Having recognized the innovation, diversity, creativity and fine craftsmanship that had become the hallmark of Finnish and Swedish glass, it is important to explore the concept of the emergence of a ‘Scandinavian’ glass aesthetic. Central to this major creative dynamic was the successful collaborative environment provided by the glass industries, where artists worked in close tandem with the master-craftsmen and glass technologists in their attempt to push the visual and technical boundaries of art glass. The research that informs this lecture also explores the complex relationship between technological, socio-economic and cultural change, and how they all impact on and influence the creative process and ultimately individual artistic expression.
The lecture takes the form of four inextricably linked units that all explore and contextualise the contributions made by artists working in the Swedish and Finnish glass industries since 1915.

The areas can be identified as thus:-


2/ ‘Rebellion and Change’: 1960s onwards

3/ ‘Innovation and Diversity’: Three Creative Approaches, Oiva Toikka, Bertil Vallien, and Markku Salo

4/ ‘The Big Sleep’: a unique 12 minute DVD of Salo’s installation and interventionist work that includes the use of motor-driven glass assemblages and robots

The overarching theme of the lecture is to explore and reassess the critical role played by the Finnish and Swedish glass industries in the development of art-glass, and the importance of the artist and art ‘in’ the Scandinavian glass industry in the twentieth century. Most specifically, in addressing the central theme of the conference a substantial element of the presentation will focus on the **development of new techniques in the industrial environment** and their resulting impact on international art glass throughout the 20thC. A key element of the lecture is to define a methodology that enables the development of a protocol through which it is possible to identify and chart the development of Finnish and Swedish glass artists and their individual creative, visual, and technical contribution to the art of glass and glass making **within the factory system**. Central to this is the need to interrogate and evaluate the complex relationship between technological and cultural change and their impact on individual artistic expression.

The research that underpins the lecture has been part of a strategy that has been built upon publications and exhibitions – all of which were significantly different from other studies of Finnish and Swedish glass in that the focus of the research has been undertaken from the perspective of an analysis and evaluation of the contextualization of those objects that essentially fall within the creative category known as glass art. Whilst acknowledging the importance – both in sociological and commercial terms of functional ware, this research has consciously avoided yet another re-appraisal of the designs that have dominated Finnish and Swedish factory glass production throughout the twentieth century and which appeared to form a central element in the concept of ‘Scandinavian Design’ or ‘Scandinavian Modern’ that received international acclaim in the 1950s and 1960s.

The vital role played by Finnish and Swedish glass production within the broader context of the design phenomenon ‘Scandinavian Modern’ or the more generic ‘Scandinavian Design’ can be evidenced in the international attention devoted to the topic by critics, writers, designers, historians and curators. The focus of much of the earlier research has been to present the major contribution of Finnish and Swedish glass production within the context of the socio-economic and political developments that had been affecting world markets from the 1930s until the 1970s. It is
acknowledged throughout my research that the ‘myth’ of ‘Scandinavian Modern’ was indeed a potent force as a stylistic and idealistic movement. Yet, apart from the period 1950-65, factory glass production was in reality on the periphery and appeared to be more open and responsive to the challenges and dynamics of the wider international world of the visual arts, as presented by Art Deco, Modernism, Surrealism, Abstraction, Abstract Expressionism, Pop Art and popular culture, and Post Modernism. It is, therefore, my contention that it is exactly this continuing testing and probing of new ideas and technologies by artists ‘working within the factory system’ throughout the twentieth century that provided the basis for the international status and influence of Finnish and Swedish glass.

It is however, vital to present the research against a backdrop of the contextualization of the situation at the turn of the nineteenth century and the emergence of National Romanticism and the impact of Ruskin, Morris and the English Arts and Crafts Movement. The paper argues that, because industrialization developed at a much slower pace in Finland than in central Europe, it was able to retain a craft skill element in industries such as glass production. Indeed, it is argued that it was this retention of craft skills within the industrial factory environment that provided a major creative element in the success story of the mid twentieth century. Throughout the first three decades of the twentieth century there was very little experimental work being undertaken by the glass companies in Finland, and movements such as Art Nouveau and later Art Deco had only minimal impact with design protocols following rather outmoded European models. This was in sharp contrast to neighbouring Sweden where the concept of employing artists to work and experiment in the glass factories has been well established.

The concept of the artist being employed by – and actually working within the glass factory environment became a unique feature of the Scandinavian glass industry during the early part of the twentieth century. In 1915-16, the Swedish glass factory Orrefors recruited the artists Simon Gate and Edward Hald as creative directors, and the two artists immediately began to explore and experiment at first hand with new techniques and processes. Working alongside the craftsmen and glass technologists, Gate and Hald produced an innovative and visually exciting body of work that was to receive international critical acclaim in Europe and America. Hald and Gate were later joined by Edvin Ohrstrom and Vicke Lindstrand in the late 20s and 1930s. The development of new and visually exciting techniques was a major feature of the success of Orrefors with ‘Graal’, ‘Ariel’, and a new focus on engraving being central to the factory’s creative output.
Examples of ‘Graal’ by Hald and Gate 1918-20

This collaborative relationship proved to be both creatively and commercially successful, and was soon to be adopted by other glass factories in Sweden and later in Finland. It can be argued that it was this unique working relationship between artists and industry that provided the creative dynamic that underpinned the international reputation of Scandinavian glass.

Examples of ‘Ariel’ by Ohrstrom 1930s
The complexity of the emergence of the industrialisation process in Sweden is important where the slow pace of advancement and lack of scale created a situation where *craft skills would remain an intrinsic element in the design thinking*. The retention of high levels of craft skills also laid the foundations for the artists and designers to devote more time to creative and technical experimentation, and the pushing of the boundaries of what might be possible for glass art. The pioneering efforts of Simon Gate, Edward Hald and Edvin Öhrström all provide clear evidence of the new creative dynamic that attracted much critical acclaim in Europe and America throughout the late 1920s and 1930s.

Swedish factories such as Orrefors, Kosta, Boda and Åfors were quick to exploit the potential, both in creative and commercial terms, which would result from a successful creative partnership between artist and industry. Each factory rapidly recruited new artists and master-craftsmen in an attempt to become part of the Swedish glass success story. Whilst the modernist ethos remained an important influence in the ever developing design aesthetic, glass appeared to operate on a
less dogmatic and more diverse level with colour continually playing an important role. The book argues that this can be seen to good effect in the glass production of the immediate post – Second World War period and into the 1950s and early 1960s. The iconic ‘Apple’ vase of Ingborg Lundin and the refined and elegant tall sculptural glasses of Nils Landberg, together with the further development of the Graal technique by Sven Palmqvist in the vividly coloured ‘Kraka’ and ‘Ravenna’ series all argued for a wider reading of the modernist approach.

The years immediately after the end of the Second World War were difficult times for Finland. The repatriation of over 400,000 refugees from Karelia, huge reparations to pay to Russia, and material shortages for industry all provided a gloomy context for the Finnish nation. However, it was also at this point that the Finnish glass industry began to recruit artists such as Gunnel Nyman, Tapio Wirkkala, Kaj Franck and Timo Sarpaneva to form art departments in the Iittala and Nuutajarvi glass factories where a new spirit of collaboration with highly-skilled master craftsmen and glass technologists could take place. The text also analyses the reinstatement of the Milan Design Triennales in 1951. The Triennales provided an opportunity for nations to competitively present the best of their new designs to an international audience emerging from a period of austerity brought about by the immense costs and damage incurred by years of engagement in war.

It can be argued that the major differentiating factor between Finland’s approach to the Milan Triennales and that of its international competitors rested primarily in the philosophy that informed the selection of the objects on display. The policy of the Finnish selectors under the guidance of Wirkkala was to focus on the exhibition of the best and most exclusive art glass with the emphasis firmly on aesthetics rather than functional domestic ware and everyday objects. The text charts how Wirkkala’s experiments in abstraction and themes inspired by nature and the organic such as the ‘Chanterelle’ vase, ‘Paadar’s Ice’ sculpture, and ‘Iceberg’ all met with great critical acclaim and received numerous Grand Prix awards. Wirkkala’s oneness with nature and his connection with Lapland and peasant art were frequently invoked to help foster the Nordic myth that was becoming such an important element in the promotion and commercial development of the Scandinavian nations.

International success followed at the Milan Triennale of 1954 where the elegant and purely sculptural works of Sarpaneva such as the ‘Lancet’, ‘Kyak’, and ‘Orchid’ attracted more Grand Prix awards. The international appeal of Sarpaneva’s sculptural objects was strengthened by their visual connection with the work of the sculptors Brancusi and Henry Moore, both of whom drew inspiration from nature and natural forms. What characterized both Wirkkala and Sarpaneva’s work was an inherent complexity in the making process that was heavily dependent on the high craft skill levels in the factory. Finland’s ever growing influence as an international leader in glass was further supported by successes at the subsequent 1957 and 1960 Triennales.

The ongoing research protocol is also driven by a need to reassess the international importance and status accorded to Scandinavian design during the 1950s and 60s through a questioning of the myths that were created to promote a specific and carefully controlled political and socio-economic concept and ideology of ‘Scandinavian Design’ or ‘Scandinavian Modern’. The stereotypical post-war romantic ideal of Scandinavian design was extolled in the annals of the Modern
Movement, where mythical concepts such as homeliness, purity, simplicity, clarity of line, and closeness to nature were destined to become the key design clichés of the mid – twentieth century. Indeed, many of the celebrated objects or design classics from this era such as the modernist Aalto ‘Savoy’ vase, Wirkkala’s ‘Chanterelle’, and Sarpaneva’s ‘Orchid’ have achieved iconic status and have remained in production into the new millennium.

The iconic ‘Chanterelle’ by Wirkkala

Sapaneva’s ‘Kyak’ and ‘Orchid’

Arguably, such an evaluation could only have provided an edited part of an overall picture and by definition needed to exclude or disregard alternative and more experimental developments. It is also important to highlight the problematic nature of the usage of the terms ‘Scandinavian Modern’ and ‘Scandinavian Design’ in that they appear to signal or imply a shared aesthetic and unity of purpose that is underpinned by an agreed and sophisticated discourse. Whilst this research acknowledges and accepts that this complex and prominent ideology has prevailed, it is also inevitable that there would be major differences between countries in their adoption and interpretation of the discourse. In terms of the production of art glass the important question is whether this discourse was a fundamental part of an overarching myth for all including artists, industry and the public, or only some at specific points in time.
Throughout the 1950s, the all embracing and interchangeable terms ‘Scandinavian Design’ and ‘Scandinavian Modern’ were appropriated to encompass the individual successes of the Scandinavian group of nations forefronted by Finland and Sweden at the Milan Design Triennales, and were employed as a defining vision for the various collaborative government sponsored touring exhibitions that took place throughout Europe and North America during the 1950s and 1960s.

The term ‘Scandinavian Modern’ became synonymous with a design aesthetic that would essentially provide a model of good taste through the promoting of industrially manufactured products that would appear to conform to, or support a specific design ideology.

Post 1960s

‘1960-1980, Rebellion and Change’. Against the backdrop of the emerging and internationally influential Hot Glass Studio Movement in America during the 1960s, the lecture examines the way in which Swedish and Finnish glass artists and designers developed a very successful method of working within the glass industry, producing sculptural ‘one off’ objects whilst also designing innovative functional ware for serial production, whilst at the same time creating a range of unique sculptural pieces, many of which highlighted the engagement with traditional craft practices and advanced technologies. The period 1965 to 1996 was one of immense change and diversity in the Swedish and Finnish glass industry, and it is argued from the outset that the emergence of the Studio Glass Movement in America during the 1960s had major challenges and implications for glass art and the factory system. The most important of these was a rethink about the fundamental role of glass within the broader context of the fine arts and a revival of studio rather than factory based making. Glass making was gradually becoming more expressive, intuitive, gestural and colourful, reflecting the liberating influence of Abstract Expressionism, and the emerging Pop Art movement.
‘A More Irreverent Approach to Factory Glass’. In sharp contrast to the previous section the primary focus of section two is to highlight and provide evidence for the emergence and development of a more irreverent, anarchic and expressionistic approach to the production of glass art within the Swedish and Finnish glass factory systems. Covering the period 1965-1990, the objects under discussion explored the way in which glass artists and designers began to adopt and adapt a more expressionist visual vocabulary that initially paralleled ideas and issues that were fuelling the important challenge created by the growing impact of the emerging international Studio Glass Movement. Attention focused on a diversity of approaches that were developed and employed by Swedish glass artists, reflecting the ever increasing influence of contemporary art practice and the interest in abstract sculptural form.

The artists and objects discussed in this section, provide clear evidence of an intensity and diversity of experimentation that, in the early stages, actually pre-empted the development of the Studio Glass Movement in America in the late 1960s. Crucially, this section argues that far from wanting to turn their backs on the glass industry in favour of individual, small-scale studios, the younger glass artists actively embraced the working environment and opportunities offered by the factories where, in tandem with ever increasing technological developments, the potential of scale became an important issue in the works created. Of vital significance to this study is the recognition of the diversity of creative impulses that would inform glass production in the various factories. It is argued that in general, there was a growing belief that new expression could only be achieved through challenging the existing status quo, and that as glass was increasingly being taken seriously as an art form with its own intellectual credibility, critical language and visual vocabulary, so then did the glass factories need to recruit artists who could meet the new challenges. A serious contraction in the international market for mass-produced glass during the 1970s also prompted a major rethink. However, the it is important to point out that rather than slipping into decline, the Swedish and Finnish glass industry survived through a new generation of glass artists and designers who were committed to the factory system began to attain prominence.

The emergence of a new group of younger artists being recruited to the creative teams at the Swedish glass factories during the mid – 1960s brought a new dimension and extended the creative possibilities for the various factories, and it is argued that their works were frequently characterized by a more irreverent and avant-garde use of glass as a vehicle for personal expression. Artists such as Göran Wärff, Bertil Vallien and Lars Hellsten all created works often of a large scale that were intended to shock the glass establishment. Just as important was the fact that these same artists also pushed the boundaries of what was technically possible in the factories as well as designing highly individual and commercially successful ranges of functional ware. The lecture highlights and evaluates the contribution made throughout the late 1960s until 2000 by the aforementioned artists and a new younger generation including Kjell Engman, Per B Sunberg, Lena Bergstrom, Erica Lagerbielke, Martti Rytkonen and Helen Krantz who joined the Swedish factories in the mid – 1980s and 1990s, and Heikki Orvola, Kerttu Nurminen, Bjorn Weckstrom, Annalena Haakatie, Timo Sarpaneva, Oiva Toikka and Markku Salo in the Finnish factories, and discusses a range of specific exemplars set against a backdrop of art movements and the continuing role of the artist in industry.
The section on ‘Developments post – 1990’ is characterized by discussion of exemplars that highlighted the progressive and dynamic approach adopted by the artists in the factories. Once again new techniques and visual vocabularies that strongly reflected and responded to the Post-Modern agenda with its transient values, and where plurality of experience, history, mythology, eclecticism, irony, fantasy, humour and exuberance all became important aspects within glass art. Evidence of artists engaging in installation type settings and large scale kiln-formed and sand-cast sculptural objects formed a vital element in the presentation, arguing that innovation, diversity, experimentation and the ability to engage with contemporary issues remained an ongoing programme within the Swedish and Finnish glass industry.

**OIVA TOIKKA**

In the visual vocabularies and practical experiments and developments of glass artists such as Oiva Toikka, Bertil Vallien and Markku Salo, the familiar materials of the traditional crafts take on new meanings and become freshly unfamiliar when reconsidered within the context fine art and the industrial environment. And it is this lack of familiarity with the factory as studio that actually liberates the artistic imagination as new techniques and processes are investigated. Thus we find this highly complex system of ideologies and identities actively feeding and supporting the mythology in abundance, and the invisible values have proved to be a potent and continuing force in international design aesthetics since the 1950s. Throughout the lecture there has been an attempt to illustrate, contextualize and critically interpret and evaluate the development and important contribution made specifically to glass-art by Finnish and Swedish artists and designers during the period 1925 – to the present day.

Oiva Toikka is an artist of immense creative talent, vision and versatility, the creator of elaborate compositions and installations – all driven by an unfettered and impulsive imagination that seems to ignore boundaries and pitfalls and pays scant regard to aesthetic coherence. For over 50 years, he has worked in glass and ceramics, and has designed stage sets and costumes for theatre, ballet and opera. He is recognized as an artist of international renown and has been the recipient of numerous national and international honours.

Through a series of themes and contexts he focuses on a creative approach that works through as well as with materials within the industrial environment, and it is in the industrial environment of the factory system that Toikka has continued his commitment to experimentation and the pushing to the limits of his visual vocabulary. It is argued that although Toikka is a Finnish artist through and through and readily acknowledges his debt to his peers and mentors, his vision has, more significantly, taken him beyond national boundaries where his creative output is very much at home on the international stage. Toikka’s work has undoubtedly always had an edge to it, and being the youngest of the Finnish glass ‘superstars’ from the 1960s he has never really comfortably fitted in with or indeed ever felt the need to follow the aesthetic agenda of the older designers.

Toikka’s work appeared to take its inspiration from a different set of influences that has inevitably led to him being considered as the anti-thesis of the image of the
disciplined Scandinavian designer. The resulting works – in whatever medium, are discussed and evaluated against a critical and theoretical backdrop that makes reference to post-war Existentialist writers and their emphasis on the ephemeral, transitory and contingent; the exuberance and excesses of the Baroque; Pop Art; and Post-Modernism.

In his elaborate compositions, assemblages, and installations, Toikka resolutely pushes the boundaries of accepted taste always arguing that experimentation should take precedence over aesthetic coherence. Toikka is also the recycler ‘par excellence’, an artist who discards nothing in the belief that in the fullness of time the bits of bric-a-brac might find their way into some new and challenging sculptural ensemble. In large scale sculptural assemblages such as ‘Les Miserables’ Toikka tested the tolerance of the spectator and the glass purist by the inclusion of large broken functional objects which he then sprayed with brightly coloured paint. The link between traditional craft methods and techniques and advanced technologies in relation to both experimental glass and serial production, also formed an important strand in his methodological approach.
BERTIL VALLIEN

Vallien was invited to join the Afors factory design team in 1963. In keeping with many of the other artist/designers at the time his work was characterized by an engagement with primitive or rather naive forms of imagery and a rejection of traditional values. Initially Vallien tended to favour the sandblasting technique when creating decorative schemes, however the major breakthrough came in 1966 when he began to explore the creative possibilities of **sand-casting** for his unique sculptural works. These experiments carried a very high level of risk, there being no tradition of sand-casting in any of the glass factories. Knowledge and skills therefore had to be acquired through trial and error and hands-on experience where both artist and technicians learnt from the making process. In his early sculptural pieces, Vallien highlighted the invisible or **hidden potential of sand-cast glass** to trap light, restrict and retain its luminous and refractory qualities, and its ability to contain elements and images that would always remain secret and a mystery.

In 1977, Vallien began to explore the theme of long boats, initially in ceramic. The boat forms were initially inspired by a visit to the Aran Islands off the west coast of Ireland where the boat has historically and culturally been a fundamental part of the islander’s way of life. The boats marked a significant turning point in Vallien’s development and reflected the artist’s own personal desire and need for freedom and provided an opportunity to undertake symbolic journeys. Over the following decades Vallien’s work has covered an extensive range of influences and themes, and his large sculptural pieces and installations – all created in the Afors factory, have reached a level of maturity, sophistication and scale that has brought him world-wide acclaim. His output has been both prolific and imaginative and has **pushed the boundaries of sand-casting to the limits**. Vallien increasingly focused on glass as a material for sculpture and developed a rich, complex and highly individualistic vocabulary of imagery and symbols that strike at the very essence of innermost feelings, and always encourage contemplation and serious engagement from the viewer.
Vallien’s sculptures act as visual metaphors for the universality of life and form a physical bridge between the world of reality and dreams. A very powerful sense of narrative has characterized his work over the past three decades and the more opportunities the viewer has to see the work, the stronger the various narratives become with subsequent encounters adding to the knowledge as more hidden symbols, themes and concepts begin to unravel. For Vallien, the technique of sand-casting provides an opportunity for a more spontaneous engagement between the artist, technical process, and the material, and he initiated a new way of thinking about glass as an expressive sculptural medium. The process also profoundly effects the way in which light is used as an integral part of the actual part of the actual concept as it becomes trapped within the rough, sandy surface of the form. The light therefore acts as a dynamic energy force from within rather than reflecting and refracting in a more traditional optical manner. Whatever the original intention is that underpins and informs a Vallien sculpture, he nevertheless always succeeds in achieving a level of memorability and human interaction in the work that demands a response from those who try to fathom out both the hidden meanings and the complexity of the process and techniques.

**Early SAND-CAST sculptures**

**Longboats**
It has been suggested that throughout the 1980s and 1990s, glass art lacked a homogeneous style or clear sense of direction and came to be increasingly characterized by the impact of Post Modernism, where styles, forms and images from the past became a primary source of stimulus. The work of Markku Salo is highlighted here for the way in which it takes its themes from history, has an exciting sense of colour, and frequently mixes media in the creation of a highly inventive series of sculptural pieces as in the ‘Journey to Troy’.

The work of Markku Salo provides real evidence of a *marriage between ‘art and industry’* and is a major creative, visual and technical contribution to the art of glass and glassmaking. Salo’s sculptural works highlight the complex relationship between *traditional craft methods and techniques and the most advanced technologies*. The interaction between power driven machines, robots and art glass instantly test perceptions and blur the boundaries between fine art, craft and industry very successfully both aesthetically and critically. The resulting works undoubtedly inhabit the critical realm of sculpture, rather than merely affecting the nuances brought about through the importation of fine art methodologies. Through works such as these the public become ever more aware of the fundamental relevance of technology within art glass in the pursuit of artistic expression.
Examples of Salo’s work – all of which involve the application of a range of technological systems

A rare and specially produced DVD of Salo’s major series of installations and interventions - ‘The Big Sleep’ in the caves at Rettretti in eastern Finland AND which features a section on the choreographed robot, concludes the visual element of the lecture.

Included in the group are a series of five pendulums that swing at the same speed and in ‘The Big Sleep’ includes eleven separate installations – seven of which were created by Salo. erfect unison over still water – the motion increasingly creating
a reaction on the surface of the water. The overall exhibition experience presented the visitor with a range of experiences that included encounter, confrontation, liaison and fantasy, time and emotion. It is clear from the assemblages and the emphasis on the physical as well as psychological experience that Salo was trying to create a multiplicity of different possible meanings and outcomes for individual interpretation. In his use of a robot he is clearly signalling that skill and meaning are as one and that there is no separation of thought, process and creative activity and that in this specific installation the marriage between conceptual and practical thinking is one.

Conclusion

Throughout the twentieth century, Swedish and Finnish glass manufacturers attracted and enjoyed great international critical acclaim which in turn brought sustained commercial success. Indeed, it is argued that it was this successful synthesis of art and industry that provided the opportunity for artists to work alongside the master craftsmen and experiment with and explore the creative possibilities of glass within the security of the factory system. It is further argued that the major factories with their advanced technologies actually played a pivotal role, through the creative collaborations, in extending the boundaries of what was possible in glass art. An analysis and evaluation of the rapidly changing visual vocabulary of glass art from the mid 1960s to the present day provided a diverse range of experimental exemplars.

This lecture further demonstrates that throughout the 1980s and 1990s, production at the major factories became increasingly characterized by a variety of approaches with no single dominant style, and the artist/designers continued to work on series for commercial markets and one-off art objects. The search to find new ways to extend old techniques and introduce new technological developments, together with the constant need to create a visual vocabulary that reflected contemporary themes and concepts also remained an important part of the strategy employed at the major factories. In summary, what characterized the Swedish and Finnish glass industry throughout the twentieth century was the way in which those artists and designers working within the factory system were actively encouraged to explore and experiment with new ideas and new technologies, and it was this emphasis on a synthesis of innovation and diversity that gave Swedish and Finnish glass its international prominence and unique appeal. The lecture concludes by suggesting that the ‘Golden Age’ of Finnish glass production in the 1950s and 1960s undoubtedly helped create a vision of national identity through design. The idea that objects could be immediately recognised as being Finnish or Scandinavian was overtaken in the 1970s, 1980s and 1990s by a more individualistic and international approach by the artists working within the factories such as Nuutajärvi in Finland, and Orrefors, Kosta, Åfors and Boda in Sweden, becoming the key factor in the glass industries’ ongoing success.