men who attacked it.

The German organization resulted from contacts between a varied group of designers, industrialists, journalists and officials who were all concerned about the standards of their nation's design (Grosche, 1986, p.28).

It was initially founded by Hermann Muthesius, the Belgian-born German designer and politician. Hermann Muthesius, Walter Gropius and Peter Behrens of AEG were later to join the group. By the end of the 19th century Germany was beginning to follow Britain and industrialize its traditional craft sector. There was great pressure on German manufacturers to compete with foreign competitors.

Muthesius stressed the need for a new approach to industry. In the craftsman, he noted, "the activities of artist and producer

and salesman are combined" (Heskett, 1980, p.88). The craft sector, however, was changing and was becoming more associated with industry. The three activities needed to be separated. This undertaking meant a change in attitudes and co-operation from all involved. It was no longer apt to mass-produce designs that were meant for hand production. "This inferior art" he said in 1906 "must be refined, the machine must be spiritualised and used as an educator of taste". (Heskett, 1980, p.88)

The Deutsche Werkbund was one of the first moves to initiate links between artists, craftsmen and industry. It acted as a co-ordinating body for all those who were interested in the association of art with industry. Its aim was not only to improve aesthetic standards but also to achieve a strong national identity via an improvement in its industrially mass-produced goods.

The German Werkbund came across obstacles that hindered its attempts to unite industry and art. These obstacles were mostly internal differences. The two leading figures, Muthesius and Van de Velde had different visions of the future of German industry. The former, who was trained as an architect, stressed the importance of uniting art, industry and culture. He wanted to "change the German home and German house, ... To influence the character of a generation". He sought to establish a national culture through the use of "standards" to bring about a "unification of good taste". (Heskett, 1980, p.88)

Van de Velde, on the other hand, had doubts over the possibilities of uniting art and industry. He was sceptical over the motives of industry, claiming that they were more interested in profit than beautiful work. Most of the members of the Werkbund were artists, and supported Van de Velde's theory. They felt that Muthesius' formal approach, using standards would limit their freedom and creativity.

and salesman are combined" (Heskett, 1980, p.88). The craft sector, however, was changing and was becoming more associated with industry. The three activities needed to be separated. This undertaking meant a change in attitudes and co-operation from all involved. It was no longer apt to mass-produce designs that were meant for hand production. This intention art, he said in 1906 "must be refined, the machine must be speed-fused and used as and educator of taste." (Heskett, 1980, p.88).

The Deutsche Werkbund was one of the first moves to initiate links between artists, craftsmen and industry. It acted as a co-ordinating body for all those who were interested in the association of art with industry. Its aim was not only to improve aesthetic standards but also to achieve a strong national identity via an improvement in its industrially mass-produced goods.

The German Werkbund came across obstacles that hindered its attempts to unite industry and art. These obstacles were mostly internal differences. The two leading figures, Hermann Muthers and Van de Velde had different visions of the future of German industry. The former, who was trained as an architect, stressed the importance of uniting art, industry and culture. He wanted to "change the German home and German house". To influence the character of a generation, he sought to establish a national culture through the use of "standards" to bring about a "unification of good taste." (Heskett, 1980, p.88).

Van de Velde, on the other hand, had doubts over the possibilities of uniting art and industry. He was sceptical over the motives of industry, claiming that they were more interested in profit than beautiful work. Most of the members of the Werkbund were artists, and supported Van de Velde's theory. They felt that Muthers' formal approach, using standards would limit their freedom and creativity.

Although the Werkbund did not fully breach the gap between art and industry, the organisation had a profound impact on German manufacturing. It also paved the way for other nations to encourage supporting bodies to promote design.

One of the main problems experienced by the Werkbund was defining what 'good' design was. General consensus upheld that 'truth to materials' and 'fitness to purpose' were suitable characteristics.

The strategies outlined by the Werkbund for promoting good design have been reiterated and followed by many other nations. Its' definition of 'good design' along with the use of standardisation in mass produced goods still holds true today. Its programme continued through the First World War and into the 1920's. By the time it was forced to close in 1933 by the Nazi's, the emphasis of the Werkbund's efforts was placed on architecture and the domestic home. (Heskett, 1980, p.91)

Although the Werkbund did not fully breach the gap between art and industry, the organisation had a profound impact on German manufacturing. It also paved the way for other nations to encourage supporting bodies to promote design.

One of the main problems experienced by the Werkbund was defining what 'good' design was. General consensus upheld that 'truth to materials' and 'fitness to purpose' were suitable characteristics.

The strategies outlined by the Werkbund for promoting good design have been reiterated and followed by many other nations. Its definition of 'good design' along with the use of standardisation in mass produced goods still holds true today. Its programme continued through the First World War and into the 1930's. By the time it was forced to close in 1933 by the Nazis, the emphasis of the Werkbund's efforts was placed on architecture and the domestic home. (Hoskott, 1980, p.91)

D.I.A.

The ideas and practices of the German movement caused reactions in Britain with the resulting establishment of the Design and Industries Association (D.I.A.) in 1915. The arts and crafts ideals, however, were still present in Britain at the time and hindered the progress and influence of the association. Ultimately, it failed.

The members of the D.I.A., although committed to modernity, still had roots in the traditionalist industries. They seemed to be more influenced by the Scandinavian handicraft background than the progressive German moves towards a new Modern International Style. Where the Werkbund associated with and worked with commercial industry, the D.I.A. seemed to underestimate its importance and thus it failed to influence the British Manufacturing sector.

While the Werkbund was set up as an organisation to help to bridge the gap between art and industry, other German institutions were paving the way in Design education.

The ideas and practices of the German movement caused resonance in Britain with the resulting establishment of the Design and Industries Association (D.I.A.) in 1912. The arts and crafts ideals, however, were still present in Britain at the time and hindered the progress and influence of the association. Ultimately, it failed.

The members of the D.I.A., although committed to modernism, still had roots in the traditionalist industries. They seemed to be more influenced by the Scandinavian handicraft background than the progressive German moves towards a new Modern International Style. Where the Werkbund associated with and worked with commercial industry, the D.I.A. seemed to underestimate its importance and thus it failed to influence the British manufacturing sector.

While the Werkbund was set up as an organisation to help to bridge the gap between art and industry, other German institutions were paving the way in Design education.

Bauhaus at Weimar

At the turn of the 20th century a School of Applied Arts was founded in Weimar in West Germany. Henri Van de Velde, who was an important member of the Werkbund, took on the directorship of the school until 1914. Five years later, it was combined with the Academy of Fine Arts and the institution known as the Bauhaus (House of Building) was established.

The Bauhaus, under the direction of Walter Gropius, saw the first significant attempt to rationalise the move from hand to machine production and thus to develop a suitable system of training and education of designers for industry.

Gropius was influenced by the work of William Morris and the Arts and Crafts Movement through the Viennese werkstatte of art and design. "Architects, sculptors, painters" he said in the Bauhaus manifesto of 1919 "we must all turn to the crafts. Art is not a 'profession'. There is no essential difference between the artist and the craftsman". (Sparke, 1986, p.160)

Initially the mood of the Bauhaus was one of artistic freedom and creative individuality. The main tutors at the school were some of the leading painters of the day including Paul Klee, Wassily Kandinsky, Oscar Schlemmer and Gerhard Marcks. Students were taught basic drawing skills and the language of abstract form. Later Gropius placed more emphasis on the concept of form "The teaching of craft", he said in 1923, "is meant to prepare for the designing for mass production". (Sparke, 1986, p.160)

The Bauhaus system of teaching was the first to introduce the concept of a compulsory course or 'vorkurs', as it was known, followed by a number of years of specialisation. This system was the blueprint for mainstream Art and Design institutions that followed it. Today, the preliminary year has become the

At the turn of the 20th century a School of Applied Arts was founded in Weimar in West Germany. Henry van de Velde, who was an important member of the Werkbund, took on the direction of the school until 1914. Five years later, it was renamed for the Academy of Fine Arts and the institution known as the Bauhaus (House of Building) was established.

The school, under the direction of Walter Gropius, saw the first significant attempt to rationalise the move from hand to machine production and thus to develop a suitable system of training and education of designers for industry.

The school was influenced by the work of William Morris and the Arts and Crafts Movement through the Viennese workshop of art and design. "Artists, sculptors, painters," he said in the Bauhaus manifesto of 1919 "we must all turn to the crafts. Art is not a profession. There is no essential difference between the artist and the craftsman." (Sparker, 1986, p.160)

Initially the mood of the Bauhaus was one of artistic freedom and creative individuality. The main tutors at the school were some of the leading painters of the day including Paul Klee, Wassily Kandinsky, Oskar Schlemmer and Gerhard Marcks. Students were taught basic drawing skills and the language of abstract form. Later Gropius placed more emphasis on the concept of form. "The technical craft," he said in 1923, "is meant to prepare for the designing for mass production." (Sparker, 1986, p.160)

The Bauhaus system of teaching was the first to introduce the concept of a compulsory course or 'vorkurs', as it was known, followed by a number of years of specialisation. This system was the blueprint for mainstream Art and Design institutions that followed it. Today, the preliminary year has become the

'foundation course', which is used as a preparatory year in the majority of art and design schools throughout the world.

The 'vorkurs' was initially developed by Johannes Itten. He emphasised experimentation as a means of self-discovery and taught his students through 'learning by doing'. After completing the first year, students at the Bauhaus went into craft workshops to develop their skills in the areas of carpentry, metal, pottery, stained glass, stage design, weaving or typography.

The early years of the school were based on uniting art and craft. The products were, in reality, craft objects that were adjusted to give the appearance of industrial production. By 1922, Gropius had developed his ideas on design aesthetics and methods. Influenced by the Dutch De Stijl movement of the time, the Bauhaus was now directed towards cubic simplicity, functionalism and industrial design.

(Fleming, & Honour, 1995, p.76/77)

During the first few years, Gropius' ideas changed. Where he had initially believed in the intrinsic value of craft, he now maintained that it was a preparation for the student for industry - A new slogan, "art and technology: a new Unity" was adopted, though it was not welcomed by all at the school.

(Rowland, 1997, p.13)

Emphasis was now placed on co-operative problem solving and on the designers' creative responsibility to society. Gropius advocated the use of machinery and acknowledged the qualities that machined work possessed.

11
foundation course, which is used as a preparatory year in the majority of art and design schools throughout the world.

The 'workshop' was initially developed by Johannes Itten. He emphasised experimentation as a means of self-discovery and taught his students through 'learning by doing'. After completing the first year, students at the Bauhaus went into craft workshops to develop their skills in the areas of carpentry, metal, pottery, stained glass, stage design, weaving or typography.

The early years of the school were based on uniting art and craft. The products were, in reality, craft objects that were adjusted to give the appearance of industrial production. By 1923, Gropius had developed his ideas on design aesthetics and methods, influenced by the Dutch (De Stijl) movement of the time, the Bauhaus was now directed towards cubic simplicity, functionalism and industrial design.

(Flaming, & Honour, 1992, p. 257)
During the first few years, Gropius' ideas changed. Where he had initially believed in the intrinsic value of craft, he now maintained that it was a preparation for the student for industry. A new slogan, "art and technology: a new unity" was adopted, though it was not welcomed by all at the school.

(Rowland, 1992, p. 13)
Emphasis was now placed on co-operative problem solving and on the designers' creative responsibility to society. Gropius advocated the use of machinery and acknowledged the qualities that machine work possessed.

Bauhaus at Dessau



Figure 7 The New Building at Dessau

In 1928, the Bauhaus moved to new premises in Dessau. This new building, designed by Walter Gropius himself, was a visual statement of the school's functionalist ideas. The clean, concise, unornamented exterior housed a map of workshops, classrooms, offices, a library and living quarters. Constructed in horizontal and vertical planes of windows, reinforced concrete and steel beams, the building became a blueprint for modern architecture and a functionalist style of building for the next 50 years. (Figure 7)

The Bauhaus concentrated on designing and making prototypes for everyday commodities with mass production in mind. Functionality, simple geometric shapes, clean lines, and lack of ornamentation were key characteristics of the work that was produced there. These, in fact, were characteristics of the so-called 'Modern Movement' which engulfed product design and architecture in the interwar years. Fascinated by progress and industrialised society, the Modern Movement embraced the machine, its workings, its qualities and its products. An International aesthetic style was founded that changed the quality and look of everyday living from daily household objects to dazzling skyscrapers. The Modern Movement had an irreversible impact on designing and the design profession. Never before had designers played such an important role in the production process, resulting in their new status and emphasis on their skills.

The work produced in the Bauhaus Workshops epitomised the new Modern style, and the work of Marcel Breuer optimised the Bauhaus. Once a student of carpentry at the Weimar school, Breuer graduated in April of 1925. Objectively and universality principles from the Dutch De Stijl movement were key figures in Breuer's furniture designs. Also influenced by the Russian and East European constructivists, he took a formal approach to his

designing. Mass production was a key concern of the Bauhaus workshops, yet many of the designs produced there seemed quite craft orientated. Marcel Breuer's designs, however, were highly suitable for mass production and indeed many were produced in large numbers. He had a fascination with the bicycle and its lightness of tubular steel.



His tubular steel chair of 1926 is a classic example of Modern Movement design with its concern for lightness rather than weight and of space rather than mass. (Figure 8) This chair is still in production 70 years later. (Sparke, 1986, p.49)

Figure 8 Tubular Steel Chair

From the outset of the Bauhaus, Gropius hoped to unite artists, craftsmen and architects. The building of a new future (in the literal sense of the word) was his ultimate goal. When he failed to push architecture into the curriculum of the Bauhaus he resigned and handed over the direction of the school to Hannes Meyer. The emphasis of teaching was now placed on a collectivist zeal, technology and engineering with form and aesthetics drastically reduced. Nazi Germany was opposed to the social principles of the school and in 1933, now under the directorship of Ludwig Mies van der Rohe, the Bauhaus was forced to close.

Bauhaus in the United States

The staff of the German school dispersed. Many fled to the United States taking the Bauhaus ideas with them.

The Bauhaus teaching system landed on American soil and had an immediate impact. Walter Gropius took up a chair in architecture at Harvard and Mies van der Rohe taught in Chicago where Laszlo Moholy - Nagy (the head of the metalwork development and a tutor on the foundation course) established the new Bauhaus.

Arriving in America in 1937 as a political refugee, Moholy - Nagy was asked, on the recommendation of Gropius, to head the new school in Chicago. Like Britain, the United States, had set up government bodies to help educate the American people in good design and to improve the quality of goods that were being produced. One such government body, the Association of Arts and Industries, sponsored the new school, which Moholy named the 'New Bauhaus: American School of Design'.

The system of teaching here was taken directly from the Old Bauhaus but with added modifications, Moholy, aware of the ever-improving technological world around him, felt that there was a need to combine the teaching of the arts and of the sciences. His attempt to do this was to include on the new syllabus the complementary studies of philosophy, physics and biology. Only one year later, the school was forced to close as the association, disapproving of Moholy's theories, withdrew its funding. Undeterred, Moholy found a new premises (an abandoned bakers) and gathered financial backing to reopen his school. In 1939 the School of Design in Chicago opened its doors and operated in the next decade with relatively few problems. In 1944 the school

changed its name again, officially becoming the 'Institute of Design' in Chicago.

After completion of the preliminary year, the students at the institute chose a specialised subject from architecture, product design and light workshop. Complementary syllabus subjects included weaving, photography, motion pictures, painting and sculpture. Moholy felt that too much emphasis had previously been placed on the industrialised machine aesthetic and sought to re-establish the features of emotion and social responsibility back into design. The result was that the emphasis was put more on to craft-based objects, particularly furniture.

Throughout the Bauhaus duration, old and new, the school distanced itself from the evolving commercial world of the industrial designer. No links were made with industry at the time or with the U.S. consultant industrial designers who had emerged during the depression to service the manufacturers of the new mechanical and electrical consumer goods. (Sparke, 1986, p.166)

This is, in fact, a criticism of the Bauhaus system. The school seemed to work in isolation, working on its own tangent and, in a sense, avoiding the direction in which the commercial worlds of design and mass-production were taking.

The schools, up until the 1950's, did not seem to recognise the importance of marketing and consumer preferences. When Jay Boblin took over directorship of the American Institute around the 1950's, the system of education there changed dramatically. Boblin came from a very different background to Moholy; trained through Raymond Loewy's high commercial design constancy, Boblin realised that marketing and consumer-knowledge were vital tools for the Industrial Designer. Thus following his employment, the programme for his students contained tougher intellectual and academic elements with a stronger emphasis on product design

and its commercial context. "We don't see the designer in the old way as half artist and half engineer", he stated in Industrial Design, 1956, "He has got to make room for at least one third sociology". (Sparke, 1986, p.167)

and its commercial context. "We don't see the designer in the old way as half artist and half engineer," he stated in Industrial Design, 1956, "He has got to make room for at least one third sociology." (Sparks, 1986, p.167)

Ulm

After the Second World War the emphasis of marketing in design and manufacturing was widely recognised. The United States was developing the automobile sector and interior design, while its European counterparts concentrated on, and led the way in, consumer product design.

By the 1950's the profession of the Industrial Designer was fully established and great emphasis was placed on it. There was a new wave of consumer products driven by consumer demands and by industry. Companies developed new marketing techniques to persuade consumers to buy their products. After the Depression, caused by the war, people spent more and more money on luxury personal products, output increased along with employment, more outlets appeared and advertising was more widely used. The design of a product, though, was ultimately what attracted the consumer. This placed a lot of demands on designers. They needed to be able to justify their designs while making them attractive and, necessarily innovative. (Dormer, 1993, p.14) As a result, more and more emphasis was placed on the training of designers for industry.

A number of design educational experiments took place around the 1950's to try and eradicate the problem. One of the most successful and influential schools, (even today), was the Hochschule fur Gestalting (HFG) which was set up in Ulm in Germany.

Founded in 1953, the HFG was originally set up as a successor to the Bauhaus. The work produced at the school and the education theories they worked by became a major influence on German post-war design aesthetic and indeed on other educational institutions through out the world.

At the same time, the emphasis of marketing in design was changing. The United States was widely regarded as the leader in this regard, and the way in which products were marketed was becoming a central part of the design process.

By the mid-1950s, the concept of the industrial designer was fully established. The designer was no longer just a craftsman, but a professional whose work was driven by consumer demands and by the need to develop new marketing techniques to persuade consumers to buy their products. The Depression, caused by the economic downturn and the scarcity of luxury goods, had led to a new emphasis on mass production and mass marketing. The designer's role was to create products that were both functional and aesthetically pleasing, and to develop marketing strategies that would attract the consumer. The designer's work was now seen as a key factor in the success of a product, and the designer's role was becoming increasingly important in the business world.

In the mid-1950s, the design school at Ulm took place around the design school and the school of design. One of the most influential design schools (even today) was the school of design at Ulm (HfG) which was set up in Ulm in Germany.

Founded in 1953, the HfG was originally set up as a school for design. The work produced at the school and the school's influence on the design world were significant. The school's influence on the design world was significant, and the school's work was highly influential in the design world.

The Hochschule was not trying to continue the Bauhaus ideas in a literal sense, for that would have meant looking back to the past. This school was very much concerned with the future and looked at design in a very broad sense. There was great emphasis placed on a rational and functional view on design. Where the Bauhaus (especially in the early years) had encouraged individual creativity and simple problem solving, the Hochschule emphasised a more universal objectivity towards design.

The educational curriculum was essentially split into two main areas: Industrial Design and Visual Communications. The style of design that was produced was of mathematical and scientific origin. This resulted in manufactured objects that were of elementary geometric form with sleek neutral-toned exteriors. Function was a key element of the designs produced and played an intrinsic place in the theory of design taught at the school.

The Hochschule was a school that related to the commercial world that surrounded it. Here it differed from other educational institutions because its curriculum took account of social and economic factors in the design and manufacturing world. In the first year of the Hochschule, approximately 27% of the student's time were devoted to the study of sociology, economics, political economy, psychology and ergonomics. Penny Sparke attributes to design this critical approach both the success and the demise of the acclaimed school. In 1968, due to internal conflicts and political attack, the government withdrew all subsidies and the school was forced to close.

It is interesting to note here that the subjects of craft, hand making and craftsmanship were not the important factors of the Hochschule teaching. At the early Bauhaus, most of the prototypes made were craft-based objects, but by the time of the Hochschule

10

The Hochschule was not trying to condemn the Bauhaus as a mere technical school, for that would have meant looking back to the past. This school was very much concerned with the future and looked at design in a very broad sense. There was great emphasis placed on a rational and functional view on design. Where the Bauhaus first came in the early years, and encouraged individual creativity and unique problem solving, the Hochschule emphasized a more rational, objectively towards design.

The vocational curriculum was essentially split into two main areas: Industrial Design and Visual Communications. The style of design that was produced was of mathematical and scientific nature. This resulted in manufactured objects that were of elegantly geometric form with sleek neutral-toned exteriors. Function was the key element of the design produced and played an intrinsic part in the theory of design taught at the school.

The Hochschule was a school that related to the contemporary world and was founded in 1919. It differed from other educational institutions because its curriculum took account of social and economic factors in the design and manufacturing world. In the first year of the Hochschule, approximately 50% of the students had backgrounds in the study of sociology, economics, political science, psychology, and ergonomics. Hanns Grosse, director of design, considered research both the process and the content of the design process. In 1925, the school's internal conflicts and political situation, the government withdrew all subsidies and the school was forced to close.

It is interesting to note here that the subjects of craft, hand making and craftsmanship were not the important factors of the Hochschule's teaching. At the early Bauhaus, most of the prototypes made were craft-based objects, but by the time of the Hochschule

in the 1950's and 1960's, the idea of craft had been superseded by the new, omnipresent Industrial Design Sector.

Where the Bauhaus had isolated itself from the fast-developing commercial world surrounding it, the Hochschule embraced it. The Ulm School had strong links with industry and soon became synonymous with the electronics giant owned by Max Braun.

Braun did not enter into the consumer household market until 1950's. With a change of board directors in 1954, the company started to commission designs, including radios and hi-fis, from Ulm. Two of the main professors, Hans Gugelot and Dieter Rams, then began to work for Braun. Rams eventually became the head of design at the company.

Ulm's mathematical and sterile approach to design exerted a powerful influence all over the world.

The HFG sought a design language based on rational and functional concerns, replacing the subjective version of the individual with a universal objectivity.

(Meggs, 1994, p.100)

in the 1920s and 1930s, the idea of craft had been superseded by the new, unromantic Industrial Design Factor.

Whereas the Bauhaus had not yet distanced itself from the traditional, romanticized world surrounding it, the Hochschule embraced it. The Bauhaus had strong links with industry and soon became synonymous with the electronic giant owned by Walter Gropius.

Gropius did not enter into the consumer household market until 1925. With a change of board directors in 1927, the company shifted to commission design, including radio and hi-fi, from him. Two of the main professors, Hans Gropius and Dietrich Rühm, then began to work for Gropius. Rühm eventually became the head of design at the company.

Under Rühm's mathematical and scientific approach to design emerged a powerful influence all over the world.

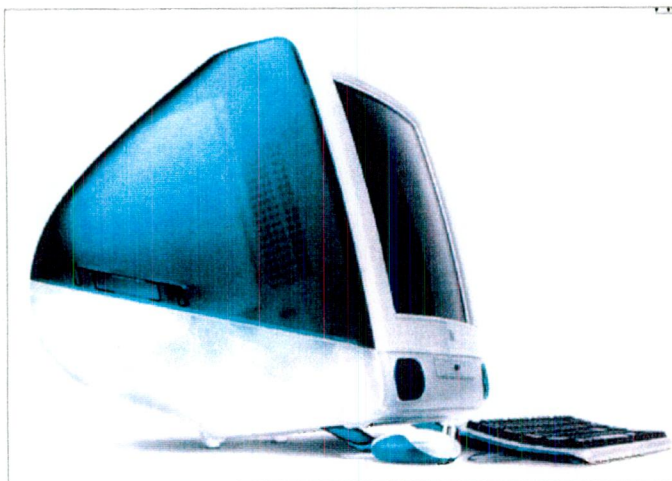
The HfG sought a design language based on rational and functional concepts, replacing the subjective version of the individual with a universal objectivity.

(Meggs, 1994, p.100)

Chapter Three

Design as marketing, and the 'Designed' object

Design plays many roles in our lives. It shapes our material lives, from the chair we sit in, to the cup we drink from. Innovations in design and technology affect our daily routine making living easier, through more efficient products and easier to use objects. Take for example the new iMac computer, which was launched in 1998. This is the first move to not only change the outward appearance of a computer and its accessories, but is also the first design to make the whole set 'compact'. The inner workings of the computer, namely the hard drive, are set into the back area of the clear, hard, plastic, streamlined shell that also houses the monitor. The only extras that are needed are the newly designed clear plastic mouse and keyboard (even the electrical cord is made of clear plastic). The design team of the Apple computer has set new standards here in the design aesthetic and utility of the computer. Since the advent of the consumer computer in the 1980's, we have been accustomed to monotonous grey, plastic, geometric computer appliances.



However, now we have a compact, curvaceous, streamlined version that comes in a variety of colours. (Figure 9)

Figure 9 the new iMac computer

With the inclusion of a handle to allow easy manoeuvrability, the iMac has entered the history books as one of the fastest selling products of all time. (Grinyer, 1998, p.15)

The popularity of the iMac, however can not solely be down to its new innovative design. The large-scale marketing of the new computer has played a considerable role in its success. So convincing has its commercial advertising been, that the iMac is being bought by people who have never owned a computer before. This side of design, which is associated with marketing and advertising, has played an essential role in mass production and mass consumption throughout the second half of the 20th century.

(Grinyer, 1998, p.15)

The depression years of the 1930's made competition between struggling companies fierce. Design was used as a marketing strategy to persuade the flooded consumer market to buy. This saw the emergence of the professional designer sector; outsiders who were commissioned specifically to design or redesign consumer products in order to make them more marketable. Design was being lifted from its anonymous place in the manufacturing process, towards a higher commercial status with the context of mass culture.

Design was becoming more associated with and more dependent on, mass communications to encourage consumers to accept and buy many new products that were being produced. During the 1950's Europe was infiltrated with a large array of new domestic electrical appliances (the USA had experienced this in the 1920's). The encouragement from mass media, including popular magazines and advertising, along with a high level of employment and wealth up to the 1960's, saw mass consumption of consumer products; especially these new domestic appliances. The success of these new products can be attributed to social changes and to

With the notion of a handle to allow easy manipulation,
the first book entered the history books as one of the fastest
selling products of all time. (Gonyer, 1998, p. 12)

The popularity of the IMAC, however, can not solely be down
to its new innovative design. The large-scale marketing of the new
computer has played a considerable role in its success. So
convincing has the commercial advertising been, that the IMAC is
being bought by people who have never owned a computer before.
This side of design, which is associated with marketing and
advertising, has played an essential role in mass production and
mass consumption throughout the second half of the 20th century.
(Gonyer, 1998, p. 12)

The transition years of the 1930's made competition
between different companies fierce. Design was used as a
marketing strategy to persuade the flooded consumer market to
buy. This gave rise to the emergence of the professional designer sector,
outsiders who were commissioned specifically to design or redesign
consumer products in order to make them more marketable.
Design was being lifted from its anonymous place in the
manufacturing process towards a higher commercial status with
the concept of "style culture".

Design was becoming more associated with and more
dependent on mass communications to encourage consumers to
accept and buy newly new products that were being produced.
During the 1930's Europe was infiltrated with a large array of new
domestic electrical appliances (the USA had experienced this in the
1920's). The encouragement from mass media, including popular
magazines and advertising, along with a high level of employment
and wealth in the 1930's, saw mass consumption of consumer
products replace these new domestic appliances. The success
of these new products can be attributed to social changes and to

subsequent clever advertising. These products were being aimed at women, especially working women, who had more money than ever before and a large say in how to furnish their homes. Thus a lot of the advertising of these products were channelled in women's magazines like 'Woman' and 'Woman's Own'. The furnishing of the home was popular at this time. Many women's magazines also included articles on the best way to furnish your home, often hinting on an instantly higher social status, if you bought these new products. (Sparke, 1986, p.154)

This concept of design as a standing of social status, is one, which has continued and developed from the middle of the 20th century. The idea that the purchase or ownership of a certain product, (often associated with price) reflected one's social status led to the concept of the 'designed' object. This phenomenon was particularly popular in the Post-Modern Eighties. The 'designer' object is, in fact, a characteristic of the social attitude of the decade and is particularly associated with fashion. The purchase of 'designer' labels was thought to be a sign of one's good taste as well as a show of wealth (many of the 'designer' label products were relatively more expensive than other High Street brands). During the 1980's, design (or the commercial side of design) achieved a very high social status. With many 'designer' objects adopting the name of the designer involved. Many such designers achieved fame and high social status. This saw the advent of the Designer Superstar.

Memphis and Post-Modernism

The worldwide spread of the 'designer' object in the 1980's was helped by the emergence of new design groups, with new aims, such as Memphis. Born in Milan in 1981, Memphis was the idea of a group of Italian architects and designers who "felt an urgent need to reinvent an approach to design, to foresee other environments, to imagine other lives" (Radice, 1985, p.23)

The design group was founded by Italians Ettore Sottsass and Michele de Lucchi, but was composed of members from other countries including Japan, the United States, Austria, Britain and France. The exhibitions of their innovative work provoked experimentation in form, materials and colour in the design world, and affected the look of contemporary furniture and product design of the early Eighties. Memphis rejected the Utopian and idealistic thinking of the Modern Movement. They questioned the 'form follows function' theory that was the backbone of Modern Design.

The group at Memphis, instead, opted for a more democratic approach. They encouraged experimentation in materials and form. They looked to many sources and from many different cultures for inspiration for their innovative work. Their products were less systematic and structured than those of the modernists. The work produced by Memphis actually undermined the architectonic forms of the Modern Movement. The fact that the name 'Memphis' came from a Bob Dylan record, "Stuck inside of mobile with the Memphis Blues Again" is an indication of the alternative and very unorthodox outlook that the group had.

Colour and surface decoration were vital ingredients of the Memphis style. They reintroduced the use of alternative materials into product and furniture design often mixing the cheap and the expensive, with multi-colour and form. As Michael Collins explains

The group was formed in 1964, and its design object in the 1960s was defined by a new generation of new design groups with new ideas, such as the Memphis Group in 1981. Memphis was the idea of a group of architects and designers who felt an urgent need to re-examine the approach to design, to further explore the environment, and to create a new world (Rabot, 1987, p. 127).

The design group was founded by Italian design schools and the Ecole de Design, which was composed of members from other countries including the United States, Austria, Britain and France. The group was a group of innovative work, an experimental approach to design, and a new design world, and affected the design world in many ways. The group's work was a rejection of the utopian and idealistic thinking of the 1960s movement. They questioned the form follows function idea, which was the backbone of Modern Design.

The group was a group of people, aged for a more democratic approach to design, and a new experimentation in materials and form. They were a group of many sources and from many different cultures for their innovative work. Their products were less functional and more decorative than those of the modernists. The work produced by Memphis actually undermined the architectural movement of the Modern Movement. The fact that the name "Memphis" was taken from a Bob Dylan record, "Stick Inside of Memphis with the Memphis Blues Again", is an indication of the alternative and very unorthodox outlook that the group had.

Colour and texture decoration were vital ingredients of the Memphis Group's design. They introduced the use of alternative materials into products and furniture design often mixing the cheap and the expensive, without colour and form. As Michael Collins explained,

in Post Modernism "In a confused, pluralistic decade, when history and popular culture met, Memphis can be described perhaps as the ultimate "fruit salad". (Collins, 1995, p.35)

The work produced by Memphis included furniture, lighting, ceramics, glass and jewellery. They drew much of their inspiration from mass culture and made their work for the mass public.

Many exhibitions of their work were shown in major museums and in many capital cities worldwide, all under the banner of 'The New International Style'. (Woodham, 1997, p.160)

Exhibiting in museums bestowed on them and immediate cultural status synonymous with the fine arts. The Memphis products were "the preserve of an affluent elite who saw them essentially as works of art". (Woodam, 1997, p161)

Ultimately though, the body of work produced by Memphis was garish and over-bearing. They were striving to revolt against the restrictive and formal ties of Modernism. But "the resultant orgy has become too gaudy, perhaps and over-reaction to the joys of liberation after all those decades of repression".

(Collins, 1989, p.267)

in Post-Modernism "In a confused, pluralistic decade, which history and popular culture met, Memphis can be described perhaps as the ultimate 'funt salad'." (Collins, 1992, p.32)

The work produced by Memphis included furniture, lighting, ceramics, glass and jewelry. They drew much of their inspiration from mass culture and made their work for the mass public.

Many exhibitions of their work were shown in major museums and in many capital cities worldwide, all under the banner of 'The New International Style'. (Woodham, 1997, p.160)

Exhibiting in museums bestowed on them and immediate cultural status synonymous with the fine arts. The Memphis products were 'the preserve of an affluent elite who saw them essentially as works of art'. (Woodham, 1997, p.161)

Ultimately though, the body of work produced by Memphis was garish and over-bearing. They were striving to revolt against the restrictive and formal ties of Modernism. But "the resultant orgy has become too gaudy, perhaps and over-reaction to the joys of liberation after all those decades of repression".

(Collins, 1992, p.367)

Design as Art

The notion of 'design as art' is one that has continued into the 1990's. It has been very popular to buy, or even to collect products because of their visual appearance and, often, associated cultural status (similar to the 'designer' object), rather than because of their practicality or function.

Work of this character is often associated with the renowned Italian design firm Alessi S.p.A., which specialises in what is known as the 'table top industry'. The company founded in 1921, by Giovanni Alessi, has since the 1970's led the way in tableware and kitchen utensils. It is widely recognised for introducing finely designed and crafted industrially produced objects into the consumer product market. "Alessi products have set new standards for Industrial Design".

(Brown-Manrique & Ewing, 1995, p.18)

Alberto Alessi joined his grandfather's business in 1970 and since then the company has experienced immense success. Initially he set out to produce unlimited art multiples, but, as he admits, this failed. By the middle of the 1970's Alessi had initiated a number of experimental design projects which today represent the production philosophy for which the firm has been recognised worldwide. The production of Alessi S.p.A.'s range is split into different lines, each focusing on its own particular style. In 1983 the company introduced the new trademark, Officina Alessi, which, Alberto Alessi explains, permits the traditional segment of the firm to maintain its own identity: this also allows each line to develop its own persona and focus on its own market.

(Brown-Manrique & Ewing, 1995, p.20)

The Officina Alessi product range is an eminent example of 'Design as Art'. In the middle of the 1980's they launched a series

The notion of 'design as art' is one that has continued into the 1990s. It has been very popular to buy, or even to collect products because of their visual appearance and, often, associated cultural status (similar to the 'designer' object), rather than because of their practicality or function.

Work of this character is often associated with the renowned Italian designer firm Alessi S.p.A., which specialises in what is known as the 'design' or 'art' industry. The company founded in 1921 by Giovanni Alessi has since the 1970s led the way in tableware and kitchen accessories. It is widely recognised for introducing 'design' objects into the mass market. Alessi products have set new standards for 'design'.

(Brown-Manning & Ewing, 1992, p.18)

Alberto Alessi joined his grandfather's business in 1970 and since then the company has experienced immense success. Initially he set out to produce unlimited art objects, but as he realised this failed. By the middle of the 1970s Alessi had initiated a number of experimental design projects which today represent the production philosophy for which the firm has been recognised worldwide. The production of Alessi S.p.A.'s range is split into different lines, each focusing on its own particular style. In 1983 the company introduced the new trademark, Officina Alessi, which Alberto Alessi describes as 'the traditional spirit of the firm to maintain its own identity. This also allows each line to develop its own personality and focus on its own market'.

(Brown-Manning & Ewing, 1992, p.10)

The Officina Alessi product range is an eminent example of 'Design as Art'. In the middle of the 1980s they launched a series

of 'Tea and Coffee Piazzas', which were commissioned from eleven internationally recognised architects and high profile designers including Robert Venturi, Michael Graves, Alessandro Mendini and Hans Hollein. The eleven sets were each produced in limited editions of 99 and priced at around £12,000. Galleries in Milan and New York simultaneously hosted their launch in 1983, effectively reinforcing the high status and exclusivity of such objects.

(Woodham, 1997, p.162)

The Michael Graves 'kettle with a little bird shaped whistle' from the 'Tea and coffee Piazza' series has become an icon of Post-Modern Design, and indeed an icon of Design in the 20th century.

The conical, stainless steel kettle, with the plastic bird on the spout is perhaps the most popular and the most famous of Alessi's range. The kettle is in such demand today, that it sells 100,000 per year. (Figure 10)



Figure 10 'Kettle with a little bird shaped whistle'

Design of the 80's and the 90's

The rising popularity of the 'designer' object in the 1980's saw the subsequent growth of designers to superstar status. It was not unusual to see designers being interviewed on television, or publicised in magazine articles. The most prominent superstar designer of the eighties, and indeed many would argue, of the nineties is the notorious Frenchman Philippe Starck.

The astonishing career of the Parisian Designer had gone from design school drop-out to world class designer superstar. In the 1970's he was appointed creative director for Pierre Cardin. In the 1980's he went freelance, designing for many successful large companies including Alessi S.p.A. He has won every major design award available and is probably the most successful, the most renowned and the highest paid member of his profession.

In the 1980's, his career went stellar. In the 1990's, he became legendary. He now has his own trademark, his own freelance design company, "UBIK", his own oyster farm and even his own street in Paris- Rue Starck.

The past few decades of design have been marked with the Starck stamp. He works at a relentless pace, which has helped his name and his work to spread to most of the major cities in the world. Starck has used his unique design skills in many areas, from architecture to product design, to furniture and even food. He has re-modelled hotel, restaurant and club interiors in New York, Madrid and Mexico, and erected buildings in Paris, Tokyo and Los Angeles. Throughout his many exploits, his style and signature remained those of simplicity, originality and irony.

Starck's work is unmistakable and unmissable. It certainly does make you stop and think. But as Ekow Eshun asked in The

Design of the 80's and the 90's

The design reputation of the designer, which in the 1970's was the essential growth of designers to superstar status, it was not until the 80's that designers being interviewed on television or published in magazine articles. The most prominent superstar designer of the 80's, and indeed many would argue, of the 90's is the notorious Frenchman Philippe Starck.

The astonishing career of the Parisian designer had gone from design school dropout to world class designer, superstar in the 1970's he was appointed creative director for Pininfarina. In the 1980's he went freelance, designing for many successful large companies including Alcatel S.p.A. He has won every major design award in Europe and is probably the most successful, the most renowned and the highest paid member of his profession.

In the 1980's his career went stellar. In the 1990's he became legendary. He now has his own trademark, his own fictional design company, "UBIK", his own oyster farm and even his own street in Paris - Rue Starck.

The past few decades of design have been marked with the Starck stamp. His work at a relentless pace, which has helped his name and his work to spread to most of the major cities in the world. Starck has used his unique design skills in many areas, from architecture to product design, to furniture and even food. He has re-modelled hotels, restaurants and club interiors in New York, Madrid and Mexico, and erected buildings in Paris, Tokyo and Los Angeles. Throughout his many exploits, his style and signature remained those of simplicity, originality and irony.

Starck's work is unmistakable and unmistakable. It certainly does make you stop and think. But as Elton Estlin asked in 1960

Face in 1993, "can (his) design really make the world a better place?". (Eshun, 1993, p.170)

Indeed, the validity of much of Starck's work, especially that from the 1980's, has been questioned. Take, for example, the "Juicy Salif" lemon squeezer that he designed for Alessi in 1984. This arachnid-like aluminium juicer is perhaps the most renowned of Starck's creations. (Figure 11) It is impressive, with its large spindling legs and imposing form. But, it seems that the designer paid more attention to its shocking and original outward aesthetic, than to its functionality. This has rendered the iconic form to be more a piece of art, rather than a successful piece of design. The juicer does successfully extract liquid from citrus fruit, but is has no straining facility. Thus the juice that results contains unwanted elements such as pith and pips. Selling at around £40 - £50, the 'Juicy Salif' lemon squeezer is a key example of the 'designer' object; where people seem to buy the object because of the 'designer' involved rather than the practicality and usefulness of the design.

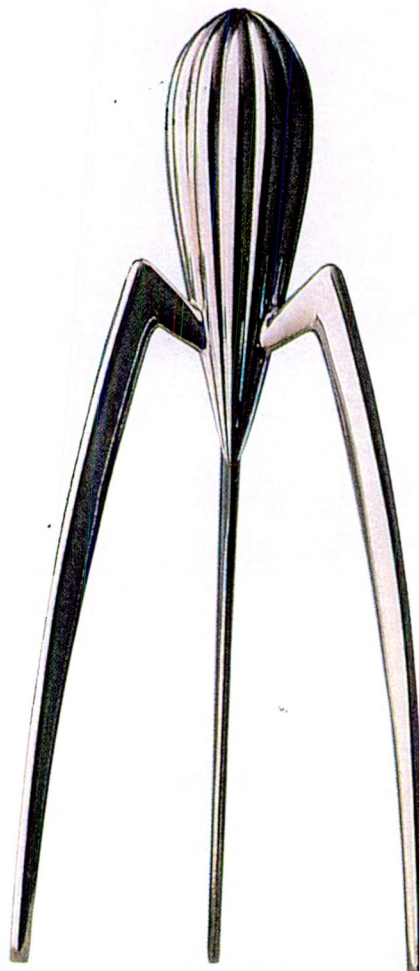


Figure 11
'Juicy Salif'
lemon
squeezer

Similar criticism can also be applied to his architecture and interior design. Take, for example "The Royalton Hotel" in New York, which he designed in 1988. Although acclaimed at the time, today the interior design of the building is not so warmly received. The complete absence of natural light leaves one feeling slightly claustrophobic, and the strange, men's urinals have left some feeling a little baffled. (Eshun, 1993, p.111)

Starck is not happy with his designs from this 'designer' decade. In the early 1990's he realised how egotistical and auto-expressive his designs were, and thus changed his design philosophy. "Before, I designed products to be loved by the customer", he stated in 1993, " Now, I plan to make products which shall love the customer". (Eshun, 1993, p.113)

Starck believes that designers must accept and recognise the social responsibilities that are part of their work. He believes that "unless a design has something to say, it shouldn't exist".

(Eshun, 1993, p.117)

One of his most successful designs from the nineties is his 'Fluocaril Toothbrush', which took him three years to perfect. " It's the single thing I've made which has brought pleasure to the most people."

(Eshun, 1993, p.100)



Figure 12

'Fluocaril Toothbrush'

The fad of the 'Designer' seems to have diminished, and according to Starck, so has 'Design'. "I believe that design is dead" he stated in a recent interview. (Starck, 1999, p.7)

Today Starck is more interested in 'creating' (he prefers to be called a 'creator' rather than a designer') products that convey a political message. "I've become more ractical with time and I won't do anything that doesn't have a political meaning".

(Starck, 1999, p.7)

Starck's latest political venture is a "catalogue of non-products for the non-consumer in the new moral market" (Noble, 1998, p.99) This is a project to produce a wide range of products for the mass public, made from natural materials and without the use of chemicals. The line, which he called 'Good Goods' includes products which fall into categories such as children's toys, tools, linens, books, lighting, furniture, music, clothing, vehicles, and "protection".

The catalogue is produced in collaboration with La Recloute, France's biggest mail-order company.



The product line includes eco-dishwasher powder, the Starck naked dress and organic champagne. One of the most unusual products is the 'Teddy Bear Band', which is a teddy bear with the heads of other toys as hands and feet.(Figure 13)

Figure 13 'Teddy Bear Band'

Starck explains that it is "a single toy that serves an apprenticeship for the lasting human relationship that await for children". (Field, 1998, p.24)

In the 1980's Starck seemed to be designing for the elite. In the 1990's he began to experiment in Design for the masses. The price of these goods, however, was still much higher than he would like. But now as we enter the new millennium, Starck has taken on a new project with worldwide superstore 7 - eleven. This venture could put his products in some 80 million outlets worldwide. (Field, 1998, p.25) "It is the most incredible challenge in the history of design" he announced in 1998. (Field, 1998, p.25) It is a vehicle for Starck to produce for the masses (similar to Morris) but it is also a clever marketing strategy where Starck will have his name and his work in a huge number of outlets throughout the world. He will design anything from low cost stationery to hairbrushes, tableware and even food.

" I don't design for the design, I design to speak to people... When you want to speak to people you must speak to rich and poor", he says. (Field, 1998, p.25)

The Design philosophy of Philippe Starck, and indeed Design in general, has progressed significantly from the 1980's. The Post-Modern Eighties saw design break away completely from the restrictive formality of 'Modernism'. Designers experimented freely with colour, pattern and form. Alternative materials such as plastic laminates found their way into many consumer products such as furniture and jewellery. But, although the moves initiated positive changes in design, the resultant outcome saw design elevated to new and dizzying heights. Design became elitist, associated with the rich who could afford it. Many designers became famous and their work icons of the decade. As Alberto

designer's vision that is "a single, joy that serves as a framework for the lasting human relationship that must be created" (p. 100).

In the 1990s, it was not so much a design for the future as the 1980s, but a design for the present. The price of the product was still much higher than in the 1980s, but the new product, Starck's new design, was on a new level with a much more sophisticated design. The venture capital firm, his partner, in 1990, 80 million dollars worldwide (p. 100, p. 101). It is the most incredible change in the history of design, he announced in 1993 (p. 101, p. 102). It is a vision of Starck to produce for the masses (similar to the 1980s) but it is also a vision of marketing strategy. Starck will have the name and the work in a huge number of outlets throughout the world. The design anything from low cost stationary to handbags, tables and even food.

I don't believe in the design, I design to speak to people. When you want to speak to people you must speak to the poor, he said (p. 100, p. 101).

The design philosophy of Philippe Starck, and indeed Design in general, has changed significantly from the 1980s. The 1980s Modernism saw design break away completely from the restrictive constraints of Modernism. Designers experimented freely with color, texture and form. Alternative materials such as plastic and metal found their way into many consumer products such as furniture and jewelry. But although the moves initiated positive change in design, the resultant outcome saw design elevated to a new and exciting height. Design became a career, a profession, and the rich who could afford it. Many designers became famous and their work icons of the decade. As a result,

Alessi concluded, the products of the eighties were "extremely auto expressive of the designer". (Talarico, 1991, p.67)

Designers seemed to be designing for themselves rather than for the consumers. But now, as the 1990's come to a close, Design is changing direction. "Designers want to make highly clever products available to the mass public". (Field, 1998, p.25) Design is becoming less about the status of the elite and more about the needs of the masses. This is clearly illustrated by the new IMac computer. It shows how the designers were looking at the needs of the consumer. It is compact, easy to use, unintimidating and user friendly.

There has been nothing good for 15 years" explained Philippe Starck in 1998. "But now I start to see some young people - very few - who will be good because they understand that everything is political... I am no longer a designer, I am a citizen - somebody who tries to be responsible in society. When these people arrive on the market," he concludes, "I will be very happy to leave".

(Field, 1998, p.25)

27
Almost certainly the products of the eighties were "extremely
easy to use" for the designer. (Taisner, 1991, p. 37)

Designers seemed to be designing for themselves rather
than for the consumers. But now, as the 1990's come to a close,
Design is changing direction. "Designers want to make highly
usable products available to the mass public." (Field, 1998, p. 25)
Design is becoming less about the status of the elite and more
about the status of the masses. This is clearly illustrated by the
new trend in design. It shows how the designers were looking at
the needs of the consumer. It is compact, easy to use,
unfamiliar and user friendly.

That's how nothing good for 15 years" explained Pinquar
Stark in 1992. "But now I start to see some young people who
few who are being because they understand that everything is
political. I am no longer a designer, I am a citizen - somebody
who tries to get responsibility in society. When these people arrive at
the market, I conclude, I will be very happy to have."

(Field, 1998, p. 25)

Conclusion

'Design' has become a widely accepted part of every day life. It affects every part of our material world, from fashion to magazines and from cars to computers. The application of the word 'Design' has been spread throughout many parts of the production process. It is no longer just applicable to the styling of a product; now design is also concerned with ergonomics, safety, packaging, marketing, advertising and the environment.

Furthermore, there are an increasing number of variants on the role of the 'designer'. For instance, in today's production world, one can find Graphic Designers, Product Designers, Fashion Designers and Industrial Designers, to name but a few. In fact, the applications of the word 'designer' have become so vast that some critics believe that in the future the word shall no longer be of any significance. "It may emerge that the word 'designer' is in fact to general a term to be very useful in the future".

(Sparke, 1986, p.105)

The Design World has flourished throughout the 20th century. It has spread in many different directions engulfing many of its neighbouring sectors. If we look at its association with Craft, for example. Craft and Design would seem to be in opposition to each other; the former being associated with one-off, handcrafted pieces, while the latter is more concerned with production. This situation has been changing, however, especially throughout the 1990's. In contemporary society there is an ever-fading dividing line between 'craft' and 'design'. A current trend is developing where an overlap between the two seems to be emerging. Certain individuals seem to fall into a growing middle ground or grey area, where they are neither 'craftsman' nor 'designer', but both. One such example if this is the Los Angeles based firm 'Krab' design.

Conclusion

'Design' has become a widely accepted part of every day life. It affects every part of our material world, from fashion to magazines and from cars to computers. The application of the word 'Design' has been spread throughout many parts of the production process. It is no longer just applicable to the styling of a product; now design is also concerned with ergonomics, safety, packaging, marketing, advertising and the environment.

Furthermore, there are an increasing number of variants on the role of the 'designer'. For instance, in today's production world, we have had Graphic Designers, Product Designers, Fashion Designers and Industrial Designers, to name but a few. In fact, the applications of the word 'designer' have become so vast that some critics believe that in the future the word shall no longer be of any significance. It may emerge that the word 'designer' is in fact to general a term to be very useful in the future.

(Spark, 1986, p.105)

The Design World has flourished throughout the 20th century. It has spread in many different directions engulfing many of its neighbouring sectors. If we look at its association with Craft, for example, Craft and Design would seem to be in opposition to each other; the former being associated with one-off, handcrafted pieces, while the latter is more concerned with production. This situation has been changing, however, especially throughout the 1990's. In contemporary society there is an ever-fading dividing line between 'craft' and 'design'. A current trend is developing where an overlap between the two seems to be emerging. Certain individuals seem to fall into a growing middle ground or grey area, where they are neither 'craftsman' nor 'designer', but both. One such example of this is the Los Angeles based firm 'Krab' design.

The firm, which was launched in 1995 by partners Lisa Krohn and Greg Abbot, specialises in producing hand-made furniture and lighting. The duo describe their work as "a collection of affordable designs inspired by a moment when America started mingling formal and casual the way they mixed martini's".

(<http://www.razorfish.com/krab>)

With all their products being made by hand, and with limited batches of ten to twenty being produced, Krab design is neither an industrial producer nor a craft workshop. In fact they describe their work as "mini-id". (William, 1996, p.18)

Krab design is the exception rather than the rule, but many others, in ever-increasing numbers are echoing their situation. Industry is becoming so important to craft, that the British jeweller, David Watkins, at the Royal College of Art in London, has initiated a move to amalgamate both.

As head of the goldsmithing, silversmithing, metalwork and jewellery course, Watkins has created a Masters Course which

...offers a balanced academic programme on the one hand a structured approach to issues of designing and making an industrial and craft context; on the other, an open-ended opportunity to develop personal skills, vision and creativity through the pursuit of individual goals.

(<http://www.rca.uk/goldsmithing/coursedetails/index.html>)

The students of the M.A. course must mass-produce (in editions of about 50) one of their metalwork designs within a limited budget. The aim of this course is to provide the students with a basic understanding of many of the areas within both the craft and design industries. This is so that, when they graduate from the college, they are able to pursue careers in both areas.

The first issue was launched in 1995 by partners Greg Kribs and Greg Kribs, specialists in producing hand-made furniture and lighting. "We had described their work as 'a collection of still-life designs inspired by a moment when America started mining formal and casual the way they mixed materials'."

(<http://www.vision.com/usa>)

With their products being made by hand, and with limited batches of ten to twenty being produced, Kribs design is neither an industrial product nor a craft workshop. In fact they consider their work as "midway" (William, 1996, p.18).

Kribs design is the exception rather than the rule, but many others, in ever-increasing numbers are coming their way. Industry is becoming so important to craft that the British Jewellery Guild Works at the Royal College of Art in London has initiated a course to reintegrate both.

A series of the design, silver smithing, metalwork and jewellery courses, Watkins has created a Masters Course which

...offers a balanced academic programme on the one hand, a structured approach to study of design and making, an industrial and craft context on the other, an open-ended opportunity to develop personal skills, vision and creativity through the pursuit of individual goals.

(<http://www.royalcollegeofart.ac.uk/education/masters/masters.htm>)

The students of the M.A. course must mass-produce (in editions of about 10) one of their metalwork designs within a limited budget. The aim of this course is to provide the students with a basic understanding of many of the areas within both the craft and design industries. This is so that when they graduate from the course they are able to pursue careers in both areas.

Some establish their own workshops, some become designers or consultants, while others choose teaching as their principal career.

In conclusion, as industrial society continues to develop and change, so the 'designer' will have to adapt and change with it.

Throughout the 20th century, innovations in technology have in part decided the skills and technical know-how that 'designers' should attain. Some skills have become less applicable, while others have become more necessary. The development, for example, of computer aided design has placed more emphasis on computer literacy than on traditional technical drawing skills. The subsequent development of computerised three-dimensional design, where it is possible to create a 'virtual' object, has, in part, taken over prototype models.

The words of Raymond Loewy, stated in 1945, still hold true today: "The designer is a nimble creature and a dependable one. Flexibility is his most valuable asset". (Sparke, 1986, p.106)

Some establish their own workshops, some become designers or consultants, while others choose teaching as their principal career.

In conclusion, as industrial society continues to develop and change, so the 'designer' will have to adapt and change with it. Throughout the 20th century, innovations in technology have in part decided the skills and technical know-how that 'designers' should attain. Some skills have become less applicable, while others have become more necessary. The development, for example, of computer aided design has placed more emphasis on computer literacy than on traditional technical drawing skills. The subsequent development of computerised three-dimensional design, where it is possible to create a 'virtual' object, has, in part, taken over prototype models.

The words of Raymond Lowy, stated in 1945, still hold true today: "The designer is a nimble creature and a dependable one. Flexibility is his most valuable asset." (Searke, 1986, p.106)

Bibliography

Books

ALDERSEY-WILLIAMS, Hugh,
New American Design, New York, Rizzoli, 1988.

COLLINS, Michael,
Post Modern Design, London, Academy Editions, 1989.

DORMER, Peter,
Design Since 1945, London, Thames and Hudson, 1983.

DORMER, Peter,
The Culture of Craft, Manchester, Manchester University Press,
1997.

FORTY, Adrian,
Objects of Desire: design and society since 1750, New York,
Thames and Hudson, 1992.

HONOR, Hugh, & FLEMING, JOHN,
A World History of Art, Great Britain, Laurence King Publishing,
1995.

LAMBERT, Susan,
Form Follows Function?, London, Victoria and Albert Museum,
1993.

MCCARTHY, Fiona,
British Design since 1880: a Visual History, London, Humphries,
1982.

Bibliography

Books

- ALDERSEY-WILLY, ALAN. 1970.
New American Design. New York: Norton.
- COLLINS, MARY. 1989.
Post Modern Design. London: Academy Edition.
- DORMER, PETER. 1983.
Design Since 1945: The New Tradition and History. 1983.
- DORMER, PETER. 1997.
The Quaker's Quest. Manchester: Manchester University Press.
- FORTY, ADAM. 1995.
Objects of Desire: Design and Society Since 1750. New York: Thames and Hudson.
- HONOR, JOHN A. 1990.
A History of Modern Design. Great Britain: Laurence King Publishing.
- LAMBERT, JAMES. 1993.
From Folio to Photograph. London: Victoria and Albert Museum.
- MCCARTHY, DONALD. 1982.
English Design Since 1880: A Visual History. London: Humphries.

NAYLOR, Gillian,

The Sources and Design Theory - The Bauhaus Reassessed,
London, Herbert Press, 1985.

NAYLOR, Gillian,

William Morris by Himself, London, Macdonald, 1988.

PEVSNER, Nikolaus,

Pioneers of Modern Design: William Morris to Walter Gropius,
Harmondsworth, Penguin Books, 1975.

RADICE, Barbara,

Memphis: research, experiences, results, failures and successes of
New Design, London, Thames and Hudson, 1985.

ROWLAND, Anna,

Bauhaus Source Book, London, Grange Books, 1997.

SPARKE, Penny,

An Introduction to Design and Culture in the Twentieth Century,
London, Allen and Unwin, 1986.

WOODHAM, Jonathan,

Twentieth Century Design, New York, Oxford University Press,
1997.

22
NAYLOR, John
The Sources and Design Theory - The Bauhaus Reassessed,
London, Herbert Press, 1985.

NAYLOR, John
William Morris by Himself, London, MacDonald, 1983.

PEVNER, Nicholas
Progress in Modern Design. William Morris to Walter Gropius,
Harmondsworth, Penguin Books, 1975.

RADICE, Barbara
Metaphors, research, experiences, results, failures and successes of
New Design, London, Thames and Hudson, 1985.

ROWLAND, John
Bauhaus to the 1990s, London, Grange Books, 1987.

SPARKE, Penny
An Introduction to Design and Culture in the Twentieth Century,
London, Allen and Unwin, 1986.

WOODHAM, Jonathan
Twentieth Century Design, New York, Oxford University Press,
1987.

Periodicals

ARAM, zeev,

"Does William Morris Matter?", Blueprint, May 1996, P.22.

BROWN-MANRIQUE, Gerardo, & EWING, Susan,

"Alberto Alessi: Creating a New Metals Order", Metalsmith, Spring 1995, pp.16-27.

ESCHUN, Ekow,

"A head Starck", The Face, no.57, June 1993, pp.165-171.

FIELD, Marcus,

"Let them eat (organic) cake", Blueprint, no.154, Oct 1998, pp.23-26.

"Furniture", I-D Annual Design Review, July/Aug 1994, vol. 41 no.4, p.152.

JACKSON, Lesley,

"The New Look?", Blueprint, no.140, June 1997, p.10.

GRINYER, Clive,

"Production line", Design Week, Dec 4th, 1998, p.15.

JONES, Dylan,

"Lobby styles", The Face, vol.2 no.3, Dec 1998, pp.43-45.

MEGGS, Philip B.,

"Tribute to an unrepentant Modernist", Print, vol.48, Jan/Feb 1994, pp.100-105.

Periodicals

1997, p. 10.

John William Morris Matter, Blueprint, May 1996, p. 22.

THE NEW HAVEN, Conn., & EWING, Susan,

"Alberto Alessi: Creating a New Metals Order," Metalsmith, Spring

1997, pp. 16-27.

1997, p. 10.

"A new stack," The Face, no. 57, June 1993, pp. 165-171.

1997, p. 10.

"The new look," Blueprint, no. 154, Oct 1998, pp. 23-

24.

"Production line," Design Week, Dec 4th, 1998, p. 12.

1997, p. 10.

JACKSON, Lesley,

"The new look," Blueprint, no. 140, June 1997, p. 10.

GRINER, Gino,

"Production line," Design Week, Dec 4th, 1998, p. 12.

JOHN, Dylan,

"The new look," The Face, no. 57, June 1993, pp. 165-171.

1997, p. 10.

"Production line," Design Week, Dec 4th, 1998, p. 12.

1997, p. 10.

MEGGS, Philip B.,

"Ulm Design, Hochschule fur Gestaltung, Ulm 1953-1968 (Book Review)", Print, vol.46, Mar/Apr 1992, p.120.

MORGAN, Conway,

"Starck Naked", Design Week, March 14th 1997, p.14.

NOBEL, Philip,

"Starck Realities", Metropolis, Oct 1998, pp.98-100.

OWEN, William,

"Industry in miniature", Blueprint, no.128, May 1996, p.18.

"Philippe Starck", Axis, Jan/Feb 1999, pp.6-7.

REDHEAD, David,

"Alessi and the family Silver", Blueprint, June 1997, p.15.

SCHWARTZ, Bonnie,

"Lisa Krohn/Krab Design", I-D magazine, vol.44 no.1, Jan/Feb 1997, p.70.

STONE, Dominic,

"Rational Thinking", Design, March 1992, pp.35-37.

TALARICO, Lita

"Alessi S.p.A.", Graphis, no.272, Mar/Apr 1991, pp.61-73.

100
"Stark, Philip. *Design for Gestalt*. Ullrich 1953-1958 (book review). *Design*, no. 10, Jan/Feb 1993, p. 12.

"Stark, Philip. *Design for Gestalt*. *Design*, March 14, 1993, p. 14.

NOBEL, Philip.
"Stark, Philip. *Design for Gestalt*. *Design*, Oct 1998, pp. 98-100.

OWEN, William.
"Industry in transition." *Blueprint*, no. 158, May 1996, p. 18.

"Philip Stark. *Design for Gestalt*. *Design*, Jan/Feb 1993, pp. 12-13.

REDHEAD, David.
"Alcibiades and the art of design." *Blueprint*, June 1997, p. 12.

SCHWARTZ, David.
"Lisa Kravitz's design." *i-D magazine*, vol. 44, no. 1, Jan/Feb 1997, p. 70.

STONE, David.
"Rational Thinking." *Design*, March 1993, pp. 32-37.

TAFARI, David.
"Stark, Philip. *Design for Gestalt*. *Design*, Mar/Apr 1991, pp. 61-73.

Website references

<http://www.core77.com>

<http://www.imac.com>

<http://www.razorfish.com/krab/>

<http://www.rca.ac.uk/goldsmithing/coursedetails/index.html>

<http://www.totemdesign.com>

Website references

<http://www.cornell.edu>

<http://www.fox.com>

<http://www.fox.com/fox>

<http://www.fox.com/goldsmith/courses/details/index.html>

<http://www.fox.com>