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THE NATIONAL COLLEGE OF ART AND DESIGN

T. 790

THE EVOLUTION OF CONTEMPORARY GLASS ART

A thesis submitted to the Faculty of History
of Art and Complementary Studies in candidacy
for the Degree in Craft Design

By Paula Stokes
Department of Craft Design
March, 1991

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ACKNOWLEDGEMENTS

I would like to thank Kosta Boda, Sweden
for the information on its management
system and Bertil Vallien.

I also would like to thank Christine
Casey, my tutor, for her thorough guidance
throughout the year.

INTRODUCTION

This thesis will discuss the developments in glass that have elevated it from its traditional role as an industrial material to the place it now occupies in the world of contemporary art.

There have been certain influential factors that have determined a new glass aesthetic. Generally, demand for a product is the most decisive factor in creating it. The relationship between art and industry has narrowed and broadened according to changing fashion. However, most importantly this relationship has sustained throughout the twentieth century. Tradition is more tenuous than fashion and the glass industry has a deep-rooted tradition, thousands of years old.

I intend to trace the development of a studio glass concept, evaluate its validity and finally emphasise the benefits of a healthy artist-industry collaboration.

During the early twentieth century a number of artists began to change the design of glass as an industrial material. The use of glass was, in the industrial revolution, almost exclusively practical. By 1900 the factory worker was probably exploited by the machine. But glass design was made by individuals who had little or no contact with the actual manufacture of the design. However, it was not until the 1920s that a new feeling about glass began to emerge.

There were three main areas in which the development of contemporary glass began. The most notable artists of the early twentieth century, who produced glass works (1910-1920) and were followed by others.

CHAPTER ONE

THE TWENTIETH CENTURY FORERUNNERS OF CONTEMPORARY ART; 1900-1960

Before World War I, glass was almost entirely a utilitarian material. It was used in a variety of ways, but its primary function was to hold liquids. In the early twentieth century, however, a number of artists began to use glass as a medium for their art. These artists, who produced the first modern glass works, were the forerunners of contemporary glass art. They were the first to use glass as a medium for their art, and they were the first to use glass as a medium for their art. They were the first to use glass as a medium for their art, and they were the first to use glass as a medium for their art.

During the early twentieth century a number of artists began to change the concept of glass as an industrial material to one of glass art. Until the Industrial Revolution glass was manually produced. By 1900 the factory worker was gradually replaced by the machine. Most glass designs were made by individuals who had little or no contact with the actual execution of the design. However it was also at this time that a new feeling towards glass began to emerge.

There were three main areas in which the foundations of contemporary glass began. The most notable artists of the early twentieth century were Frenchmen Emile Galle (1846-1904) and René Lalique (1860-1940) and the American Louis Comfort Tiffany (1848-1933). All three owned their own factories which specialised in high quality, expensive, functional and sculptural objects of glass. All three explored the decorative potential of glass.

Galle created his famous cameo glass: rich, multiple layered glass which was carved or engraved. Tiffany applied his painting education in the translation of his scenic landscapes in leaded glass. He also developed a glass formula that produced iridescent glass. Together with master craftsman, Arthur Nash, Tiffany produced highly decorative, richly coloured functional glass. Lalique was a highly versatile artist who designed everything from jewellery to sculptural and functional wares. (Figs. 1-2)

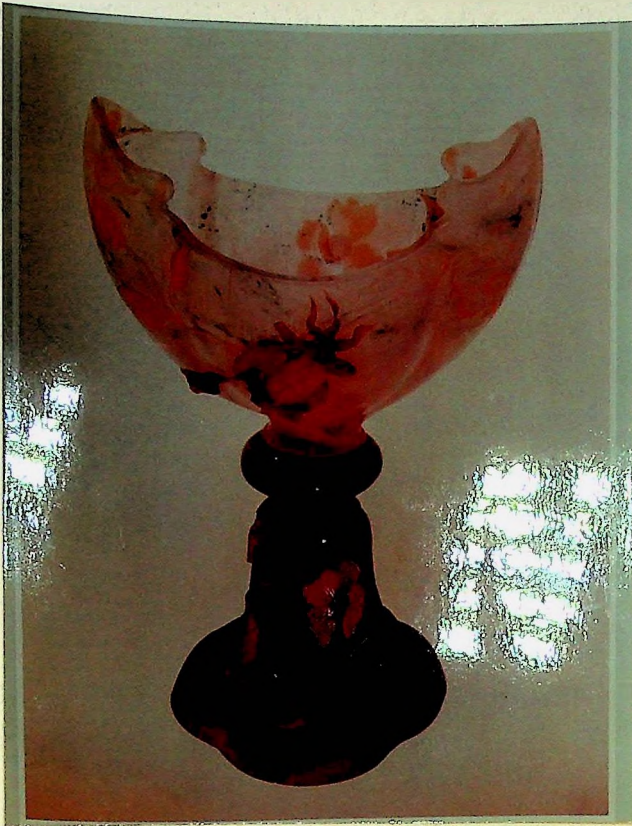


Fig. 1 Galle

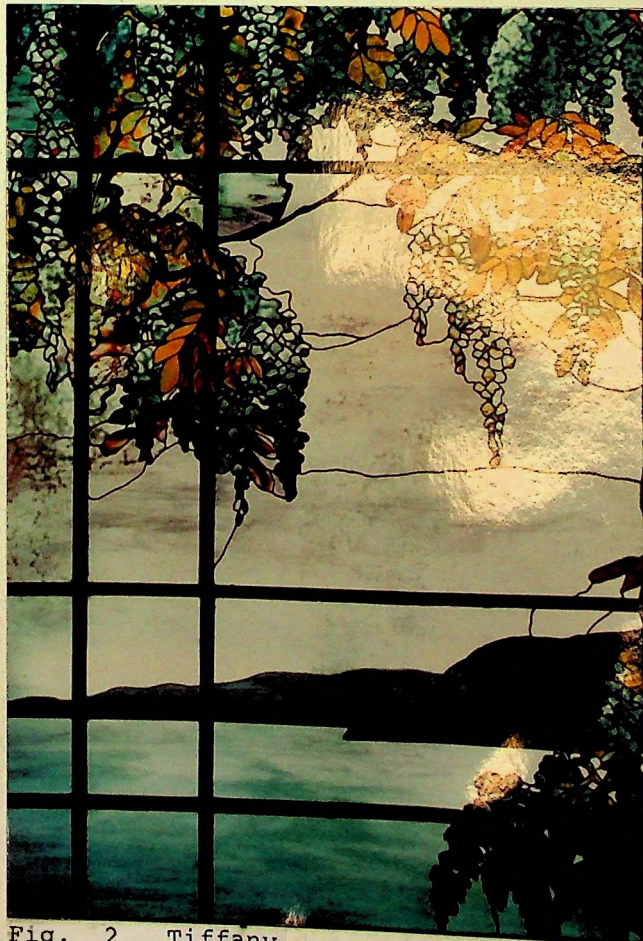


Fig. 2 Tiffany

It is the large scale success of these three that make them distinctive and thus noteworthy. Their distinction not only lies in business success but also in their new, fresh attitude towards glass. Galle, Lalique and Tiffany expressed the natural beauty of glass not only in a functional sense but also in a decorative and sculptural manner. Their work is highly important in the foundation of contemporary glass; their work represents the infancy of contemporary glass.

By 1917 the innovations of Galle, Lalique and Tiffany had spread to large scale industry. The most significant contribution to the emerging glass aesthetic came from Sweden.

Glassmaking was a longstanding tradition in Sweden. Despite increasing industrialisation the art of manual glassmaking continues to thrive.

In 1917 two artists from painting backgrounds were employed by Orrefors Glasbruk in Sweden. Edvard Hald (1883-1945) and Simon Gate (1883-1980) were to play an important role in the interaction of art and industry. Both were of non-glass discipline and made a point of involving themselves in the actual realisation of their designs. Therefore their approach was modern.

Because of the accessibility to master craftsmen, technical and artistic innovations of a high standard were possible. Knut Bergkvist worked with Gate to create Graal glass. This

is an application of Galle type glass. The finished cut piece of overlaid glass was reheated, encased in clear glass and then blown out. The sharp carved lines were softened by the hot manipulation and the imagery appears to be suspended. (Fig. 3)

Though Gate and Hald designed functional wares, they were also encouraged to experiment with different techniques. Without this freedom advances such as Graal would not have been made. This is an example that strengthens the argument that artist-industry collaboration is important.

Orrefors became a model for "the interdependence of the artist and industry".¹ In 1925 Leerdam's Glass factory in The Netherlands employed Andries Dirk Copier (b. 1901) as permanent designer. His designs for the "Unica" collection, one-off pieces, became a strong contrast with the contemporary production line, Bauhaus-inspired glassware. Such diversity in production within a single company is indicative of the changing attitudes towards glass. (Figs. 4-6)

During the early twentieth century developments were made within the management of small businesses and long-established industries. However there was a small number of artists who began to work with glass independently of factories and the restraints of producing for a consumer market.

¹ Frantz (Susanne). "Contemporary Glass", p.14



Fig. 3 Hald



Fig. 4 Copier

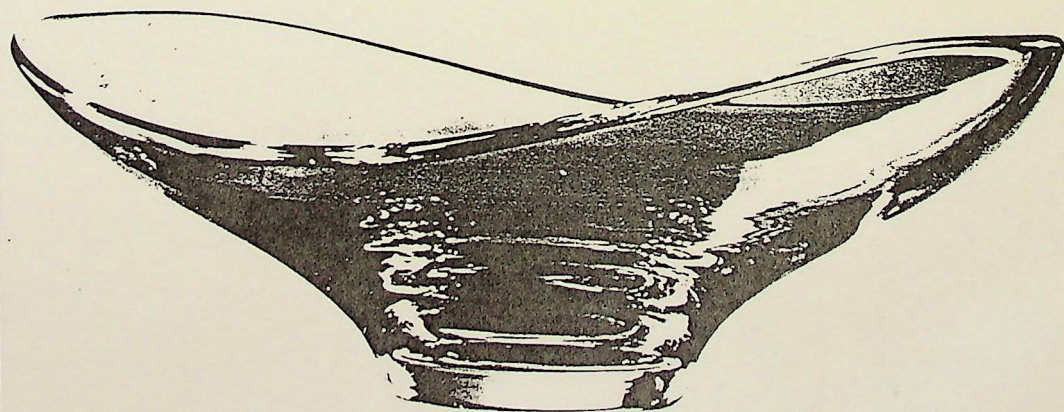


Fig. 5 Copier



7

As early as 1883, Henri Cros (1840-1907) a French sculptor experimented with Kiln-formed glass; *pate-de-verre*. His work consisted of wall plaques, fountains and sculpture.

But possibly the most influential figure of contemporary glass was Maurice Marinot (1882-1960). Marinot like Hald and Gate came from a painting background. He is particularly associated with the Fauves. In 1912 his first work in glass was exhibited at the Salon des Independents.

Initially he painted enamels onto blown forms from the Viard factory at off-peak times and thus developed his skill. His work consists largely of bottles with stoppers but is very strong and sculptural. It is distinguishable by its deep and etched finish. Marinot continued to work in glass until 1937, when the Viard factory closed down. (Fig. 7)

The first thirty years of the twentieth century were years of growing change and great advances in glass. Three distinct groups: astute businessmen like Galle, Lalique and Tiffany, glass industries in Sweden and in The Netherlands and individuals like Marinot, all contributed to the development of glass as an industrial material to a daring new medium of great promise and challenge. All three laid the foundations of a new, exciting and varied movement in art which continued to develop and grow through the twentieth century.



Fig. 7 Marinot

World War II caused unrest. Sweden suffered isolation and France experienced a complete standstill in glass development. However, despite this oppressive climate work did continue.

In Sweden because of limited materials and a fractured economy, glass production slowed down considerably.² There were cutbacks on all levels of production - principally in materials and employees. However a skeleton team of designers comprising Sven Palmqvist, Nils Landberg and Edward Ohrstrom, to name a few, continued to design simple functional wares with engraved motifs.

There appears to be little documentation of glassmaking in the 1940's. Glass production everywhere slowed down considerably as a result of the War. It did however continue as Ake Stavenov wrote in Form:

"The 1940's must not tear down everything the 1930's (and the early twentieth century) created of worth, social progress, cultural development, violent expansion both in Sweden and abroad."³

Stavenov's point of view could be specifically applied to twentieth century glass.

All international works were exhibited at world fairs. In 1951 the Milan Triennale documented emerging new talent on an

2 Germany was Sweden's largest customer. During WW2 Sweden took a politically neutral stance. This severed the provider-customer contact.

3 Beard (Geoffrey). "International Modern Glass", p.33

international scale. Finland, whose economy was stunted due to the War, stole the show with seven gold medals, eight silvers and six Grand Prix. Artists such as Tapio Wirkkala (1915-1985) and Timo Sarpaneva (b. 1926) were exceptional forerunners of modern glass. Both designed for the Finnish Iittala Glassworks and introduced thick transparent glass with small bubbles and abstracted textural shapes in the 1950's. (Figs. 8-9)

There were further changes in the perception of glassmaking and these were expressed in Design (1950, No.14)⁴ where the writer called for "drastic changes" in the approach to glassmaking. The writer was aware that to make new forms would be difficult but stressed the necessity to explore the decorative possibilities of glass; to explore the "scope for innovation in decoration (rather) than in form".

In the post-war years there were great technological developments in glass. Whereas on the one hand these technical innovations such as the invention of sheet glass and improved mass production of household wares made glass widely available and usable but they also diminished the market for handmade glass. Handmade glass of quality was strictly for the wealthy. Sweden remained to be the exception to the rule, by producing hand-crafted items of great design and utilitarian use which were also affordable. In Scandinavia there was a strong interaction between the designers and

⁴ Beard (Geoffrey). "International Modern Glass", p.34



Fig. 8 Wirkkala



Fig. 9 Sarpaneva

glassmakers. Often designers had actually trained as glassmakers themselves. Designers such as Ingeborg Lundin, Sven Palmqvist and Nils Landberg have great artistic vision that is evident in their work. Because artists were allowed to develop their own personal statements in glass it was inevitable that to a certain extent their own personal style also appeared in their production line ware. This way both the designer and the business benefited. (Figs. 10-11)

In Italy in 1954, art dealer, Egidio Constantini developed an idea which was conceived in America to commission leading painters and sculptors to design in glass. In 1954 artists such as Joan Miro and Pablo Picasso submitted designs to Constantini's Centro Studio Pittori nell' Arte de Vetro d'Arte di Murano. In 1940 Steuben Glass, USA, used this shrewd marketing ploy to popularise glass. Artists like Georgia O'Keeffe, Jean Cocteau and Henri Matisse submitted designs for production. The degree of artist participation varied. The fact that glass was now being recognised by fine artists once more reinforced a gradual and growing change in attitude towards glass.

Czechoslovakia first exhibited at the Milan Triennale in 1957. The incredible union of technology and aesthetics that had been nurtured in Czechoslovakia won the country worldwide recognition and respect. The Czech glass industry had always been very strong and particularly established itself between 1945-1948. During this time the glass industry was



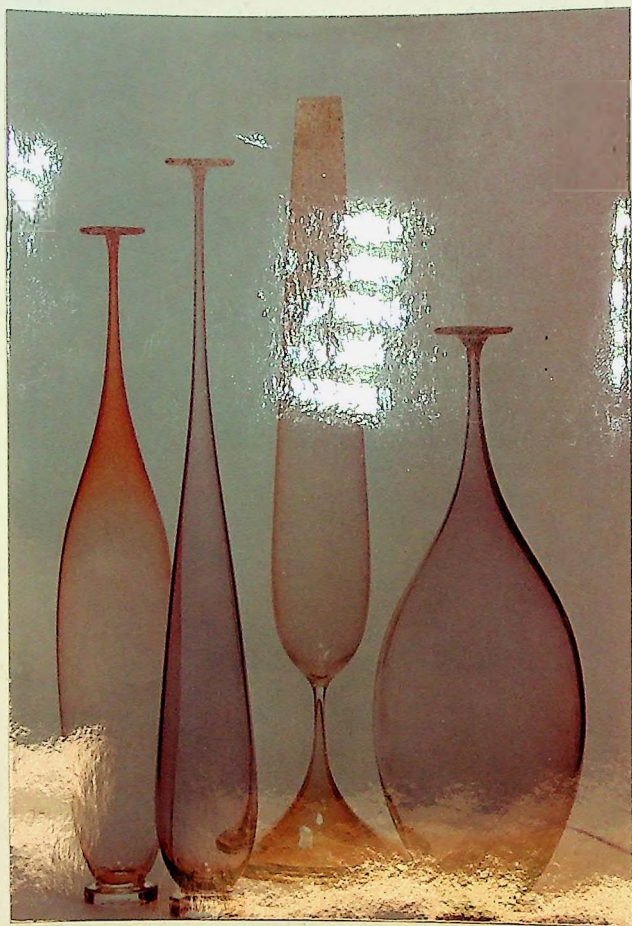


Fig. 11 Landberg

consolidated and nationalised. Studios were set up in factories. By 1952 the Zelezný Brod Glassworks was established, providing a design centre for sculpture casting. The Design Centre of the Glass Industry was also set up and was to act as an intermediary between artists, designers and industry.

Glass artists of incredible calibre began to emerge; names like Rene Roubicek (b. 1922), Jaroslava Brychtova (b. 1924) and Stanislav Libensky (b. 1921) from Czechoslovakia became familiar and highly recognised. Their work was innovative, original and sculptural, thus emphasising the growing reality of glass art, uninhibited by functional restraints. (Figs. 12-13)

Czechoslovakia and Sweden appear to have very similar systems within their glass industries. A strong interaction between designer and industry has resulted in a balanced liberal translation of the glass medium.

"Glass 1959", an exhibition of international glass was organised by the Corning Museum of Glass, USA. It was organised to document developments in glass. It was the first conscious attempt to record international glass. The jurors were not of a specific glass background but rather had a knowledge of design.

The glass content was mostly functional; vessels that were produced in commercial factories. However, there were also a number of crafted works by individuals. The most intriguing piece came from Luckiena Moyano de Muriz (b. 1902). It was a blown container with hot glass applications and is very reminiscent of Marinot's work. (Fig. 14)

The first fifty years of the twentieth century were years in which a great change occurred in glass. This is expressed not only in attitudes towards an industrial material to an artistic medium but also in the actual work executed. These years were to lay a solid foundation of a new art form that had developed in the past thirty years.



Fig. 14 de Muniz

THEIR SIGNIFICANCE AND EFFECT

The 1960's heralded a time of random experimentation mainly in hot glass. The most important and influential events which marked the advent of international studio glass were the 1962 Toledo Workshops in Wisconsin, USA. However these were not isolated historical events. As early as 1947 Harvey Littleton (b. 1922), a professor of ceramics at the University of Wisconsin had submitted a proposal to the Corning Glassworks. In his proposal Littleton suggested that an experimental studio be opened within the glassworks. This was rejected.

In 1957, Littleton set off to Europe to research the contemporary trend in glass. He met Jean Sala (1895-1976). Sala was a Catalanian who learnt the craft of glassblowing from his father. He then moved to Paris where he owned an antique shop. He built a small furnace and blew glass unassisted. Between 1920-1950 he made small vessels and animals in porous bubbly glass called Malfin. (Fig. 15) Sala also worked with glass paste: pate de verre. None of his work was commercial and he stopped working in 1952. Though Sala had long stopped glassmaking he shared with Littleton his basic exhaustive technical experience. Littleton was convinced even more of the possibility of setting up a one-person studio. In 1958 on his return to Wisconsin, he made a number of rough experiments with glass blowing. He borrowed Sala's construction technique when assembling his furnace and used the tools given to him by Sala.

Through great and enthusiastic encouragement from fellow artists and craftspeople, Littleton began to realise his ideal of glass art in a physical sense; independent of the factory situation and for the artist.

Between March 23 to April 1, 1962 the first glassblowing workshop was held at the Toledo Museum in Wisconsin. The role of Dominick Labino (1910-1987), a glass technologist proved crucial in the actual melting of glass in the furnace. Littleton's initial attempt failed because of problems with the glass, Labino provided the workshop with #475 glass marbles for glass cullet. These marbles were used in industry for making fiberglass. When melted the marbles allowed for "a low melting temperature, durability, and reliability, and provided a consistency suitable for blowing".⁵

Harvey Leafgreen, a retired industrial glassblower also contributed importantly towards the success of the Toledo Workshops of 1962. The main priority of Littleton and his handful of students was to actually master basic glass manipulation. Leafgreen's practical experience and teaching were vital.

Between Littleton, Labino and Leafgreen, the preliminary experiments in studio glass proved successful. (Figs. 16-18) Another workshop was held between June 18 and June 30 1962. This second workshop proved much more successful than the

⁵ Frantz (Susanne) "Contemporary Glass", p.50



Fig. 15 Sala



Fig. 16 Labino

first. Students explored mould-making, grinding and polishing and colour applications. Also lectures on glass technology including glass composition and furnace building were given. However like the first workshop, the overall objective was to gain additional experience in glassblowing.

The success of these workshops was partly due to the uninhibited exploration of a new material. Critics could not compare the work to anything else, so at this early stage a standard of quality was not established. Instead improvements were made as a result of trial and error. Technical and artistic developments were made quickly.

The developments made at the workshops were documented in the Glass Workshop Report. The purpose of the workshops was explained as looking with knowledge at "glass of the past and present - (and) at education possibilities within the secondary, college and university systems"⁶ and most importantly at investigating techniques for the artist working alone.

The success of the workshops was seen in the emergence of an international studio movement. Despite the strong nationalism within individual countries, there was an eager and open exchange of ideas and innovations on an international scale. This growing openness was communicated in a number of ways:

⁶ Frantz (Susanne). "Contemporary Glass", p.53

worldwide exhibitions, glass education, glass literature and glass associations.

In 1966, the Toledo Museum had the first "National Invitational Glass Exhibition". The work included was varied with mosaic, flat glass and especially blown work by the pioneers of the movement: Littleton, Labino, Marvin Lipofsky (b. 1938) and Joel Philip Myers (b. 1934). The same year saw the first exhibition which was a biennial affair of molten glass art.

On the European front there was an exhibition of "Four British Schools of Design in Glass" in 1968. This was organised by the Corning Museum in New York State. The participating colleges were the Royal College of Art, London and the Art and Design colleges of Birmingham, Stourbridge and Edinburgh.

The first big European exhibition of studio glass was "Vrij Glas" (Free Glass). This was a travelling exhibition and appeared at four European venues.

Although all these exhibitions were relatively small, they later were to make leeway for museum exhibitions of glass. They served to establish a public awareness of glass and helped make glass fashionable in the 1970's.

Glass education also helped formalise glass art. The first glassmaking course established was at the Art College of

Wisconsin, in 1963. Later in 1966-67 Dominick Labino offered three workshops at the Toledo Museum.

Students of Harvey Littleton such as Marvin Lipofsky and Dale Chihuly acted as stimuli in spreading glass education programmes: Lipofsky in California and Chihuly in Rhode Island. The latter was also responsible for founding the famous Pilchuck School in Seattle. The seasonal glass sessions offered here have provided opportunities for intensive schooling for artists independent of the university degree situation.

Glass literature also helped formalise glass art. In 1971 Harvey Littleton published a volume "Glass Blowing - A Search for Form".

In 1972 the first journal devoted to glass was published in America: "Glass Art" later known as "Glass". This acted as a catalyst which resulted in a number of national magazines. Glass literature increased public awareness of glass art and further strengthened the growing glass institution.

Other magazines such as New Work (USA) 1979, Neues Glas (EDR) 1980 and Crafts (UK) 1976 were founded.

This glass literature served as a commentary on international glass developments. Together with exhibitions, educational

programmes, glass galleries and later glass associations, it has served to institutionalise glass art.

The early beginnings of contemporary glass were not confined to America. Europe has a long-standing tradition of glass industries. But it was in America that effective events, such as the Toledo Workshops took place. These workshops were a fresh start and the beginning of a studio glass tradition that developed and spread throughout the 1970's and 1980's. From the beginning there has been strong ties with Europe and in the next chapter I shall discuss the European counterpart.

The success of these art and craft exhibitions in
American cities, however, was not an isolated
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CHAPTER THREE

THE EUROPEAN COUNTERPART

IN INDEPENDENT STUDIOS AND INDUSTRY

After the 1945 Paris Exposition Internationale
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The concept of glass art for art's sake was essentially an American affair. However experimental glass was an important element of the major European glass industries. It is difficult to trace the evolution of a studio glass concept in Europe because of the deep-rooted design tradition. However there are a few specific examples which indicate an acknowledgement of glass art.

Harvey Littleton began his research into the feasibility of glass art in the late 1950's. While travelling Europe, Littleton met with Jean Sala in France and also investigated the Italian glass workshops. On his return to America he applied his information about small-scale studio production and the Toledo Workshops of 1962 ensued.

After the 1962 Toledo Workshops Littleton returned once again to Europe and first met Erwin Eisch (b. 1927) in Germany. The consequence of this meeting established a link between the American and European glass communities. It also gave Littleton an insight into the European view of glass. Experimental glass of the Toledo style was very rare. There was a strong design ethic based on Bauhaus theories. Good design was considered to be minimalist, pure and true to the medium. Also throughout Europe a long-established glass industry existed; this produced good quality functional objects; glass sculpture for the sake of pure sculpture was virtually unexplored.

In Germany in the 1960's the most celebrated ideology was "less is more" - Adolf Loos. Eisch passionately rejected this aesthetic. He believed that designers were not sufficiently intimate with their designed medium; an artist must work through the whole making process to create an intrinsically valuable object of art.

Eisch was born into a family of glass engravers and in the 1950's he co-owned a glass factory with his family. He studied sculpture, painting and industrial design. He first exhibited in 1962 with his future wife in Stuttgart. Littleton became familiar with Eisch's work through an exhibition and was fascinated by what he saw.

Eisch's work was deliberately misshapen, and deformed. He used hot glass techniques with cold decoration and enamelling. His pieces though originating from the blown bubble were liberated from function and skillfully executed. In effect, he turned against the traditional concepts of form which seemed to him to have been completely exhausted. He began with the basic bubble and continued to contort and mould it to his desire. He suggested function yet ridiculed it by creating non-functional work.

Eisch also rejected the natural beauty of glass: its transparency. He believed that the artist should not be slave to the material or to the technique. To emphasise this notion

Eisch used black or dark colours instead of clear glass in his earlier works.

He employed a number of techniques to create his art. Eisch was equally capable at all of them: glass engraving, enamelling and blowing. This indicated a natural technical proficiency with glass yet he strongly contended that a glass artist who only worked his material as a skilled craftsman belonged to the glass guild.

Fortunately Eisch could afford to have a studio within his factory especially for the creation of his glass sculpture.

Eisch is a significant figure in European studio glass because of the strength of his work and his unorthodox approach to glass. (Fig. 19)

Littleton was delighted with Eisch because his work was on par with the American artistic climate. A fast relationship developed between the two despite the language barrier. As already mentioned the aesthetic climate within Germany and Europe was strongly in favour of simple, pure design. Because of this and also because of the new emerging mood in America Eisch's work was more readily received in the States. His work paralleled the new developments occurring in glass after the Toledo Workshops.



Fig. 19 Eisch

In 1964 he went to America to the seminars at the University of Wisconsin and has continued to maintain a healthy interaction between the two continents, and to create a bond between them.

The concept of European studio glass was not initiated by Eisch. There were studio facilities within the traditional European glass industry: Sweden and Czechoslovakia. This contradicts Eisch's contention that artists were not intimately involved in the execution of their ideas. However it does strengthen the argument that little unique work was made outside of the industrial setting.

Sweden and Czechoslovakia have been centres of glassmaking for centuries. In the early twentieth century a strong relationship between art and industry was encouraged and developed. As early as 1917 Simon Gate and Edward Hald designed and involved themselves in the glassmaking process at Orrefors, Sweden. Since the 1940's Czech glass has been regarded as an important export commodity. Though private art collecting contradicted socialist principles there has been a great demand for sculptural and architectural commissions.

Even though Harvey Littleton and his contemporaries were intent on liberating glass from its confines as an industrial material to an artistic medium, a certain liberation of the material to a medium had already occurred within industry; particularly Swedish and Czech glass.

In the 1960's Swedish glass design was approached freshly. Gunnar Cyren (b. 1931) joined the Orrefors design team and together with Ingeborg Lundin (b. 1921) made great innovations in Swedish glass design. The production system allowed free artistic interpretation of functional wares. Cyren's famous "pop" glass goblets with multi-layered, polychromatic stems became famous. Lundin designed simple glassware with raw engraving. Despite the continuing trend for functionalism, a fresh awareness is evident.

Because Czechoslovakia had practiced a modern approach to glass since the 1940's, it is difficult to compare it on the same level as the rest of the world. Like Sweden the industry is long-established and despite political unrest glass has steadily developed and excelled throughout the twentieth century.

This success story is largely attributed to the dynamic energies of Stanislav Libensky (b. 1921) and his wife and professional partner Jaroslava Brychtova (b. 1924). Together they have instilled an excellence in glass art not only in Czechoslovakia but worldwide.

In the late 1950's the Czech glass industry was nationalised. There was a great input of technical and artistic developments. Independent studios were financially not possible but studios for experimentation were established within the industry. Glass education was intensive; all

techniques were learnt and there was a strong emphasis on aesthetics, painting and drawing.

Libensky-Brychtova work is characteristically cast glass which is cold worked. The cutting and polishing techniques have been greatly refined because of the accessibility to industrial equipment and expertise. Libensky's preference for abstracted, geometric shapes has also influenced his students. The education system that epitomises a healthy working relationship between art and industry has allowed Libensky to spend his life combining his career as a designer for industry with a parallel career as an artist in glass.

Little Czech glass was seen in Western Europe before 1957. At the Milan Triennale 1957, Czech glass made its debut and astounded the West. Rene Roubicek received the Grand Prix.

Studio glass did exist in the 1960's in Europe. However artists working independently of the industrial setting were rare. Between 1962 and 1965, Littleton travelled Europe spreading the new glass aesthetic. One of his students Sam Herman (b. 1936) joined Edinburgh College of Art. Helen Monroe Turner (1901-1971) had set up a glass design department in 1957. The design emphasis was not on the vessel form but on finishing techniques: sandblasting and cutting.

Later Herman was directly responsible for constructing a small furnace at the Royal College of Art, London. In 1969, three

years later, Herman, together with a handful of graduated students founded the Glasshouse in Covent Garden. This was the first commercial glass studio in Britain. The purpose of this workshop was to provide business experience to newly graduated students. The workshop team produced a line of functional wares which subsidised more expensive gallery-orientated work.

Herman later introduced the glass movement to Australia.

It took longer to establish studio glass in Europe because of the strong industry-orientated education system. With the exception of Swedish and Czechoslovakian industries, where glass schools already were established, colleges were reluctant to set up glass courses.

In 1972 American developments were formally introduced to Europe in the exhibition "Glass Today, Art or Craft?". This was organised by the Museum Bellerive, Zurich. The exhibition brought together a large gathering of artists from both sides of the Atlantic.

As a result of the success of the gathering, an Austrian firm J&L Lobmeyr and Sons was motivated to devote a gallery of its Vienna showrooms to the exhibition of studio work. Also Lobmeyr and Sons set up a small hot glass and cutting studio in St. Pölten, Austria.

The first exhibition at this gallery was of Eisch's and Littleton's work. The studio facility allowed a lot of European artists to learn glassblowing outside of the apprenticeship system.

A healthy and open relationship developed between the two continents. Whereas the American studio circle were mostly hot glass artists, the European contingent included warm and cold glass artists. The educational interaction broadened the perspectives of both groups. Europeans learnt of a more unrestrained, independent approach, whereas the Americans learnt of the benefits of industrial collaboration.

In the 1970's and 1980's studio glass established itself internationally. In the next chapter I intend to trace this establishment, evaluate its validity and finally emphasise the benefits of a healthy artist-industry working relationship.

CONCEPT ON THE 1970'S AND 1980'S

GLASS ART TODAY: WHAT IS THE FUTURE?

THE IMPORTANCE OF ART

AND INDUSTRY COLLABORATION

The 1970's and 1980's were decades of great technological and artistic discovery. New possibilities were opened up in all types of glass with preference for warm and cold glass techniques. Major progress was achieved due to significant technical experiments which were random and exploratory. During the 70's and 80's artists developed a rich technical vocabulary and used it to make more artistic and personal statements. Also the most important aspect of these decades was that glass became accepted as a fine art form. This was confirmed through glass education and a growing gallery and museum interest in glass art.

Organisations such as the British Artists in Glass (BAG) and the Glass Art Society (GAS) originally formed to serve as a common institution to which all artists interested in glass could come and participate in an interchange of information on technique. In the 1970's artists had accumulated this technical knowledge and wanted to apply it to the creation of art glass. The purpose of glass organisations changed to a focal point where an emerging glass aesthetic was discussed.

Also glass art was perceived as a lucrative commodity. Artists could make a living out of their work. The general format to subsidise glass art was teaching jobs. Alternatively, small studios with a limited production line were set up. The Glasshouse, London was the original. Its financial success was noted and its system copied.

Finally, enterprising companies like Kosta, Sweden encouraged artists to design for production. This arrangement was made more attractive by giving the artists access to industrial facilities to create their own glass art. I want to highlight the benefits of such a relationship. I believe that even though glass has been liberated from its industrial material status to an artistic medium it can still be developed as an artistic medium in an industrial setting.

As already mentioned major technological advances in glass were achieved in the 1970's. Technique is the basic handwriting of an artist. As soon as this has been mastered a personal style can fully develop. Glassblowing was initially the favoured technique, but due to the nature of this art which requires technical virtuosity many artists began to look for other techniques that were less expensive and less physically demanding. The most favoured alternatives were warm and cold glass techniques - a technical exploration in kiln-worked glass and finishing techniques ensued.

The most popular kiln-worked glass processes are slumping glass over pre-fabricated moulds; fusing layers of glass together; pate-de-verre which is a glass paste used to build up fragile forms and casting. Finishing techniques entail glass cutting, polishing and decorating. All of these techniques when combined together or with blown work have given way to many possibilities in glass art.

Artists could choose to create sculptural or functional glass because the technical vocabulary was available. Some combined glass with other materials, and have achieved results without the technical formalities. These varying approaches to technique have resulted in the emergence of two distinct schools of glass artists. One is occupied with making statements about the intrinsic beauty of glass: artists such as Dale Chihuly. The other is less reverent and allows a broader scope and approach to glass. Clifford Rainey is one such artist.

Dale Chihuly is responsible for setting up the Pilchuck School of Glass in 1971. This summer school has attracted international artists. It is also at Pilchuck Chihuly instructs the creation of his massive blown glass forms. Originally of a textile background, it appears that Chihuly translates his innate feeling for texture, colour and form into glass. The more famous work is "Sea Forms", a collection of bowl forms in rich, bright colours. (Fig. 20) Clifford Rainey has made glass and taught glassmaking in Britain since the 1970's. He has combined cast glass with paint, sheet glass and metal. His "Standing Figure" is a very strong image that deals with tensions. Rainey's work is expressive and evokes a reaction that is not always pleasant. (Fig. 21)

Both artists' work is equally important yet so different in effect and appearance. The two are prime examples of the emerging schools of glass, in the 1970's. Chihuly's work is about glass: its movement and optical effects. Rainey's

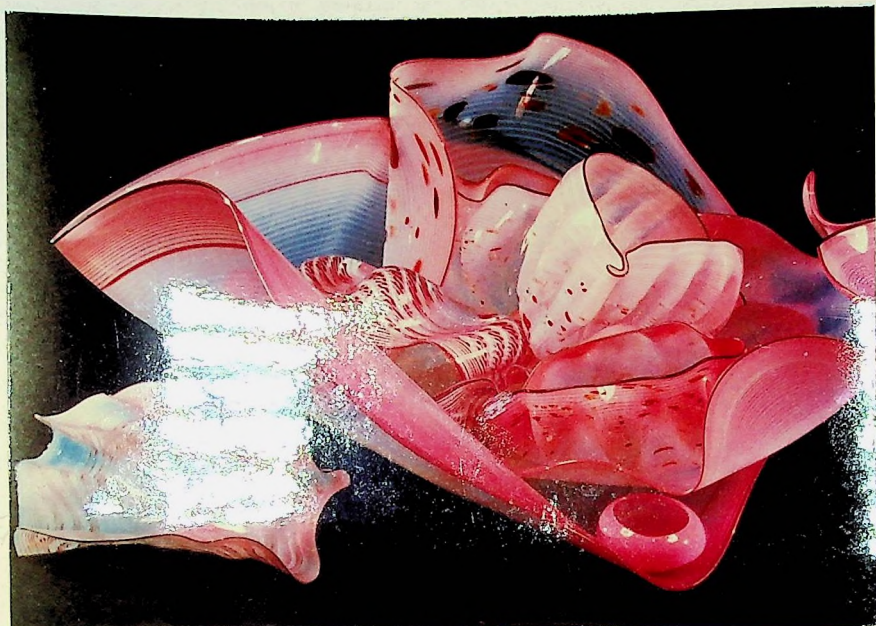


Fig. 20 Chihuly



Fig. 21 Rainey

glass is used as a means to an end; to create a reaction. The latter's work is veering more towards streamline sculpture. His career success indicates a formalisation of glass as a fine art medium.

This thesis so far has trace the emergence of a glass art concept. The relationship between art and industry has converged and diverged throughout the twentieth century. In recent years glass has spread from the industrial setting to the fine art world. It has established itself despite being "the pretty girl of the art world and as such, it has (had) to try harder to prove itself serious."⁷ Now that glass has a selection of applications, it is necessary to revise the art and industry situation; to show how a healthier, more beneficial relationship can work. I intend to illustrate this success in a specific example between Kosta Boda, Sweden and one of its designers Bertil Vallien.

Bertil Vallien (b. 1938) graduated from the School of Arts, Crafts and Design in Stockholm in 1961. By 1963 he began designing for production at Kosta Boda. The arrangement between designer and company has allowed Vallien to also make art glass - he is paid for both. Even though Vallien is a highly versatile artist, it would be fair to say that Kosta Boda has played an important role in his success.

7 Klein (Dan) Glass, a contemporary art, p.16

The designer is a central figure in the production team at Kosta Boda. Throughout the Swedish glass tradition, the designer always remains despite financial uncertainty. Kosta has twelve designers in all who are encouraged to work on production designs and on their own personal pieces. About twenty percent of Kosta's personal collections is of limited editions and art work. Obviously, there is a connection between the artist's personal collections and the work developed for production. Kosta's policy of artist participation is unusual in comparison to Waterford; but it works without upsetting the long-standing tradition.

Vallien sandcasts his glass sculpture. The sand provides him a freedom not to be found in the usual metal approach; being able to create in a spontaneous way, letting the inspiration of the moment become part of the process. The only major drawback is that the sand form is destroyed after each casting. Vallien also believes that the real work lies in the preparatory stages. The sand mixture contains clay, charcoal and water. When a fine consistency is achieved, Vallien digs and presses out the shapes desired. He uses a number of tools made of wood or plaster to create the sculpture negatively in the sand.

His early sculptural work was blown with hot applications: glass pads, trails or colour. (Fig. 22) He also made sand moulded cats which are actually mobile. (Fig. 23) The work for production had definite stylistic similarities. Boda



Fig. 22 Vallien



Fig. 23 Vallien

Rustica, Boda Windpipes and Boda window ornaments are collections which show this. In the 1980's Vallien's sculpture was of sandcast boats which had metal and colour inclusions. The boats deal with issues concerning freedom and captivity, birth and death. (Fig. 24) A limited edition series of vases strongly reflect decorative qualities of the boat series. (Fig. 25)

Innovation and aesthetic brilliance have been consistent in Sweden, despite changing tastes and fortunes. This can be attributed to the management of the companies. I believe that Vallien and other designers have achieved a healthy balance between design and art. Vallien has the freedom of an independent artist but with the stabilising effect of a good quality design tradition.

In the past thirty years there has been an explosion of ideas and techniques in glass. All possibilities have been explored with some exceptional achievements in certain areas. Glass art has been accepted as a valid art statement and this is verified by the number of schools, galleries and museum collections of glass. It may appear that today's emerging glass artists have a rich technical vocabulary from which to use. However in reality innovative work is difficult to make. There are new directions which de-emphasise the role of glass, but how far can they go? Today it is necessary to examine all that is already here and to re-evaluate it. The most successful and productive countries in the world have been



Fig. 24 Vallien

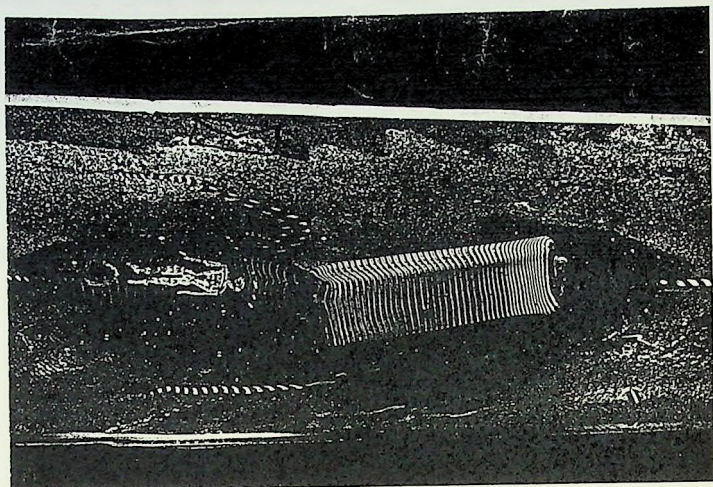


Fig. 25 Vallien

Sweden and Czechoslovakia. Both countries have maintained a high standard of creativity and quality even during economic and political upheaval. They can be used as a role-model for successful artist-industry collaboration and also help guarantee a future for glass either as an art form or functional material.

CONCLUSION

This thesis has traced the evolution of a new concept in glass that began in the early twentieth century. Glass was used as an artistic medium by individuals like Emile Galle and Maurice Marinot. This approach was also used in industry especially in Sweden and in Czechoslovakia. In the 1960's decisive attempts were made to liberate glass from its industrial environment. This began in America and the concept spread to Europe. Throughout the 1970's and 1980's glass was established as a valid artistic medium both in streamline sculpture and in industry. The future of glass is unknown but I believe that an artist-industry collaboration can guarantee a continuing tradition in a very special medium.

ILLUSTRATION REFERENCES

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BIBLIOGRAPHY

BOOKS

- Beard (Geoffrey). International Modern Glass. Barrie and Jenkins, 1976
- Beer (Eileene). Design in Sweden. AB Tryckerigruppen, 1977
- Cooke (Frederick). Glass. E.p. Dutton, 1986
- Frantz (Susanne). Contemporary Glass. Harry N. Abrams Inc., 1989
- Herlitz-Gezelius (Ann Marie). Orrefors. Atlantis, 1984
- Klein (Dan). The History of Glass. Orbis, 1984
- Klein (Dan). Glass, a contemporary art. Collins, 1989
- Terje (Ola). Bertil Vallien's Glass. Cinclus Press, 1983

JOURNALS

- Edwards (Sandra). In "Northern Lights". Industrial Design Jan/Feb 1987, pp.48-53
- Hollister (Paul). "American Studio Glass in the Next Decade : 1987-1997". In Neues Glas. Jan 1987, pp.6-13
- Kermer (France). "Erwin Eisch, le pionnier du Studio Glass en Allemagne". In La Revue de la ceramique et du verre Sept/Oct 1988, pp.36-41
- Ricke (Helmut). "Tendenzen in Europa". In Neues Glas Jan 1989, pp.6-11
- Trujen (Monica). "Fragile!" In Art Aurea Mar 1989, pp.47-49

EXHIBITION CATALOGUES

- V&A Museum, London; Jennifer Opie; Scandinavian Glass and Ceramics in the Twentieth Century; London 1989