

**The investigation into the development of glass  
as an expressive medium in China through  
direct contact with Western methods of making,  
decoration and forming.**

**By**

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**A thesis submitted in partial fulfilment of the requirement of the University of  
Wolverhampton for the Degree of Doctor of Philosophy**

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## **Abstract**

This thesis is an investigation into the development of glass as an expressive medium in China through direct contact with Western methods of making, decoration and forming glass. The investigation proceeds through an analysis of the parallels between glass objects produced from Kangxi (1662-1722) to Qianlong period (1736-96), and contemporary practitioners' (2000-2009), which is complemented by my own practice.

The investigation mainly looks at three aspects and their inter-relationship within these strands. They are: 1) the history of glassmaking from 1696 to 1795 in the Qing dynasty with Western influences; 2) the analysis of Contemporary Chinese studio/academic glass within the imported UK model; 3) the development of my personal glass practice within this matrix. Practical work is of two components: reproductions of historical examples and personal creative pieces.

The inter-relationship/comparison between these three strands seeks to identify themes, such as the influence of the imported models, reactions to them (the nature of hybrid), and the development of Chinese identity within glassmaking. The purpose is to draw similarities and differences from the comparisons in terms of philosophy, attitude, cultural reference and technique, between Qing and contemporary China, to provide general principles in practice and guidance for future development.

Basic information has been gathered from a wide range of sources both in China and in the UK using libraries, museums and galleries / literature from books, journals, archives and websites. Some information has been derived from direct contact (emails, interviews, conversations and questionnaires) with practitioners and scholars. The nature of the research has involved the examination of real historical objects and their technical repetitions, visits to Chinese Universities and personal exhibitions. These

investigations included the identification of almost all of the extant examples of the Qing dynasty and their examination in terms of the identified aims of the research, especially in terms of physical evidence within the objects themselves.

A body of personal work has also been developed and presented as a case study and used as an investigative tool for analysing the contemporary movement and the making of suggestions. The techniques addressed in this research were developed as examples to illustrate the diverse possibilities of practice.

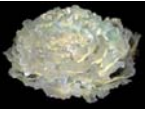




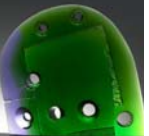


The whole study has been complemented by practice, the outcome of the research naturally consisted of a written thesis and a body of personal work. The written part contains the interpretation of contemporary Chinese studio glass and the analysis of its actual influences from Western practice. Furthermore the comparison of historical experiences is given through the viewpoint of a glass practitioner. A series of similarities and differences and the experiences from other practical models (Western Studio Glass Movement) have been illustrated from the comparison, as well as a set of recommendations and a vision for future development in China. The use of visuals, including image comparisons, technical and process illustrations, drawings, videos and actual samples, are designed to give new insights on the research of Chinese glass and provides an added dimension for presenting and encouraging discourse within the research of Art & Design.

Additionally, a comprehensive appendix at the end of the thesis records almost all of the existing Qing glass objects while concentrating on the highest quality of the same category both in and out of China. Further information on relative exhibitions, publications and contact lists are useful for those who are willing to pursue a further study.

## Contents

Acknowledgements.....	7
<b>Chapter 1: Introduction.....</b>	<b>8</b>
<b>Chapter 2: Qing Dynasty Chinese Glass.....</b>	<b>22</b>
<b>2.1 History</b>	
2.1.1 A Short review: ancient Chinese glass practice before Qing dynasty.....	23
2.1.2 A general history: Glass in the Qing Dynasty (1644-1910).....	28
2.1.3 Chinese philosophy of craft making.....	38
<b>2.2 Material</b>	
Techniques of making glass in the Imperial Glass Workshop.....	40
<b>2.3 Process</b>	
2.3.1 Designer / Maker partnership mode.....	47
2.3.2 Blowing technique towards carving manner.....	68
2.3.3 The evolution of the foot-ring.....	73
<b>2.4 Expression - a craft material: the nature of hybrid</b>	
2.4.1 “Gu” shape glass vase.....	84
2.4.2 Façon-de-Venice influence.....	91
2.4.3 Glass engraving: Chinese form with Western decoration.....	106
<b>2.5 Summary.....</b>	<b>112</b>



<b>Chapter 3: Contemporary China</b> .....	115	
<b>3.1 History: The Last decade, its problems, opportunities &amp; future</b>		
3.1.1 Leading the fashion -- Loretta Yang and Liuli Gongfang glass factory.....	116	
3.1.2 The rise of University level glass education.....	120	
3.1.3 Training and education.....	133	
<b>3.2 Material</b>		
3.2.1 Truth to material.....	136	
3.2.2 Type of glass (material).....	142	
<b>3.3 Process</b>		
3.3.1 Craftsman, Designer and Artist, and its associated working modes.....	150	
3.3.2 Kiln-forming as a main technique.....	162	
<b>3.4 Expression – an art medium: Contemporary Examples</b>		
3.4.1 Objects & Sculpture oriented -- Making glass as an artist.....	175	
3.4.2 Case study 1: Guan Donghai.....	182	
3.4.3 Case study 2: Zhuang Xiaowei.....	194	
<b>3.5 Summary</b> .....	199	
<b>Chapter Four: Personal work</b> .....	202	
<b>4.1 Case Study 1:</b>		
Influence of traditional Chinese ink painting – a main philosophy.....	205	
<b>4.2 Case Study 2: Vessel form</b> .....	213	
<b>Chapter Five: Conclusion</b> .....	220	
5.1 Areas of focus.....	221	
5.2 Outcomes.....	222	
5.3 Original contributions.....	225	
5.4 Recommendations.....	227	
5.5 Limitations and Future research.....	229	
<b>References</b> .....	231	

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<b>Appendices</b> .....	240
Appendix 1 - Qing dynasty Chinese ruby red glass.....	241
Appendix 2 - Qing dynasty Chinese enamelled glass.....	244
Appendix 3 - Disparate categories .....	246
Appendix 4 - Qing dynasty Chinese aventurine glass .....	248
Appendix 5 - Chromatogram of the Qing dynasty Chinese glass.....	250
Appendix 6 - Qing dynasty Chinese imperial yellow glass.....	253
Appendix 7 - Qing dynasty Chinese cased and cameo glass.....	259
Appendix 8 - Qing dynasty Chinese facet-cut glass.....	275
Appendix 9 - Qing dynasty Chinese glass with back-up foot-ring.....	280
Appendix 10 - Qing dynasty Chinese glass with ribbed decoration.....	282
Appendix 11 - Qing dynasty Chinese glass with <i>Façon-de-Venice</i> influence.....	284
Appendix 12 - Qing dynasty Chinese engraving glass.....	286
Appendix 13 - List of Chinese university glass studio .....	290
Appendix 14 - List of Chinese glass museum & gallery .....	292
Appendix 15 - Other centrifuged works of Xue Lu - .....	293
Appendix 16 - Other works of Guan Donghai.....	296
Appendix 17 - Questionnaire: Investigation of contemporary Chinese glass and personal work.....	297
Appendix 18 - List of publications, exhibitions and conference presentations of XUE Lu (2006-2009).....	321

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**Chapter 1:**  
***Introduction***



## Chapter 1: Introduction

### Problem / Questions raised

Since the early 1990's, coinciding with the emergence of China as a major economic power, new university departments have been established in Beijing, Shanghai and other major cities, devoted to glass as a creative medium; these have been operating since 2000. Of the sixteen Chinese academics educated in the West from the late 1990's, 37.5% are running the major studios in China. Therefore, the model of academic Chinese studio glass practice that they introduced is a predominantly Western one. Prior to this, modern Chinese glass was only produced in industry.

I was one of the first students to study in the postgraduate program of glass in Shanghai and therefore witnessed the birth of Chinese studio glass education. In the light of my further experience in glass education in the UK, a series of works called "Ink series" evolved with the idea of echoing traditional Chinese art and craft. The choice of colour and techniques reflected the strong influences of the methodology of Chinese brush painting. These glass objects were formed by the centrifuging technique, which is a contemporary industrial process of making glass containers in mass-production. The free stretched pattern was achieved by applying a kiln-formed black disc within the centrifuging process. The vessel object retains its function, but also reflects Chinese aesthetic.



1: Xue Lu, *Ink series - 8*, Kiln-formed & centrifuged glass, 2005.

2 / 3: XU Wei, *Yellow Armor* (detail), ink on paper, Qing dynasty.

Though the finished work was a self-reflection, it suggested a potential development within contemporary studio glass practice, which addressed issues that related to my own culture and identity, and suggested one of the main themes of this project.

At the same time, keeping a close relationship with Chinese academic glass, I compared my works to other Chinese practitioners, and found great differences in terms of the final appearance, making processes and creative concepts. This raised questions on the reasons for these differences. Questions began to emerge in my mind, and gradually I realized that the MA practice contained a seed which became one of the main strands of this research.

This study initially focused on the history of the post-war International Studio Glass Movement which began in America in the 1960s and the ways in which the American model has been adapted within each country according to its own cultural mores and traditions. Although it is a worldwide movement, contemporary glass displays both global similarities and local identities; there are distinct differences between the glass made by British, American or Czech practitioners due to the influence of their own cultural traditions. Therefore, one may conjecture that the impact of a fifty-year-old model will have equally unpredictable and interesting results in China.

With the ambition to be a glass educator in the Universities of China, my research naturally aimed at academia<sup>1</sup> rather than industrial glass. Terms, such as studio glass, glass art and glass design are applied in this research to relate to the works produced by academic practitioners, though industrial products maybe described in these terms as well. This follows a post-industrial mode which developed from individual studio craft practice.

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<sup>1</sup> Parallel can be found in Western countries from the 1960s, when the International Studio Glass Movement first gained its foot in the major universities in American and Britain. Then a number of private studios emerged run by people who graduated from these programs, as well as the influence into industry.

## The gap

With the “Open door” policy operating in the last two decades, Chinese society has experienced tremendous changes, the great impact from Western countries in various aspects resulted to a large extent in the loss of our own culture and tradition. As this problem became more and more intense, we tried to rediscover our past and began to combine traditions with global influences to produce a cultural rebirth.

Before 2000, Chinese glass industry developed either through copying traditional art and crafts or by producing direct orders from abroad. Because the museums and books provide resources for everybody to refer to, industries made full use of the advantage of extant historical examples, copying exactly the same form and shape from bronze, jade etc. Regardless of glass’s functional meaning, its own material qualities and the allied opportunities for idea and technique exploration, glass seems, within China to be viewed as a material suited for the transfer and imitation from one material into another. This situation has not only happened in glass, but in other areas as well. It has become a general problem associated within China’s rapid economic development.

Chinese studio glass emerged and is developing within this context. The new seed in academic soil has been growing since 2000, but we are not sure about what kind of fruit it will yield. This means a suitable practical and philosophic method that belongs to China has not yet been established. The nationwide formal craft survey “The 1<sup>st</sup> Annual Modern Hand-crafted Art Exhibition”<sup>2</sup> held at Tsing Hua University, Beijing in 2005 confirmed my viewpoint. Most of the academic works were simple objects with similar final appearances and little formal identity, and the influences were easily identified of well-established Western glass artists. The limited understanding of material, process and its associated contexts and creative concepts resulted in the limited use of glass.

This has also been noted by Susanne K. Frantz, the ex-curator of the Corning Museum of Glass, where two themes are related, technique and philosophy of making. As she

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<sup>2</sup> 传承与超越——首届现代手工艺学院展学术研讨会纪要, *艺术与设计*, 2005年第4期.

(2005) The 1<sup>st</sup> Annual Modern Hand-crafted Art Exhibition and Conference Notes. *Art of Design*, (4).

commented:

*“There is also a sense of urgency – to catch up and to grow - not only technically, but also philosophically.”* (Susanne, 2006, p.60)

It is undeniable that Chinese studio glass is still in its infancy, the range of Chinese Glass Art has not been defined yet; no scholarly researches have been made so far to interpret the movement and give suggestions and insights. With the opportunity to study glass in Western countries, and with my personal experiences in the existing glass programs in Chinese Universities, I have attempted to seek solutions by using these dual experiences.

### **Research Questions:**

The gap creates some key questions regarding the further development of the studio glass in China, they are:

- What is contemporary Chinese studio glass practice?
- Is it possible for Chinese practitioners to keep within our own culture accent/tradition while influenced by the Western practice?
- And the most important is --- how?
- Can insights be drawn by:
  - 1) The comparison with a similar situation in the Qing dynasty?
  - 2) The production and positioning of a personal body of work?
- Can general guiding principles be established through this study which can guide short and long term academic development in contemporary China?

The term *culture accent/tradition* used in this research indicates a series of special characters that can be identified as Chinese. This is not a research about the origins of Chinese identity, but a study to reveal the ideas and methods of maintaining such character in glassmaking.

## **Research Area**

### **Qing Dynasty Chinese Glass**

In order to have a better understanding of glass practice throughout Chinese history, relevant information was collected. It was found that Chinese glass was firmly associated with the West since the late Zhou period (c.1122-249 BC)<sup>3</sup>, however, the most important period of Chinese glass practice happened during the Qing dynasty. This resulted in the focus on the investigation of the glass produced in the Imperial Glass Workshop from the late 17<sup>th</sup> century (Kangxi period) to the late 18<sup>th</sup> century (Qianlong period) in China and the equivalent period in the West. The historical investigation is not concerned with taxonomies making, but is instead concerned with the analysis of specific identified objects to identify and examine the evidence embedded within their forms and making, and which displays the dual influences of Western originals and evidence of connections with sophisticated Chinese craft forms and characteristics. The purpose is to suggest the essential factors that are able to affect practice, such as the aesthetic preferences and specific attitudes towards materials that influence the choices of such techniques and forms.

### **Contemporary Chinese Studio Glass**

The contemporary component of the study focuses on Chinese Studio Glass from 2000 and uses the development of the International Studio Glass Movement within different countries from the 1960s as a referential locus for Chinese studio glass practice.

The shift of glass from a traditional craft material to contemporary art medium is addressed as a background in its broadest sense, this includes the changing attitudes of treating the material, the different working methods and ways of transferring knowledge and expression.

Information related to the development of Chinese Studio Glass is stated within various formats. It is used to determine where it originated, what has been achieved

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<sup>3</sup> For information about the history of Chinese glass, see Tait, H. (ed.) (1999) *Five Thousand Years of Glass*. London: British Museum Press. pp. 140-143.

(in Glass programs in the Chinese universities) during the 9 years of contact with Western influence, where it is now, what are the challenges, and the direction it is likely to take in the future. All of these points are connected to a critical framework that discusses current glass and craft theory as a creative medium.

Significant works produced by a number of key practitioners in China, such as Guan Donghai (now head of glass studio, Academy of Art & Design, Tsing Hua University, studied MA glass at the University of Wolverhampton from 2002 to 2003) and Zhuang Xiaowei (now head of glass studio, Fine Arts College of Shanghai University, studied MA glass at the University of Wolverhampton from 1998 to 2000), have been selected for use in the comparison of the influences from Western artists.

Although glass objects in both periods are the primary source of this research, existing literary sources relating to Qing dynasty Chinese glass and the contemporary Chinese Studio Glass Movement have been studied widely used as a foundation on which to build my own arguments. This reflects a major difference between the attitudes displayed within the existing literature and my object based research, with its emphasis on evidence within form, material, and making.

Because the Chinese Studio Glass is a young movement, it is too early to reflect the belief patterns as the work itself is not mature and will change according to the upcoming influences, and the fact that the development of the system of a wider context (museums, collectors, critics...) is always several years behind the making of objects. Therefore, material cultural analysis is not emphasized as in the academic discourses, for example, of Jules Prown (2001) where the concern is more with the viewer and interpretation of the object rather than about its creation. Similarly, philosophical concepts, such as phenomenology which studies conscious experience from a subjective / first person point of view, and focuses on the ways we experience things and developing meanings from such experiences, less emphasis has been placed on the production of the objects. In respect that this study is to examine the practical methods of Chinese glass making with Western influence, most of the evidence for my discussion is embedded in the making of the objects. The historical

archaeologist James Deetz (1988) believed that written texts may present a skewed perspective, and stressed the idea that artifacts are of their nature key insights into cultures of the past. This is especially true of the previous researches on Qing dynasty Chinese glass in that a number of assertions within the literature are, in my opinion not correct, and, through their isolated nature failed to examine the physical evidence within the material and its manipulation. Therefore, I chose to centre on the object and its making, and to use my personal knowledge and practice as a maker to form objective data and focus on what art historians and archeologists cannot do. It follows from this that the production of a body of personal work and its position within both European and Chinese domains i.e. exhibitions, publications, have been integrated parts of the study.

## **Research Methodology**

The main approach of this research combined with historical and contemporary analysis, the comparison between these two periods, and by using my own practice as a tool and as a paradigm for interpretation and insight.

The Western influence on Qing glass reminds me of the similarities with current Chinese studio glass. A successful historical model (Qing glass) already exists for us to refer to. When the Jesuit missionaries from European countries grafted the seed of Western glass practice into the Chinese soil, it grew up, developed and yielded different fruit. The process shows the natural development of a material when it has been adopted into a new environment. I believe that researching this historical period of glass, and by comparing with its contemporary equivalent will help me to clarify the map of the present as much by virtue of the similarities and differences, and through this to answer the questions of “Is it possible for today’s Chinese practitioners to keep our own culture accent / tradition while influenced by the Western practice?” and “HOW ?”.

Professor Cummings (1997, p.24) states the necessity of learning from history:

*“The study of the history is not only essential to its wider cultural understanding but also has helped to offer in terms of assisting the contemporary practitioner in his/her search for a creative identity.”*

A series of similarities and differences can be drawn from the comparison between these two periods, which will be the foundation to make suggestions and insights for the future.

### **Limitation of previous research on Qing glass – Review of literature**

The spread of glass making has been passed on between makers of different generations and cultures by the direct transfer of personally demonstrable knowledge and skills rather than through the written word. The few literature records of ancient Chinese glass make it very difficult for scholars and art historians worldwide to carry out research in this field. Previous research, including articles and books that I consulted during the study of Qing glass came up to about 50 pieces, and far less for the contemporary period. The majority of these were written by art historians, collectors, museum curators and scientific researchers from a viewpoint of taxonomy. The sources are not many and moreover, some were based on second-hand information from previous scholars. Because they were not glassmakers, they centred on making lists and descriptions of “what the objects is”, but there was little information about exactly “how” the objects were made, and “why” they were made like this. Moreover, studies have been normally carried out from a single viewpoint either from Chinese or Western perspectives. Some information of making processes are not correct, some can not be elaborated by practice. As to Western influences, few put Chinese examples against similar Western ones to study the connections and differences. Therefore, previous studies have not achieved a great understanding of Qing glass practice.

### **My perspective and role as a glassmaker**

As a maker, my concern has always been with actual objects as it is an important tool



for me to gain new understanding about the material and its making process. During my research I have identified a considerable body of glass objects, approximately 300 in the UK and 100 in mainland China, all of which I have been able to handle and examine face to face. With knowledge derived from studio practice, a series of prime historical examples has been examined and reproduced to yield material and process based information. This practice based perspective, gained through the physical examination and repetition of real objects, has provided a comprehensive understanding of the nature of glass as a cultural and artistic product in the history of Chinese art and craft, which has informed the historical analysis (Chapter 2).

Besides, a body of personal work, produced within Western creative model whilst retaining my cultural traditions, has been developed within the university studios both in China and UK (the PhD has involved periods in both centres). The direct contact with Western creative methods and the glass community has enabled me to produce works which are different to other Chinese practitioners'. These practical experiences have helped me to understand the nature of creating in contemporary studio practice and to answer the question "Is it possible?" and "HOW?". Thus, experiences, opinions and insights were drawn based on my own studio practice which were used to inform Chapters 3 & 4.

In reverse, the theoretical research has provided guidance for my practice. The production, development and placing of my work in the public domain have been used as research tools to examine contemporary reactions to the themes (the influence of the imported models, reactions to them, and the development of Chinese identity). In order to test the body of practical work, I have exposed my work in exhibitions both in China and overseas for feedback and comment. Questionnaires about my own work and general questions about glass material and glass education were conducted among Chinese practitioners, designers, fine artists, curators and scholars. (see Appendix 17)

Because the parameters of, function, style, cost, technique, attitude, are evolving throughout time, it is meaningless to repeat tradition, but the description of the changing attitudes towards glass material, process and the evolution of traditional

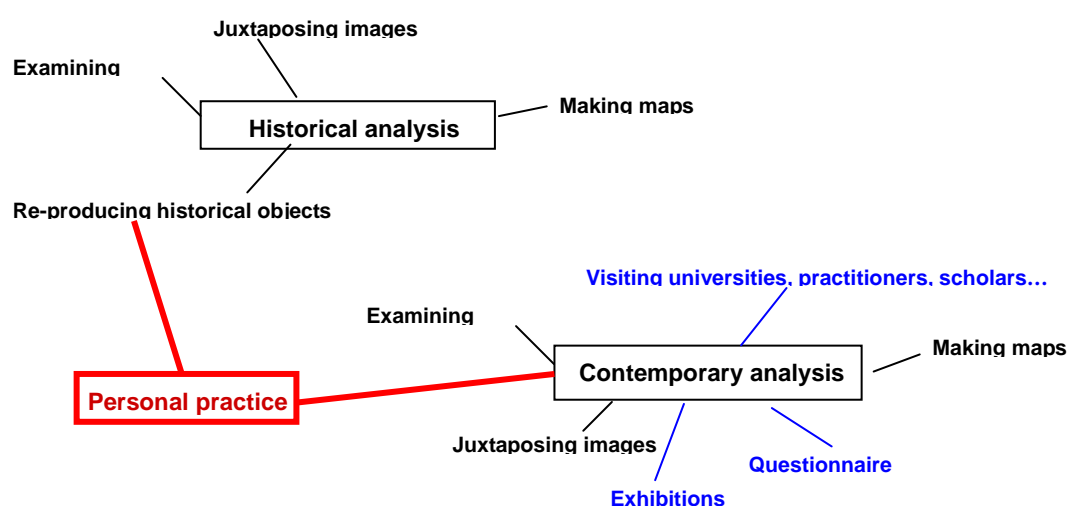
Chinese aesthetics will offer new methodologies and possible routes for contemporaries. Therefore, my personal work is produced according to creative objectives influenced by my Chinese culture and traditions, not a replication of existing history. They might have connections as they share the same roots.

A wide range of techniques are utilized in the research singly and in combination, such as kiln-forming or centrifuging are part of the methods to test the study, not intended to focus on any one particular glass technique, as these are irrelevant in terms of the generation of principles, patterns and insights that form the goals of this project.

In the same way, the influences from Chinese ink-painting in my work, that I used to process, create, analyse and make suggestions, is a specific example for myself, but also functions as a general example for the whole research. It is not used to set up certain formats, but is, through its use, intended to illustrate the potential possibilities and principles.

### Detailed research methods

Detailed research methods for historical and contemporary analysis, and their relationship with my personal work are illustrated in the diagram listed below.

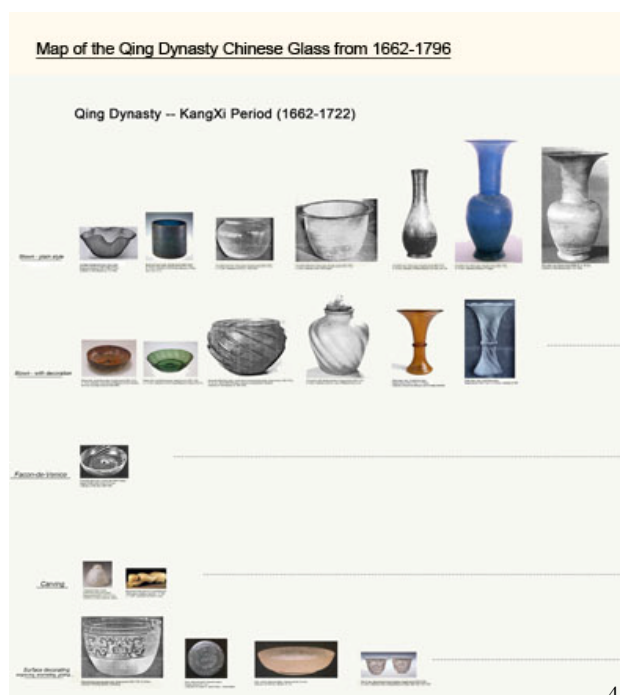


Examining individual objects, selecting typical objects, mapping them together and juxtaposing them with Western counterparts have all been utilised in the research.

With access to the Museums, I examined a number of typical Qing glasses in the UK (Victoria and Albert Museum, London; Broadfield Glass House Museum, Stourbridge; Bristol City Museum and Art Gallery, Bristol and British Museum) and in China (The Palace Museum, Beijing). I looked, touched and experienced the objects with my hands. Some substantial clues that have been ignored by other scholars were discovered by questioning admitted arguments and by re-making and documenting typical samples through this practice.

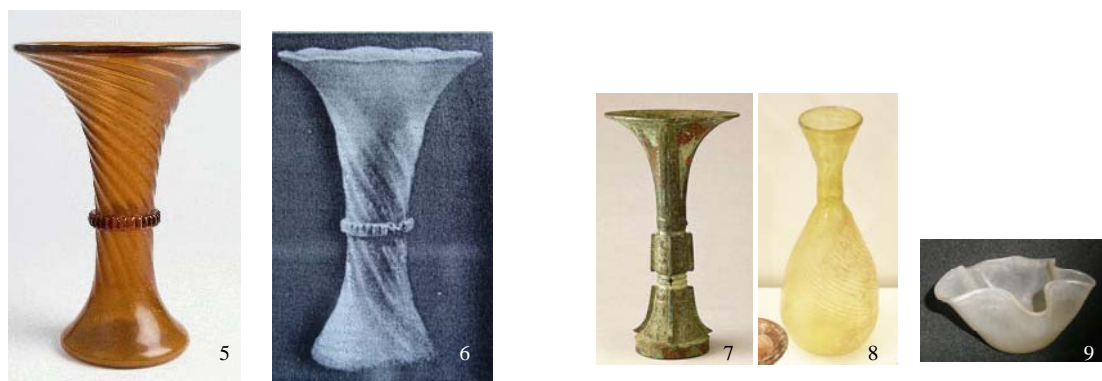
With the help of our technician Simon Eccles at the University of Wolverhampton, I have re-produced some Qing objects in the attempt to have a better understanding of the forming process, its difficulties, and how ancient artisans selected and responded to imported techniques and forms. It is not just to prove the history, but to identify the relationship between existing Chinese craft traditions and imported Western glass processes, and to analyse the elements that directly impacted on the production of the objects.

After selecting some typical objects from upwards of 800 images, I started to juxtapose pieces from Kangxi (1662-1722) to Qianlong period (1736-1796), according to a linear time line to show changes and developments.



4: Selected section from the Map of Qing Glass from Kangxi (1662-1722) to Qianlong (1735-96) period. (for full size map, see Map 1 – the Qing Dynasty Chinese Glass)

This is the first comprehensive map that has been made of Qing glass. In the map, I have divided the objects into five technical categories with full color and proportional scale to suggest the constant development of color, shape, forming technique and decoration. The nature of this map became a research tool.



- 5: *Gu* 觚 shape vase, mould-blown glass, Kangxi period (1662-1722), H: 21.6cms, Collection of Bristol City Museum and Art Gallery (N4620). \*
- 6: *Gu* 觚 shape vase, mould-blown glass, Kangxi period (1662-1722), H: 21cms, Collection of V&A.
- 7: Bronze *Gu* 觚, casting bronze, later Shang dynasty 11<sup>th</sup> century B.C, H: 29.7cm, D: 16.7cm, Collection of Shanghai Museum. \*
- 8: Mould-blown flask with ribbed decoration, 5<sup>th</sup>-7<sup>th</sup> century Syria, Collection of V&A (8205) \*
- 9: Crizzelled handkerchief bowl, blown glass, Kangxi period (about 1680 -1700), H: 5cm, Collection of V&A (C.173-1938) \*

Particularly, some of the hybrid works drew my attention. I put images of the Qing glass against similar European glass, and against similar ceramic, bronze objects etc., in order to identify their probable connections and influences. Usually, these images have been put on different pages by historians. I set up a series of criteria in which I compared the shape, color, applied techniques, function, cost etc. in order to understand the evolution of ideas and decisions made during the making processes within these two different cultures and time periods.

These research methods offer an important physical component within this project and thesis which allows me to conduct research from different angles. The mixture of these methods and the way of presenting physical evidence by its nature differs from other academic research in this area.

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The same methods are applied in my interview process with glass practitioners, craftsmen and related people, visits to Chinese universities, putting images of contemporary Chinese glass works together with linked Western works for analysis and to examine various integral themes. This helps to answer the questions “What is contemporary Chinese studio glass practice?”

The map of contemporary works runs parallel to the historical one. When put together, I noticed that similar elements/situations exist both in the Qing period and the present time. However, the two maps also illustrate the differences, shifts of function, value, aesthetic attitude and expression towards the material. The similarities and differences inherent in the comparison suggests the principle of practice and informs future directions for Chinese glass.

**Chapter 2:**  
*Qing Dynasty Chinese Glass*

## **Chapter 2: *Qing Dynasty Chinese Glass***

### **2.1 History**

Specific examples of Qing dynasty Chinese glass from 1696 to 1796 have been examined, analysed and compared to serve the enquiry of this research and to develop my arguments. However, it is necessary to give a general introduction to Chinese glass history in both ancient times and the Qing dynasty, as this will help to present a comprehensive understanding in a way that a single object may not do. Moreover, this allows more range when addressing selected objects in the following sections. Therefore, a general review of ancient Chinese glassmaking history is introduced as a background for the Qing practice, which displays the traditional function, technique and philosophy of glassmaking. A number of reasons that resulted in the decline of the Qing glass after the 18<sup>th</sup> century, are also summarized at the end of 2.1.2.

#### **2.1.1 A Short Review: ancient Chinese glass practice before the Qing dynasty**

Domestic Chinese glassmaking can be traced back to the late Zhou period (c.1122-249 BC), as the compound-eye beads, the casting glass *Bi* and other ritual glass objects have been excavated in tombs with a distinctive constituent of barium, totally different from the soda-lime glass of the West (Gan, 2005). Most of the objects were moulded or pressed in imitation of jade originals, or as accessories to bronze. Bead forms for decoration were extended to ritual objects, daily products and burial substitutes. A majority of the early Chinese glass was not for daily use, but for luxury or ritual purposes.

As to Chinese glass-blowing manufacture, although the technique was originally imported from the West, starting in the early fifth century AD, the blown pieces made by local ingredients suggested a fragile, brittle quality because of the high proportions of lead that could not compete with the imported Western products. Therefore, most

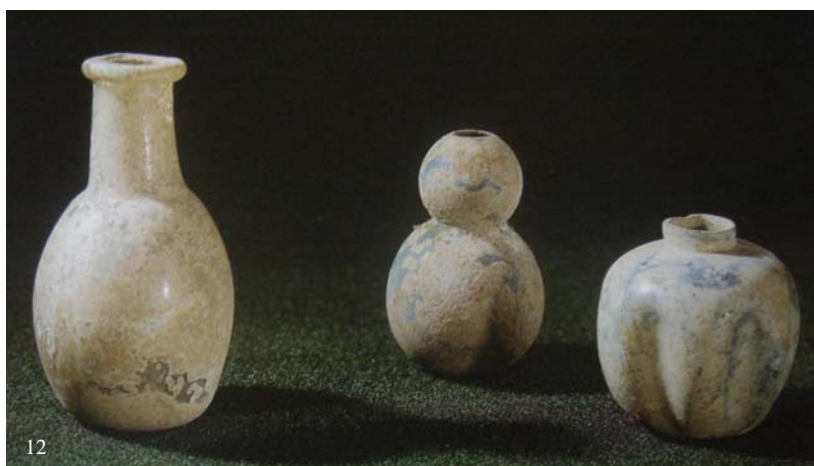
of the glassware was imported from the West either by sea or overland by the “Silk Route” since the early 3<sup>rd</sup> century AD from Syria and Persia. (Tait, 1999, p.140)

*“The importation of glass from the West is referred to in records dating from the period of the Han dynasty (B.C. 206-A.D.220).....specimens undoubtedly of Roman origin have been identified from Chinese.”* (Honey, 1937, p.211)



10. Glass bottle, blown glass, Sui dynasty (581-618), H: 12.3cms, Collection of Chinese History Museum, Beijing.
11. Glass bottle, blown glass with trailed decoration, Tang dynasty (618-907), H: 7cms, Collection of Lintong Museum of Shanxi province, China.<sup>4</sup>

Strong influences of Roman glass can be identified in these two bottles, especially in the trail decoration.



12. Glass bottles, blown glass, Northern Song dynasty (960-1127), H: 3.8-6.5cms, Collection of Mi Xian Culture Gallery, He Nan province, China.

Though influenced by Roman glass, the forms of these three bottles suggest Chinese character.

<sup>4</sup> For similar Western objects, please see figures 99 & 152 in Tait, H. (ed.) (1999) *Five Thousand Years of Glass*. London: British Museum Press.



Traditionally, two-piece casting was the most popular way of forming glass which is not complex and this process had its root in other crafts. It can be traced back to bronze manufacture in the Shang and Zhou dynasty, where objects were made by pouring melted metal alloy into a ready-made assembled ceramic or stone mould.<sup>5</sup> Here, the ancient casting technique has a different meaning to nowadays. It refers to the method of pressing liquid glass within two half-moulds to achieve ordinary patterns, like making wafer biscuits, today called “pressing”. It is simple and easy to manage, and normally has decoration on one side. Fine details, such as the ribbed decoration on the pendant (figure 13) and the dancing dragon in the center of the *Bi* disc (figure 14) were carefully carved by lapidary workers afterwards. Precise forms and details could be achieved by doing so. This kind of technique is also evident enough to suggest the influence from Syria where a similar press method was used to produce pillar-moulded bowls<sup>6</sup>.

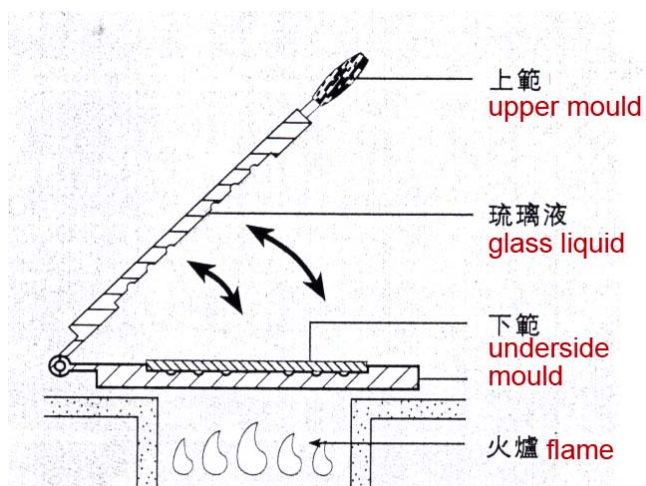


13. Glass dragon pendant, pressing-cast (pressed) glass, Warring state (453-221 BC ) to West Han dynasty (207BC-25 AD), L: 8.6cm, Collection of Alan E. Feen.

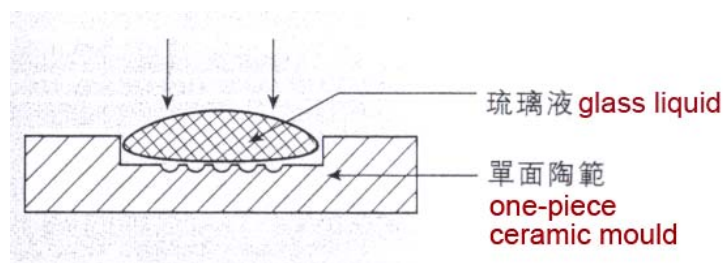
14. Glass *Pi*, pressing-cast (pressed) glass, West Han dynasty (207BC-25 AD), D: 13cm, Collection of Walter and Phyllis Shorenstein.

<sup>5</sup> For details of bronze casting process, please see p. 67 in Thorp, R.L. & Vinograd, R.E. (2001) *Chinese Art & Cultrure*. New York: Harry N. Abrams, Inc.

<sup>6</sup> For the process of making pillar-moulded bowl, please see p.222 in Tait, H. (ed.) (1999) *Five Thousand Years of Glass*. London: British Museum Press.



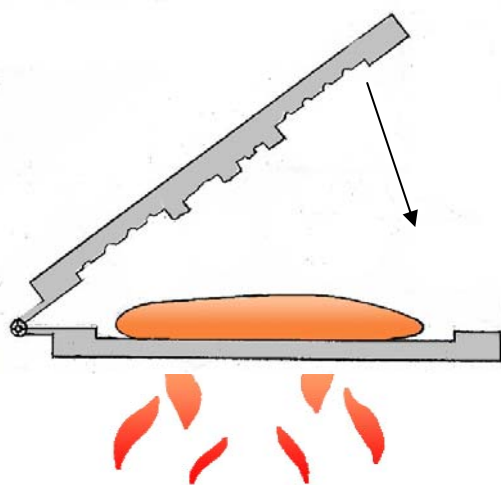
15 琉璃制造法复原图  
Reversion drawing of ancient glass manufactory



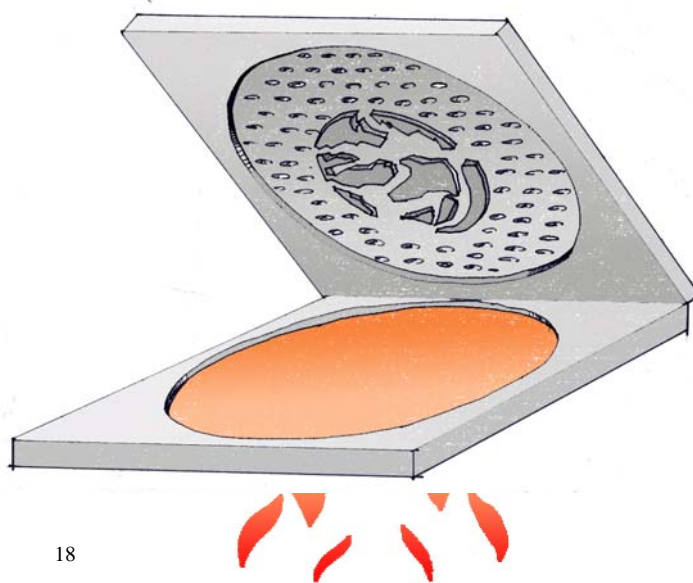
16 单面模压法  
one-side mould pressed glass

15/16. Previous study of ancient pressing cast in the catalogue of “Tian Gong Fang” (Shen Zhen Classic Cultural Development Co.Ltd.)

Inaccurate explanation has been made in these two drawings, such as the place of pouring glass liquid. The manner of a one-side mould pressing does not seem feasible in producing a glass piece with very fine decorations, therefore, this is only suitable for simple cast.



17



18

17/18. The ancient two-piece cast process (for figure 14):

- 1) Two-half ceramic or metal moulds with patterns on one side are ready for casting. (A negative dragon pattern is in the centre area, it is a rough profile, and therefore would not be the same preciseness as the final effect.)
- 2) Pouring melted liquid glass into the mould.
- 3) Closing the up side mould, then, glass will be pressed into the desired patterns.
- 4) Fine details can be carved afterwards.
- 5) Cold processing and carved holes.

Pressing-cast glass continued to be used in the production of opaque glass in the figures of animals and humans throughout the Tang (618-906) and Song (960-1279) periods, mainly as substitutes for jade or gemstones. On account of the high price of jade and gold products, glass was used as an inferior article which obtained similar effects.

Compared to other Chinese craft materials, glass has not been treated as a highly valued material in ancient China. Glass manufactory was on a small scale and hardly given attention by the leading authorities, or even carefully documented<sup>7</sup>.

However, within the dual influences from the West and traditional art and craft, a distinct Chinese character and an indigenous methodology of practice has been gradually yielded throughout the history of glassmaking, which resulted in special preferences and treatment towards this material. For example: the glass forms usually borrow from other well-established craft materials. The earliest evidence for this can be traced back to the objects found in excavations near Lo-yang (Henan province)<sup>8</sup>, including a circular disc *Bi* (symbolic of heaven, with “grains” of comma or spiral form), a cicada (placed upon the tongue of the dead person), a figure of a pig (handled by the dead person), a pin of a dragon head and a girdle-pendant in the form of a stylized fish. All these objects were in jade forms, moulded and carved as a cheap substitute. When ceramic and jade manufacture developed with a new technique or style, glass followed their steps. This can be further evidenced by the glass vessels of the Tang and Song period, which are similar to porcelain, and which functioned as ritual objects in Buddhist pagodas (An, 1984).

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<sup>7</sup> Fewer records are known about glass making and forming in ancient Chinese literature.

Even nowadays, the history of Chinese glass making from the late Zhou period to 20<sup>th</sup> century only appears in a roughly 1700 words government teaching manual of Chinese Art and Craft for higher education.

<sup>8</sup> White, W.C.(1934) *Tombs of Old Lo-yang*, pp.147-158. The objects found in the Chin Ts'un near lo-yang could be dated as Han dynasty from their style.

## 2.1.2 A General History: Glass in the Qing dynasty (1644-1910)

### **What encouraged the establishment of an imperial glass workshop?**

At the end of the Ming dynasty, with the constant contact between Eastern and Western countries via the sea trade, Western technology, techniques and curious objects (clocks, precious stones, coral, enamel wares and Venetian glass) were brought to China. After Man Qing governed mainland China from 1644, the country gradually gained economic power. In order to consolidate their rule, the style of Qing culture mixed with the minority culture of Man Qing, traditional Han culture and Western influences. This has been reflected on the mixture of form, colour and decorations of a single object.

Missionaries were the major group who introduced Western glassmaking to the Qing court, serving for the government<sup>9</sup>. Usually they were accomplished in astronomy, mathematics, mechanics, architecture and painting, and related scientific and artistic areas.

Meanwhile, the emperor Kangxi (1662-1722) received numerous glass objects as gifts from the Dutch and Italians<sup>10</sup>, where glassmaking was in a golden age. The exotic European glass examples strongly impressed him and catalyzed the decision to set up glass workshops in the court.

### **Official control for the first time, glass among other workshops**

In the 1680s, twenty-seven imperial workshops (clock, enamel, jade, wood, lacquer, glass, ceramic, ivory etc.) were set up under the patronage of the emperor Kangxi, working exclusively for the royal family (Kun, 1899). This followed the western

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<sup>9</sup> In order to enhance the positioning in China for spreading religion, Jesuit missionaries came from different backgrounds, and learned new skills to serve in the Qing court.

<sup>10</sup> In 1601, the pioneering Italian, Jesuit Matteo Ricci (1552-1610), arrived at Beijing and was the first person to introduce the religion to China. He gave the Emperor two glass prisms.

In 1656, the court astronomer, Johann Adam Schall von Bell 汤若望 (1591-1666) recorded that the ambassadors offered on behalf of the king of Holland, some elaborate glass vessels, goblets (three goblets of Venetian glass) and mirrors.

In 1667, the Dutch offered glass boxes.

In 1689, the Dutch offered 581 glass cups of various shapes, one large glass lamp and one chandelier.

example of impetus and patronage from aristocracy, which helped to protect glass from economic pressures, such as the 16<sup>th</sup> and 17<sup>th</sup> century Spanish glass and the 17<sup>th</sup> and 18<sup>th</sup> century French glass.<sup>11</sup>

This was the first and the only time that glass was imperially produced in China (Morrison, 1995, p.12). It provided a good opportunity for glassmaking to benefit from other disciplines by sharing knowledge, facility and labor. In *Chinese art & culture*, Thorp and Vinograd stated:

*“Art circulation had a tangible basis in the movement of art and craft goods at local, regional and international levels. ‘Circulation’ also implies migration of styles and themes between different art forms and media...”* (Thorp and Vinograd, 2001, p.320)

### **Who is working for the imperial glass workshop?**

Glass was considered as an alien material in China in comparison with jade and ceramic. This attitude to glass began to shift over a considerable period and time. As a rule, the spreading of glass practice depends on tacit secrets through a literal “laying on of hands” from person to person (Cummings, 2008).

As a part of the strategy to convert Chinese to the Catholic faith, missionaries were trained with a variety of skills in their local countries, then, travelled to China serving at the Qing court. Jesuits came from the Netherlands and Italy, and usually brought sophisticated Western glass making and forming techniques.<sup>12</sup> Bavarian Jesuit Kilian Stumpf 纪里安 (1655-1720) was one of them who was sent to Beijing in 1695 with the knowledge of building workshops and blowing glass. When he was a director, he

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<sup>11</sup> See pp.84 and 85 for the 16th & 17th century Spanish glass and pp.164-166 for 17th century French glass In: Phillips, P. (ed.) (1987) *The Encyclopaedia of glass*. London: Spring Books.

<sup>12</sup> Emily Byrne Curtis is, probably, one of the few Western scholars who studied Chinese Qing glass, and who published a series of works about the contribution of Jesuit missionaries on Qing dynasty glass from 1990s', base on the letters in the APF (Archivio Propaganda Fide, Rome) and ARSI (Archivum Romanum Societatis Iesu, Rome), she gives detailed information about the Jesuit missionaries activities of glassmaking in the Qing court from the Kangxi to the Qianlong period (1662-1795). She listed the entire missionaries' names who were involved in the imperial glass workshop and their contributions, but mainly about the factors rather than comparing them with the real objects in terms of form, colour, making methods and style. See Curtis, E.B. (1997) European Contributions to the Chinese Glass of the Early Qing Period. *Journal of Glass Studies*, (39), pp.91-101.

demonstrated and trained Chinese artisans in the methods of colouring glass, blowing, shaping form, grinding, polishing etc.. Technologies of making glass, such as colouring gold-ruby glass and making aventurine glass, and techniques of forming and decorating glass, such as diamond-point engraving and enameling could be observed in the existing Qing objects. Domestic artisans gradually took over the blowing technique from missionaries, and started to master glass with great control.



19



20

19. Chinese ewer in the shape of a phoenix, transparent red glass with carved relief decoration and gilt bronze handle, Qianlong mark and period (1736-96), H: 16.9cm, Collection of Walter and Phyllis Shoarenstein. (For more similar objects, see Appendix 1- Qing dynasty Chinese ruby red glass)
20. Southern Germany gold-ruby beaker, set in silver-gilt mounts bearing the Augsburg hallmark and maker's mark TB, for Tobias Baur, 2<sup>nd</sup> half of 17<sup>th</sup> century, Collection of the British Museum (MLA AF 3147, Gallery 46).

For figure 19, scholar Morrison (1995, p.107) explains:

*“This vessel is remarkable not only for its distinctive shape but also for the metal handle incorporated into its design...the craftsmen who conceived this piece must also have had bronze vessels of the Shang and Zhou dynasties in mind as prototypes.”*

The analysis explains some outstanding Chinese characters, furthering Morrison's opinion; I would like to address some significant influences from the West of this object. Firstly, the process of making gold-ruby glass was imported from Europe; it

was initially hinted at by Antonio Neri and developed by Johann Kunckel roughly before 1679, in Germany. Though high in cost, by using gold chloride, ruby red became a favourite colour for the Chinese. What's more, the unusual asymmetry form and its handle of the Chinese ewer drew my attention, I tried to find similar examples in glass and in other craft forms, but these proved very rare. Hence, the way of setting glass with other materials was not common in ancient China, whereas, in contrast, the similarity lies in the European object with silver-gilt mounts. Thus, evidence suggests that the Chinese one was either made to copy a European example, or either made or supervised by missionaries.



21



22

21. Wine cup, enameled on opaque white glass, Kangxi mark and period (1662-1722), H: 3.6cm. Collection of Li Jingxun. (For more similar objects, see Appendix 2- Qing dynasty Chinese enamelled glass).

22. Goblet in *lattimo* glass with portraits busts in enamels, 1500-1510, Trento, Museo Provinciale.

Missionaries and Chinese glass artisans from private studios or commercial workshops in different regions were temporarily recruited, bringing local skills to the imperial workshop. In addition, artisans from other imperial workshops helped to

form glass according to their specialized skill, for example: glass carving was done by lapidary workers from jade or ivory workshops.

All these factors, plus the strong imperial patronage, resulted in the high quality of glass objects and innovation of new techniques and styles, such as cameo effects and enameling.

Making glass was directly ordered and monitored by the Emperor, supervised by a workshop director and finished by a team, thus, a “designer / maker partnership mode” was formed.

### **Attitudes towards Glass as a craft material**

In ancient China, there was a clear distinction between art and craft. The term of art normally indicated literate arts, such as painting and calligraphy, whereas, forms that depended on specialized skills or techniques and on laborious or cooperative production were considered as craft (Thorp & Vinograd, 2001, p.16).

As to the materials chosen for making craft objects, the Chinese have stated opinions and clear hierarchies. Definitely, jade and gold stand as the first class, followed by ivory, precious stone, silver, ceramic and lacquer. Glass, as an imported material in China, was historically situated at a relatively lower position, and the attitude towards glass seems different from the West.

Transparent and translucent properties associated with light were highly valued in the West. Because of the direct supervision of the Western missionaries, glass objects made in the Kangxi period were mainly in transparent monochrome colour. However, crystal clear glass was rarely produced in late periods. The ability of imitating other material was appreciated instead, thus produced as a cheap substitute with the quality of simple form, polychrome colour and opal or translucent appearances. Following the study of William B. Honey, scholar John Ayers (1965, p.17) gave a similar discussion:

*“Chinese attitude to glass vessels in general proved to have differed little over many centuries.”*



Undoubtedly, this choice of using glass as a substitute material in the later 18<sup>th</sup> century regressed to the tradition all along Chinese glass history. The reason mostly comes down to the cultural preferences established by other craft materials, like jade and ceramic.

*Chinese attached a great value to jade wares: "There is a price for gold but no price for jade", says a Chinese proverb. Jade ware is often described as "worth a string of towns".*<sup>13</sup>

Just as Western philosopher G. W. F. Hegel's opinion of marble as the most appropriate material for Western sculpture:

*"marble in its soft purity, whiteness, absence of colour, and the delicacy of its sheen harmonizes in the most direct way with the aim of sculpture..."* (Hegel, 1998, p.776)

### **What kind of techniques were used?**

Craft implies a dual meaning of aesthetics and skill, not only involved with technology and technique, but material and tool, which is essentially consistent with one of Professor Cumming's opinion of the two central aspects of glass --- *how it is shaped via its special tools and skills* (Cumming, 2008).

The technology of making glass and the techniques of forming glass in the Qing dynasty was a mixture of Western, traditional glass practice and other Chinese crafts. This was due to the introduction of blowing which began to flourish in 15<sup>th</sup> century Europe. When missionaries introduced this advanced technique to China, it quickly occupied an important position from the late 17<sup>th</sup> century until the middle of the 18<sup>th</sup> century. All kinds of Venetian glass and its associated techniques led to experimentation of these working methods within the imperial glass workshop. However, through examining a large quantity of existing objects, it is believed that only a certain number of techniques were selected and widely applied. (See Appendix 3 - Disparate categories).

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<sup>13</sup> Available at: <http://www.suembroidery.com/blog/article.asp?id=304>  
[Accessed 22<sup>nd</sup> July 2008]

At the initial stage of practice, it is a universal principle to borrow existing prototypes when a new material or technique was imported. Because of the close relationship with other Chinese crafts, naturally, glass designs drew on shapes and decorations from ceramic, bronze, jade and lacquer.

In 1758, when Jesuit Gabriel Leonard de Brossard 纪文 (1703-1758) died, the Western influence at the imperial glass workshop began to decline dramatically. During the Qianlong period, the trend of lapidary work, realised by cutting and carving, revealed the quality for glass to imitate other materials rather than its own fluidity and great plasticity.

Functionally, the glass objects produced by the imperial glass workshop were mainly divided into four categories:

- a. Daily products for the royal family: cup, bowl, jar, dish, box, snuff bottle, brush washer, brush pot and pen rack, etc.
- b. Decorative objects: vase, pot, faceted bottle, lamp, bangle, belt plaque and etc.
- c. Ritual objects: bead, burner, vase and bowl

The Chinese culture of respecting ancestors extended its roots as far back as the Shang dynasty. Ritual wares made from bronze, jade, stone, lacquer and glass were produced and buried along with tomb furnishings. A great number of Qing glass objects were made for religious purpose.

- d. Reward presents

### **Time, cost and value**

The cost of making glass in the Qing dynasty was tremendous. A set of 22 glass figures recorded in *Archive of products made in the imperial workshops of the Qing dynasty*<sup>14</sup> gives a glance:

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<sup>14</sup> (1752) 清内务府养心殿造办处各作成做活计清档, 乾隆十七年, 编号 3438, 中国第一历史档案馆 (1752) *Archive of products making in the imperial workshops of the Qing dynasty (Qing Nei Wu Fu Yang Xin Dian Zao Ban Chu Ge Zuo Cheng Zuo Huo Ji Qing Dang)*, No.3438, First Historical Archives of China.

“乾隆十七年十一月二十日起至十八年三月十三日止，烧大窑共 113 日，共用买办草木柴 508500 斤，每万斤银 22 两，用银 1118 两 7 钱.....共买办物料工价银 3349 两 1 钱 2 分 7 厘。” (trans: from 20<sup>th</sup> November 1752 to 13<sup>th</sup> March 1753, It cost totally 1118Liang silver and 7Qian on the firewood and 3349Liang silver and 1Qian2Fen7Li on the materials and labors of making glass in that 113 days) (Liang was an account unit, equally to 40 gram)

According to today's currency<sup>15</sup>, silver per *Liang* in the Qing dynasty is equal to 320RMB (£25), therefore, the cost of running the imperial glass workshop was roughly £998 per day. [ (1118×25 + 3349×25) ÷ 113 = £998]

Even nowadays, the cost of a thousand pounds per day for the fuel and material expenditure in the workshop is still very expensive. Without a strong royal patronage and great investment, glassmaking would not achieve such accomplishment. It was clearly not a direct commercial undertaking.

Objects made in the imperial glass workshop embodied aesthetic taste and expression of value. The best known qualities of Qing glass always refer to simple refined elegant form, monochrome colour, and opal or translucent effects. These represented particular choices before shaping liquid glass into final wares. Making glass was expensive and demanded plenty of experiments. Furthermore, ingredients needed to be imported from other provinces. Finally, testing would be carried out before actual final objects were gained.

The aventurine glass *Ruyi* collected by the Palace Museum in Beijing, offers a prime example: *Ruyi* is a typical form of birthday present. Although it is a smaller scale, a great amount of time was demanded for carving from a solid block. It addressed cultural activities and displayed social status. To sum up, the value of glass in the

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<sup>15</sup> Available at: <http://zhidao.baidu.com/question/11459877.html?fr=fd>  
[Accessed 4<sup>th</sup> August 2008]

Qing dynasty firstly relied on its scarcity, and secondly relied on its genuine imitative ability.



23. Glass *Ruyi*, carved glass, Qianlong period (1736-96), H: 3.4cm L: 20.3cm, Collection of the Palace Museum, Beijing. “*Ruyi*” means “as you wish”, regarded as a popular birthday present within the Qing dynasty. Both in forms and symbolic significance, it is derived from the pronged back scratcher, which scratches the itch and fulfils people’s need. The cloud motif, an early decorative motif, transformed from natural forms, represents natural phenomena. *Ruyi* objects were normally made from jade. This aventurine *Ruyi* is the only piece in that form made from glass. (For more similar objects, see Appendix 4 - Qing dynasty Chinese aventurine glass).

Among the great number of existing objects, glass sculpture is relatively scarce and possibly this is because it was difficult to produce. The form and delicacy of this glass *Ruyi* suggested that it must have been amongst the most highly prized classes of glass material. It would be impossible to produce without royal patronage.

Another characteristic that needs to be addressed is the popular animal and nature motifs used to carry out symbolic meanings in Chinese art and craft. This was reflected in glassmaking, particularly in the choice of its surface decoration, which could be examined either by the above example *Ruyi* or by over-layered cameo objects. Essentially, high cost, time-consuming forming processes and the vast cost of labor, forced glassmaking in the Qianlong period to develop into small scale production.

### **The decline of the Qing glass from the 18<sup>th</sup> century.**

From 1696 to 1796, Qing glass practice progressed through a rapid development and indicated a good future. However, after the demise of the emperor Qianlong, the

quality of the production in the imperial glass workshop dropped along with the decline of the dynasty.

The year 1799 was the turning point for traditional China, as the economy in the early 19<sup>th</sup> century was severely strained. Lower investment from the royal family made it difficult for the high cost practice of glassmaking to survive.

Excepting economics, Emily Byrne Curtis (2003, p.67) ascribed reasons to the lost support from Western countries and the impure motive of commerce.

*“玻璃业的失败和一再的衰退，可能让人怀疑当年华人创业除了猎奇未曾有过任何思想.....虽然广州有许多精湛的玻璃工匠，但是当朝皇帝不仅懒于遣派学徒向欧洲的玻璃工匠学习，甚至懒于从广州调遣工匠到京。” (trans: there were no other reasons except for curiosity when the first glass was made in the Qing court. Though Guangzhou had a number of skillful artisans, the emperor was not only lazy about sending people to Europe to learn advanced techniques, but was also lazy about transferring them to work in the court.)*

From my viewpoint, the less support from the West may not be the crucial element that determined the final fate of the Qing glass, but our own attitudes towards this material that restricted its development.

The former quotation not only explained the importance of royal patronage, but suggested the implied crisis of Qing glass practice ---- glass was never treated to reveal its own properties but only approached from the perspective of other craft materials. It seemed no huge distinction was ever made between glass and other materials. Whilst, the other well developed Chinese arts and crafts fulfilled the domestic demands, why would people choose glass instead?

Therefore, unfortunately, it gave glass no room to survive in the end. With the economic decline of the Qing dynasty at the beginning of the 19<sup>th</sup> century, glass gradually lost royal support, the manufactory started to shrink and the quality of glass objects began to fall.

### 2.1.3 Chinese Philosophy of Craft Making

When making decisions about form, color, and decoration for an object, getting inspirations from nature and learning from nature becomes vital principles.

The concepts of the emphasis on the unifying of “*beauty & good*”, “*emotion & reason*”, “*perception & intuition*” and “*human beings & nature*” originated from Chinese philosophy. Nevertheless, these terms have been used as parallels in art and craft, but extending within this context. (Hang, 2007, p.14).

Terms	In the context of ancient Chinese Art & Craft
beauty & good	Good includes ethical and practical references.
emotion & reason	Emotion represents sensibility. Reason explicates the limitation of skill or technique.
perception & intuition	Perception and intuition are the initial stage of making art and craft, not ultimate.
human beings & nature	The consistency of human being & nature is especially important; forms of objects usually remain an intimacy to the nature.

Ancient philosophy believes that skill and technique are basic and a method to achieve the final intention “*Tao*”. This gives the earliest explanation on the relationship between idea and skill.

In addition, the concept of “*Ying*” and “*Yang*” deeply influenced the practice of art and craft. One of the poems of Laozi, founder of Daoism, in *Tao Te Ching* (Lao, 2002, p.23) says:

*“We join thirty spokes to the hub of a wheel,  
yet it’s the center hole that drives the chariot.  
We shape clay to birth a vessel,  
Yet it’s the hollow within that makes it useful.  
We chisel doors and windows to construct a room,  
Yet it’s the inner space that makes it livable.  
Thus do we create what is to use what is not”*

With regard to function, the Chinese had their own philosophy as early as in the Zhou dynasty. The greatest Chinese philosophers advocated the functional purpose of making craft forms, for example: Mozi (Latin: Micius) founder of Mohism addressed the importance of function from the position of common people and economics (墨子, 兼爱节用 Mozi, *Qian Ai Jie Yong*). Kongzi (Latin: Confucius), founder of Confucianism and his henchmen developed the idea of function, which is similar to the functionalism of Scandinavia. Function indicates the relationship between human beings and objects, and reflects the accompanying life style. This resulted in the balance between form and content, and between function and decoration. The expression of 'function first' became a tradition in craft making. Most of the craft forms inherited this tradition during the Kangxi and Yongzheng period.

At the beginning of the second half of the 18<sup>th</sup> century, western objects imported from abroad gradually had a great impact on the Chinese traditional notion of using functional wares or vessels. On one hand, the production of new exotic objects became a social fashion; on the other hand, archaistic style was appreciated by the Emperor and the upper classes, and thus, led to a trend of making hybrid objects in different disciplines.

Technically, art and craft in the Qianlong period achieved the highest level, however, the following of previous taste increased unnecessary and over-elaborate formalities, such as the appearance of cameo glass with complex decorations. Therefore the aesthetic of art and craft did not develop much essentially, but within a highly formatted pattern and hierarchies. This could be examined by the heavy and complicated decorations of the craft forms in the Qianlong period, for instance textile, lacquer, metal and furniture. It is interesting that this phenomenon found its parallel in the same time as Chinoiserie in the West.

## 2.2 Material:

### Techniques of Making Glass in the Imperial Glass Workshop

This section analyses how Qing glassmaking (glass batch) was influenced by imported Western technology whilst also affected by using local raw ingredients, and its relationship with Chinese ceramic on the choice of colouring glass.

#### Ingredients of making glass

During the Kangxi period, the imperial glass workshop had brought together glassmakers from Yanshenzheng and Guangzhou, who experimented under the supervision of the Bavarian Jesuit Kilian Stumpf. Stumpf started to build the workshop and to train artisans in order to produce glasswares that would have the same qualities as Western glass, as well as optical glass lenses for astronomical use.

A part of glass metal used in the imperial glass workshop was ready-made and imported from Bo Shan<sup>16</sup> (Shan Dong province). According to the Rev. A.

Williamson, glass produced in Bo Shan ran into 30 inches long rods to be transported to other manufactories. The quality of glass was extremely pure with beautiful colours. The ingredients for making glass at Bo Shan came from local places with low costs.

*“Long ago it was discovered that the rocks in the neighborhood of Po-shan-hien, when pulverized and fused with the nitrate of potash, formed glass; and for many years the natives have applied themselves to its manufacture.”* (Williamson, 1869, p.131)

At the same time, the imperial glass workshop experimented with new glass recipes introduced by missionaries. Therefore, the recipe was a mixture of Boshan and Guangzhou workshops, and Western technology.

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<sup>16</sup> Though glass products were in the lower level of art and craft, they allowed continuous glassmaking in China from the late Zhou period. Boshan is a one of the places famous for the manufacture of glass in China since the Ming dynasty.



One of the essential ingredients of making glass in the Qing dynasty was alkali which was furnished by nitre. Potash was obtained by lixiviating the ashes (liu li cao 琉璃草 - glass plants).<sup>17</sup> Silica was supplied by purer sand from crushed quartz rocks in North China. Horse-tooth stone (probably feldspar), saltpeter, borax, white arsenic and fluorspar were also used by the imperial workshop (Yang, 1990).

The Chinese had the secret of making glass using rice. Scientific researcher Dr. Robert H. Brill studied the possible roles of rice in the manufacture of Chinese glass (Curtis, 1993, p.92). If rice or plants were used in the firing process, it acted as a reducing agent producing colours, such as opaque red and amber. The burned rice plant provided soda ash or potash, a source of alkali and silica. This recipe offered an explanation that ancient Chinese glass contains potash silica  $K_2O: SiO_2$ , and upon which adds lead oxide to formulate  $K_2O: PbO: SiO_2$ .  $K_2O$  and  $PbO$  acted as fluxes proceeding to the Qing dynasty, and it could lower the melting point of glass, but usually, the glass made of this kind was very crisp and fragile, the transparency was not good and was not able to stand thermal shock. Domestic glass produced in Guangzhou (Canton) was described as 'thin and brittle' (Brown and Rabiner, 1987). By contrast, "Clear as frost and clear as water" was a phrase used to describe European glass in the Qing dynasty writing in Qu Dajun's book *Guandong Xinyu*. The natural weakness may be one of the reasons that Chinese domestic glass could not develop well compared to the soda-lime glass system<sup>18</sup> in Western countries.

Thus, the imperial glass workshop introduced borax as flux in 1612 using missionaries' knowledge to strengthen the quality of glass. The introducing of  $2PbCO_3 \cdot Pb(OH)_2$  and  $2SiO_2 \cdot Al_2O_3$  (FeCa) is different from the recipe in other places in the Qing dynasty, and it only belongs to the imperial workshop. The

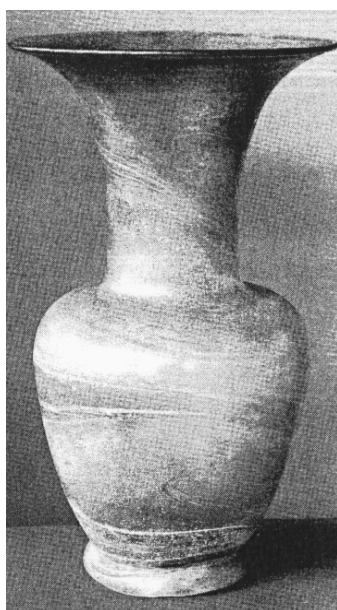
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<sup>17</sup> In the seacoast countries, such as ancient Egypt, potash was replaced by Soda, which could be extracted from the ashes of seaweeds.

<sup>18</sup> Though in 1699, the English had invented a new recipe for red lead glass, the lead in the glass of ancient Chinese and 17<sup>th</sup> century is different in terms of the proportion, function and final quality of the product.

evidence of which could be found in the study of soda-lime glass samples analysed by scholars Shi Meiguang and Zhou Fuzheng (Shi and Zhou, 1999).

The crizzling<sup>19</sup> effect on the Kangxi vase (Figure 24) was another factor, that suggested Western influence. Too much alkali or not enough lime in the mixture<sup>20</sup> resulted in the instability of glass which has the same defect as the glass in the same period in Europe. This effect became a universal problem of European glassmaking at that period, so it was not confined to England.<sup>21</sup> Worst examples are the vessels made of lead glass recipe by the Englishman George Ravenscroft.



24. Gray glass vase, Kangxi period (1696-1722), H: 35.7cm, Collection of V&A (No.C.161-1938).

### **Colouring glass**

German Jesuit missionary Kilian Stumpt supervised the imperial glass making for a number of years. As to the Qianlong period, the colour of glass was improved by missionaries Gabriel Leonard de Brossard and Pierre d' Incarville 汤执中 (1706-1757)

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<sup>19</sup> Crizzling is a chemical problem that made glass unstable and to lose its gloss. Some crizzled glass was greasy with salty 'tears' and some had very fine pits in their surface from the corrosion caused by these 'tears'. A few had a fine network of cracks.

<sup>20</sup> Available at:

[http://www.discoveringbristol.org.uk/showNarrative.php?sit\\_id=2&narId=1039&nacId=1047](http://www.discoveringbristol.org.uk/showNarrative.php?sit_id=2&narId=1039&nacId=1047)

<sup>21</sup> Crizzled examples made by European countries in the late 17th and early 18th century can be found in the Glass Collection of the V&A Museum.

in terms of ruby red, dark red, yellow, white, black etc., and during this time, the colours of their glass became rich and diverse.

<b>Colour</b>	<b>Chinese colouring</b>	<b>Western colouring</b>
Deep blue	Cobalt and manganese silicates	Cobalt
Turquoise blue	Copper mixed with a deoxidizing flux in the presence of an excess of nitre	
Green	Copper silicate	Copper, iron oxide or chromium
Yellow	Antimony - Imperial yellow (full tint of the yolk of an egg)	Uranium – Anna yellow
Amber	Sulphur combine with iron and carbon	
Ruby Red	Copper mixed with a deoxidizing flux	Selenium
Rose pink to crimson	Gold	Selenium
Grayish green celadon / dark brownish reds	Iron	
Opaque white	Arsenic	
Purple		Manganese compounds

When placing together the glass objects produced from the Kangxi to the Qianlong period, it displays a great development of colour. Glass of the Kangxi period was plain and transparent. Translucent and opal colours emerged in the Yongzheng period, and opaque colours began to occupy the main-stream from the late 17<sup>th</sup> century to 18<sup>th</sup> century. Varying amounts of sodium or potassium fluoride were added to achieve varying degrees of opacity. (See Appendix 5 - Chromatogram of the Qing dynasty Chinese glass).

## Qing Dynasty

### Kangxi period (1662-1722)



### Yongzheng period (1723-1735)



### Qianlong period (1736-1796)



25. The selected map illustrates the development of colour in Qing glass.

From plain transparent colour, in the Kangxi period, to the diverse kinds in the Qianlong period.  
(for full size map, see Map 1 – the Qing Dynasty Chinese Glass)

As to the inspiration of colour, Song and Yuan dynasty porcelain glaze such as celadon provided a rich source. The celadon glaze associated with blue-green jade provided inspiration for monochrome opaque glass as shown in figures 26 and 27. The opaque yellow colour in various shades was highly valued in the imperial manufactory which first appeared in porcelain glaze, called “imperial yellow 鸡釉黄”. Yellow was restricted to the royal family to show the power and status of authority, and it was not permitted to be used anywhere else. (For more objects, see Appendix 6 - Qing dynasty Chinese imperial yellow glass).

The opaque result and the colour itself related to the advanced Chinese glaze manufactory. The blown shining result suggests that one role of producing opal glass may have been to create a pseudo-porcelain with an entirely glazed effect. Other minerals, such as malachite, turquoise and carnelian have been imitated purely for the beauty of colours. This attitude seems to be similar to the ancient Egyptians, where glass was made to imitate precious stones, such as lapis lazuli.



26. Opaque turquoise vase, mould-blown and carved glass, Qianlong mark and period (1736-96), H: 15cm, Collection of Li Jingxun.
27. Opaque sky blue vase in the shape of Horse's hoof, mould-blown glass, Qianlong mark and period (1736-96), H: 19.5cm, Collection of the Palace Museum, Beijing.
28. Opaque Yellow vase in the shape of *Meiping*, mould-blown glass, Qianlong mark and period (1736-96), H: 17.2cm, Collection of Walter and Phyllis Shorenstein.

Enamel colours and aventurine glass were other techniques introduced by European glassmakers (Curtis, 1993, p.93). Some enamel colours refer to the glaze in the West as “Claire de lune”. Aventurine glass, a by-product derived from copper, was discovered accidentally in Venice before the 1640s and introduced to the imperial workshop in the 1740s by Jean-Denis Attiret (1702-1768). Other popular techniques in Europe in the early 18<sup>th</sup> century that produced different colour mottled glass at random were also introduced to China to produce glass objects in imitation of realgar and other semi-precious stones.

There is no doubt that coloured glass was getting more and more diverse from the foundation of the glass workshop to the late 18<sup>th</sup> century as the technology of making glass was improved. But the change from making transparent glass towards opaque glass was more crucial, and reflected the driving force behind technical factors. At the beginning, perhaps, investing and exploring glass was due to the curiosity value of imported Western blown objects. When Qing glassmaking developed into a late stage, the major purpose of making glass shifted to imitating other materials, and suggested a constant change of attitude towards this material, which implied that producing glass was not for revealing its own qualities in terms of material and process. Glass seems to never have its own value within Chinese glass history; instead it became replacement for other material processes and productions.

## **2.3 Process**

In this section, the traditional craft making process “designer/maker partnership mode” is analysed by using Chinese cameo glass as an example, to identify the important role of such a mode in the Qing glass practice in terms of making decisions of technique, its resulting effect and the reaction to Western technique, and to suggest the inevitable technical evolution.

### **2.3.1 Design / Maker Partnership Mode**

The craft production in ancient China was not the work of individual artists as we understand nowadays. A “designer / maker partnership” is used here to define such a mode.

A typical traditional Chinese craft workshop would be managed (in some cases owned) by a person who knew all aspects of craftsmanship of the material. Normally, it would be their task to draw designs and supervise the work through its various making processes until its completion. A number of artisans with relevant skills are involved in different processes, each of them specialising in their own particular job. The artisans may vary from time to time according to the demanding skills of designed product.

The imperial glass workshop worked under the same principles, no more than that, and the design and making of glass products were ordered and evaluated by the emperors. The production was patronized by and served especially for the royal family.

It is worth looking at the system of imperial craft workshops as a whole, as it was systematic in a broader, intellectual sense with explicit classification according to materials. Due to the set up of twenty-seven craft workshops in the late 17<sup>th</sup> century at the Forbidden City, a new working method had been established within the network. It was convenient for the artisans from other crafts materials to work in a

cross-disciplinary way in the glass workshop for some skills. It is recorded that the imperial workshops, including jade, carpentry, enamel, gilding and ivory were involved in the forming or decorating for glass; other workshops, including box making, tailor, leather, clock etc. were involved in the making of accessories for glass<sup>22</sup>.

The circulation of ideas and skills was also achieved by the convention of employment. The craftsmen in the imperial workshops were selected as best of all, and were not employed on a continuous yearlong basis, but were recruited seasonally and then returned to their private studios or commercial affiliates from all over China. Frequent exchange of craftsmen brought fresh skills and nourishments for the workshops, which in turn stimulated new ideas and possibilities.

### **Chinese cameo glass as a typical example**

Chinese cameo glass produced in the second half of the 18<sup>th</sup> century is the best illustration to show this process and ideas of creation within the network and system. To make a cameo glass *Dou* object (figure 29), for example, the process of designing and making are divided into mainly six stages:

- 1). The emperor will give an order to the workshop manager to produce a *Dou* shape glass vessel with lucky patterns for the purpose of celebrating a “birthday”; (maybe a similar object in bronze or silver would be given to the manager as a reference)
- 2). A sketch of the vessel form and pattern will be drafted by the workshop manager;
- 3). Evaluation by the Emperor, and if the design is satisfactory, the artisans could start to make it. If not, modifications will be undertaken until it could be approved by the Emperor;
- 4). A *Dou* shape glass vessel with two layers of colour (opaque white and red) would be made in the hot shop by a number of glass blowers in team work;
- 5). Transferring design pattern from paper onto glass surface;

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<sup>22</sup> Archive records of glass production, during the Qianlong period, are listed as a table in the book: Zhang, R. (compiled by) (2005) *Luster of Autumn Water: Glass of the Qing Imperial Workshop*. Beijing: Forbidden City Publishing House, p.74.



- 6). Carving and polishing will be executed in the lapidary workshop by copper or stone wheels, and polished through a number of hands.



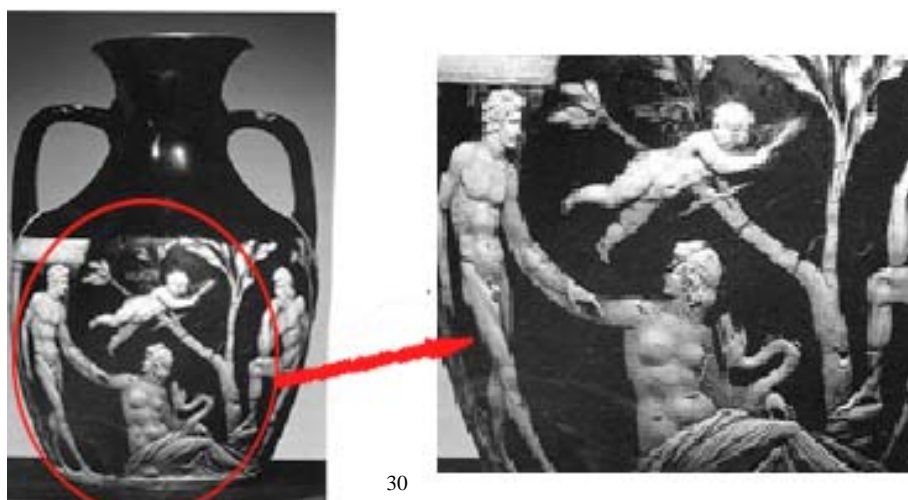
29. Glass *Dou* (stemmed bowl), mould-blown and carved glass, Qianlong mark and period (1736-96), H: 17cm, Collection of the Palace Museum, Beijing.  
(For similar objects, see Appendix 7 - Qing dynasty Chinese cased and cameo glass).

The advantage of the network and working system is that new concepts and ideas were stimulated (borrowed) by contact with different kinds of mediums and craftsmanship. Especially for glass, because the synthetic quality determines glass material never develops on its own, but under contact with sophisticated technologies and techniques from other materials.

The involvement of diverse skills from outside the realm of glass extended the technical boundaries, provided various opportunities of technical experimentation, and consequently obtained new achievements. This theory further explains the initial idea of producing the cameo effect and how it was achieved technically.

Bushell (1977) states that the Chinese cameo glass is the same as the celebrated classical Portland Vase in the British Museum, and is no doubt a production of the school from which the Chinese learned their first lesson, whether directly or indirectly.

His opinion that Chinese cameo glass was inspired by the Roman Portland Vase is farfetched. Firstly, the Portland Vase which was produced in the 30-20 BC was re-discovered artistically by the West in the 19<sup>th</sup> century; whilst, Chinese cameo glass was created earlier, around the 1750s. In addition, the perspective method of representing light and shade by carving on the Portland Vase (figure 30) gives a strong three-dimensional effect, a method of which was not appreciated by the Chinese. Because representations in two-dimensional effect had been well practiced in traditional ink-painting and sculpture throughout Chinese history, there was no such tradition of drawing and making. The essential difference between these two drawing systems is palpable and results in rejection or misunderstanding. Thereby, the influence of the Portland Vase is not tenable.



30. The Portland Vase, possibly carved by Dioskourides, 30-20 B.C. Italy, H: 24.8cm, Collection of the British Museum (GR1945.9-27.1 Gem4036, Gallery 70)

The attention on Chinese cameo glass has been noticed by a number of previous researchers, for example, Phelps Warren (1977), Peter Hardie (1983), Claudia Brown and Donald Rabiner (1987), but whether it was discovered independently by the Chinese or imported from the West is still not certain. Whereas, some Chinese scholars emphasized that Qing cameo glass was an entirely new innovation of the Chinese.

The network of imperial craft workshops and its working system provide reasonable evidence to argue that 18<sup>th</sup> century Chinese cameo glass was an independent innovation; however it is believed that this was achieved by having a relative cut piece from Western countries as reference.

As far as I understand, the lapidary approach is a typical characteristic of the Chinese. A trend of illusionistic carving with technical virtuosity was not unique to glass, but derived from other craft materials (jade, lacquer, bamboo, stone, ivory and even with porcelain). The initial idea of creating Chinese cameo glass was an imitation of the Chinese porcelain, jade and lacquer products.

The colours and enamel drawings on the porcelain provided examples for glass production. This was the reason that cameo objects of the 18<sup>th</sup> century were formed in opaque glass rather than transparent, and some of the shapes and pictorial patterns were the same as porcelain.



31. Porcelain jar with carved peonies beneath a green glaze, Longquan, Zhejiang province, Yuan dynasty (1300-68), H: 21.5cm, D. 26cm, Collection of the British Museum (OA 1947.7-12.124.) This large globular jar has deeply carved decoration of tree peonies alternating with foliage and in the lower register, with stylised lotus leaves, covered inside and out with a thick olive-green glaze (Harrison-Hall, 2001, p.479). For Chinese porcelain, mould production of shape and decoration was a technical innovation of the 11<sup>th</sup> and 12<sup>th</sup> century. Objects became elaborated, both in its combination of carved designs and moulded animal decorations.

Two layered glass was normally in cobalt royal blue and white, in red and white, and in green and white, which were typical Chinese colours, and not only related to the “blue and white” porcelain, but also to the architecture with red paint and green glaze tile.

As to decorative patterns, to realize a design drawing from paper to final object would encounter a number of difficulties. Primarily, it is the choice of technique. There are a number of methods available to apply surface patterns on a blown glass vessel, such as mould-blown, trailing, diamond-point engraving, carving (wheel-engraving), enamelling and gilding. Different techniques bring distinct results even if starting with the same design pattern. Therefore, the choice of technique becomes a crucial decision that determines the final quality of the object.

Following this, is practicing and the overcoming of technical obstacles. This could be achieved by hiring skilful artisans and practicing repetitiously until processing is faultless.

It is my opinion that the cameo effect was not achieved on the first attempt, but after a constant technical development, where a period of experimentation is suggested from the Kangxi to the Qianlong period to apply highly profiled relief decoration on glass.

Including stages of:

### **1). Mould-blown in Kangxi and Yongzheng period**

Mould-blown was a popular method invented alongside glass blowing in the Roman period. It was firstly tested in the Qing court in the early part of the time-frame (figure 32).



32. Two handle cup, mould-blown glass, Kangxi or Yongzheng period (1662-1735), H: 6.4cm, W: 14cm, formerly Bernal Collection, Collection of V&A (No.C.2160-1855). \*

Warren (1977, p.119) notes:

*“The two handle cup [No.C.2160-1855], which may be in imitation of a natural stone or possibly jade, illustrates the ancient glass technique of marbling. This is graphically described by Dillon as ‘half-molten masses of glass, of two or more colours...worked up and dragged through one another; the glass...then carved into the old traditional forms.’”*

Here, Warren and Dillon make a fatal mistake. The handle and surface pattern of the cup were not achieved by carving, but the whole piece was blown into a two-half mould. The evidence of which can be observed from the marks on the central of the handle and the cup (figure 33-35). When hot glass is blown into the symmetric mould, liquid glass will find its way to fill into the seam of the two-half mould and create a ridge along with the whole seam. Additionally, the effect of the mould-blown character “*Shou*” on the body surface is different from the effect of carving. The blown object presents a round and even effect, instead of a sharp edge by carving. For a mould-blown piece, not a hundred percent of the decorations on the mould will be picked up perfectly by glass.

Therefore, in general, mould-blowing cannot achieve extreme delicate details, and the outside surface is not smooth and fire polished due to the contact with the mould material. These unsatisfied factors led to the continuous exploration of the technique.



33/34/35. Details of handle

## 2) Carving in a lapidary approach

The most important factor affecting the appearance of 18<sup>th</sup> century Chinese glass was the use of the lapidary wheel for grinding and polishing. The consequence of this interchange led to newly styled glass vessels that emphasized complex and challenging reliefs. Most of the mould-blown objects would be further processed by carving; a process that continued from the middle 18<sup>th</sup> century.

Cutting away surfaces to form facets or flutes in simple geometric form was the earliest style of glass carving (figure 36). This trend progressed into more complex cameo effects in the Qianlong period and became the fashion of glass production.

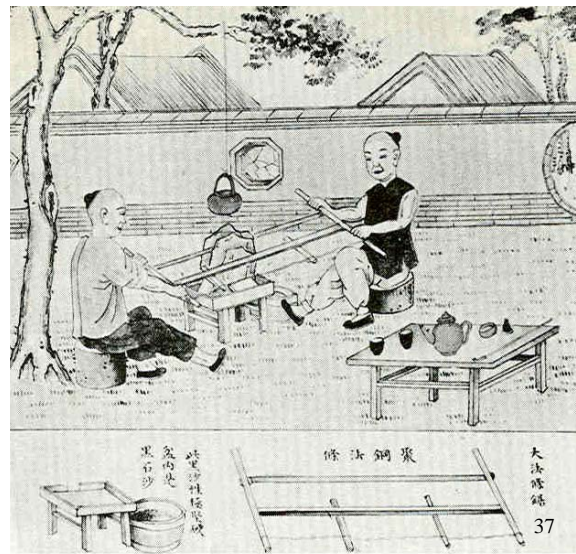


36. Transparent glass vessel, mould-blown and carved glass, Kangxi period (1662-1722), H: 7cm, Collection of the Palace Museum, Beijing. As the trade exchange through the “Silk Road”, Western glass, including Islamic glass, was imported to China for a long period. This vessel has typical characteristics of Islamic glass, which was famous for its facet cutting, and its geometric forms. (For similar objects, see Appendix 8 - Qing dynasty Chinese facet-cut glass).

In order to execute carving on glass, the wall of the glass vessel has to be thick enough to withstand the tensions of the wheels. This is the reason that the late 18<sup>th</sup> century Chinese glass was developed into a much thicker and solid feature, unlike the thin transparent vessels in the early period.

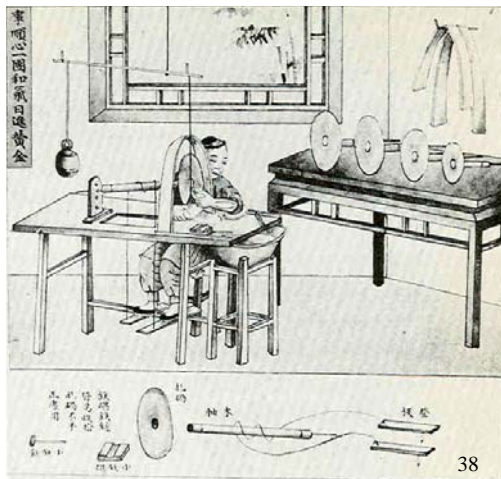
Glass carving in ancient times was done by a simple machine using the same principle as jade carving. It was driven by a foot treadle powered by the worker to operate the disc grinder back and forth. The activity of ancient jade carving was recorded in the book *Chinese Jade* (Minneapolis Institute of Arts, 1977, p.11) that described each process of carving:

*“...outlines are carved with a large metal disc with a shape rim; surface sheen is produced with a large metal disc with a fairly thick rim; engraving is done with an extremely small metal disc with a sharp rim, shaped like a nail head; vessels are hollowed by removing cores of jade with a metal tube rather than a disc; and polish and luster are achieved with a wooden disc, often with thick leather nailed to it. For all of these processes, jade-cutting sand of varying degrees of abrasiveness is indispensable.”*



37. Chinese Jade carving in ancient times.

Two workers are dividing a large jade stone into smaller pieces by using a carpenter's saw, activated with sand or frits that hang above the stone.



38. Chinese wheel engraving machine.

*“A round bar with a leather belt wrapped around it is mounted horizontally on a rectangular table. The two ends of the leather belt pass through a hole in the center of the table and are attached to two treadles underneath which, when pushed by the jade worker, cause the horizontal bar above to spin back and forth. A metal disc mounted on one end of the bar spins as the bar spins and, in combination with the jade-cutting sand.”* (Minneapolis Institute of Arts, 1977, p.10)



39. A Western glass-engraver's table.

The engraver held a goblet beneath a copper wheel powered by a treadle. On the table before him were several other wheels and bowls of abrasive paste. (Liefkes, 1997, p.66)

Similar working methods can be identified from the above two images, whilst it is interesting that the status of the Western glass artisan is obviously much higher than the Chinese which is reflected in their dress.



Based on the description, different tasks were done by the wheels in various sizes and shapes. According to the depth and complex of designed patterns, along with the shape of the object, tools utilized and times spent may vary respectively.



40. Ruby red bowl, mould-blown and carved glass, Qianlong mark and period (1736-1796), D: 14.2cm, Gift of Mr. R.W. Morris, Collection of V&A (No.C.169-1956). \*

With this technique, a complex design and sculptural character could be raised (cameo or intaglio, figure 40), and the surface decoration becomes very intricate and time consuming. Finally, cased cameo glass with two or more layers came into being. There are two different ways to achieve two layered colours. One is by dipping glass with one colour into another, and the other is by casing a ready-made coloured cup outside the blown object. Though it is hard to determine which way has been used to produce high relief Chinese cameo glass, the purpose to achieve a thicker wall is certain.



41. *Dou* (stemmed bowl), mould-blown and carved glass, Qianlong mark and period (1736-96), H: 17cm, Collection of the Palace Museum, Beijing.

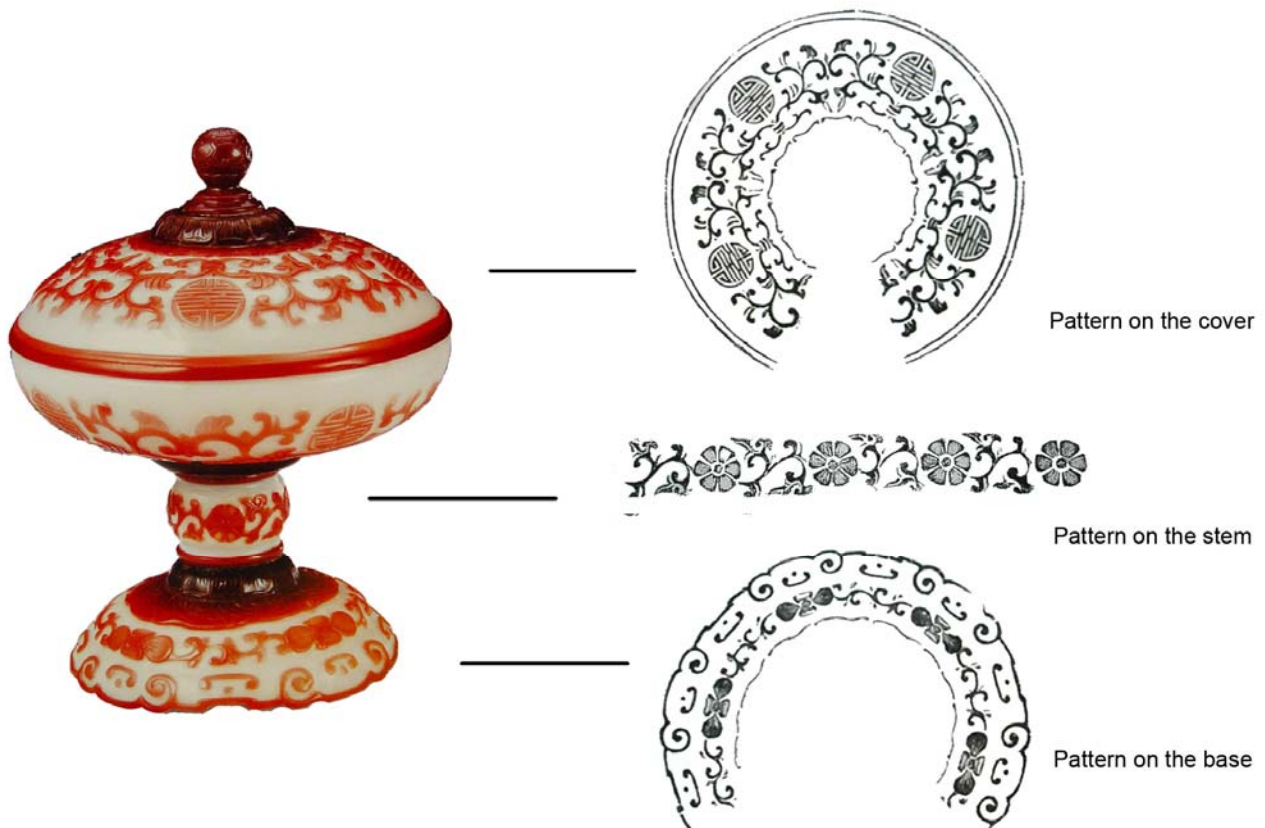
Carving techniques made it possible to realize pictorial patterns and graphic content, including representations of flowers, Chinese characters, figures and landscapes. The *Dou* object (figure 41) was decorated with floral scrolls, clouds and round character of “*Shou*” which symbolized long life for the royal family.

The symbolic meaning and the engraved patterns suggested that this was a very special piece, produced uniquely under strong royal patronage. The value associated with this kind of carving object was equivalent to the objects made in jade and other highly valued material, which stood in a relatively higher royal hierarchy. Originally, this object functioned as a food container on the table of the royal family or for pure decoration to reflect wealth, but in the Qing dynasty, more often it was an altar object. Thereby, the social status of these objects is worth the labour expended upon them. To produce this vessel demanded a team of sophisticated blowers to finish the blown vessel with two layers of colours first, then passed to lapidary workers with specialized skills to achieve carving and polishing effect with approximate 500

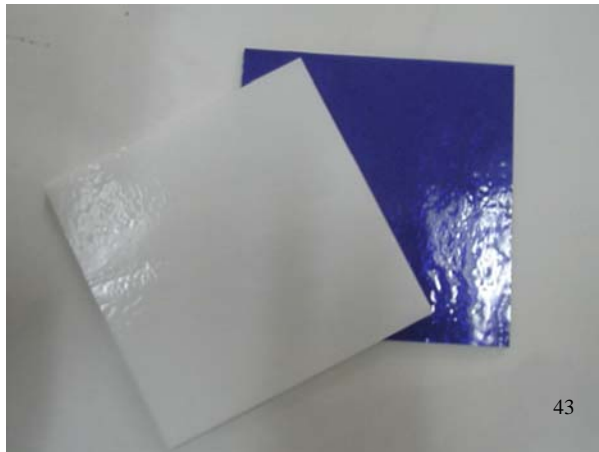
working hours or more. Because intensive and time consuming as it was, the average scale of Chinese cameo glass was relatively smaller (around 20cm high).

Due to the complex shape of this *Dou* object, carving became much difficult than other forms. Therefore, the cover, body, stem and base was finished separately and then assembled into an integral form, not blown at once. In order to test my argument and to get an idea of the difficulties of making and time spent on it, I have practiced by myself by carving a ten by ten centimetres square two-layered flat tile on a modern steel engraving machine.

### Making process:



42. Get patterns from the Qing Glass *Dou* object.



43



44

43. Two pieces of Bullseye glass ten by ten centimetres square flat tile in opal white and cobalt royal blue (2mm thick) were fused together to get two cased layers.

44. I have selected a part of the patterns from each section (cover, stem and base) of the Qing object, transferred them from paper onto glass surface by permanent ink.<sup>23</sup>



45



46

45/46. Engraving on an electric-powered machine with steel wheels,

Water is necessary to work with the wheel to get rid off the glass residue and to act as a lubricant.

<sup>23</sup> For further details about how to transfer design patterns onto glass surface, please see: Dreiser, P. & Matcham, J. (2006) *The Techniques of Glass Engraving*. 2<sup>nd</sup> ed., London: A & C Black, p.44.



47

47. It took me more than 5 hours to get rid off the blue layer on the bottom part of this flat piece in a very rough sense on a totally flat surface. Conceivably, to achieve floral scrolls on a three dimensional form with a much finer result by using a foot treadled machine, will take much longer than my experiment.

**Difficulties and Weaknesses:**

Pattern on the cover

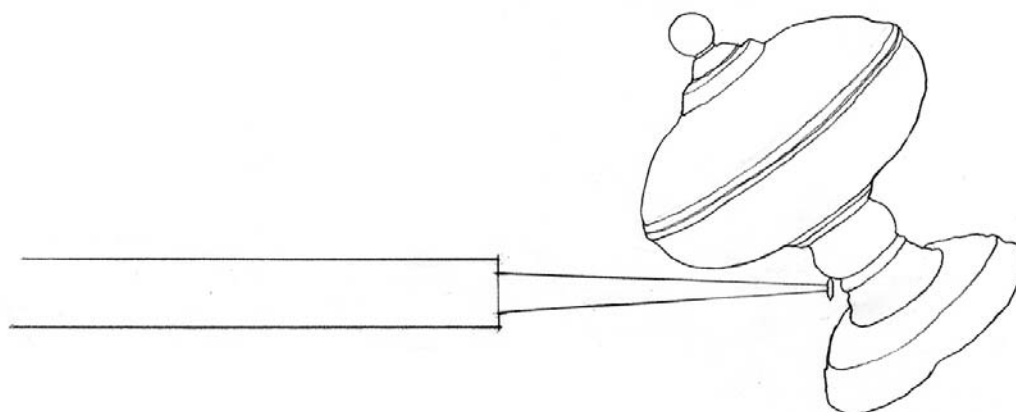


## 48. Flower and floral patterns of the stem.

The red mark shows the places where there will be difficulties when carving. Only small wheels with the right profile, size and thickness will do the job properly. Moreover, taking the whole body shape into account, the patterns positioned on the lower side of the main body and on the stem would be impossible to execute. Please see the drawings below.

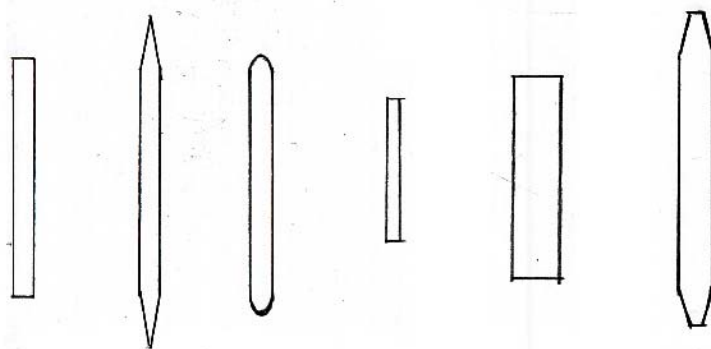


Pattern on the base



49. This drawing shows the relationship between spindle and object if it is blown as a whole, and displays the difficulties of handling this *Dou* shape vessel on the wheel. To engrave the patterns on the stem will run the risk of bumping the cup. It will be an extremely empirical and time-consuming task in the case of doing it like this. But if all these parts were blown separately, it would be much easier to carve the patterns. Therefore, it is to presume that this object was constructed by wooden (or other material) components that slot into each sections, then stick together.

Two other objects with similar shapes (N4574 and N4676), collected by Bristol City Museum and Art Gallery, which display the trace of the joints, are stated as “*Each of the three glass sections was made separately, then were joined together with a wooden dowel and glue.*”<sup>24</sup>, which shares the same opinion as mine.



50. Figure 50 shows an example of wheels with various profiles to do different jobs, some are for rough engraving to remove big areas, some are for detail engraving and others are for polish. In the Qing dynasty, wheels were usually made by wood (for polishing), copper and stone (for grinding).

<sup>24</sup> Label of Qing dynasty Chinese glass object 110, Bristol City Museum and Art Gallery.





Cameo glass of this type is recognized as the most typical of Chinese glass nowadays, on account of its form and colour, and the manipulating technique of cold processing.

Though Chinese glass had little influence on Western glass practice, European cameo glass in the 19<sup>th</sup> century is found to hold great similarities in *chinoiserie*, especially the products of Thomas Webb & Sons at Stourbridge in England (Goldstein, 1982). Later in the early 20<sup>th</sup> century, the Art Nouveau glass pieces produced by Emile Gallé were suspected of being influenced by Chinese cameo glass.

However, the cameo effect of English and Art Nouveau glass was assisted by acid-etching. Usually, acid-etching was used to remove rough part of the needless pattern, fine details still demanded wheel-engraving or even hand carving. In this way, objects could be finished easier and quicker, like sandblasting used in current practice.

Obviously, the first method of applying relief decorations in Kangxi and Yongzheng period was naturally related to blowing techniques. Gradually, it was replaced by the carving technique from the middle of the 18<sup>th</sup> century.

On the contrary, in Western countries, mould-blown vessels are more likely to be a substitute for cut glass, as the cost of carving is more expensive whilst mould-blown lowers the cost and makes mass-production possible. Therefore, mould-blown glass is demonstrated as the most efficient and cheapest way of production with relief surface decoration.

Except mould-blown, diverse techniques such as trailing, diamond-point engraving, enamelling and gilding were practiced in the Qing dynasty in China, but never obtained such attention and devotion as the carving technique.

Why did Chinese people give up mould-blown methods and turn back to carving?

How did lapidary work stand out among the entire surface decorative techniques that have been mentioned above?

Some answers can be drawn from the analysis. Firstly, the natural quality of glass at room temperature is similar to hard stones and the density and hardness are suitable for carving by tools or wheels, like jade stone.

Secondly, carving was the most sophisticated and familiar skill, which has been practiced in most of the craft materials in China for thousands of years. The carved objects in jade, ceramic, lacquer and stones, and the lapidary workshop in the Qing court provided existing example skills and techniques for glass.

Furthermore, the aesthetic of carving is rooted in Chinese art and craft. There has been a long history whereby Chinese people enjoy craft objects by tactility. Watching by eyes and touching by hands are two co-dependent manners to perceiving a craft object. This was regarded as a way of communication and understanding as Chinese philosophy believes that vessel forms contain *Tao*. Polished carved objects usually give a soft and smooth feeling when touching and handling. Additionally, opal glass with little refraction of light achieves a similar visual result of jade and hard stones. We could imagine, if the surface pattern was decorated by mould-blown, not carving, the cameo result would be compromised, the imperfect surface and the flaw of the joint of the two-half mould that I discussed in figure 32 will affect the feeling of handling.

In summary, the cross-disciplinary working system brought a large number of benefits for glass practice in terms of sharing knowledge, ideas and techniques, and helped to produce our own characteristics.

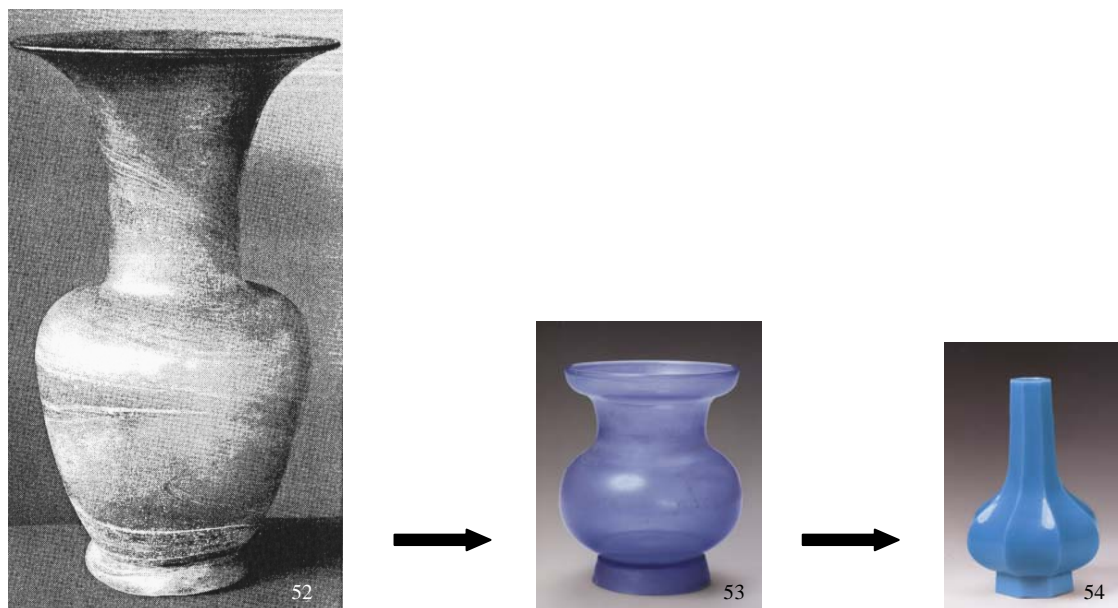
In paradox, the disadvantage of the system in the Qing dynasty craft manufactory is that the separate working stages by different kinds of craftsmen allows no communication and freedom of creation; the variability and feedback within each stage was limited. What is more important is that the involvement of other craft skills de-values the glass material from its peculiar plasticity and ductility when it is hot.

Unlike this, the development of Western glass is based on a full understanding and a widely experimental approach to the material itself. For instance, Venetians made full use of the viscosity of hot glass called “*cristallo*” to explore unlimited shapes associated with dazzling accessories (handle, stem) and multi-versions of decorations (wrythen, filigrana, latticino).

This is probably one of the reasons that blown glass did not continue to develop as a main method of practice in the late period in China.

### 2.3.2 Blowing Technique towards Carving Manner

A series of developments happened alongside the progress from 1696 to 1796. The purpose of selecting these three visual examples (Figure 52, 53 & 54) are drawn from each period to present a good visual example to illustrate the evolution of glass practice in terms of its material quality, attitude, and making process.



52. Gray vase, blown glass, Kangxi period (1662-1722), H: 35.7cm, Collection of V&A (No.C.161-1938). \*

53. Blue *Zun* (wine vessel), blown glass, Yongzheng mark and period (1723-35), H: 19.5cm, Collection of the Palace Museum, Beijing.

54. Octagonal sky blue vase, blown and carved glass, Qianlong period (1736-96), H: 14.2cm, Collection of the Palace Museum, Beijing.

As early as in the Kangxi and Yongzheng period, larger-scale glasswares (figure 52) with transparent colours were manufactured by blowing techniques in the imperial glass workshop. But colours were limited in small ranges such as clear, amber, blue, green and grey, while forms were restricted in traditional porcelain shapes, and glass was executed in plain styles. Surface decorations were rare. The average scale of blowing objects was much bigger than that of the later periods. The characters of hot work were easily identified by the thinner layer of glass and its flowing outline.

The Yongzheng period was a transitional time of glass practice from the earlier phase of free-blown wares in transparent glass of a limited range of colours, to the later thicker wares with a wider range of colours in opaque quality appropriate for carving.

Although the vase (figure 54) was made by blowing, it was treated in the manner of hard stone, as a solid material to be worked into shape by grinding on the lapidary wheel. These have been found in a large number of the objects produced in the Qianlong period with thicker walls, and the outer surface of most of the mould-blown pieces were ground and polished in a lapidary wheel after blowing. Thus blown characteristics can hardly be seen.

The application of jade carving explained the technical transformation from blowing to carving on glass, and has been examined in the previous section of “cameo glass”, but here I would like to stress another important factor.

Honey (1937, p.218) stated that the developed Chinese glass of the 18<sup>th</sup> century is wrought in a lapidary manner, with little reference to the character given by blowing, because “*Thin crystal-clear glass would hardly appeal to the cultured classes*”.

I strongly agree with his opinion. The traditional aesthetic appreciation had been well established in China by other craft materials, ceramic and jade being the main two. Ceramic and jade are characterized for their softness and subtlety, which is in contrast to the bright and shining quality of glass. Objects made of ceramic and jade are visually heavier and solid, but transparent glass is the opposite. Therefore, there is reason to believe that, until the middle of the 18<sup>th</sup> century, when glassmaking had been well established in the Qing court since the late 17<sup>th</sup> century, blowing techniques gradually lost their dominance and resulted in a very particular approach and treatment of carving.

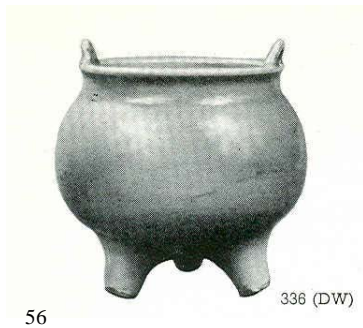
Besides, it is clear that the fully developed colours of glass were not qualities that attracted Chinese people. Experimenting with diverse opaque colours, in turn, was understood as a way of imitating other craft materials. For example, the vase (figure 54) in opaque blue was an imitation of turquoise.

The development of the *Ding* shape tripod vessel is another example that illustrates this kind of evolution.



55. Liu *Ding*, Shang Dynasty (1766BC -1111BC), Collection of Shanghai Museum.

*Ding* made by bronze was the original prototype. It represented power and government, owned by high ranks of kings and seigneurs with very restricted rules. It was produced by the technique of lost-wax casting and decorated with patterns of beasts and clouds. Later, this shape was applied to ceramic forms and became popular in daily life as a sacrificial object.



56. Ceramic Celadon tripod vessel "*Ding* 鼎", H: 12.4cm, Song Dynasty: 12<sup>th</sup> -13<sup>th</sup> century AD.

57. Ceramic Celadon tripod vessel "*Ding* 鼎", H: 27cm, Song Dynasty: 12<sup>th</sup> century AD.

Ceramic *Ding* copies bronze form and pattern.





58/59. Pale green glass “*Ding*”, blown, Song dynasty, H: 9.7cm, Collection of Walter and Phyllis Shotenstein.

Because of the constant trade exchange on the *Silk Road*, blown techniques from Rome had been imported to China from the 2<sup>nd</sup> century AD. This *Ding* bottle with cover, shares a number of similarities of Roman glass, such as the greenish colour, thin brittle wall and the most important aspect, the same principle of making.



60/61. Incense burner “*Ding*”, mould-blown yellow speckled glass, Qianlong period (1736-1796), H: 9.6cm, D: 8.3cm, Collection of V&A (No. 103-1853). \*

As I have examined, this probably would be one of the initial tests of making the glass *Ding* shape vessel of the Qing dynasty. Not only based on the fact that there are no records before this object, but also evidenced by its forming methods of free blown. The main body was blown and shaped after coating with yellow powder (might be enamel?). Three legs along with the beast face were added and shaped afterwards by using proper tools. This is a typical blown process, that follows the exact mode of Western glass practice.





62-67. Incense burner “*Ding*”, mould blown and carved, Qianlong period (1736-96), H: 7.2cm, Collection of Bristol City Museum and Art Gallery, UK, the Palace Museum Beijing and Li Jingxun. Essential changes happened in these mould-blown pieces. Aesthetically, they were very similar to the ceramic samples in terms of colours and opaque quality, especially the carved edge and auricular handle. Mould-blown and carving methods ensured the elegant form had an extremely precise outline.



68-71. Cameo glass “*Ding*”, mould blown and carved, Qianlong period (1736-96), Collection of the Palace Museum, Beijing, and Bristol City Museum and Art Gallery, UK. \*  
The cameo effect further demonstrates the progression of blowing towards carving from the mid-18<sup>th</sup> century.



### **2.3.3 The Evolution of the Foot Ring**

The evolution of Qing glass is also illustrated by examining and selecting four different types of the foot-ring from each period, the purpose of which is to indicate the essential movement and transformation within the progress of practice, and the particular preference of making such forms.

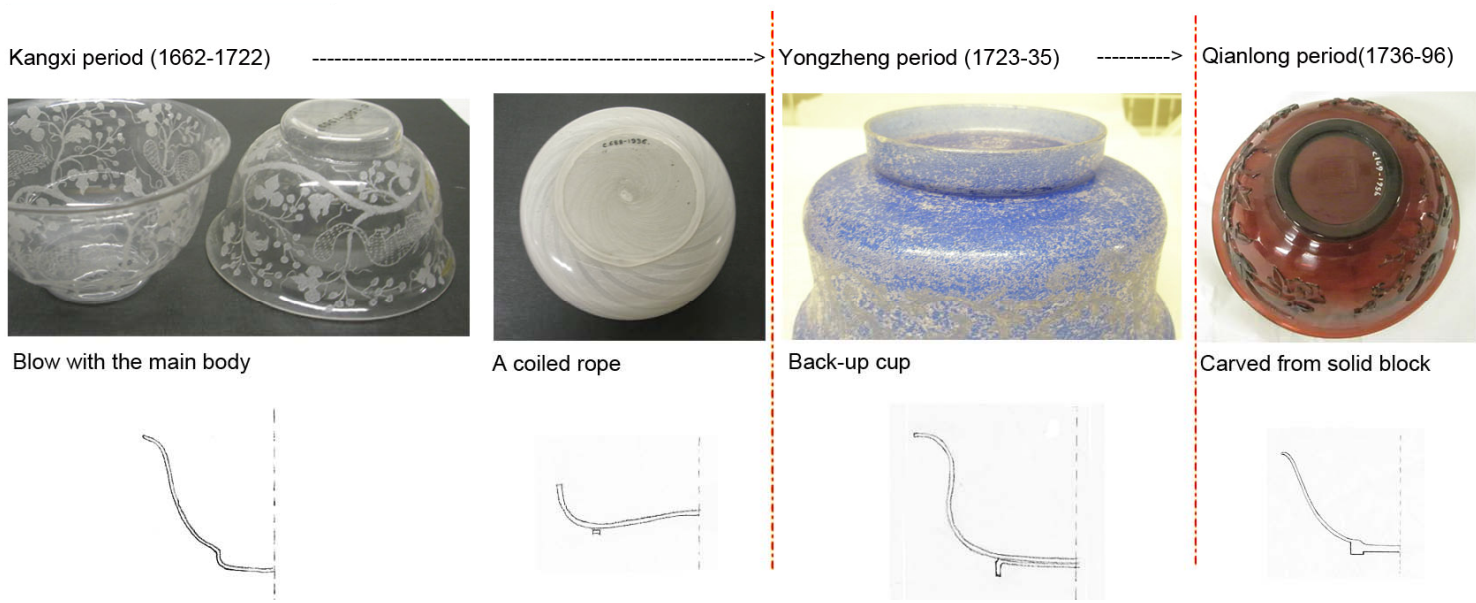
For the foot ring on the base of the Qing glass vessels, Honey (1937) made much of this as evidence of the influence of Venetian glass from about 1500 onward.

Later, Rabiner (1995) noticed that the similar type of the foot-ring was a common feature of the Chinese tradition long before the 17<sup>th</sup> century. He emphasized that Western scholars have been over-eager in their effort to discern European elements in Qing glass.

Though the interesting foot-ring phenomena has been noted among the previous researchers, they haven't considered or attempted to give an integral understanding of the philosophy of making such forms and the reason of the constant change of the process.

On the basis of Honey and Rabiners' opinions, the investigation that I have done so far on the four types of foot-rings gives a clue to the reasons for the technical evolution, influences from other craft material and the preference for such a form.

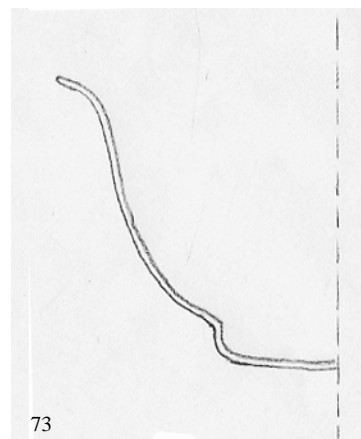
In fact, various methods have been experimented with to achieve foot-rings on blown vessels from period to period:



### 1) Blow with the main body

Initially, the foot was blown as an integral part of the body, shaped by the tool “*Jack*”. The pair of cups (figure 74) with extruded foot is an example of this kind. It is the most efficient and natural way for a glass blower to fabricate a similar form like a porcelain prototype. When considering its function, the complex inner space makes it difficult for cleaning, and as this kind of foot-ring is thin, it is not actually contributing to prevent heating.

Furthermore, due to the natural quality of the material, glass goes round on the borderline instead of a straight angle with a sharp edge.



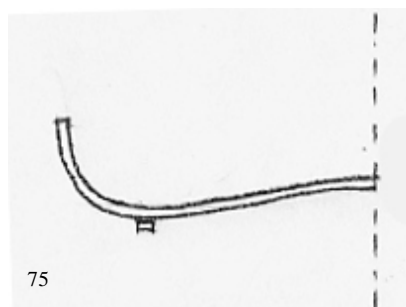
73. Profile drawing of figure 74.

74. Pair of diamond-point engraved glass cups, Kangxi period (1662-1722), D: 11.4cms, Collection of V&A (No. C. 250-1909). \*

## 2) A coiled rope

This was an alternative process of applying a foot-ring onto the blown glass in the early period.

Before the introduction of the pontil, a small gather of glass is trailed on the bottom of the main body, to form an enclosed circle, which looks like a coiled rope. Parallels could be found in Venetian glass.



In fact, the foot-ring is a separate part to the main body. It is inevitable that there will be an imperfect interface when the end thread meets the start point. The flaw is clearly visible. (Figure 76)

Even if the process is fairly quick and easy to access due to the plasticity and ductility of the molten glass, the visual result is un-satisfactory. The foot-ring finished by this method has a similar problem as the first one, that is the edge of the foot rim is round.

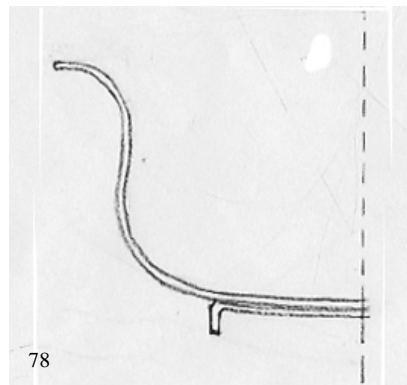


75. Profile drawing of figure 76/77.

76/77. Colourless glass bowl, crizzled with lattimo stripes, Kangxi Period (1662-1722), D: 13.7cm, Collection of V&A (No.C.688-1936). \*

### 3) Back-up cup

According to Ayer (1965, p.25), the foot-ring from the Yongzheng period was furnished with a “back-up” base (like a small cup placed upside-down), which means that a small bulb is blown separately and stuck onto the bottom of the main body, then shaped and opened up with the help of scissors and wood tools.



In order to examine Ayer’s theory, I have reproduced the “back-up” foot part of figure 79 and found that it is more complex than the previous methods. Normally, the process of finishing this piece demands teamwork. As a result, the “back-up” foot is much higher than the porcelain parallels, and there is an obvious gap at the joint of the main body and the foot. It would be observed easily even from the inside of the vessel if the glass is transparent. It is reasonable to believe that all these deficiencies (which I mean aesthetically by reference to ceramic prototype) encouraged the Chinese artisans to develop a perfect way of applying a foot-ring on blown glass, which is exactly the same as Chinese porcelain examples.



78. Profile drawing of figure 79/80.

79/80. Pair of bowls, diamond-point engraving cobalt blown glass, Kangxi period (1662-1722), D: 17.3cm, Collection of V&A (No.C.830-1883). \*

(For similar object, see Appendix 9 - Qing dynasty Chinese glass with back-up foot-ring).



81-84. Reproducing the making process of “back-up” foot-ring:

- 1) A small bulb is blown separately and stuck onto the bottom of the main body;
- 2) Tapped off from the iron pipe;
- 3) Shear off the forepart of the small bulb;
- 4) Using a wood tool to open up and make the rim flat and neat for proper standing.

#### 4) Carved from solid block

The above three methods of making a foot-ring onto a blown vessel belongs to the same family, which utilizes the principle and technique of blowing. However, the fourth method was not formed by ‘hot working’, but determined by ‘cold processing’. I have displayed two different types of carved effects in Figure 86 and 89.

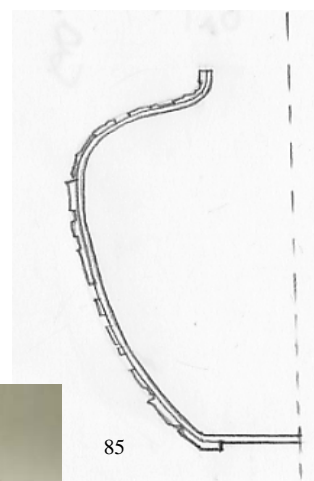
For the making process, the bottom part of the vessel was either done by mould-blown into a desired bowl shape with a solid base or added as a solid disc onto a free blown glass body. After the completion of the final shape and annealing procedure, the solid round base was carved and polished into a final profile.



86



87



85

85. Profile drawing of figure 86/87.

86/87. Cobalt blue bowl, mould-blown and carved glass, Qianlong reign mark and period (1736-1796), H.7¾ ins, Collection of the Broadfield Glass House Museum (BH22). \*



88. Profile drawing of figure 89.

89/90. Ruby red bowl, mould-blown and carved glass, Qianlong mark and period (1723-1796), D: 14.2cm, Gift of Mr. R.W. Morris, Collection of V&A (No.C.169-1956). \*

These two different types of carved foot-ring (figure 86 & 89) seem to be similar in appearance. People will take it for granted that it was just varied versions of experimentation, but I would like to strengthen that the motivation to execute these two foot-rings, followed the principles of porcelain analogies. For porcelain, each version of the body shape will match with certain types of foot-rings. They were not arranged at random, the rules established for porcelain have been adopted here into glass. The porcelain prototype of the vase (figure 86) and the bowl (figure 89) were different in the first place, and thus resulted in the diverse shapes on glass.

From another aspect, if we consider about the cost of these pieces, applying foot parts makes the forming procedure more complex and time consuming. To make an exact copy of a porcelain foot was even harder, it not only required skills from glassblowers, but techniques from stonemasons or gem-workers.



Logically, as skills and techniques developed, production should have become more and more efficient. From the analysis, we know that the first method seems to be the most suitable forming technique in terms of blowing. However, why were the former methods not succeeding to the Qianlong period? Why did practitioners spend enormous time on cold-processing to follow such great precision?

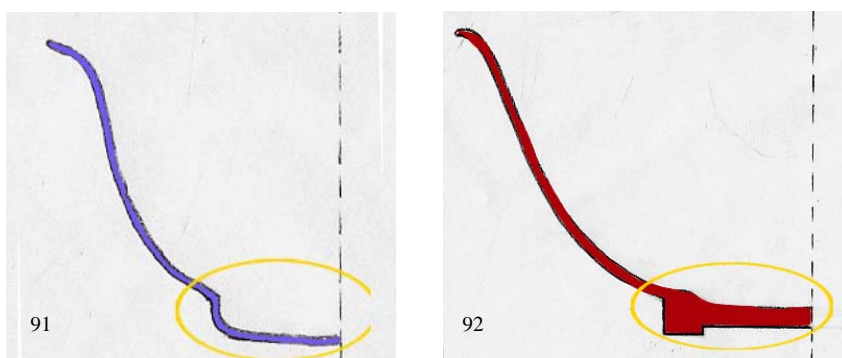
The lack of support from Western countries in the imperial workshop may have caused the loss of skills. The first three methods of applying foot-rings were achieved by a series of continuous processes correlating to each other. Sophisticated skills and teamwork were needed to master the whole process. Loss of blowing skills from the middle of the 18<sup>th</sup> century provides maybe one of the motives for the Chinese people to explore 'new technique' (cold processing instead of blowing). But the most important reason is believed to be associated with a certain aesthetic preference.

From a functional point, blown objects could stand firmly without the foot. This theory can be demonstrated by the examples of a large number of Western objects. The form of the foot-ring occurred as early as the manufactory of Chinese porcelain. It is unlikely that new forms were invented exclusively for a new medium, meaning that glass borrowed the foot from other material. Since the porcelain foot became the paradigm, the main concern of glass practice was for visual effect rather than exploring the own characters of material and process, and of course, regardless of the time and effort which has been put on to achieve such results. The way of carving inevitably increased the cost of the object by spending more time and labour, and it embodied this kind of object with a much higher royal hierarchy compared to other glass objects.

Although, the effort and time spent on the carving process is as many times as the previous methods (1, 2 &3), it gives a precise proportion and perfect visual impression to the porcelain prototype. The object is satisfactory because it meets traditional aesthetic qualities which had been already set up by other craft materials long before such as, elegance and grace. This could be further supported by most of

the glass objects made in the Qing dynasty, which share exactly the same characteristics as their prototype.

Sheppard (1987) addresses that some defining characteristic could make an artwork especially valuable, such as form and proportion. The most celebrated of Chinese porcelain was treated by a subsequent generation of makers for its harmonious proportion, formal balance and the relationships between shape and colour. For example, a bowl, what ever it is made of, for example jade, ceramic or glass, the prescriptive formula of the formal features are: 1) the outline of the main body is designed according to the curve of the hand for holding; 2) then the diameter of the mouth is determined by the various function of the bowl; smaller size is for rice and the bigger size is for soup; 3) stated foot ring is added for stable standing and formal balance, and another important function is for proper holding when eating and pouring, and also to prevent heat when handling.



91. Profile drawing of figure 74. Because of the thin wall of the glass cup, it is difficult to hold when having hot liquid inside, and if this kind of foot is applied on a big bowl, it will be even harder to pour as the body will slide from the hand.

92. Profile drawing of figure 89. With “凹” shaped foot-ring, we can hold it tight and pour easily, and the thickness avoids the hand being burnt.

Such perfection is an end in the sense that it determines what a bowl ought to be like. And such a perfect system existed in every walk of life in feudalistic China in the Qing dynasty. Every thing is in order and in rules.

This opinion is very much like the Western philosophy of “ideal form” from Plato, who believed there exists an idea or form for everything in the world. It is not possible to draw an ideal form, for example a circle, but only an imperfect physical

copy, a rough approximation to the perfect beauty of the eternal. Therefore, people usually judged the perfection according to *The Ideal Form* as closely as possible. (Clowney)<sup>25</sup>

Whereas, it is obvious that great experimentation and adaption are needed when transferring from one material to another. Apparently, the four types of foot-ring in glass recorded a technical evolvement. It appears that the first three experiments seem to be more interesting than the exact porcelain version if considering glass material as its own. However, as a matter of fact, it represents an intrinsical value that the Chinese identified with, and which seriously directed the destiny of glass practice in the Qing dynasty.

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<sup>25</sup> Clowney, D., *Aesthetics: Philosophers, Artists, and Art Critics on Art*, Available at: Roman University Library Catalogue/  
<http://www.rowan.edu/open/philosop/clowney/Aesthetics/index.HTM>  
[Accessed 16 January 2009].

## 2.4 Expression - a Craft Material: The Nature of Hybrid

This section mainly analyses some typical examples that represent the hybrid quality of Chinese characters and Western influences in terms of the form, colour, forming technique and decoration style. The attempt is to examine exactly how Western glass practice has been adopted into China at the initial stage and adapted to Chinese culture within its progress.

### 2.4.1 *Gu* Shape Glass Vase: Chinese form with Western decoration



93. *Gu* 瓠 shape vase, mould-blown glass, Kangxi period (1662-1722), H: 21.6cms, Collection of Bristol City Museum and Art Gallery (N4620). \*  
(For similar object, see Appendix 10 - Qing dynasty Chinese glass with ribbed decoration).

This is a “*Gu*” shape mould-blown glass vase (figure 93), which functions as a practical object. In previous research, John Ayers (1965, p.23) noted:

*“Amber-colored glass with diagonal ribbing, the waist encircle by a crimped band. Produced by the technique of mould blowing but drawn out into a hand-some, elongated vase form with rather prominent spiral ribs. The form is completed by a crimped band applied round the waist, and there is no foot-ring.”*

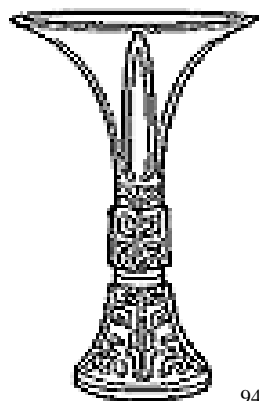
By analyzing this object, I would like to discuss the grafted Western mould-blown glass and how it was practiced by copying traditional craft forms and influenced by Western decoration when it was officially introduced into China in the late 17th century.

In the late 17<sup>th</sup> century, as blowing techniques were just being imported to the Qing court, there were a few local glass makers in Beijing who could work for the imperial workshop. It was not easy to acquire blowing skills in a short time. Glassmakers from Yanshenzheng (Shan Dong province) and Guangzhou (Guang Dong province) were employed in the imperial workshop. They brought their own knowledge of glass<sup>26</sup> to Beijing, mixed with Western recipes for making glass and forming techniques from missionaries.

The form of the vase was directly copied from the traditional bronze shape “*Gu*” (figure 95), which has also been produced in ceramic throughout Chinese history. Bronze *Gu* used to be a drinking vessel with a flared mouth and a high foot ring in the Shang dynasty to show the power of the governor. Normally, bronze ware was decorated with beast patterns (monster mask) to indicate awfulness. The fine tiny details standing out of the surface were achieved by pouring melted liquid metal bronze into a lost-wax mould, because it is much easier to carve on wax than on metal or glass.

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<sup>26</sup> Artisans from Yan Shenzhen and Guang Zhou usually brought traditional recipes for making and colouring glass to the imperial glass workshop, as well as their blowing skills. They made products such as, hair pins and beads.



94



95

94/95. Bronze *Gu* 觚, casting bronze, later Shang dynasty 11<sup>th</sup> century BC, H: 29.7cm, D: 16.7cm.  
Collection of Shanghai Museum. <sup>27</sup>

Phelps Warren (1977, p.96) noted:

*“In addition to commenting upon the ribbing as being of more European than of Chinese derivation... The Gu or beaker form as shown here is somewhat taller than its ancient bronze prototype which was short with flaring lip.”*



96

96. Vase in the form of an ancient bronze *Gu* 觚 with a crackled green glaze,  
Longquan, zhejiang province, Ming dynasty (1522-1620), H: 18cm.  
Until the Song dynasty, ceramic production was inspired by the form of ancient bronze.

<sup>27</sup> Available at: [http://lcsd.hk/CE/Museum/Arts/images/collections/22/2\\_2\\_1a.jpg](http://lcsd.hk/CE/Museum/Arts/images/collections/22/2_2_1a.jpg)  
[Accessed May 2008]

If we look at the ceramic *Gu* vase (figure 96), we will find that the fine detail in bronze has been omitted, because of the different making techniques (porcelain *Gu* was finished on a pottery spinning wheel). Instead, crackled green glaze was applied onto the surface. The width of the ceramic waist was appreciably bigger than the bronze prototype, because the slim waist made by clay cannot hold a heavy top when the main body was shaped on a pottery wheel.

Although the ceramic version changed the proportion and decoration from the bronze, it still retained its pure Chinese character. However, because of the decoration, this mould-blown transparent glass *Gu* Vase displayed an exotic appearance of Venetian style when illustrated in the group with bronze and ceramic.

If we try to figure out that how this glass vase was designed and made, we will notice:

1) Bronze or ceramic *Gu* shape was the initial source of form.

The glass vase remained the main feature of the bronze prototype for functional purposes. The flared bottom stabilizes the whole body, the slim waist is for proper holding and the trumpeted mouth introduces liquid when pouring.

2) Unlike liquid metal which could pick up every minor details of the mould, glass forms a round “meniscous” edge instead. It is impossible for blown glass to achieve equal effect of such complex and delicate decorative pattern on bronze.

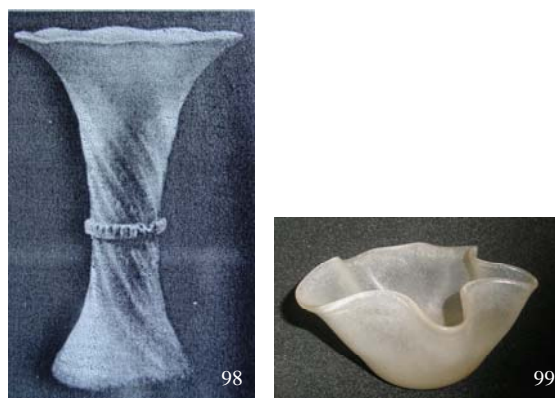
Whereas, the technique employed by the European glassmakers provided the opportunity to execute decorations on glass. The mould-blown spirally ribbed decoration and the stamped trail at the waist is typically a Venetian style *wrythen* technique.



97. Mould-blown flask with ribbed decoration, 5<sup>th</sup>-7<sup>th</sup> century Syria, Collection of V&A (8205). \*  
Glass with ribbed decoration was typically produced in Roman glass. This technique called *wrythen*,  
was used by the Venetians and later by Europeans for creating *Façon-de-Venice* style glass in the 16<sup>th</sup>  
and 17<sup>th</sup> century.

A similar object (figure 98) that W. B. Honey (1937, p221) illustrated in his first  
paper:

*“A beautiful flower-like lobed mouth... which shows a Venetian  
character, the waisted beaker, of a familiar Kangxi porcelain shape but  
spirally ribbed.”*



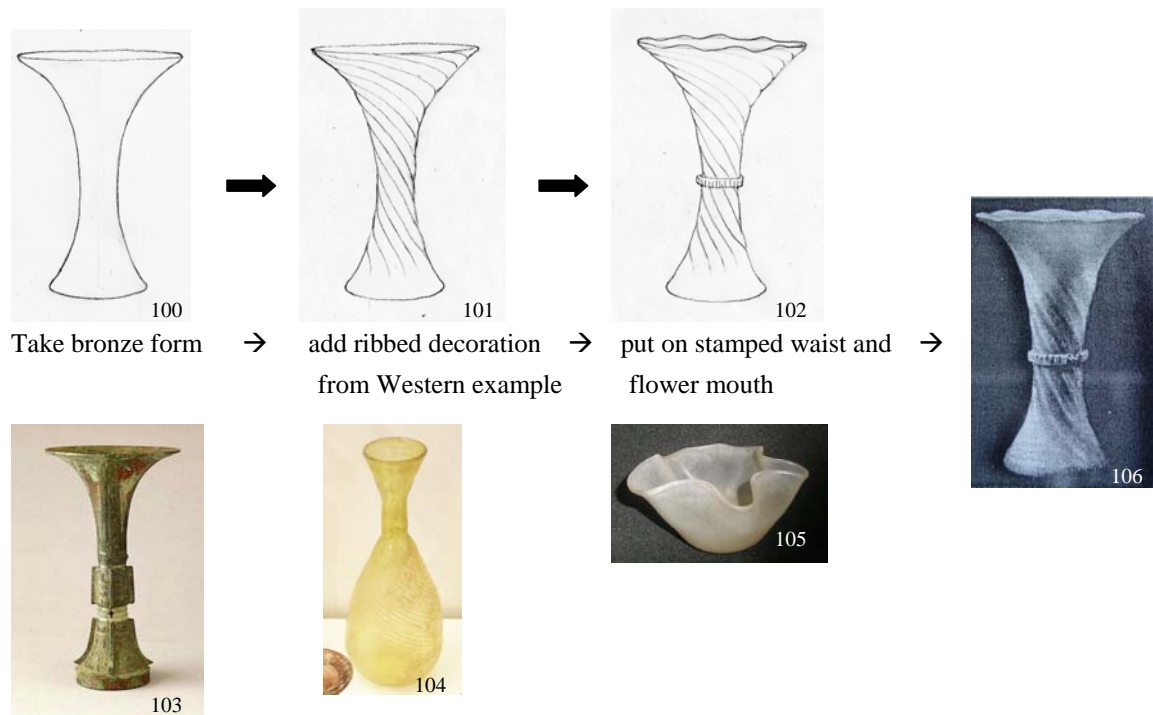
98. *Gu* 觚 shape vase, mould-blown glass, Kangxi period (1662-1722), H: 21.6cms,  
Collection of V&A.

99. Crizzled handkerchief bowl, blown glass, Kangxi period (1662-1722), H: 5cm, Collection of  
V&A (C.173-1938) \*



The handkerchief bowl (figure 99) was a duplicate of Venetian products in the Kangxi period. It explains the derivation of applying a flower-like mouth with traditional Chinese form.

The following drawings and images (figure 100-106) illustrate the stages of design:



**Making procedure: 107-115**



It took approximately an hour for a sophisticated blower to finish this piece and plus the preparatory hours of making the steel or ceramic mould.

This hybrid object was designed by the idea of mixing Chinese traditional form with Western forming techniques and decorations. Although it was blown by the Western method, the form of the vessel is reminiscent of that noticed in traditional Chinese craft, which helped it to be identified with Chinese style. It shows it is natural to draw familiar and well-established forms from other materials at the beginning of glass blowing in the Qing dynasty. But the elements presented would vary from one to another depending on the medium employed, as the changes occurring from bronze, to ceramic and glass, fully evidenced.

Another prominent feature deserves attention, that most ribbed objects were produced mainly in earlier practice, because this was the most popular method of integral decoration for blown glass in the West. Towards the middle of the 18<sup>th</sup> century, Chinese glass gradually showed the trend towards carving, a shift to exclusivity. Blowing manners became thrown into the shade, thereby decorations associated with blowing were rarely practiced.

### 2.4.2 *Façon-de-Venice* Influence

The previous section analyses some Western influences on the Qing glass practice in its early stages. Now, I would like to follow this thread by using objects which display the common features of *Façon-de-Venice* (Venetian style), to further explain the relevant elements that dominated Qing glass practice.

Towards the end of the 16<sup>th</sup> century, Venetian glassmakers utilized the soft ductile quality of *crystallo* glass to the utmost to form fantastic shapes. The object looked delicate and fragile. The nature of *crystallo* facilitated the development of a whole range of techniques such as *wrythen*, *trail*, *filigrana*, *latticino*, *lattimo* etc. Venetian practitioners seem to have a great enjoyment of these techniques. Each of these has been developed into a fairly advanced level with extensive applications. Later on, the techniques of Venetian glassmaking widely spread into other European countries, where at first they produced exactly the same style as the Venetian's, but gradually, local preferences and identities became evident. Because of the similarities of the objects, thus usually named as "*Façon-de-Venice*" glass, some of the techniques were selected and practiced in the imperial workshop from the Kangxi to the Qianlong period with excellent outcomes, but only in small quantities.

According to the number of existing Qing glass examples, objects in *crystallo* seem to have been unattractive in China, whilst the *filigrana* style was preferable. *Filigrana* or *vetro filigranato* (Italian: thread grained) is a term to describe clear glass wares with various styles of decoration, by the use of opaque white or coloured glass (blue and red) threads. Generally, it contains three main types of patterns, *vetro a fili*, *vetro a retorti* and *vetro a reticello*<sup>28</sup>, each of which has its own technical features (Newman, 1987). The style originated with the Venetians in the 16<sup>th</sup> century, probably, inspired

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<sup>28</sup> *Vetro a reticello* means glass with embedded criss-cross threads to form a regular fine network, usually with tiny air bubbles trapped between the crossed threads.

by the Rope Edge Roman glass (100BC-100AD), and had been achieved by the 1530s. (Tait, 1999)

Qing examples in *vetro a fili* and *vetro a retorti* are illustrated here to display its hybrid features. But objects made *in vitro a reticello* never appeared in China due to the demands of extreme skills to make extraordinarily complex patterns.



116. Colourless glass bowl, crizzled with *lattimo* stripes, Kangxi Period (1662-1722), D: 13.7cm, Collection of V&A (No.C.688-1936). \*

Figure 116 is a shallow bowl with heavily crizzled white-stripes. The serious crizzle made glass covered with drops of sour-smelling liquid. As to the technique, Warren (1977, p.99) described it as:

*“decorated with latticinio threads in the technique developed by the Venetian glassmakers in the sixteenth, seventeenth, and eighteenth century, Only two are known to the present writer and one of them is shown in Figure [No.C.688-1936].”*

Actually, this bowl was decorated with a Venetian technique called “*vetro a fili*”, which refers to glass with embedded thread in a spiral or helix pattern. The term/technique is easily confused with *Latticino*.<sup>29</sup>

<sup>29</sup> Latticino or latticinio (Italian: milk) is a general term applied only to clear glass that is decorated with embedded threads of glass, usually white.

The making process of “*vetro a fili*” is complex and time-consuming:

117-119. The ready-made white canes are cut into the same length and arranged closely in parallels.



120/121. The canes are fused together, picked up and marvered onto the gather.

122/123. Blowing into the desired shape and the white canes will remain separately.

An object made by this technique is very similar to the objects made by *trailed* threads. In some early versions, the canes remain in relief on the outer side of the glass surface, which makes it even more difficult to distinguish. However, some practical characters in figure 124 and 125 could be used to identify *vetro a fili* and *trailed* objects.



124. Vase, blown and trailed glass, Qianlong mark and period (1736-96), H: 20.8cm, Collection of the Palace Museum, Beijing. (Yang, 1988, p.80)

125. Beaker, *filigree* glass (*a fili*), South Netherlands about 16<sup>th</sup> century, H: 16.5cm, Collection of V&A (8453). \*

The Western beaker (figure 125) was finished by *vetro a fili* in blue, red and green colours. This kind of object became the inspiration for the Qing example (figure 124); the special decoration style endowed the vase with an exotic quality. Zhang Rong (2005, p.282) notes:

*“The vase is made of blown glass. The white glass is decorated with red, blue and white spiral design.”*

Though the result looks similar in these two vessels, the techniques are distinct. Zhang Rong did not specify the detail of decorative method on account of applying the unusual trailing technique in Chinese glass practice. To apply the decoration, two colours of glass were drawn out into threads and trailed on to the blown bulb successively before it was developed into the desired shape. Coloured threads were embedded into the main body when it was reheated in the flame and again during re-blowing. After re-producing figure 124, I find that the trailed object will have un-even parallel threads in the end because the process is finished by ‘free hand’. Experience and skill are the determining elements, where threads are arranged and fused together beforehand in the technique of *vetro a fili*, therefore giving more

control. This can be observed from the comparison of the distance between the blue and red threads in figure 124 and 125.

Secondly, the extent of distortion on the trailed object is much greater than a *vetro a fili* object, particularly, by looking at the starting point of the trailing base of figure 124. When a coloured thread is firstly stuck onto the surface, excessive amounts of glass are added and later expanded into much wider strips than the others. We could easily find out the starting point of blue trailing on the bottom front of figure 124, especially when the bulb shape was blown up, as the centre mark expanded even wider. Additionally, because threads were trailed from the bottom of the object towards the top, the trails became significantly thinner and thinner as the melted glass canes run out.

Yet, *vetro a fili* objects don't have certain marks. Because of the way of the thread arrangement and the operative steps, this makes the threads always run evenly towards the central point at the bottom of the object, which usually forms a vertical pattern (figure 116).

In summary, high skills and good collaboration are demanded to draw out equable colour trails on the rotated blown bulb in a small time span, as the glass threads cool down very quickly. Generally, making a trailed object saves less than half of the time of a *vetro a fili* piece. The process is more simple and straightforward.

**Making process of trailing: 126-131**





*Vetro a retorti* is another version of *filigrana* style, it is a glass with embedded twisted threads which forms various lace-like patterns (Newman, 1987). Objects of this kind are hardly seen in the imperial production. The only existing example in the collection of the Palace Museum in Beijing (figure 132) is a small bowl noted by Zhang Rong (2005, p.278):

*“The glass bowl was blown according to a mould and decorated with 25 glass stripes, which were struck off when cooling down, so that the striate patterns could be left on the glass body. The production method is recorded in relevant documents in the Qianlong period. But very few striated glassworks are handed down to posterity.”*



132. Glass bowl, Qianlong period (1736-96), H: 4.6cm, D: 11.8cm, Collection of the Palace Museum, Beijing

Evidently, it is not true about the making process, it is more complex than that described by Zhang Rong, which was finished by the free blown technique of *vetro a retorti*. The embedded canes combined with two twisted threads, created a variety of patterns, normally in opaque white colour and placed alternatively with plain thread. The process of making this vessel is much harder to control and time consuming, which takes at least twice the time as making a *vetro a fili* bowl. Therefore, figure 132 is the only extant example of this kind.

From the above statement, we will notice that the Qing glass in *filigrana* style was mostly produced during the Qianlong period. Although applying Western decoration

methods, pieces were not difficult to distinguish from Venetian made glass, because of the typical Chinese porcelain shape.

However, surprisingly, *filigrana* Chinese glass was a unique one-off object, unlike other types of products (cameo glass, monochrome glass etc.). No more than ten pieces in all survive, which is in contrast to their mass production in Western countries.

The analysis of glassmaking traditions, the influence of other sophisticated craft materials and the distinct living habits will help to clarify the reasons that *façon-de-Venice* glass was not widely practiced in the Qing dynasty China.

By comparing with Western glass, the technique of *filigrana* in 16<sup>th</sup> century Venice has been widely explored and associated with *cristallo* glass in extraordinarily complex forms for different functional uses. In this period the most daring combination of varied techniques became fashionable.

If we trace the Western history of glassmaking, we will find the *filigrana* technique was evolved from other technical precedents contrived by the Venetian makers.

Decoration with threads has its original roots from the beginning of using glass material in the West. A series of technical experiments have been achieved along the development, such as the trailed patterns on the core-formed Egyptian glass three thousand years ago (figure 133); the mould-blown rib Roman flagon and flask in the first century A.D. (figure 134); and the English cone beaker at the second half of the 5<sup>th</sup> century A.D. (figure 135).



133. Egyptian core-formed krateriskos, middle 14<sup>th</sup> century BC, H: 8.4cm,  
Collection of A. M. Kevorkian.

134. Flask, mould-blown, 5<sup>th</sup> -7<sup>th</sup> century Syria, Collection of V&A (8205). \*

135. Cone beaker with elegant trailed decoration, second half of the 5<sup>th</sup> -6<sup>th</sup> century England,  
H: 26.2cm, Collection of the British Museum (MIME 91, 6-24,1, Gallery 41). \*

The aesthetic interest and the technical exploration of making thread decoration resulted in the continuity and inevitability of its development in Venice. Contrasted to the Western geometric strips, Chinese art and craft were more comfortable representing nature, plants and animals either by paint, or by carving. Flower and foliage patterns of plum, orchid, bamboo and chrysanthemum, and animals, such as bird, dragon and bat were commonly decorated on the surface of all kinds of craft materials (ceramic, bronze, lacquer...) to represent specific meanings. In China, the principle of selecting decorations to the craft forms was primarily central to its symbolic significance, which determined the choice of the motif, pattern and colour.

Obviously, the imported thread decoration was unfamiliar in the history of Chinese art and craft. The Western neutral and abstract patterns formed by threads did not have any concrete meaning, unlike Chinese cultural 'rules' and interpretations. The exotic style may have drawn Chinese at an initial stage through curiosity, but it would hardly be able to compete with the existing regulations of Chinese characters, and this

became one of the reasons for a decline in Qing glass. This has been further evidenced by another Qing glass goblet (figure 136) described by Zhang Rong (2005, p.192):

*“The glassware is made with various crafts. The thin white vase itself is made of blown glass. Its rim is covered with a red glass string. The high stand consists of seven pressed glass cakes in five different colors... The glassware is noted for its pure quality, unique shape and rich colors. It is a rare work in its field.”*



136. Vase, blown glass, Qianlong mark and period (1736-96),

H: 19.1cm, D: 6.2cm (top), D: 7cm (bottom), Collection of the Palace Museum, Beijing.

(For similar object, see Appendix 11 - Qing dynasty Chinese glass with *Façon-de-Venice* influence)

The high stem and the flared base of this object remind me of the popular glass wares in Western countries, i.e. the Goblet. This object is one of the most important kind of drinking vessels in Western history. It is associated with Western habits of drinking cold liquids for a thousand years, such as wine, champagne and beer. Different places and times have their own characteristic of making such forms. However, whatever the change of colour, forming method, and decoration style, the standard goblet consists of three parts: a cup usually in plain style for holding liquid, a stem of various forms for decoration and a round base that functionally stabilizes the whole object and balances the visual outline. Moreover, the shining transparent quality of glass remains as a basic feature which helps to identify a glass goblet. The transparency allows the contents to be seen.

The English matured their own style of goblet in the early 18<sup>th</sup> century based on Venetian *cristallo* products. The English made the first baluster-shaped solid stem in the late 17<sup>th</sup> century, sometimes with tear-shaped air bubbles, the stem was found in various combinations of knops (ball, acorn, egg, cylinder, annulated...), cushions, ring and pad from the bottom of the cup to the top of the base (figure 138). Cups were relatively simple with a funnel shape and bases were much heavier than usual. All these characters were in contrast to the thin brittle Venetian ones (figure 137).



137. Goblets with serpent and flower stems, 17<sup>th</sup> century Venetian or *Façon-de-Venice*, Collection of British Museum. (Tait, 1999, p.174)

138. Two English baluster drinking glasses, c.1705, c.1720, H: 17.7cm. (Phillips, 1987, p.134)

The stem form of these two English goblets was inspired by the baluster from architecture.

Try to imagine that, as the English were experimenting with the new glassmaking recipe in the 17<sup>th</sup> century, it must have been difficult to adopt techniques of Venetian *cristallo* directly onto the new type of lead glass. The heavier and solid quality could be considered as a result of this transitional period. When the blowers got more skilful, the cups and stems became lighter and thinner. Besides, it is natural that simple ordinary shapes were experimented with first when a new form or technique was introduced; gradually specialized forms and decorations came into being, and certain shapes emerged for the purpose of serving specific demands.

Turning back to the Chinese illustration above (figure 136), clearly, the various size of components which formed the high stand endows the most hybrid quality of the object. It is hard to find similar objects either in glass or in other craft materials throughout Chinese history. Although the stem form has been used in earlier periods of Chinese porcelain, it never appeared in this kind of combination and height.

Therefore, I presume that the making of this object was influenced by the practice of goblets from Western countries, which shared the same forming process.

The description of Zhong Rong that the stand was made from seven pressed glass cakes seems inaccurate. Instead, the main body of the cup was blown up into desired shape, before the pontil was attached, each part of the components were added and shaped one by one to get an integral form.

**Making process:**

139-141. Getting the basic shape of the cup



142/143. Adding the first component on the bottom of the cup and shaping by newspaper as a tool.

144-146. Adding each component in order (from top to bottom).  
Team work is needed for the whole process.

147/148. Adding the base, and shaping into the proper form, then pontiling.



149. Opening up mouth to finish the hot work, then annealing.

Compared to the thin and bright Western goblets, it is an opaque multi-colour in a thick wall, which appears like solid and heavy jade or ceramic wares. What is more interesting to me is that a vase of porcelain shape was used instead of a cup on the top of this goblet. It occupied almost two thirds of the whole body, which challenged normal Western proportions. The arrangement of multi-coloured components helped to balance the big heavier top by applying wider shoulder and dark colours, and realised the subtlety of jade.

Thus, the heavy weight and the profile were no longer suitable for handling with an easy ergonomic function. The adoption of a porcelain form onto glass led to a different functional purpose compared to the Western goblet, switched from drinking purpose to supporting flowers or for pure decoration. This is also confirmed by its name titled by Chinese people as “glass vase” instead of “goblet”.

The high standing Western goblet form seems to never have found its own place in China for a number of reasons. The other advanced craft manufactures is one of them. The well-developed Chinese pottery and porcelain could fulfil the domestic demands of drinking and eating. John Ayers (1965) noted that: “*porcelain answered generously to every form of table and domestic requirement.*” Except ceramic productions, bronze, jade, lacquer and stone wares established their own position for a thousand years. Hence, there was no need to explore new type of forms from a material outside of the main craft stream.

Secondly, the distinct living habits meant glass was not an ideal material in Chinese society. Instead, ceramic was far more suitable for hot drinks (tea) while the thin Western goblet was used for wine and alcohol. In Jesuit Father D’Entrecolles’ letter to home, he said:

*“They (Chinese people) find their porcelain is more practical: it suffers hot liquids, one can hold a cup of boiling tea without burning oneself, which one can’t do even with a silver cup of the same thickness and form, porcelain has its brilliance just as glass, and if it is less transparent, is also less fragile...”* (Bushell, 1910, p.207)



Therefore, it is clear that the habits of drinking tea in China rejected the function of the goblet in the first place.

Finally, the transparent delicacy of European glass is opposed the traditional Chinese experience and aesthetic. In Europe, the main function of a goblet is for cold drinks, which is perfect for enjoying and sharing the clarity and colourless quality of glass, and its elegant outline, accentuating the character of wine. It is ironic that the thin shining quality which was appreciated as an advantage in the West, in turn became a defect in China. Although the luxury and magnificence of the Venetian glass, did not however, attract the eye of the main consumers of glass in China. This is the reason that the Qing artisan modified the proportion, colour and function in figure 136, and consequently, only a small number of examples with the influences of the Western goblet were produced.

In this case, it is understandable that Qing glass did not inherit Western glass in the application of colour, transparency and function, but in its refined style. They modified its original function and material quality, and resulted in the mixed identities and its uniqueness. Moreover, the attitude towards the imported Western glass practice was based on a comprehensive understanding of our own requirements and traditions, not blindly copying. In the Qing dynasty, glass practice was developed through the stages of absorbing, induction and fusing ideas with Chinese traditions. These are the stages that I would like to discuss for the contemporary China.

### 2.4.3 Glass Engraving: Chinese Form with Western Decoration



150. Pair of diamond-point engraved glass cups, Kangxi period (1662-1722), D: 11.4cms, Collection of V&A (No. C. 250-1909). \*

The pair of clear blown cups (figure 150) were produced in the early years of the imperial glass workshop. It took the form from Chinese porcelain, and was decorated with diamond-point engraving on the outside surface.

W. B. Honey (1946, p.149) notes:

*“A bowl with diamond-engraving recalling Netherlandish work.”*

Phelps Warren (1977, p.92) notes:

*“...it is small and fragile...What is unique to this bowl and its mate is its naturalistic style of diamond-point engraving...”*

I have already discussed this in my section on the development of the foot-ring. By analyzing this object and its likeness, I would like to discuss the application of Western engraving technique in the Qing dynasty, and by comparing with the engraving objects produced in the Kangxi and Yongzheng period to show the development and change.

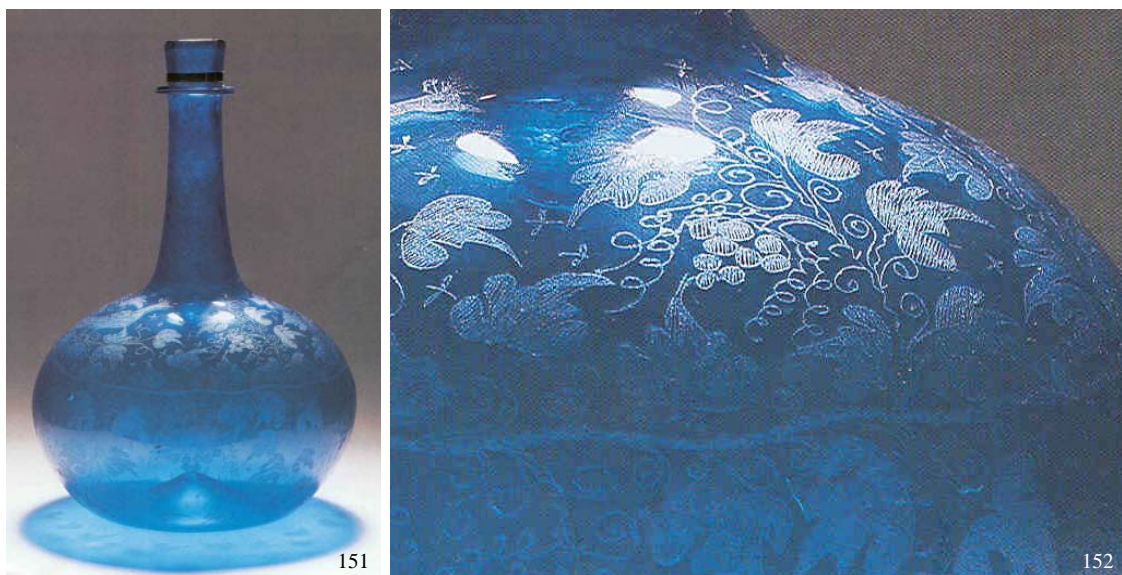
*Diamond-point engraving* is a method of applying decorative patterns onto a glass surface, popular from the 16<sup>th</sup> century to the 18<sup>th</sup> century in Europe. The technique was sophisticated and acquired by Venetian glassmakers, however, it widely appealed and flourished in the Low Countries throughout the 17<sup>th</sup> and early 18<sup>th</sup> century. Later on, it was superseded by wheel-engraving and stipple-engraving.

Coincidentally, the missionaries from Italy, Netherlands and Germany were recorded to be working for the imperial glass workshop in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries (Curtis, 1997). Missionaries brought to China glass forming techniques as well as decorative methods. The pair of cups is the strongest evidence to suggest the technical connections, but Western form and pattern have been converted in the Chinese examples.

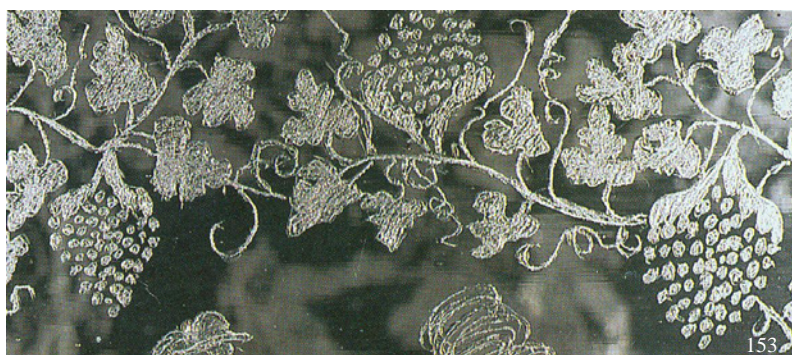
Large flower leaves and intricate foliate scrolls were frequent themes found on Venetian diamond-point engraved glass. Then, the glassmakers in the Netherlands extended into landscape, figure and inscriptions. It is assured that Chinese artisans regarded European engraving examples as references when they designed the patterns. The reason they took Western engraving patterns as examples is that they related to the same appreciation of using natural floral and foliate motifs in the manufacture of Chinese porcelain. The elegant two-dimensional drawing achieved by the technique of *diamond-point engraving* shares a similar identity with the decoration on porcelain. Despite the tool, the principle of applying graphics between these two is the same.

The Netherlands example (figure 151) was described by Brigitte (1987, figure: 160a):

*“Sides engraved with encircling, fruiting vine trail interspersed with insects and a large peacock on the shoulder. Neck with engraved floral spray.”*



151/152. Diamond-point engraved blue-tinted flask, about 1680-1690 Netherlands, in the manner of Willem Mooleyser, H: 20.2 cm, Collection of V&A (No.8800). (Brigitte 1987, figure: 160a). \*



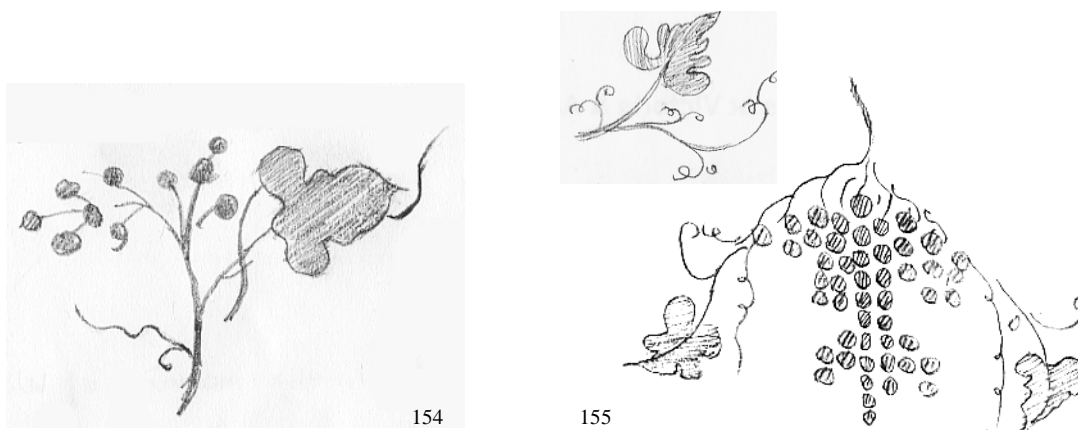
153. Detail of diamond-point engraved covered goblet, about 1680 Netherlands, H: 27.4cm Collection of V&A \*. (Brigitte, 1987, figure: 161)

The connections with Netherlands glass engraving could be seen from the outline of the grape leaf on the Chinese cup (figure 150), as well as the composition of the leaf tendrils and the interspersed animal figures. With regard to the graphic design, the grape pattern did not commonly appear in Chinese art and craft,<sup>30</sup> particularly the drawing of curly tendrils on these cups is a rare example.

<sup>30</sup> Because grapes did not exist in China until they were imported from the Middle East around the Han dynasty (from 206 BC).

Available at: <http://www.winechina.com/industry/article.asp?C1ID=1&C2ID=3&ArID=3>  
[Accessed May 2008]

Based on these factors, there is an assumption that these pair of Chinese cups were either engraved by the Netherlands missionaries as a copy of a Western example or designed by them (fabricated by Chinese under the supervision of Netherlanders). Nevertheless, the Chinese artisans did not copy completely from the Western engraving patterns, because the drawing of grape bunches on the Chinese cup seems unusual to the curved leaves and tendrils in the whole scene (figure 154). The representation of bunches of grapes in Netherlands' example (figure 155) is a cluster rather than a separated unit on the Chinese cup.



154. (left) Diamond-point engraving pattern of grape, leaf and tendril on the Chinese example 147. \*  
 155. (right) Diamond-point engraving pattern of grape, leaf and tendril on Dutch example, engraved by Willem Mooleyser around 1685. Collection of V&A (8774). \*

Normally, the leaf motifs are drawn onto the glass surface and filled with long parallel lines in Venetian examples. Since the technique spread to the Netherlands in the 17<sup>th</sup> century, they used unusual *scraffiato* technique (an overall ruffling of the surface) to create a flat dense image and impression, which resulted in few elements left clear. The scratched area is almost white, contrasting to the undecorated surface. The engraved surface on the Chinese cup is even finer and smoother than the one on the Netherlands example.

If not the form, the decoration of the cup is easily confused with the Western example. Some similar objects produced in the same period in China also display this factor, which suggested a great Western impact on the early practice in the Qing court. As the technique of *wheel-engraving* has been widely used in the imperial glass workshop since the 18<sup>th</sup> century, examples with typical Chinese patterns drawn from porcelain were achieved. The illustrated blue engraved bowl (figure 156) is no longer a version of copying Netherlands' example. The form, the cloud patterns, the *Shou* (long life) character and the reign mark (made in the Yongzheng period) were directly borrowed from porcelain examples. By then, engraving became a matured method of applying traditional Chinese patterns onto glass surface.



156. Diamond-point engraving glass bowl, slightly crizzled, Yongzheng mark and period (1723-35), D: 17.3cm, Collection of the Asian Art Museum of San Francisco (B87 M7).  
(For similar object, see Appendix 12 - Qing Dynasty Chinese engraving glass)

The exploration of this technique could also be examined by the emergence of inscribing the emperor's reign mark<sup>31</sup> on glass from the Yongzheng period. Whereas, objects produced in the earlier Kangxi period bears no reign mark.

The reign mark near the rim of figure 156 was carved into four characters, which indicated the date of production and the power of authority. Normally, objects with

<sup>31</sup> Reign mark firstly appeared on porcelain from Ming dynasty (1368-1644) to state the date of production and display the official authority.

this reign mark suggested it was made in the imperial workshop at the behest of the Emperor.

Parallel to the flourishing of wheel-engraving in Europe, Chinese engraving products developed into a different scene during the Qianlong period, which resulted in the significant achievement of Chinese cameo glass. As I have given a detailed account and discussion about Chinese cameo glass in the previous section, here what I would like to stress is the pictorial and symbolic quality that engraving technique could achieve. It is the same idea of enamelling on porcelain and carving in jade that delivers a descriptive expression, which perfectly matches the demand of Chinese craft making. This is the reason that diamond-point and wheel engraving were widely applied in the Qing dynasty.

## 2.5 Summary:

In response to the research questions (Chapter 1: Introduction p.12), in this chapter, I have addressed the questions:

- Is it possible for Chinese practitioners to keep our own culture accent/tradition while influenced by the Western practice?
- And the most important is --- How?

I have analysed the factors and methods for the Chinese to keep their culture and traditions with a strong Western influence in the Qing dynasty.

This is through an investigation of the Qing dynasty Chinese glass from the 1696 to 1796, by identifying a number of best examples of existing objects, examining them face to face, analysing their actual influences from Western examples of the same period and their relationship with other Chinese crafts, in terms of material, process, philosophy, cultural, economic and symbolic.

The historical analysis revealed several factors. Besides making corrections and supplementing existing knowledge on the Qing dynasty Chinese glass, it has helped to draw the methods of Qing glass practice for maintaining Chinese culture and traditions within Western influence. Although the Western impact on Qing dynasty Chinese glass was tremendous, it retained a powerful and cultural character. Thus, Qing glass did not copy exact form, colour and decoration of Western examples, but refined its style, modified its original function and material quality according to Chinese demand and aesthetic preference. Qing artisans absorbed Western technologies and techniques of making and forming glass, and adapted these with traditional craft making methods as well as their forms, decorations and styles, to develop a unique style whilst retaining a strong Chinese identity.



The technical and decorative comparison in the following table summarizes how traditional Chinese glassmaking has been affected by imported Western techniques in the Qing dynasty, which expressed a hybrid visual result.

Qing Glass Objects	The use of Chinese technique & decoration	The application of material, technique and decoration from West countries	How Western technique and style were adopted and adapted to produce Chinese characters?
	Enameling technique & from ceramic	Enamel colours	Chinese form (ceramic cup), colour, and drawing pattern (flower) + Western enamel material
		Blowing techniques	Chinese form (ceramic pot) + Western blowing technique
		Mould-blown	Chinese form (bronze censer burner 青铜鼎) + Western mould-blown technique
		Wrythen (ribbed mould-blown)	Chinese form (bronze <i>Gu</i> 青铜觚) and colour (amber) + Western technique of decoration
		Trailing	Chinese form (porcelain vase) and colour (red & blue) + Western technique of decoration
		Filigrana - vetro a fili	Chinese form (porcelain bowl) + Western colour ( <i>lattimo</i> ) and technique of decoration
		Filigrana – vetro a retorti	Chinese form (porcelain bowl) + Western colour ( <i>lattimo</i> ) and technique of decoration
		Diamond-point engraving	Chinese form (porcelain bowl), colour (sky blue) and pattern ( <i>Shou</i> character and clouds) + Western technique of decoration
	Jade carving	Wheel engraving	Chinese form (bronze <i>Dou</i> 青铜豆), colour (red on white), pattern ( <i>Shou</i> character and floral scrolls, clouds) and traditional lapidary working methods + Western technical inspiration of engraving
	Gilding	Gilding	Chinese form (porcelain vase), colour (green) and pattern (floral scrolls) + Western technical inspiration of gilding

The comprehensive nature of the historical survey is used to compare the contemporary situation. Some key words, such as hybrid, tradition, individual, expressive, creative, non-functional, expensive and exclusive, presented within this chapter is extended into the context of the contemporary period.

**Chapter 3:**  
***Contemporary China***

## **Chapter 3: *Contemporary China***

### **3.1 History:**

#### **The Last Decade, its Problems, Opportunities & Future**

The contemporary Chinese glass industry that emerged in the late 1980s serves as a background for the main discussion of the development of the Contemporary Chinese Studio Glass Movement in academia from 2000. The content includes its origin, links with the West, achievements, challenges and future opportunities. The Chinese situation is compared with Western Studio Glass Movements and Qing dynasty practice.

##### **3.1.1 Leading the Fashion –**

##### **Loretta Yang and Liuli Gongfang Glass Factory**

Before I move to an analysis of the actual Chinese academic glass field, a very special person Loretta Yang (Yang Huishan) and her studio/factory Liuli Gongfang deserves to be mentioned, not only because of the success of her work and the leading style with which she has dominated in Chinese glass industry since 1980s, but because of the echoes of ancient Chinese glassmaking.

After the decline of Qing glass, the domestic glass industry was dominated by production of daily standard products until the 1980s<sup>32</sup>. Contemporary Chinese glass industry was then revitalised by Loretta Yang in the late 1980s, who, after a successful career as a famous actress set up the first glass art studio called Newworkshop (now Liuli Gongfang 琉璃工房) in Taiwan in 1987 with her husband Zhang Yi, and began to produce artistic works based upon post-war studio practice. At that time, there was no

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<sup>32</sup> The first domestic glass factory, in cooperation with Belgium, was established in Hebei province in 1922 and mainly produce sheet glass for architectural purposes. Later, more factories were set up to produce table wares, containers etc. by using imported machines and techniques from Germany, UK, Italian, USA, Japan and Czech Republic etc.

such example to follow in China. The lack of technical training facilities in glassmaking resulted in her studying glass blowing in America (at the New York Experimental Glass Workshop, now named as Urban Glass). She found the training disappointing, and the idea that looked so good on paper proved impossible to implement. An investment in blown glass in the Chinese market proved not to be feasible, at least during that period. She realized that the blowing skills she had learned were not suitable for carrying out the creation of a Chinese style. Later on, she converted from blowing to kiln-forming, specializing in lost-wax casting. She mastered her own recipe of making glass with the help of non-glass people from universities in Taiwan. From the 1990s, by producing lost-wax casting pieces<sup>33</sup>, Liuli Gongfang gradually dominated the domestic market, evoked people's interests in glass material and becoming fashionable.

Throughout history, glass in China was regarded as one of the most neglected art forms. It is Yang's contribution that refreshed people's perception of glassmaking and re-evaluated the position of glass in the hierarchy of art and design.

The philosophy of Liuli Gongfang has always been to combine Chinese culture and tradition with the best of contemporary design, Loretta felt she "*needed to make something from beginning to end with the kind of honest, down-to-earth approach characteristic of traditional, skilled craftsmen.*"<sup>34</sup> Forms and patterns from traditional Chinese art and craft were largely used in Liuli Gongfang's work. This ensured the preservation of typical Chinese character. For example, bronze forms sometimes mixed with decorative patterns from ceramic enamel or jade carving, the concept of

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<sup>33</sup> As Liuli Gongfang claimed that their work is famous for the technique of *pâte-de-verre*, which derived from ancient Chinese craft making: "*The pâte-de-verre production method used in glass making follows the same principles as the pâte-de-verre methods used to make bronze during the Shang and Zhou periods of China.*" In fact, a misunderstanding has been made, the technique for making ancient bronze is typical lost-wax casting, majority of Liuli Gongfang's production is finished by lost-wax, but a part of which was cast by grain or powder glass.  
Available at: [http://www.liuli.com/E\\_index01.htm](http://www.liuli.com/E_index01.htm)  
[Accessed 11 December 2008].

<sup>34</sup> Available at:  
[http://www.groveart.com/shared/views/article.html?from=search&session\\_search\\_id=1159475315&hitnum=9&section=art.016513.13.10](http://www.groveart.com/shared/views/article.html?from=search&session_search_id=1159475315&hitnum=9&section=art.016513.13.10)  
[Accessed March 2007]

making which echoed that of in the Qing dynasty, besides being realised by different techniques. The two glass “*Ruyi*” listed below, made by Liuli Gongfang (figure 157) and the Qing imperial glass workshop (figure 158), fully illustrates this argument.



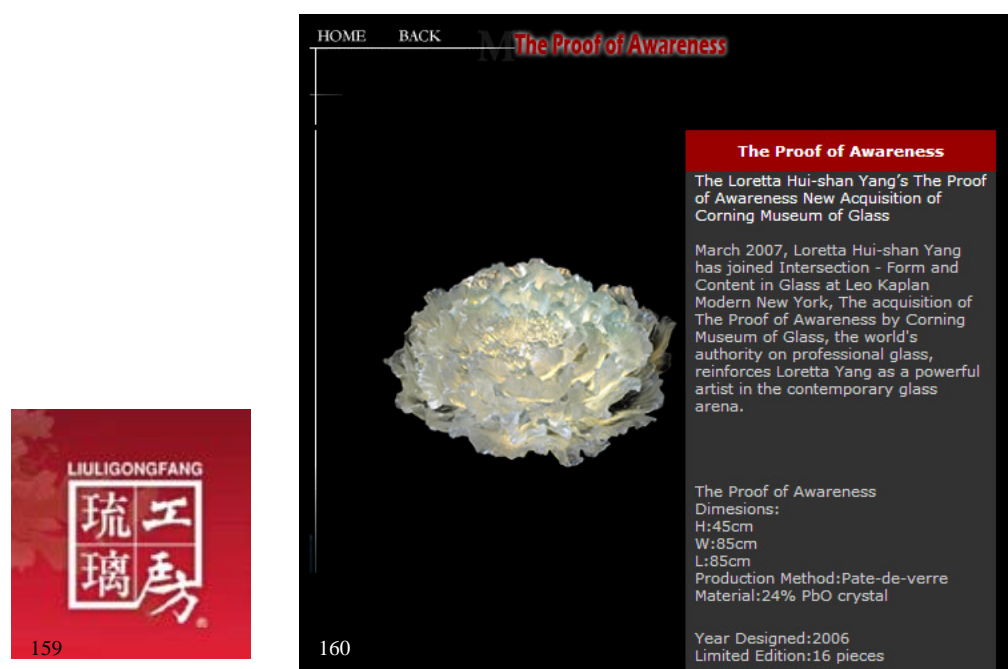
157. Liuli Gongfang, *Auspicious Dragon of Light and Happiness*, lost-wax casting glass,  
US Price: \$2,295.00.

158. Glass *Ruyi*, Qianlong period (1736-95), L: 20.3cm, Collection of the Palace Museum, Beijing.

The contemporary “*Ruyi*” was finished by lost-wax casting with the patterns of a dragon running through the whole body, whilst the Qing object was done by carving techniques, with the motif of nature clouds. Although they have different outcomes, they both extracted the most principle characteristics of a *Ruyi* and concentrated on its symbolic meaning. The interesting thing is that certain conventions, such as the stamp of reign marks, have been retained from the Qing to the present. Reign marks of Chinese characters in square stamps became a signature of a company or individual artist, and usually a poem is accompanied with the physical object to interpret its symbolic implications. When figure 157 is displayed in the store, a poem is beside it:

*“A heart of purity,  
Illuminates all,  
An upright will,  
Ensures luck for all time.  
This luck for all time.  
This moral and mighty dragon,  
Is the protector of auspice and happiness.”*

Except for the symbolic dragon pattern<sup>35</sup>, the sophisticated technique and enormous labor expended ensures these two objects share similar value and position.



159. In every piece of work, the signature of “Liuli Gongfang 琉璃工房” appears in the form of a traditional stamp, either cast with the whole piece or sandblasted afterwards. Thus became a logo of the company.
160. Website of Loretta Yang’s work “*The proof of awareness*”, Liuli Gongfang, Collection of the Corning Museum of Glass.

The blending of concept of practice can also be examined in the work “*The proof of awareness*” that was acquired by the Corning Museum of Glass. Large scale and the thin, complex petals of the peony made it very difficult to cast. The complete cast and exquisite finish, both the form and surface, represented the most advanced technical achievement of lost-wax. However, referring to her approach to practice, I would not identify with her. The whole piece actually is a duplicate of a real peony flower, but exhibited in glass material. This idea was perhaps relevant in the Qing dynasty, but needs to be challenged in present. Should we follow the ancestral route? Or we can develop it and create something new?

<sup>35</sup> The dragon is the most complex and multi-tiered Chinese symbol. It holds a good nature and often represented living in seas, rivers, lakes or clouds. A symbol of male vigor and fertility, also of the Emperor, the Son of Heaven. It is the imperial emblem of the Emperors from the Han period. There is a theory that during the Yuan and Ming periods decoration of a five-clawed dragon was for imperial use only. Four claws indicate a prince, and three or less an official.

### 3.1.2 The Rise of University Level Glass Education

#### Origins of university glass studios in Shanghai and Beijing

Contemporary Chinese glass has rapidly expanded in mainland China since 2000 when the first two educational programs were founded in the Universities of Shanghai and Beijing with the link to the West.

At the beginning of 1990s, the Fine Arts College of Shanghai University gained a commission for interior design features for the Shanghai Underground line one. Project leader Professor Wang Dawei (Vice Dean of Fine Arts College) attempted to use glass as a main material in their design, but the situation was that there was no glass workshop which could realize his artistic idea. What he found in the end was a small glass factory doing sheet glass, and considered this as a viable option. The result was not quite satisfactory, as Dawei said that the idea was seriously affected by the reality in terms of lacking of ready-made glass materials like *Bullseye*, feasible techniques and professional personnel.<sup>36</sup>

From the final work “*Origin*” (figure 161), we can see that the installation consists of four slumped sheets of sand-blasted window glass, supported by a steel structure (two meters high by twelve meters long). It looks simple, naive and rough if we evaluate it by today’s vision, but it truly represents the condition of the time, and this initial experiment proved that glass was a contemporary expressive medium of great potential.

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<sup>36</sup> The description of the project is from a conversation with Professor Wang Dawei in May 2007.





161. *Origin:* The mural at Shanghai South Huangpi Road Station underground line one, slumped sheet glass, project leader: Professor Wang Dawei, Fine Art College, Shanghai University, 1992. Photo by Xue Lu 2007.

Andrew Brewerton (former Dean of School of Art & Design, the University of Wolverhampton) and his colleague Ida Wang visited Shanghai University in 1996, to attempt to explore long-term partnerships with Chinese educational institutions. Having a similar mind and seeing the chance, Shanghai University made the decision to set up a glass program with the support of the University of Wolverhampton. One aspect of the collaboration was to seize an opportunity to stand out in the competition among the top ten national wide Art Colleges. Another aspect was due to the strong patronage from local government. With the emergence of China as a major economic power, cultural related policies were issued and implemented according to local circumstances. For example, the Shanghai Culture Foundation supported by government sponsors spends 1 billion RMB (10 million English pounds) every year on the development of art and culture. Incontestably, university projects were considered as priority. In addition, the geographical advantage brought Shanghai the chance of

greater communication with the outside world. These factors catalyzed the foundation and setting up of the first glass program at a university in mainland China.

Later on, Wolverhampton's collaboration extended to Beijing, Academy of Arts & Design Tsing Hua University (formerly Central School of Arts and Crafts) which took the same decision to set up glass programs for BA and MA study. In 1998, two members of staff from Shanghai and Beijing were sent to the UK successively to learn the techniques of forming-glass and to experience advanced Western Studio Glass education.

The year of 2000, at the beginning of the new millennium, two studios in Shanghai University and Tsing Hua University were officially founded, creating a new threshold for Chinese glass after three hundred years of decline after the Qing dynasty.

Most of the staff of these two programs were trained in Europe, such as Associate Professor Guan Donghai (head of Glass studio at Tsing Hua University, Beijing) and Associate Professor Zhuang Xiaowei (head of glass studio at Shanghai University). Nowadays, they are the core people leading the movement. The Western practice, curriculum and studio operation system they learned abroad has been imported, developed and spread into the academic soil, generating new results.

Glass scholar Lynn (Lynn, 2004, p.49) has stated three conditions necessary for the success of glass as an art medium in America: a focused artistic ambition, access to adequate technical knowledge, and validation from cultural institutions. Dawei's underground project may have raised the interests of this new material and activate the artistic potential for glass, but, without the collaboration with Western institutions and the establishment of university glass programs, the development of contemporary Chinese glass was out of the question.

A Comparison with the Qing dynasty, reveals interesting similarities. A dominant artistic ambition reflected a personal interest of the Emperor (Kangxi, Yongzheng and

Qianlong), who controlled the whole decisions relating to the development, and promotion that caused the thriving of glassmaking both in royal institution and individual independent workshops. The second condition was provided by Jesuit missionaries, who imported advanced technologies and techniques of making and forming glass into the court. However, today, the artistic ambition and the access to knowledge is driven by individual practitioners, in contrast with the Qing period. Despite the different meanings within the cultural institutions in the two periods, much is similar.

Following the previous experiences of the Studio Glass Movement in Western countries, high level educational programs have made a great contribution to the promoting of the cultural awareness of the importance of this material. University glass has been demonstrated as the initial cradle to bring up practitioners who then spread knowledge widely and play a crucial role within the ongoing process.

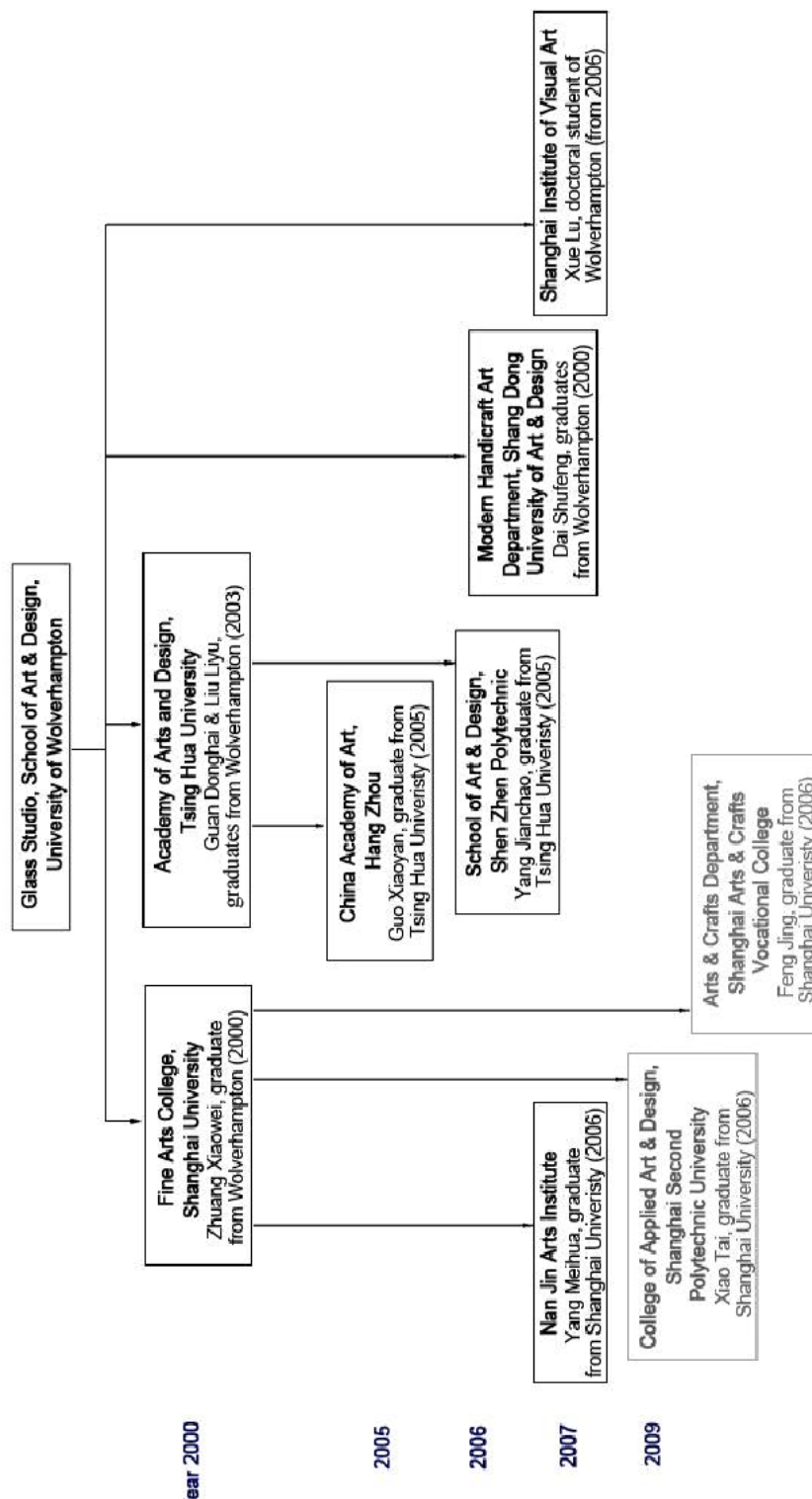
This has been proved by the emergence and international recognition of new Chinese glass. The students who graduated from Shanghai and Beijing programs are spreading all over China, setting up workshops in other University sectors. A group of second generation artists is gestating and expanding rapidly. Today, although the history of Chinese Studio Glass Movement is only nine years old, glass programs have already been established in nine high educational institutions<sup>37</sup>.

(See “Family Tree – List of University Glass Program in mainland China” for the inter-relationship between each institutions and connections to the West, and also Appendix 13 - List of Chinese university glass studio)

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<sup>37</sup> Academy of Arts and Design at Tsing Hua University, Fine Art College of Shanghai University, China Academy of Fine Arts in Hangzhou, Shanghai Institute of Visual Art (SIVA), University of Shanghai Second Polytechnic, Shanghai Arts and Crafts Vocational College, Nanjing Art Institution, Shangdong University of Arts and Design, Shenzhen Polytechnic.

Family Tree ---- List of Unviersty Glass Program in mainland China



**The connection and influence of the West**

The Studio Glass Movement in different countries has developed against varied political, economic and cultural backgrounds. In America, for example, glass programs were set up with the aim to return to and to revive craft skills as a reaction to machine-made industrial products. Therefore, American glass programs usually fall within the fine art department. However, in Europe, Great Britain for instance, where there is a long history of arts and crafts, glass rather seemed to be perceived as part of applied art. Because glass is a new subject in China, different universities and art colleges have their own point of view of which discipline glass is supposed to be aligned with, and thus revealed respective differences in their degree programs. Most of the programs have been placed into departments of art and craft according to a traditional viewpoint, while some of the others have listed glass within design courses. This defines in the first place the status and function of glass within the institutions.

Noticing what had happened in China in the last decade, especially in the last three years, Chinese glass has developed into a world-wide context. Exciting developments are progressing, and the relationship with the Western glass community is undeniable.

## Chronological table of Contemporary Chinese Glass

- Factory Events
  Foundation of university glass studios  
 Exhibitions (academic)
  Publications

Year	Important Events
1987	· First industrial glass studio Newworkshop -- Liuli Gongfang set up in Taiwan by Loretta Yang and Zhang Yi
1989	· Loretta Yang and Zhang Yi studied blowing technique at New York experimental glass workshop (later Urban Glass), USA
1991	· Liuli Gongfang's first exhibition in Japan, sponsored by the Taiwan Ministry of Economics
1992	· Glass installation "origin" located at Shanghai South Huangpi Road Station Underground Line One
1993	· Liuli Gongfang's exhibition at Palace Museum, Beijing
1995	· "International glass exhibition" at TaiBei, Taiwan, organized by Liuli Gongfang
1996	· Andrew Brewerton (Dean of SAD, University of Wolverhampton) and Ida Wangs' visiting of Shanghai and Beijing
1998	· Zhuang Xiaowei and Dai Shufen studied MA glass at the University of Wolverhampton, UK
1999	· First mainland contemporary glass exhibition "New Glass Economic: Contemporary British Glass from the University of Wolverhampton" at Shanghai Library, Shanghai · First public sculpture "Bamboo Scroll" located at Shanghai Library commissioned by British glass artist Colin Reid
2000	· Fine Arts College of Shanghai University set up glass studio for MA program, Shanghai · Academy of Arts and Design, Tsing Hua University set up glass studio for BA and MA program, Beijing
2001	· June: "International glass exhibition" at Shanghai Art Museum(Gallery), organized by Liuli Gongfang · June: "International glass exhibition" at Beijing Millennium Museum, organized by Liuli Gongfang
2002	· Sun Yi studied glass design at Staatliche Akademie der Bildenden Künste, Stuttgart, Germany
2003	· Guang Donghai and Liu Liyu studied MA glass at the University of Wolverhampton, UK
2004	· Xue Lu, Fang Min, Guo Qimei studied MA glass at the University of Wolverhampton, UK · Wang, Jianzhong (2004) <i>世界现代玻璃艺术(Contemporary glass Art of the World)</i> . He Nan: He Nan Art Publisher
2005	· April: Opening of Two Cities Gallery, Shanghai, the only one gallery devoted to contemporary Chinese art & craft in mainland China · May: Joint exhibition "Academic Glass Art" at Beijing, organized by Shanghai University and Tsing University Beijing · China Academy of Fine Arts (Hang Zhou) set up glass studio for BA and MA program · August: "The First Annual Modern Hand-crafted Art Exhibition" at Tsing Hua University · Sunny Wang studied research program at the University of South Australia, Adelaide, Australia · Susanne K. Frantz visited Glass studio of Tsing Hua University

2006	<ul style="list-style-type: none"> <li>· March: Exhibition “China Raise: Explorations: opposites attract” at Galerie Vee HongKong</li> <li>· April: Liuli China Museum opened to public</li> <li>· Xue Lu studied research program in Glass at the University of Wolverhampton, UK</li> <li>· May: Czech glass artist Yan Zoritchak visited Liu China Museum</li> <li>· June: LIULI CHINA is nominated for the Bombay Sapphire Discovery Design Award in London, England.</li> <li>· June: Exhibition “China Raise: the evolution” at Galerie Vee HongKong</li> <li>· Sept.: American glass artist William Carlson visited Liu China Museum</li> <li>· Sept.: Exhibition “China Raise: dialogue of 8” at Galerie Vee HongKong</li> <li>· Oct.: Donghai Guan Solo Exhibition “City Gates” at Gaffer Studio Glass, Hongkong</li> <li>· August: <i>The Second Annual Modern Hand-crafted Art Exhibition</i> at Nan Jing Arts Institute</li> <li>· Nov. : Exhibition “<i>New Wave: Studio Glass Now</i>” at Two Cities Gallery, Shanghai</li> <li>· Liu Peng studied MA glass at the University of Wolverhampton, UK</li> <li>· Guan, Donghai (2006) <i>艺术玻璃吹制技巧 Blowing technique of Art Glass</i>, Liao Ning: LiaoNing Arts Publisher</li> <li>· Shenzhen Polytechnic set up glass studio as a selected course for BA student</li> </ul>
2007	<ul style="list-style-type: none"> <li>· Jan.: “<i>Journey – The Dream Boat: an exhibition of 30 years of selected works by American artist Stephen Weinberg</i>” at LiuLi China Museum</li> <li>· Loretta Yang’s work “The Proof of Awareness” collected by the Corning Museum of Glass</li> <li>· Aug.: “<i>Modern Liuli Art-2007 Faculty and Student Exhibition</i>” at LiuLi China Museum</li> <li>· Shanghai Institute of Visual Art set up glass studio for BA program</li> <li>· Nanjing Art Institution set up glass studio as a selected course for BA student</li> <li>· Shangdong University of Arts and Design set up glass studio as a selected course for BA student</li> <li>· Oct. 20 - Nov. 15: Exhibition “<i>Refraction</i>” at Two Cities Gallery, Shanghai</li> <li>· Cummings, K. (2007) <i>玻璃艺术的窑制技法 [Techniques of Kiln-formed Glass]</i> (X. Cheng, and L. Xue, trans). Beijing: China Technology of Architecture Press. (Original work published 1997)</li> <li>· Li Xin studied MA glass at the University of Wolverhampton, UK</li> <li>· Ruby Hu studied MA glass at the University of Sunderland, UK</li> </ul>
2008	<ul style="list-style-type: none"> <li>· Jan. 11 - March. 13 “<i>Modern Antiquity: The Third Annual Modern Hand-crafted Art Exhibition</i>” at Two Cities Gallery, Shanghai</li> <li>· August: Exhibition “Glass Route: from Wolverhampton to China” at Bilston Craft Gallery, UK</li> <li>· Nov. 07 2008– Nov. 07 2009: Exhibition “Glass.China” at Alexander Tutsek-Stiftung, Munich, Germany (Several artists’ works were collected by Alexander Tutsek-Stiftung foundation)</li> <li>· Peng Yi studied MA glass at the University of Sunderland, UK</li> <li>· Zhuang Xiaowei (2008) <i>铸造诗意(Casting light on the lyrical)</i>. Shanghai: Shanghai Bookstore Publishing House.</li> </ul>
2009	<ul style="list-style-type: none"> <li>· March 18-25: Exhibition “Casting 2009” at Fine Arts College of Shanghai University 99 Creative Centre, Shanghai, China</li> <li>· May: Exhibition “Glass Route: from Wolverhampton to China” at the Glass Art Gallery, London, UK</li> <li>· University of Shanghai Second Polytechnic is setting up glass studio as a selected course for BA student</li> <li>· Shanghai Arts &amp; Crafts Vocational College is setting up glass studio as a selected course for BA student</li> </ul>

The increased number of university studios, students studying abroad, exhibitions, museums, collections and publications indicate the rapidly rising position and awareness of glass, and its gradual integration within the cultural community.

From 2000, world wide connections have become more and more frequent, visitors not only include professional practitioners, curators, institutional scholars, but also private collectors and dealers, among those included American glass artists Michael Rogers, Steve Weinberg, curator Susanne K. Frantz, and British glass artists Colin Reid and Stuart Garfoot. Academic exchanges, such as workshop demonstrations and lectures have gone along with the cooperation between Western educational institutions and industrial enterprise. The opening of Gaffer Studio Glass in Hong Kong was another sign for the recognition of China's growing economic and cultural importance in glass.

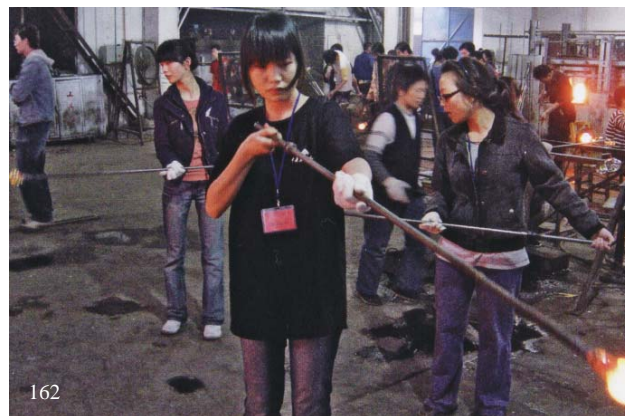
It is interesting to compare the contemporary Western influence with the Qing dynasty, they are very similar, but in a different format. In the Qing dynasty, the way of transferring knowledge of making and forming glass relied on the direct demonstration of the skills imported by Jesuit missionaries. The extent and frequency of primary practice-based knowledge was rarely recorded in literature. In addition, the distilled and selected knowledge and skills introduced by the missionaries placed Chinese glass practice in a passive position of acceptance and reproduction rather than initiation.

Today, the internet and literature spreads information in a global context, widely expanding the routes for obtaining knowledge. Besides this Chinese practitioners travel out of their home country, choosing knowledge with great purpose and care, rather than purely accepting it like the passive position within the Qing dynasty. Studying abroad, students not only acquire skills and techniques of glass, but pay more attention to creating with contemporary concepts and methods (Xue, 2008). The experimental process of kiln-formed glass, in the initial stages of Chinese academic glass programs, illustrates my argument. (See 3.3.2, p.162)



Besides the constant connection with Western countries, Chinese academic glass keeps a close relationship with local industry that benefits each other.

Xia Jun (Heinrich) Wang of Tittot and Loretta Yang of Liuli Gongfang both taught at Tsing Hua University. Most of the raw material that Tsing Hua is using is supported by the Liuli Gongfang glass factory. Courses that are impossible to take in the universities now exist through cooperation with glass factories.



162. Students of Tsing Hua University practice blowing skills in a glass factory at Shanxi province. Every student must learn basic skills and make designs based on existing technique and facility. Some of the design work would be fabricated by veteran workers if students cannot realize their ideas. In return, outstanding designs of students' will be adopted into production.

Photo by Guan Donghai.

The development of a Chinese Studio Glass Movement shares great parallels to that which happened in the West in the last fifty years, but with incredible speed. From the imported model of practice, an intangible network of a Chinese glass community is evolving, though incomplete and immature, the future seems appreciable.

Following Western experiences, a matured community not only comprises practitioners, but also educators, curators, critics, dealers and collectors, and its promotion by galleries, museums, relevant organizations, and patronized privately or publicly.

The last few years has seen a massive growth in the opening of galleries in big cities in China, predominantly around Mo Ganshan road Shanghai and 798 Beijing, owned by both Chinese and foreigners. However, among the great number of galleries, fewer

are dealing with contemporary art and craft as opposed to fine art. (See Appendix 14 - List of Chinese glass museum & gallery). Shanghai Two Cities Gallery<sup>38</sup> is the only one run by native Chinese and exclusively devoted to contemporary Chinese craft in mainland China.<sup>39</sup> Glass-only exhibitions have been constantly held in this Gallery as well as exhibition catalogues, but apparently, more galleries need to be developed to give credibility and expansion of their audience, and for promoting the market.<sup>40</sup> Because of the high price of the works, few pieces are sold and most of the audience are from a glass related background or are foreign collectors/dealers.<sup>41</sup>



163. A corner shot of the Two Cities Gallery, Shanghai.

The interesting part of the image is that glass sculptures, nowadays, are displayed against traditional craft forms like ceramic tea-pots and bowls.

To place works in the gallery, in fact, reveals one important shift of the valuation of glass works from that operating in ancient times. If we go through the history of

<sup>38</sup> Shanghai Two Cities Gallery was founded in April 2005, curate by Shannon Guo, who is an established Chinese jewelry and glass artist. Though, international galleries began to establish their presence in China since 2005, most concentrate on painting and sculpture, holding exhibitions of Western artists.

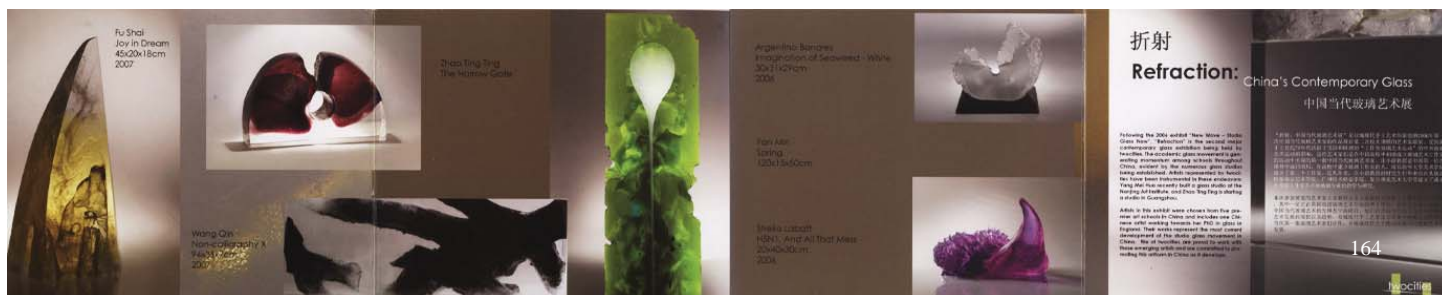
<sup>39</sup> Few other galleries, mainly dealing with contemporary international glass in Hong Kong and Tai Wan, such as Hong Kong Gaffer Studio Glass, and Koru Contemporary Art.

<sup>40</sup> This situation is the same as in other Western countries. It is not until the 1970s and 80s, glass only galleries, such as Habatat Gallery (Michigan), Heller Gallery (New York) and Kurland/Summer Gallery (Los Angeles) emerged in American. These galleries effectively expanded their audience and distinguished themselves from others. For more information, see chapter 5 & 6 in Lynn, M. D. (2004) *American studio glass: 1960-1990*. New York; [Great Britain]: Hudson Press: Windsor Books International.

<sup>41</sup> As to the conversation with Shannon Guo, I was informed that most of the collectors in contemporary Chinese glass are foreigners and the number is very small, mainly because of the high price that artists ask. For example, the price of a medium size kiln-casting work of Zhuang Xiaowei is about 60,000 to 80,000 RMB (equally £ 6,000). This is as the same, or even higher than the price in UK.

Egyptian or Roman glass, one fact draws our attention in that glass was used to imitate expensive materials for a less costly price, and followed the forms of others. Gold, silver, precious stones and metal always led the style and dominated material values. Thus glass was regarded as a material of transient value, and the value of which depended on its context. This theory is also tenable for Qing dynasty Chinese glass, which takes forms from porcelain and bronze, and its value was identified by the royal family and high classes as main consumers. It is further supported by the passionless treatment of *Façon-de-Venice* glass in the Qing court, which indicates the discordant valuation in different cultures.

Contemporary glass, independent from restrictions of other forms, allows the material to have a fundamental voice in its appearance as well as in its intrinsic value. The place of which, in one aspect, becomes a crucial parameter that determines the value of the work. Automatically, to place work in Museums and Galleries becomes a first choice for most Chinese practitioners.



164. Leaflet of the exhibition “Refraction” at Two Cities Gallery 2007.

Compared to the advanced Western glass community, there has not yet been a national/regional conference or seminar proposed in China. The internal academic exchange between Shanghai and Beijing, has, unfortunately, been conducted only once, in 2005. No organization like CGS (Contemporary Glass Society, UK), GAS (Glass Art Society, American) and Ausglass<sup>42</sup> (Australian Glass) has yet been established in

<sup>42</sup> Noris Ioannou analysed the significant influence of Ausglass on promoting the Australian Studio Glass Movement through its exhibitions and conferences. There will be similar organisations to emerge soon in China. The system of Ausglass, and its conducted events, is a good example, especially about the themes and topics of conferences, and how to select works for exhibitions. For

China to act as a centre force to ensure communications and the exchange of ideas between individual practitioners, and promote the general movement. Nationally founded museums are not available yet to ensure the validation of collections.<sup>43</sup> Publications about contemporary Chinese glass are merely limited within several articles, and most of the glass books are exhibition catalogues dominated by images.<sup>44</sup> In addition to the university glass practice, diverse personal studios and workshops occupy a sizable proportion in the Western community; however, this has been seriously missing in China. At present, there are no individual glass workshops either in Shanghai or Beijing, the only one owned and run by a graduate student from Shanghai University is surviving by doing processes ordered externally, not depending on the artistic works.<sup>45</sup> Thus creating individual work has become a secondary focus.

As the nature of the development of a movement, these factors are important. But fortunately, Chinese studio glass is setting up within a mature stage of the International Studio Glass Movement, thus the previous experiences from different countries should help to avoid unnecessary efforts and shorten the period of exploration.

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more information, see chapter 2 in Ioannou, N. (1995) *Australian Studio Glass*. Australia: Craftsman House.

<sup>43</sup> Taking American museums as an example, Lynn (2004) divided them into two levels, the first-tier is universal-survey museums (Corning Museum of glass and Toledo Museum of Art), and the second-tier is regional small scale collections. She identified the different function and objective of each tier, informed through individual examples. For more information, see chapter 9 in Lynn, M. D. (2004) *American studio glass: 1960-1990*. New York; [Great Britain]: Hudson Press: Windsor Books International.

<sup>44</sup> As to the publications, American Studio Glass had experienced the similar situation as China at the beginning stage. Firstly, articles appeared in multimedia craft magazines about technical issues, then followed by books, catalogues and specialised magazines, which offered theoretical critics. For more information see chapter 6 & 7 in Lynn, M. D. (2004) *American studio glass: 1960-1990*. New York; [Great Britain]: Hudson Press: Windsor Books International.

<sup>45</sup> Fan Min, who once studied in glass at Shanghai University, set up his own workshop at Feng Xian, Shanghai in 2006.

### 3.1.3 Training and Education

The American scholar Martha Drexler Lynn<sup>46</sup> concluded that the developments which affected American studio glass and its relationship with fine art as first, achieving a critical mass after 1960, secondly, the ceasing of art (fine art) to be rigidly defined in terms of the material used, and thirdly, utilitarian forms began to be assimilated into the high-art<sup>47</sup> world.

*The high-art world has been increasingly flexible about admitting new media – when it sees fit. Photography and even clay has found acceptance...(Lynn 2004, p.1)*

These opinions are mainly from the perspective of historians and critics, which is true and proper, but other factors directly related to practice deserve attention.

The mode of the utilization of knowledge has been converted from training (apprenticeship) in traditional craft making into contemporary art education, which is centred on a self-oriented trend of practice. Making glass has shifted from a passive action into the results of a spontaneous behavior.

For thousands of years, traditional craftsmen were trained through an apprenticeship that passed empirical knowledge of material and making from one craftsman to the next in a generational stream, achieved through hand to hand contact. It is a way that teaches people to master an established range of skills in the same manner as previous generations involving the production of almost identical pieces, fabricated through repetitious action. Hence, it is a goal oriented activity, a way of training of how to make a given object. Few genuinely creative activities could be achieved within this mode.

By the end of the 19<sup>th</sup> century, glassmaking was largely restricted to factories, traditional apprenticeship still playing an important role in supplying skilful craftsmen.

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<sup>46</sup> In the notes of Lynn (2004), no. 1, p.4, she analysed the different criteria of Western art and craft in different historical periods.

<sup>47</sup> High-art here means fine art.

However, after World War II in America, the establishment of the glass workshops in Wisconsin by Harvey Littleton pushed glass from factory production to small-scale studio practice. Newly skilled artisans began to form glass without concern for traditional restrictions or demarcations. Non-functional applications ranging from displays of technical brilliance to artistic expression came into being. This kind of conversion helped glass move a step further towards a studio based material for creative expression, and started the International-wide Studio Glass Movement.

Additionally, from the 1950s, practitioners from diverse backgrounds, such as Harvey Littleton (taught ceramics) and the husband-and-wife team of Michael and Frances Higgins (graphic designer and fine artist respectively), pushed glass beyond technique and towards a wider content.

Foremost, opportunities to learn a craft have moved out of the family rooted apprenticeship, into educational institutions. The choice has become a very personal one.<sup>48</sup> The establishment of formal university level glass education offers aspects of traditional apprentice training for skills and techniques, but extends the teaching of philosophy and contexts with other disciplines.

Significantly, when glass has been absorbed within fine art departments, like in America, it has resulted in practitioners being increasingly educated within degree programs, developing along the same course as painting or sculpture majors (Lynn, 2004, p.57) In some European countries, such as Great Britain, where there is a long history of craft making, glass keeps its traditions and is deemed an applied art, but with a close relationship of fine art by the setting of relevant elective courses. Consequently, although working in a traditional craft medium, glass practitioners are encouraged to have the freedom to develop wider art ambitions.<sup>49</sup> This could be largely examined within students' work in each module's assessment.

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<sup>48</sup> Metcalf, B. (1997) Craft and art, culture and biology. *in* Peter, D. (ed.) *The culture of craft: Status and future*. Manchester: Manchester University Press, pp.67-82.

<sup>49</sup> Stuart Garfoot discussed the opportunities to explore the material of glass whilst engaging in understanding its potential expressive use and its wide applications when he was a student at Stourbridge College in the 1970's. See Garfoot, S. (2008) Glass Baton. *In*: Garfoot, S. (ed.) *Glass Routes: From Wolverhampton to China*. England: University of Wolverhampton, pp.26-30.

Of course, compared to ancient times, although today's dissemination of glassmaking skills is still maintained by hand to hand knowledge, the influence of the internet and literature in spreading information within a global context, extends the routes and frequency of obtaining knowledge. It is especially true of some techniques such as kiln-forming, which is more amenable to indirect acquisition due to its episodic nature. We could easily search technical solutions or artists' work worldwide just by sitting in front of a computer, while this is absolutely impossible in the Qing dynasty. Due to these differences, glass has been pushed and developed into a contemporary art medium.

## 3.2 Material

The major shift of glass from a traditional craft material to a contemporary expressive art medium began in late 19<sup>th</sup> and early 20<sup>th</sup> century Europe; epitomized by the works of Emile Gallé and Maurice Marinot, consolidated by the International Studio Glass movement. These vital changes led glass development into an entirely new epoch; this included not only the development of new technologies and techniques of making and forming glass and personalized working methods, but also a different attitude towards the material, governed by a personal creative motivation, and even a new way of accepting knowledge (information).

The following sections (3.2 / 3.3 and 3.4) are discussed within this wider context. Comparisons between the two time periods are listed to suggest similarities and to shed light on the evolvement of contemporary practice. My personal practice is woven into the topics to provide detailed examples.

### 3.2.1 Truth to Material

Revealing the innate qualities of a material, expressed in the modern era as ‘truth to material’<sup>50</sup>, loomed large in contemporary practice. English Professor David Pye (Pye, 1968, p.45) addressed two ideas of ‘truth to material’:

*“The idea in its simplest form means that the sculptor feels obliged to respect his medium to the extent of bringing out in every way he can the stoniness of stone, the metallic quality of metal, the grain and growth and organic properties in wood. The second idea is that any given material takes, or can be made to take certain shapes easily or directly.”*

Pye concluded that both ideas indicate that every material has a specific nature and a set of properties that either can be expressed or suppressed when used. Each artist has their own private view of what a material is.

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<sup>50</sup> It is John Ruskin (1819-1900) that first coined the phrase "truth to materials", that all forms of things must be faithful to the nature and materials of their construction. He promoted the idea of morality in design; of goodness and truth as expressed in form and materials.



This concept of animism<sup>51</sup> is similar to the traditional Chinese philosophy of craft making, for example, jade carving was asserted to reveal the texture and patterns of jade stone, and the simple refined Ming furniture was crafted to set off the veins of wood.

However, such particular subjective ideas of matter were restrained in relation to glass materiality in ancient China, especially for the craftsmen in the imperial glass workshop of the Qing dynasty, who were working under extremely rigorous social restrictions. By contrast social interaction is encouraged in present art education, and considered as an important part of stimulating creativity. This transformation impels the distinct and diverse applications of glass in our era.

There have been various stages in the interpretation of the character of glass for mankind, which has been reflected in different perceptions and attitudes towards this material. The original value mainly resided in its transformations from basic constituents into precious glass. In ancient Egypt, opaque glass was largely produced as a substitute for precious-stones, such as the making of blue glass to imitate lapis lazuli. Later, the Persians regarded glass as stone-like, a kind of rock-crystal. The difference between the coloured opaque Egyptian glass and the transparent Persian glass suggested distinct attitudes towards this single material, and resulted in distinct applications and value of the same material.

Also, glass, unlike wood, stone or even metal is not a natural material and has many forms. Therefore, in glass, “truth to process” is more accurate than “truth to material”.

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<sup>51</sup> From Latin *anima* (soul) (life), is a philosophical, religious or spiritual idea that souls or spirits exist in humans, animals, plants or other entities.



165. Glass ornaments, beads and fragments mosaic, 14<sup>th</sup> -2<sup>nd</sup> century BC Egyptian, Collection of the British Museum. \* (David, 1991, p.23)

Small ornaments were manufactured for the purpose of decorating furniture and architecture, such as naoi and panels. In order to imitate precious stones, like lapis lazuli, turquoise, feldspar and jasper, glass was produced in opaque colours with mat surfaces. Usually, small pieces were inlayed into wood panels and became a large adorning object.

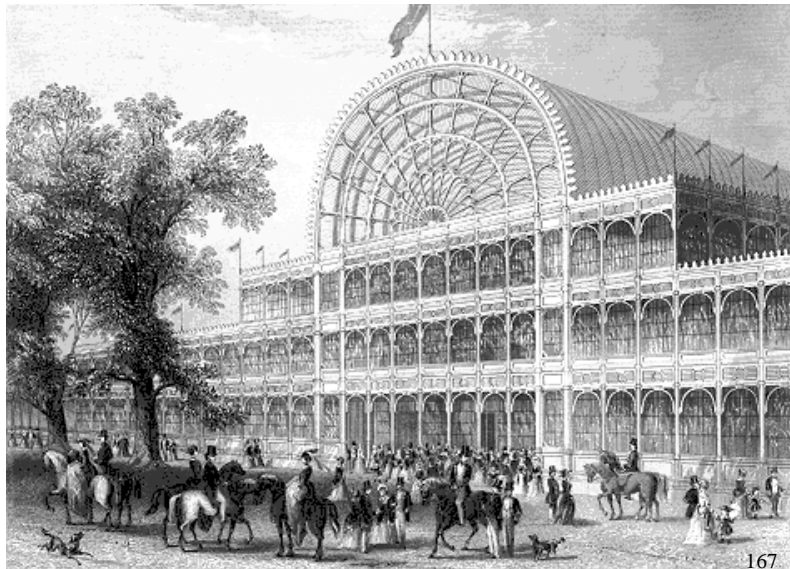


166. Colourless bottle, mould-blown and carved glass, H (green): 8.7cm, Persia 8<sup>th</sup>-9<sup>th</sup> century, Collection of the British Museum. \*

The technique of facet cutting of stones has been well established in the Islamic world. Glass carving techniques, which helped to developed new forms and decorations, was inherited from this ancient tradition.

Glassmaking has a long history, but, whatever the styles it served, its products remained anonymous, whether for utility or occasionally for symbolic purposes. Glass was always associated with the word *craft*, which refers to handmade utility objects, made of clay, metal, wood, fiber and glass. Craft, in this instance, means a hand driven skill.

In the 1850s', the huge industrial scale of Joseph Paxton's Crystal Palace was handmade using traditional working methods; this symbolized the age of industrialization, yet revealed a potential artistic merit of glass, and acted as a bridge between the past and the present.



167. Joseph Paxton, Crystal Palace, London 1851. <sup>52</sup>

The new Crystal Palace was built from three million square feet of sheet glass and cast iron. In order to finish such scale by hand, thirty skilled glassblowers from the continent were recruited to produce sheet glass. This was perhaps the first time during the history to apply an industrial concept by using traditional craftsmanship.

Towards the end of the 19<sup>th</sup> century, designers such as Emile Gallé (1846-1904), René Lalique (1860-1945) and Louis Comfort Tiffany (1848-1933) attempted to liberate glass as an independent medium. They designed for industry whilst trying to explore the artistic character of glass. Their works were named as *art glass*, and with clear

<sup>52</sup> Available at: <http://www.uh.edu/engines/greatex.gif>  
[Accessed October 2008]

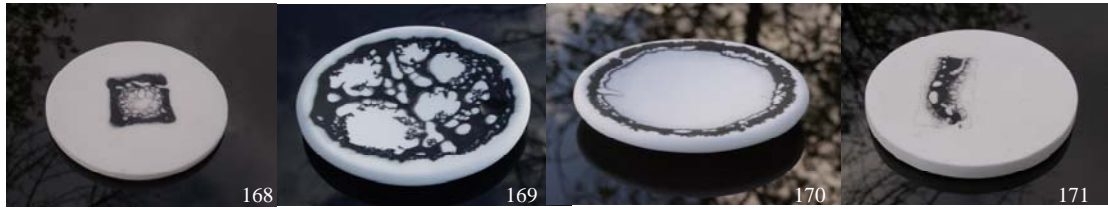
signature; status of this material became elevated and confirmed. People began to call them ‘*artist*’, and they also designated themselves as ‘*artist*’. This theme was taken up by the international wide studio glass movement which inaugurated a new era in the 1960s’.

Contemporary glass takes its manufactured forms and existing technologies and techniques as a given while endowing with them new meanings and uses. Glass is not limited to traditional craft objects or industrial products, but extended into much wider fields, such as fine art, architecture etc. Functional shapes have been replaced by sculptural forms with less utility but more individuality.

Although breakthroughs in studio technology, increased skills of practitioners, as well as the diverse methods of forming glass have marked the evolution of the movement, the philosophy of “truth to material/process” runs through the gradual development of its philosophy, rather than just a concern in the way objects are made or associated styles of older generations. This attitude to the qualities of glass itself creates an emphasis on of material that distinguishes it from other material practices.

This attitude, perceptibly, is the opposite of that of the Qing dynasty, where glass was treated as a substitute for jade, ceramic and so on, and the forming method of which, particularly carving, according to Professor Pye, was against the idea that any given material should be shaped easily or directly. Consequently, the common characteristics of Qing glass, especially from the 18<sup>th</sup> century onwards, were opacity with carved and hand polished surfaces.

Interestingly, it is ironic to see the changing attitude in the contemporary Chinese glass scene, that the most popular perception of glass has been identified as transparent with highly polished surfaces, represented by the works from Shanghai University. This has been tested by exhibiting my own work “winter landscape series” along with works of other Chinese artists in several exhibitions in China. Though labeled as “kiln-formed glass”, one frequently asked question is: “Is this made in glass? Why is it not transparent?”



168-171. XUE Lu, *Winter landscape series*, Kiln-formed glass, D 15.8cm, 2006/7.

The test shows that the long established rules of industrial glass make it difficult to convince Chinese people that glass can be made in opaque colours as it is a synthetic material. Visibly, a part of the nature and properties of glass is suppressed and has not been exposed to China or fully realized in technique.

Thus my intention in this series of work is to display the diverse possibilities that glass could yield, not simply transparency or opacity.

### 3.2.2 Type of Glass (Material)

Following the accidental discovery of glass material by the Phoenicians, the ability of human beings to make glass has developed over a long period of experiments, and has, over millennia spread all over the world.

Technologies and techniques have been transplanted from one place to another through demonstrations from skilled and knowledgeable individuals. Different civilizations have developed their own way of manufacturing and uses of glass. Therefore, as a synthetic material, glass made from distinct local geographical raw constituents resulted in diverse outcomes, which responds to an opinion about the ways glass material encapsulates such spread developed by Professor Cummings:

*“...the two central aspects of glass; how it is synthesised from its raw constituents, and how it is shaped via its special tools and skills.”* (Cummings, 2008, p.20)

In general terms, the technology of making and the type of glass usually determines the quality and appearance of the final object. In ancient times, there were no commercial factories which dealt in glass exclusively. Artisans had generally to make glass from basic ingredients on their own.<sup>53</sup> Even in the early 20<sup>th</sup> century, artists like Amalric Walter coloured his own glass by using metal oxides<sup>54</sup> through numerous tests, from which the objects he made helped him to be distinguished from his contemporaries.

The establishment of exclusive glass factories in the 1970s', such as Bullseye glass in America<sup>55</sup>, Gaffer glass in New Zealand<sup>56</sup> and Friedrich Farblasthütte GmbH in

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<sup>53</sup> Although trade in glass ingots is indicated in the 14<sup>th</sup> century BC throughout Mediterranean.

<sup>54</sup> For Amalric Walter's method of using metal oxides in his *pâte-de-verre* glass, please see Stewart, M. (2007) *Amalric Walter*. England: University of Wolverhampton /AHRC.

<sup>55</sup> Available at: <http://www.bullseyeglass.com/>  
[Accessed 5 November 2008]

<sup>56</sup> Available at: <http://www.gafferglass.com/>  
[Accessed 5 November 2008]

Germany produced glass with standard criteria, changing one of the aspects of glass which Professor Cummings addressed above. Multi-forms of glass, such as frit, rod, confetti, sheet, bead and billet, fully meeting the demands of all kinds of forming purposes from blowing, kiln-forming to architectural. Making glass is no longer the business of each glass practitioner.

The images below were selected from the website of Bullseye Glass<sup>57</sup>, and display a wide range of popular glass products. The various forms of products provide great opportunities for practitioners to select and combine before firing, the creation of which will decide the structure or surface effect and quality of the final piece. Practitioners from all over the world can purchase glass from retailers through the internet, which dramatically increases the speed of spreading and development of glass. However, sharing the same material seems to bring negative aspects, as both Professor Cummings and curator Susanne Frantz pointed out:

*“the technology that has created McLuhan’s “Global village” has removed many of the local influences that once gave character to locally produced glass. The basic ingredients are now standardised, and shipped world-wide, resulting in a universality of glass quality and character.”* (Cummings, 2008, p.23)

*“In this era of globalization in which catalogs of industrial refractories, raw materials, and colors are available by e-mail, glass has a certain similarity.”* (Frantz, 2005, p.15)

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<sup>57</sup> Available at: <http://www.warm-glass.co.uk/>  
[Accessed November 2008]



Transparent medium frit



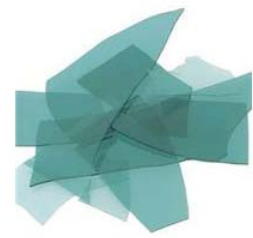
1mm mix bullseye stringer



Circle pack



3mm thin transparent sheet



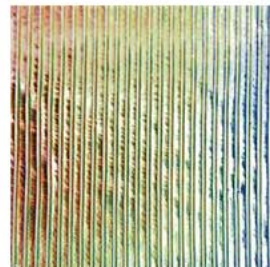
Transparent confetti



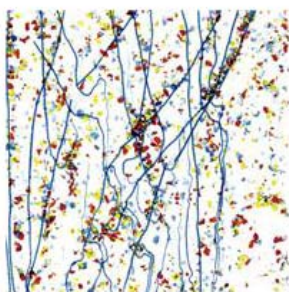
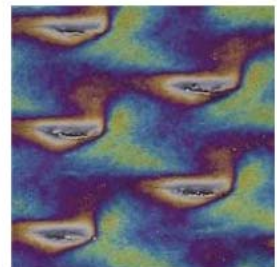
Dichroic sheet



Rainbow iridised sheet



Patterned iridised sheet



Glass sheet with mardi gras pattern made from frit & streamers



Though provided with the same glass products, innovative methods of using have been creatively developed by contemporary practitioners in the last fifty years. Australian studio pioneer Klaus Moje (Edwards, 1995) is a good example.



173. Klaus Moje, *Untitled*, Fused glass, D: 54cm, 2002.



174. Klaus Moje, Studio shot.

Moje's colourful glass vessel is achieved by using Bullseye sheet glass. Different coloured glass is cut into slices, arranged into desired order and fused together. Then the fused piece is cut and ground into different shapes and sizes, and arranged again to form a new graphic pattern before fusing and slumping into final form. Visually, his work is derived from mosaic glass in ancient Egypt, whereas he had developed a new approach within contemporary techniques of kiln-forming.

The early technical education, that Moje was trained as a glass cutter and grinder, played a great role in his professional career in term of the choice of technique and treatment of the material.

Due to a frustration with the limited palette available in glass, a few contemporary artists, make their own coloured glass to be exhibited particularity from others, such as Heike Brachlow, Linda MacNeil and Max Stewart.

Ironically, the contemporary Western technology of glass making has not reached the soil of China. Chinese glass-making factories still retain their local characters, although the type of domestic glass is limited to a number of transparent colours and categories.

Because it is still not easy <sup>58</sup> for Chinese practitioners to purchase glass from abroad, they have to rely on using local products. This brings a unique quality to Chinese contemporary glass whilst presenting a limited appearance of the final object.

The glass material supplied for students to use at university level studios in China is mostly purchased from local factories. Take Shanghai University as an example, the raw material is provided by the Wan Li Glass Factory at Chang Shu (small town near Shanghai), which supplies about 15 transparent colours in disc shape of 10cms diameter by 2cms thickness. Opaque colours and types such as sheet, rod, tube and powder are not available and specific demands need to be finished by individuals. If small cullet or grains are needed, students have to smash the disc shaped glass by hammer into small fragments, sieved into different sizes.<sup>59</sup> The whole process is time-consuming, dusty and can cause contaminations.

Compared to Western glass products, Chinese practitioners do not have much choice, and the material seems more suitable for kiln-casting, rather than fusing or architectural glass. Therefore, as a result, most of contemporary academic Chinese glass has a certain sameness of character, appears to be transparent, with three dimensional sculptural forms and concentrating on the interplay of colour, light and reflection.

As to the glass industry, Liuli Gongfang produces glass material for its own use in a relatively wider range than other factories. Although mainly transparent colours, a few opaque products are available, in the form of cullet or grain. Thus, though most of the products are formed by kiln-casting, a small number of *pâte-de-verre* pieces are also produced.

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<sup>58</sup> It was almost impossible for individuals to order glass from other counties, through paying by a credit cards (involving foreign currency) at the beginning of 2000, and products, such as Bullseye glass, is too expensive for Chinese students, compared with domestic products. Usually, the price is more than six times.

<sup>59</sup> This mirrors what happened in Renaissance Europe, especially for enamel workers.



175. Making glass billet by local workers, Wan Li Glass Factory, Chang Shu, China.

Normally, the factory has its own recipe of making glass, basic ingredients were obtained locally. The way of making glass did not change fundamentally, no more than the fuel and equipment. In order to make glass for kiln-working, glass billets were cast by pouring melted liquid glass into a disc shaped steel mould (10cms diameter with 2cms thickness) one by one in a formula size.



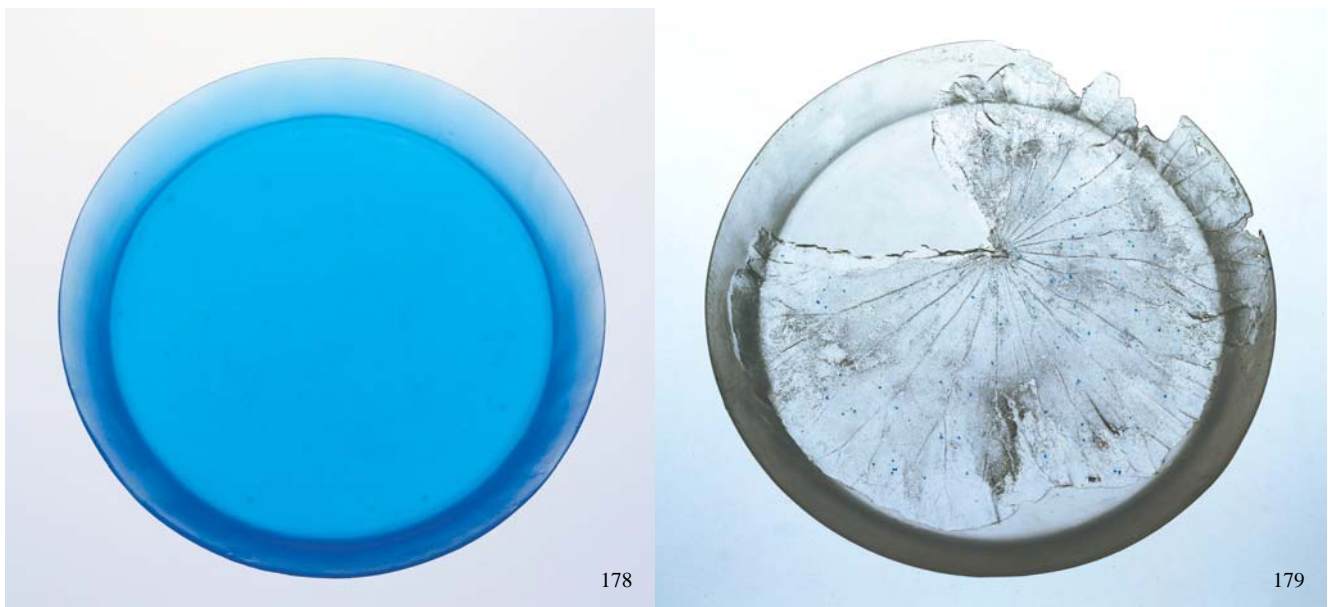
176. The most popular kind of glass in China: disc shape glass billet and cullet.

177. Glass cullet loaded into refractory mould in the same format, factory workshop, Shenzheng Classic Culture Development Co.,Ltd.



From my point of view, the limited choice of solid glass (product) in China is one of the reasons that causes many final objects to display similar visual outcomes. However, this problem can be solved by future improvement of production, and this is not an excuse for a lack of creativity.

In order to support this argument, I have been making at the glass workshop in Shanghai Institute of Visual Art (SIVA), where I put myself in the same situation as other Chinese practitioners by using the same material, facility and technique. The outcomes (figure 178 & 179) have clearly different characters, and this is a good example to argue that the creative application could bring innovations and differences.



178 Xue Lu, *Vessel Series-2*, kiln-formed glass, D: 32cm, 2008. Copyright of the photos-Alexander Tutsek-Stiftung, Photo by H.-J. Becker.

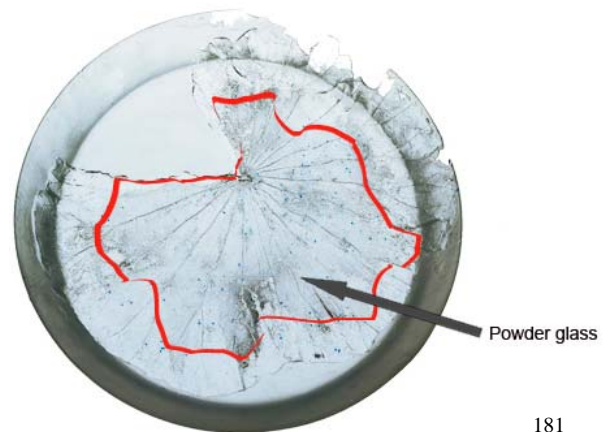
179. Xue Lu, *Vessel Series-1*, kiln-formed glass, D: 32cm, 2007/8. Copyright of the photos-Alexander Tutsek-Stiftung, Photo by H.-J. Becker.

“*Vessel Series- 1 & 2*” used the most common glass (disc shape of 10cms diameter by 2cms thickness) of transparent clear and blue colours. The two pieces employed the same original wax mold and lost-wax casting technique. Except different sizes of solid glasses were loaded, every other parameters remained the same, even the firing temperature.

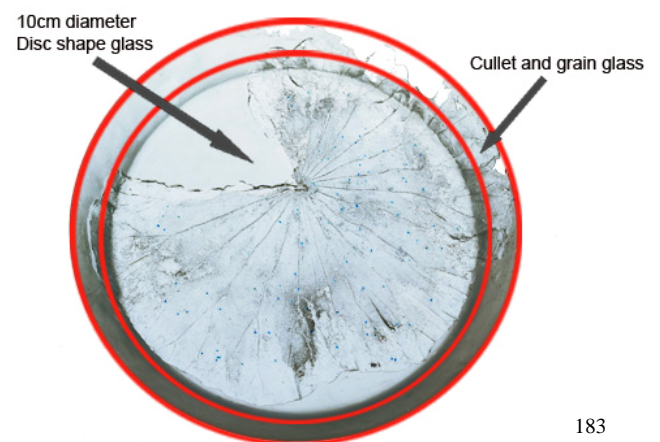
“Vessel Series- 2” is simply cast by big chunks, therefore the result is a integrated one without any bulbs or textures, whilst “Vessel Series- 1” is mixed with glass powder, cullet and chunks.



180/181. Disc shape glass was smashed into small fragments in different sizes. Fine powder was separated from sieving, then, evenly spread in the centre of the mould, where the texture of lotus leaf was revealable. During firing, the void space between glass powders created small bulbs, which trapped in the middle, and achieved subtle shades.



182/183. Small cullet and grain glass was loaded into the rim space to encourage adequate filling. Big chunk disc glass was used on top of powder to allow full casting of the object.



## 3.2 Process

### 3.3.1

#### **Craftsman, Designer & Artist, and associated Working Modes**

This section examines the important shift of contemporary glass practice from a traditional craft material to an art medium for self-expression, in terms of its associated working process (from traditional “designer / maker partnership” mode to “artist maker” mode).

*“A craftsman is an artisan who practices a handicraft or trade (profession).”*<sup>60</sup> It is relatively easy to give a general designation for the glass practitioners before the middle of the 19<sup>th</sup> century as craftsman. Nevertheless, such kind of appellation seems inapplicable since the Industrial Revolution. Professor Keith Cummings (2002, p.148) stated that there were two revolutions created by the transformation of handmade driven craft production since 1850’s. One was the growth of a specific and single product system that led to new inventions in terms of machine processes; the other being the redefinition of the crafts themselves.

Paul Hollister (1999) has summed up the activities of artists in the periods of Art Nouveau and Art Deco into five formats, which could be represented respectively by Louis Comfort Tiffany, Emile Gallé, René Lalique, Frederick Carder (1863-1963) and Maurice Marinot (1882-1960). Based upon his viewpoint, I have developed further by identifying different possible working modes, which directly affected the status and making artifacts.

The working mode of Louis Comfort Tiffany is very similar to the traditional Chinese “designer / maker partnership”. He acted as a designer and a leader in the factory, all productions named after L.C.Tiffany being actually fabricated by artisans. He never made works himself, but supervised their progress. By doing so, he could make decisions immediately when things went wrong.

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<sup>60</sup> Available at: <http://en.wikipedia.org/wiki/Craftsman>  
[Accessed 24 October 2008]

Significantly, Emile Gallé worked both as a designer and a maker from a studio set within his own factory in Nancy. I call this as “designer & maker mode”; he conceived the work and asked the factory to blow the form then decorated the surfaces of blown glass in person by enameling or engraving.



184. Oil painting by Victor Prouvé: Emile Gallé is painting enamel on the surface of glass vessel. In front of his desk, are sketches and drawings of his designs, 1892.<sup>61</sup>

The oil painting itself indicates the status of Gallé as an artist, as well as his artistic pose.

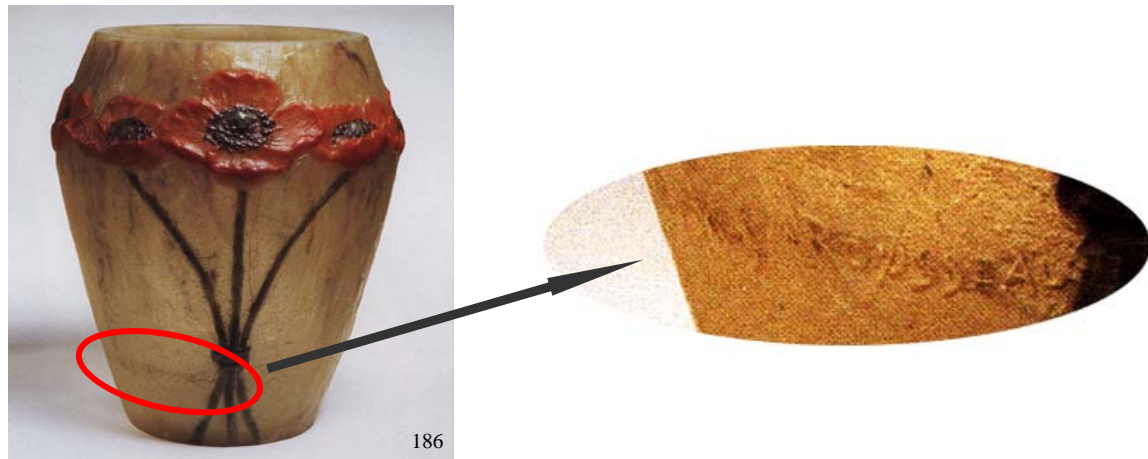
185. Emile Gallé, cameo vase, blown, acid-etching and carved glass, signed by Gallé. H: 44 cm. 1900.

Gallé revitalized his glass industry by mass producing his and other artists' designs, but with a legible hierarchy. Signatures started to become one of the symbols to announce the changing status of glass from a traditional craft into the art field. Unlike ancient crafts, which were usually anonymously fabricated, designers and makers such as Gallé and G. Argy-Rousseau (1885-1953), signed and dated their work just like the painters of fine art. This kind of activity created a clear hierarchy of the production, as Professor Keith Cummings (2002, p.174) points out:

*“Gallé only personally signed objects that he had worked on himself...Objects made within his factory that did not pass through his hierarchy and do not command the same contemporary value placed on works from his own hands.”*

<sup>61</sup> Available at: <http://1900.art.nouveau.free.fr/IMG/jpg/Galle3.jpg>  
[Accessed 26 October 2008]

It reflected an issue about the emphasis on individual and of authorship, and signature becoming a part of the work. Additionally, some of their works usually created as limited editions came to be seen as distinct from normal products. Thus, the number of productions in a series began to affect the value and status of the work.



186. G.Argy-Rousseau, Vase, pâte-de-verre glass, Collection of V&A (No.9513). \*

Rousseau's signature near the bottom of the vase was an integral part of the piece. It was signed on the original plaster mould at the initial stage. The price for a similar piece with his signature, at today's market, is at least £ 5000.

Both Gallé and Tiffanys' work demonstrated the collaboration between traditional craftsmanship and specified machine-made systems during the transitional stage of handmade driven craft production since industrialization, which represented the first revolution mentioned by Professor Cummings.

At this rate, what is the difference between “designer / maker partnership mode” and “designer & maker mode”?

For the “designer / maker partnership mode” represented by Tiffany, he needed to realize his design by good workmanship because he did not have the skill or knowledge to make it. The quality of the result may end as that defined by Professor David Pye *‘the workmanship of certainty’*:

*“always to be found in quantity production, and found in its pure state in full automation...is exactly predetermined before a single saleable thing is made.”* (Pye, 1968, p.4)



Though objects may not have been produced in large quantities or through full automation, because of the working mode, artisans did not have the freedom to make adjustment or changes according to reality. Therefore, Tiffany's work, to some extent, is produced in themed series, with similar appearance.

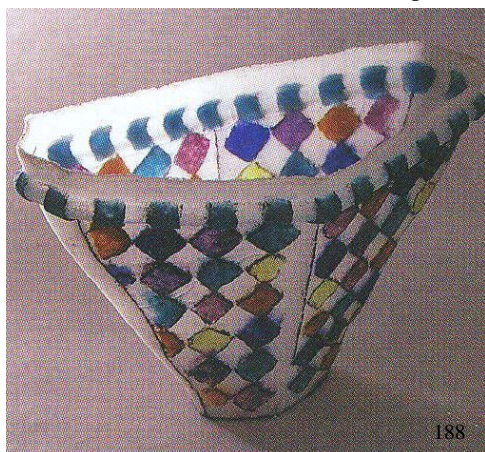
Alternatively, in “designer / maker partnership mode”, the most common way of communicating ideas between designer and maker is through drawings and sketches, or oral explanation. Two dimensional lines and graphics may not fully illustrate designers' original intentions, nor will words, and the action realized into three dimensions confronts many technical and unpredictable problems. What is more, a rough workmanship (Pye, 1968, p.15) will result in an evident disparity between idea and final achievement. To establish a partnership between designer and maker demands understanding and harmonious collaboration with each other. But, if a practitioner acts as both a designer and maker, like Gallé, this problem can be avoided. What is more important is the quality of the result is continually at risk during the process of making, is not predetermined, but depends on the judgment, dexterity and care during the making exercises. This is what Professor Pye described as ‘*the workmanship of risk*’ (Pye 1968, p.4). Accordingly, works signed by Gallé possess higher value, and each piece has its own character and cannot be replicated.

### **Artist maker mode**

Since the commencement of studio glass, a new working mode “artist maker” has gradually evolved. From conceiving ideas to the production of final work, contemporary practitioners enjoy taking control of the whole process themselves. Following this transformation, the status of practitioner and his/her work changes. Glass artists Maurice Marinot and Diana Hobson are good examples. It is interesting that Maurice Marinot and Diana Hobsons' work essentially maintains the traditional working mode of makers such as, Henri Cros (1840-1907) and G.Argy-Rousseau. Whereas, their work continued to redefine the meaning and social status of traditional crafts, and have pushed the possible applications of glass as an expressive medium.



187. Maurice Marinot, glass vase, acid etching, D: 17cm, 1934, Collection of the Corning Museum of Glass. Maurice Marinot was a well-know Fauve painter, who experienced glass making in 1911 during a visit to a factory. He tried blown and painted enamels on glass at first, and finally by using his own experiences, he made forms that explored sculptural concerns. This deeply etched vessel stood as his most creative piece during the 1930s and 1940s.



188. Diana Hobson, *Progressive series #5*, pâte-de-verre glass, 6" \* 7¾ " \* 4", 1986, Collection of V&A (No.9753). \*



189. Diana Hobson, *Fragment of a Circle*, Stone, bronze and glass, L: 20cm, 1990-1, Collection of V&A. \*

Diana Hobson uses the same technique of pâte-de-verre as Henri Cros and Argy-Rousseau, but with her own interpretations. When the technique of pâte-de-verre was invented by Henri Cros in the late 19<sup>th</sup> century, almost no documents fully recorded such making method. The majority of objects made by pâte-de-verre at that time were functional containers. In the 1970s, Dianna Hobson started to reinvent the technique through numerous personal experiments. In her earlier career in glass, she produced vessel forms with slightly different versions based on the precursors of pâte-de-verre. Early works, such as "*Progressive series #5*" believed to be finished similar as the way of Argy-Rousseau's. Later on, innovative forms not only embody with traditional practices of functional wares, but contemporary sculptural objects were approached. She extended the artistic style of such technique and also tried to mix glass with other materials, such as stone and feather. Her work was admitted in the scene of art.

Contemporary practitioners began to be more interested in material expression rather than concern with the way an object is made, and its associated style. The name of “artists” is used widely in contemporary society to describe such of people.

The independent working method indicated by the “artist maker mode” gives entire freedom for the practitioners, and results in the creation of a personal working process. During the making procedures, practitioners have opportunities to gain feedback, make revisions and adjustments according to actual conditions. This is particularly true to a technique like kiln-forming. Simultaneously, a personalized working process plays a great role in revealing the originality and creativity of individuals.<sup>62</sup> Moreover, one-off objects like paintings or sculptures are normally produced within an “artist maker mode”, unlike traditional craft forms made in repetitious systems.



190. XUE Lu, *Winter Landscape series – Tree*, Kiln-formed glass, D: 15.8cms, 2007.



191



192



193

191-193. Different working stages of making “*Winter Landscape – Tree*”.

<sup>62</sup> Professor Keith Cummings has made a detailed discussion of the personalisation of process by using the technique of *pâte-de-verre* as an example. See Cummings, K. (2002) *A History of Glassforming*. London: A&C Black Publishers Limited, p. 175.

The basic principle of *pâte-de-verre* was been established in the late 19<sup>th</sup> century, with various versions having been widely developed through experiment and personal practice. As to the making procedure of my work “*Winter Landscape-Tree*”, it took the same idea of *pâte-de-verre* by using granular glass to achieve precise control of colour and detail, but used a different procedure and temperature to produce a vessel-like form.

It took three firings to finish. Firstly, in order to cast a black disc with random holes, I used fine blowing powder (Gaffer G050 & G101) within a shallow open mould by taking the temperature up to 900°C. This temperature would be too high to be acceptable in traditional *pâte-de-verre*, because it would cause the collapse of the glass. But for me, this temperature perfectly stretches glass powder and achieves organic patterns. Then, I fused the black disc with white powder in a simple round shaped refractory mould, and finally, slumped the disc onto a bowl shape mould to obtain an arc profile.

The personalized working process satisfies my demand to be unique and embed the work in personal creativity. The infinite potential and possibilities of glass as a material, and its forming methods, especially kiln-forming, provides a main motive for contemporary practitioners to devote themselves to work with glass. In ancient times, people practiced crafts as a job for living, while nowadays, they make works for themselves that “*based on the desire to do something for its own sake regardless of external reward... and related to individualized need of self-esteem and self-actualisation.*” (Metcalf, 1997, p.78) This shift of motivation was vital and presents a different attitude to making glass, and the place and position of the works culturally.

Regarding the American studio glass movement, Lynn (2004) clarified that at the initial stage in the 1960s, people insisted that a work should be unique and created by the person who designed it. Later, it came to value the artistic idea above all and its associated working procedures.

Due to the limitation of individual knowledge and skill, the advantage of “designer / maker partnership mode” is also evident in contemporary practice, and this mode has been evolved into various versions. Rachael Woodman and Neil Wilkin are both English glass artists in their own right. Woodman’s interest is founded in design, and Wilkin is a master glassblower. Wilkin owns a large studio in Somerset, he and his team not only make his work but also sell his blown skills to others who call on him, like Woodman. After getting ready-blown forms from Wilkin, Woodman finishes the last process by herself, such as engraving or fine grinding, to realize the exact details of her initial design.



194. Rachael Woodman, *Guardians (RW127)*, blown glass, 1998.



195. Neil Wilkin, *Golden cactus*, hot glass, H: 90cms.

These two works display two distinct directions of practice. The only element to connect these two artists’ work is the blowing technique.

Take Swedish glass artist and designer Bertil Vallien as another example, similar to Emile Gallé, Vallien worked as head of design at glass factories, at the same time, he was offered a place as artist-residence, where he could create his own work by using industrial facilities. But essentially different from Gallé, as Kangas stated:

*“Vallien divides his time at the Orrefors/Kosta Boda factory in Åfors, Sweden, between design tasks and personal studio activity and is far better known outside Sweden for his narrative-figurative sculptures than for his tableware designs.”*

(Kangas, 2002, p.5)



196



197

196. Bertil Vallien, *Yes-oo*, glass, enamel, encaustic, 18×9×11", 2000.

197. Bertil Vallien, *Brain-florence*, designed and signed by Bertil Vallien, handmade by the masters at Kosta Boda glassworks, H: 7.5cm.

Though using the same industrial facilities to make sand-cast<sup>63</sup> pieces, an obvious distinction between making his own art and designing products as a job can be clearly identified. The dual role of acting as an artist and a designer benefits both artists themselves and the factory. On one hand, it satisfies the need to create, helps artists to realize their ideas, and on the other, promotes the artistic quality of industrial products, acting also as experimental research from which ideas are generated.

Vallien's mode also suggests another interesting phenomenon in contemporary practice, that mass-production industrial making processes can be utilized for creative purposes. This theory is not only true in the technique of sand-casting, but also in others, such as centrifuging-casting.



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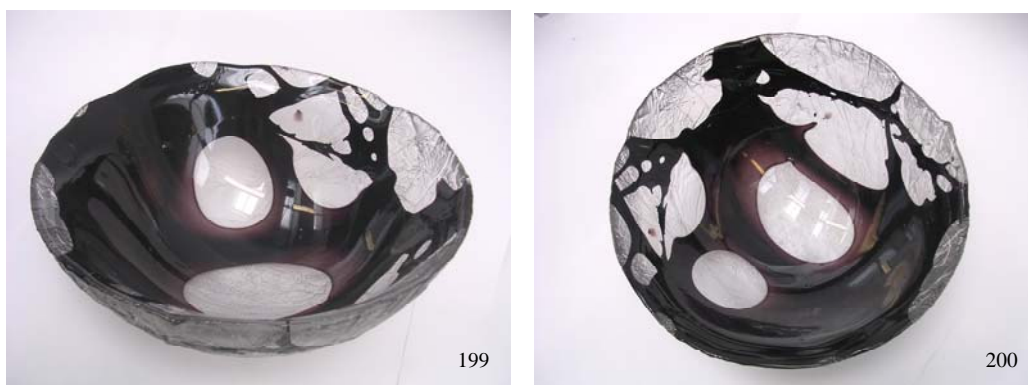
198. Orrefors, *Pastillo bowl-smoke grey and steel blue*, centrifuged glass, D: 14cms.

The first generation of centrifuged vessel was called '*Fuga*', designed in the 1950s.

<sup>63</sup> A sand-casting in glass is produced from a sand mixture mould, by pouring molten liquid glass into the cavity of the sand mould to achieve forms and patterns. It is cooled until the glass reaches the temperature just above the annealing point. Then, glass is separated from the sand mould for annealing.

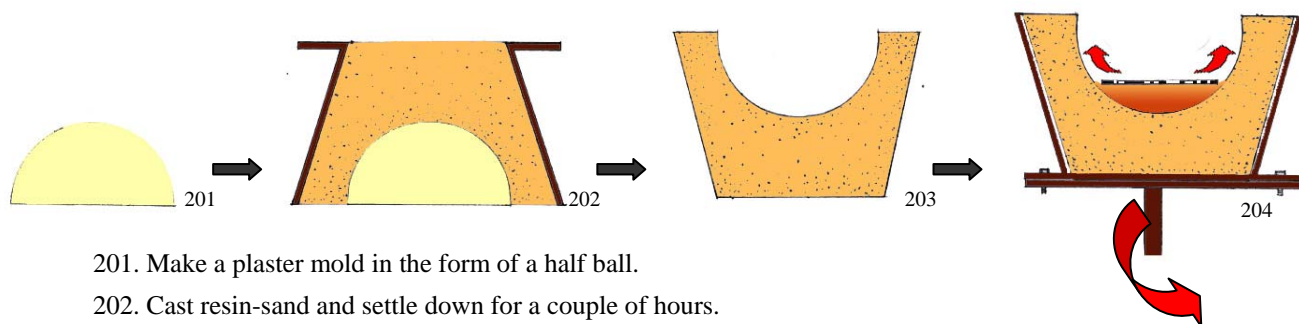
Centrifuge hot-casting was developed and adapted by Swedish glass factory Orrefors in the 1940s, as a process of making glass table wares in mass production. The principle of the centrifuge is simple and the process of making is straight forward. The molten glass takes shape inside rotating steel moulds under the effect of centrifugal force. Usually, standardised criteria will be set up in industrial process, for example the amount of glass gathered into the mould and the speed and time of spinning, to ensure the same quality of the products.

The facility and method of centrifuging has been taken to Wolverhampton by Stuart Garfoot for the academic purpose of making art works. I have experimented with the process by combining centrifuging with kiln-forming in the same piece of glass, the result of which is unique and exciting.



199/200. XUE Lu, *Ink Series* -8, Kiln-formed and centrifuged glass, D: 40cms, 2005.

The idea of my work (figure 199) comes from the methodology of traditional brush painting. Black and White are the essential elements, the relationship between paper and ink in the painting now transferred to the relationship between kiln-formed disc and centrifugal liquid glass.

**Making process:**

201. Make a plaster mold in the form of a half ball.  
 202. Cast resin-sand and settle down for a couple of hours.  
 203. Remove the plaster mold.  
 204. Set on the spin machine, gather hot glass from the furnace, put ready-heated black disk on the top, and spin.



205. A black disc is made by kiln-cast. (Gaffer talc glass 050 with the temperature of 900°C)  
 206. A resin-sand mould is cast into the desired form.  
 Re-heat the black disc in the kiln slightly above the anneal point.  
 207. Put the black disc on top of gather and torching.

The mould is rotated and the item within the black disc takes shape under the effect of centrifugal force. This leaves the edges slightly less regular and gives the object a craft appearance.

Slow down the speed of spin for cooling. When the glass settles down, then annealing.

(For making procedure, see CD: Video of Centrifuging hot-casting)

Through the centrifugal effect, the ready made black glass disk with random holes on top of the clear glass spreads and forms fantastic organic patterns. This kind of technique achieves a brush-stroke like joint between clear and black glass, just like the juncture with white paper when using brush and ink to paint.

Usually, centrifuged glass is used to make functional vessels due to its hollow forming method. In order to explore the shape and stretching effect, I have experimented with various moulds, the placing of the black disc (on top, in between, at bottom) and with colours. A series of work has been achieved from vessel-like form to un-functional sculptures (figure 208 & 212).





208-211. XUE Lu, *Ink Series -Bamboo*, Kiln-formed and Centrifuged glass, D:20cm, H: 25cm, 2005/6.

Get a cylinder form from centrifuging hot-casting, the bottom part was chopped off in an angle to be free from a vessel, then grinding and polishing.



212-214. XUE Lu, *Ink Series -15*, kiln-formed and centrifuged glass, D: 30cm, 2005/6.

Another example of using centrifuging hot-casting to make sculptural work. This was achieved by carving the bottom of original sand mould into mountain shape. The extrusive bottom guided and affected the stretching path of the black disc, and became holes in the end, which challenges the form of a vessel. (For similar object, see Appendix 15 – Other centrifuged works of Xue Lu).

Actually, the principle of making in my practice remains the same as in the factory, except for rationalisation and repeatability that occurs in series production. However, combined with other techniques, all of the above effects utilized the potential ability of the material itself and the possibility of discovery within a procedure which has been already established, and I believe this is only a small part. In reference to current China, artist/maker seems to be the only mode working in studio practice. Few practitioners act as both artist and designer. The working modes discussed above hopefully could provide new insights and models for educational and studio practice.

### 3.3.2 Kiln-forming as a Main Technique

The following discussion analyses the factors and reasons why Contemporary Chinese academic glass uses kiln-forming as a main technique.

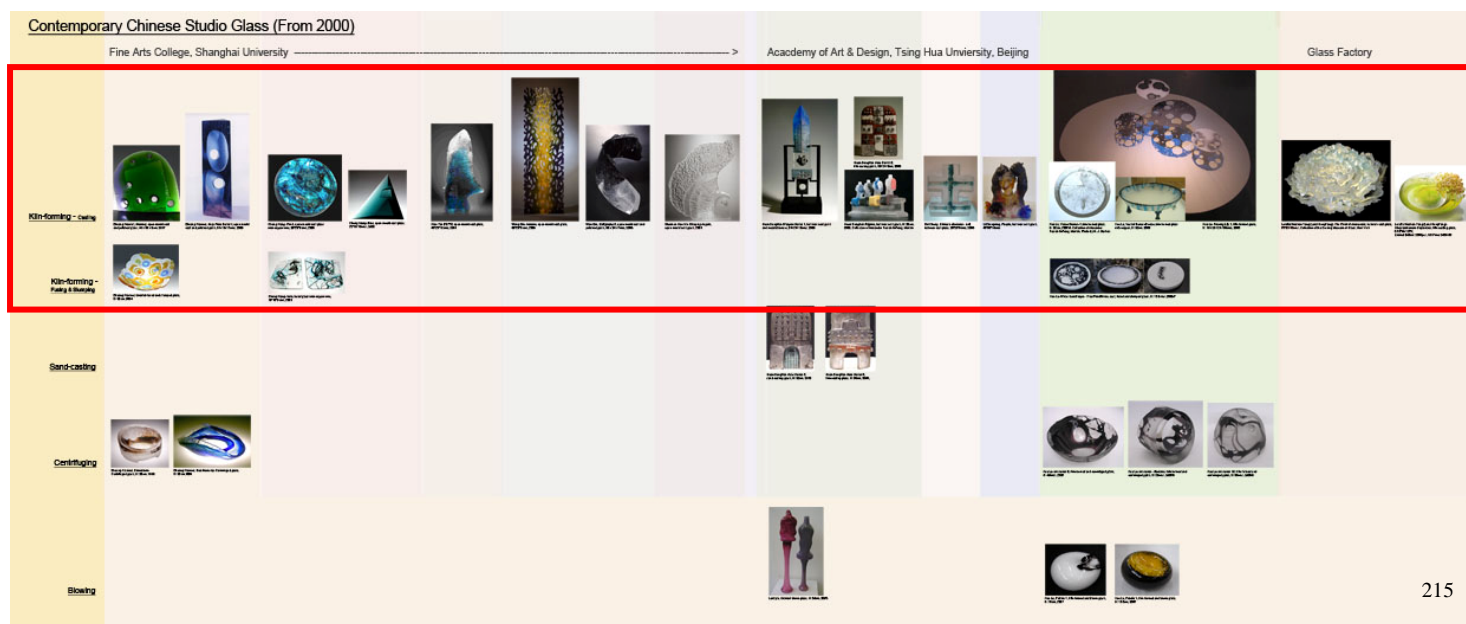
#### Factors

An obvious phenomenon of contemporary Chinese glass is that nearly 90% of the works are fabricated by kiln-working, mostly open-mould and lost-wax casting. The works reveal a common attitude, aesthetic and techniques of glass practice at this current stage.

Since 2000, nine university level glass programs have been established in China, all of them use kiln-casting as their main technique. Until now, there are no hot shops and relevant blowing courses, though the blowing workshop at the Academy of Art & Design of Tsing Hua University proposed to be running from September 2007, the facilities are still not ready yet and understaffed.<sup>64</sup> It will be the first workshop and the only one of which will allow access to a process blowing course in the near future. However, even if blowing workshops emerge in China soon, it will not become a challenge to the dominant position of kiln-formed technique, and it is absolutely not a coincidence that kiln-forming has become the leading process among the numerous glass forming techniques in China, for cultural and historical reasons.

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<sup>64</sup> The information is based on three visits to the glass studio at Tsing Hua University in December 2005, April 2007 and June 2008.



215. Contemporary Chinese glass works of Shanghai University, Tsing Hua University, my own works and Liuli Gongfang since 2000.

The objects in red frame exhibit that most of contemporary Chinese glass was converging on kiln-forming, especially casting. But the difference is that Shanghai University focuses on open-mould casting, while Tsing Hua University concentrates on lost-wax casting.

Other works finished in the hotshop were due to using the facilities when studying abroad, and not domestically produced.

(For full size map, see Map 2 – Contemporary Chinese Studio Glass)

### Historical and cultural roots of technique and aesthetic

Susanne K. Frantz was the first one who noticed this issue, some of her opinions are quoted:

*“For a number of reasons, not the least being a shortage of electricity in China, all three of the existing programs focus on kiln-work instead of energy-intensive glassblowing...With brilliant traditions in bronze and clay and their related moldmaking technologies, it is not surprising that cast glass is a preferred technique.”* (Frantz, 2006, pp.56-60)

It is true that the long tradition of quality carving, associated with the exquisite techniques of bronze casting, as well as the highly sophisticated technologies for mold making, all provided technical references that informed the casting of liquid molten glass.

But furthering Frantz's opinions, I would like to address other factors which likewise need attention. Firstly, the technique of pouring liquid glass into a mould had its root in the history of glassmaking in China. Before the Qing Dynasty, forming glass mainly focused on press-casting. The choice of using ready-made refractory moulds to shape melted glass in a three-dimensional sculptural work in the present shows a historical return in terms of technique and process.

An exciting aspect of contemporary Chinese glass, which could be examined in the exhibition "Glass Routes: from Wolverhampton to China", is that practitioners have already extended their technical vocabulary by absorbing nourishment from the past. This is particularly true of the works from Tsing Hua University.

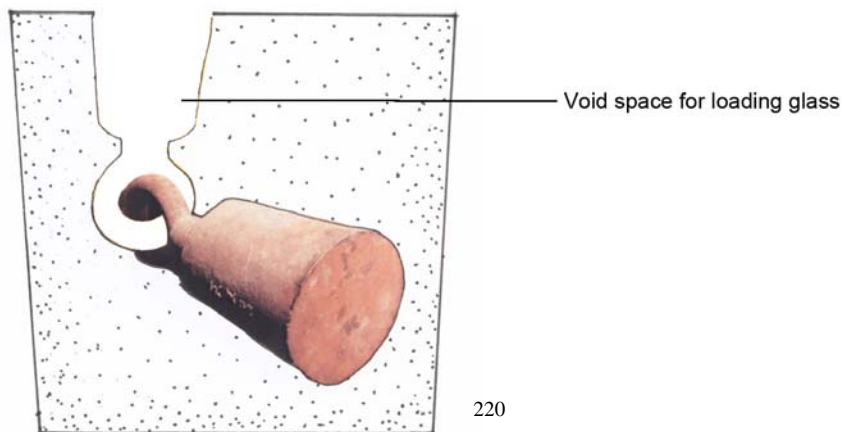
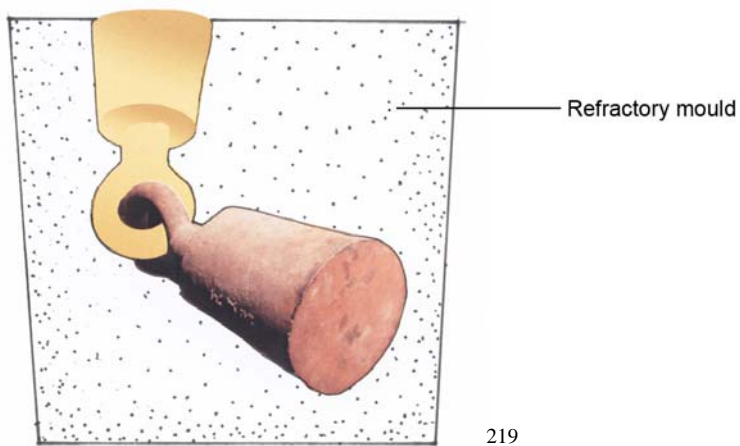
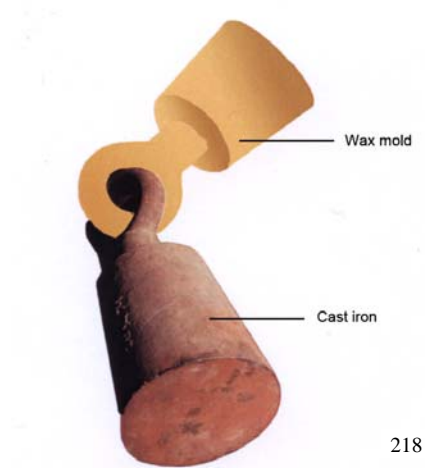


216. Guan Donghai, *Three heroes*, kiln-formed glass and metal, 55×15×28cms, 2008.

During the "Glass Routes" exhibition, I have noticed that most of the audience will ask one question to his work: How are the iron loops put onto the neck? It should be impossible for glass to be inter-linked with iron, because these two materials have different melting points, and the scale of the loop is smaller than the head.

217. Guan Donghai, *Link*, Kiln-casting glass and iron, 55×13×13cms, 2007.





218-220. In traditional Chinese art and craft, the inter-linked format in stone or ivory carving often appeared to display a sophisticated skill of craftsmanship, which is true to this piece of Guan Donghai. It was finished by two separate casts. The front bell shape of iron was cast first as it demanded a higher melting point than glass. When the iron bell was achieved, a wax mold was inter-linked with the iron. Cast refractory mould within the wax and iron, then lost wax and loaded clear glass for firing. Finally, the mould material was removed; an inter-linked glass with iron was left. The whole process is complex, but well-founded in history, but novel when applied to glass casting.

The traditions of Chinese art and craft have had an impact on the development of glass material in terms of aesthetic taste. There have been conventions that surround ancient jade culture in China. These aesthetic principles embedded in traditional culture have always affected the Chinese in their selection and application of materials and its process, with jade representing the peak.

Nowadays, the technique of kiln-forming has gained more and more attention due to the specific qualities of the final objects. The diversity of this technique offers infinite potentials of applications and artistic expression. Interpretation and links between historical and contemporary glass practice are reflected in terms of forms, color, texture, and particularly of sculptural concerns. This is the reason that Loretta Yang found it hard to promote glassblowing in Chinese markets and took up kiln-forming in the late 1980s instead.

Essentially, the three dimensional sculptural feature refers to traditions of carving. In 2.3.3, I have explained the intention for Chinese artisan to carve a foot-ring rather than to simply blow it. If the techniques of kiln-forming had existed in the Qing dynasty, I am sure, it would have been strongly recommended and widely employed, because of its capability of figuring sculpture work. The carved Qing dynasty foot ring could be easily achieved during the molding stage of lost-wax casting, so as other qualities, such as the solid form, translucent or opaque colour and delicate surface decorations.



221-228. If we take a close look at Guan Donghai's kiln-casting works, we will notice that he uses translucent or opaque colours, and does not polish the surfaces but retains a rough and mat surface, very similar to carved stone. The subtle precise surface textures achieved by kiln-formed could hardly be done by blowing or sand-casting. The different characters inherent in blowing and kiln-forming determine the choice of technique.

### Differences between blowing and kiln-forming

The character and disposition of the Chinese, mean that, through their history, they make themselves suitable for this working method. The differences between blowing and kiln-forming influenced and determined the choice of such technique. As largely experienced by Professor Cummings who analysed the main differences:

*“(Blowing) At its most extreme, the hand-forming of molten glass, which is a continuous, short and highly skilled process, contrasts sharply with the staccato, staged, and long drawn out procedures that go together to make kiln-forming...It is a matter of personality as much as anything, combined with ultimate lure of those qualities of form, surface and colour unique to kiln-forming.” (Cummings, 1997, p.10)*

Certainly, blowing is like a performance and can need team work, however, while artists could work on their own by using kiln-forming, the introspective and quiet character of the Chinese is the opposite of the features displayed by blown glass. Chinese people much enjoy the whole process of kiln-forming, which requires practitioners who have special personality traits, such as patience, persistence and equable temperament, to keep a constant interest during the long making stages. This might be one of the reasons that casting objects is highly appreciated in China in the past and present.

### **Financial, facility and personnel factors**

In addition to historical and cultural reasons, financial, technical and teaching qualifications also influence the choice of such techniques.

Individual practitioners are terrified by the high cost of running a hot-shop, mainly because of the continuous furnace heating for maintaining glass in liquid form all the year round; while setting up a kiln-forming workshop is more accessible.

In addition, blowing glass demands highly sophisticated skill and technique; a twenty-minute's performance usually requires twenty years practice. The other way round, kiln-forming is a much easier method to approach for beginners. The beginning of American university glass programs, where their glass was developed as a craft activity but with some factory input. Some of the pioneer practitioners of studio glass such as Erwin Eisch (1927-), possessed blowing skills from their involvement with factories. In Erwin's case he was trained as a fine artist but experienced glass blowing in his families factory. Contemporary Chinese practitioners did not have any previous glassmaking abilities when they came across to make glass. They have found that when they spend a short period studying abroad, it is impossible to learn and master blowing techniques at a high level. Additionally, the strong identity in studio performance in America is a big contrast to China. Therefore, naturally, kiln-forming becomes a primary choice, certainly at this early stage.

The glass workshops at Shanghai University and Tsing Hua University, Beijing are



the best examples to illustrate these factors. Both of them were the first, and remain the most important two glass studios in academic China at the moment.

The glass studio of Shanghai University which was established in 2000, gives its almost exclusive attention to open-mould casting. The studio has three top-loaded kilns, three front open kilns and a 2m by 1.2m big fusing kiln, a sandblasting machine, two flat beds for grinding, a flat polishing bed, an engraving and a drilling machine.<sup>65</sup>

The Chinese glass workshops look very different from Western ones, in terms of facilities and space organization. Western workshops have been built on the accumulated experiences within the last three decades. In the 1960s and 1970s, the studio glass pioneers had to acquire knowledge of design and build studio facilities by themselves, such as small furnaces, kilns or even have to make their own glass. The works born from the early studio practice were relatively naïve and simple due to the limitation of the facilities.

Today, the surviving equipment in Western studios represents the most efficient and practicable choice but achieved by a process of evolution and trial and error. By consulting a variety of existing Western workshops, the Chinese studios were set up from scratch. This ready-made system is extremely beneficial for the students. Luckier than the studio pioneers, today, practitioners come from different backgrounds without any knowledge about how to build up a studio or making glass and yet can use these facilities straight away.



229/230. Cold-processing area: flat bed for grinding and polishing, Glass workshop, Fine Arts College, Shanghai University. Photo by Xue Lu 2006.

Kiln firing area: top loaded kilns and fusing kiln, Glass workshop, Fine Arts College, Shanghai University. Photo by Xue Lu 2006.

<sup>65</sup> The information is based on several visits to the glass workshop at Shanghai University in October 2005, June 2006, April 2007 and June 2008.

Compared to Western workshops, the workshops in China are extremely well equipped; the spaces are bigger and relatively open. When I was studying an MA program in Shanghai University, the flat beds and other machines for cold processing were easily approached and conveniently to use for cutting, grinding and polishing geometric forms. A 200 m<sup>2</sup> workshop space was shared by five MA students. When Tsing Hua university moved to new campus, a nearly 500 m<sup>2</sup> working space is designed for up to thirty students working at the same time.



231. (From left to right:)

Cold-process machines at Shanghai University. The engraving lathe was bought from a jade making factory, the clip saw was designed overseas and made locally, and the drilling machine was refitted from metal manufactory. Photo by Xue Lu 2006.

In 2000, when Shanghai University and Tsing Hua University (old campus) decided to set up the first two glass studios in China, because glass was a new subject, relevant facilities and accessories were not mature enough or even in existence from which to construct a perfect studio-based workshop. In this kind of situation, no off-the-peg equipment, like kilns, engraving and drill machines, were available to purchase, but had to be adapted from other areas. For example, the kilns of Shanghai University were rebuilt from ceramic kilns at Jing Dezheng which has a famed history of

porcelain making. Engraving and drilling machines were improvised from jade manufacturing. Cold working facilities, such as linishers were not available except those imported from overseas; therefore, Shanghai students could not make curved profiles if the surface needs to be polished. As a result, simple open-mould casting was selected as the main technique, and therefore, most staff and students' work are geometric in character, very much like works of Colin Reid and of Contemporary Czech, rather than organic forms.

This kind of situation is very similar to what has happened in the past in other countries. For example, at the beginning of the American studio glass movement, "*limited technical choices resulted in works that were essentially vessel*" (Lynn, 2004, p46), which meant the works produced by blowing techniques in the 60s and 70s could not get rid of the characters of vessel forms.



232. Students' work -- Empty refractory moulds after removing clay, ready for loading solid glass, glass workshop, Fine Arts College, Shanghai University. Photo by Xue Lu 2006.



233. MA student Wan Qin is making big scale clay mode, ready for cast refractory mould, glass workshop, Fine Arts College, Shanghai University. Photo by Xue Lu 2006.

Wan Qin's work is typical of much of the practice at Shanghai University. Instead of exploring the diverse techniques and formal repertoire of kiln-forming, students are interested in shaping sculptural forms initially on a small scale, then evolving them into a larger size.

It is against his background that there are not many technical choices for Shanghai practitioners, and which in one aspect resulted in the creation of similar the works.

Compared to Shanghai University, more exciting progress is happening at the glass studio of Tsing Hua University. When the studio was moved to the new campus (Hai Dian), new equipment was acquired as well as more large spaces. The workshop is mainly divided into three working areas, including kiln firing, decorative glass and cold processing. There are nine kilns for medium scale casting, one fusing kiln for architectural works and a trolley kiln for easy loading. Most of the facilities are ordered from expert factories all over the world. In spite of being dominated by kiln-forming, Tsing Hua University is making great efforts to extend the application of kiln-formed glass into different areas. For example, students are encouraged to make mosaic panels for windows by fusing crushed glass.



234. Kiln workshop in the glass studio of Tsing Hua University. Entirely new kilns provide students the best facility and rational working space. Photo by Guan Donghai 2008.

Different from Shanghai University, Tsing Hua University takes lost-wax as a dominant technique. Although lost-wax casting is time-consuming and risk taking process, it may cause more problems than open-mould casting during the whole procedure, but there are more creative opportunities inherent in this complex making procedure. Therefore, more diverse results from lost-wax processes are obvious in their works.

### Initial influences from the UK

Another important reason for taking kiln-forming as a main technique is the initial influence from the UK, more specifically, the influence of kiln-formed tradition from the School of Art and Design at the University of Wolverhampton. When Professor Keith Cummings joined the course in 1967, his influence and his accomplished knowledge in kiln-formed techniques became a distinguishing feature of Wolverhampton's program. As Dr. Graham McLaren pointed out:

*“The Stourbridge College of Art (now part of Wolverhampton University) stands out for its role in promoting kiln-forming techniques. The significance of Stourbridge has largely been a result of the teaching activities of Professor Keith Cummings... Brian Blanthorn, Tessa Clegg, David Reekie, and Colin Reid are all outstanding in having extended kiln-forming processes in various ways.”* (McLaren, 2002, p.35-36)

It is no surprise that the headers of glass in Chinese universities, such as Zhuang Xiaowei, Guan Donghai and Dai Shufen, all had their experiences at the glass department in Wolverhampton. The works of these faculty members and their succeeding students display a great influence from Wolverhampton.



235

235. Keith Cummings, *Grower*, kiln-formed glass and metal.



236

236. Guan Donghai, *Three heroes*, kiln-formed glass and metal, 55×15×28cms, 2008.



237



238

237. Colin Reid, *R938*, kiln-casting, H43 W34cm, 2000.

238. Cheng Xiang (graduate from Shanghai University), *Cloud*, kiln-casting, 20\*16\*8cm, 2002.

### 3.4 Expression - an Art Medium: Contemporary Examples

#### 3.4.1 Object and Sculptural Orientation -- Making Glass as an Artist

Before embarking on a discussion of contemporary Chinese sculptural glass, it is necessary to discuss an important shift for a traditional craft form, from serving the purpose of utility to that of the non-functional art form.



239-244. Glass works (from left to right) were done by: Henri Cros, Argy-Rousseau, Emile Gallé, L.C.Tiffany, Maurice Marinot and Diana Hobson.

Apparently, these six glass objects belong to the same category of which their forms give the appearance of utility. The most distinct character is the development from the functional shape towards sculptural form labeled by Tiffany's flower vase (figure 242), and from anonymous to named maker. This could be clearly observed from the cases of 19<sup>th</sup> century glass collection in the Victoria Albert Museum (V&A), which displays a massive explosion of individuality.



245. L.C.Tiffany, *Jack-in-the-Pulpit* vase, 47.6cms, 1912.

Tiffany's work is famous for the iridescent "Jack-in-the-Pulpit" and "Peacock" vase, which the effect was to reproduce buried ancient glasses by using metal oxides. His decorative work targeted wealthy classes, and it is no longer used as a vase for holding flowers. Lynn (2004, p.5) stated that: *"By consciously pairing the word art with the word glass, he and other makers increased the cachet of their products, implying the aesthetics of high art, enlivened by virtuoso technical achievement."*

Tiffany's glass could be regarded as a watershed as it was never used as a vase for holding flowers. It seems that there was an encouragement to develop shape with less utility and practicality during that period. Forms became a medium for pure decoration and through this, expression.

I have pointed out several factors that affected the choice of kiln-forming as a main technique in contemporary Chinese academic glass in the last section, yet when considering what kiln-formed glass can bring to us, we may find the essential constituent which determined the position of this technique. In turn, it explains the phenomena that object and sculptural oriented trend has been firmly established in China in the past nine years.

Undeniably, in western countries, where contemporary glass art is advanced, glass, with efforts of several generations has gradually changed from a solely traditional factory and craft material into a contemporary experimental art medium. Whereas, when grafting the imported Western practical model into Chinese soil, glass seem to be, taken for granted, a medium of art. The ever increased social position of art and artist unconsciously attracts practitioners to devote themselves as one of the group, and this has not only happened in the glass scene, but in all contemporary Chinese art. As Simon Groom (2007, p.12) states:

*“With the increasing commercialization of the art market, and the rapid rise in prices which has made certain artists suddenly incredibly wealthy, there has been the attendant temptation by many of those artists to continue to make art that is predominantly saleable rather than creatively interesting.”*

He also stated the changing attitude of Chinese towards making art from the 1980s and 1990s that sought to test the boundaries, to the beginning at 2000 as more personal. Glass practice was emerging within such a context. Coherently, kiln-formed glass usually connected to the words such as unique, sculptural objects, expensive, art (artist) etc. The works made by kiln-formed technique perfectly answer such enquiries.



After several visits to the glass studio at Chinese universities, I realized that no matter what discipline glass belongs to, the aspiration of making individual sculptures is predominant. Perhaps, the well-developed sculpture in Chinese art schools in the last two decades provide a positive example and hope? Of course, the shift in political and sociological climate in the last decade in China offered a broad atmosphere for artists to do their own arts.

*“Much art since 2000 is more personal and sincere, concerned with reflecting one’s own place as an individual...a search for authenticity, be it private or public.”*

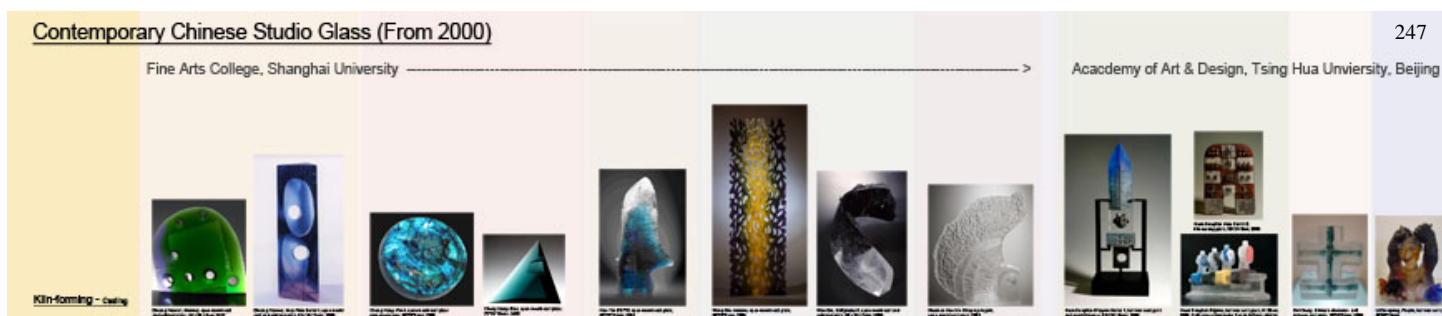
(Smith, 2007, p13)

Although the glass subject at Tsing Hua University was set up within the department of *art and craft*, and Shanghai University’s program is attached to the design department, the students from these studios rarely produce functional objects that are linked to traditional craft making. This factor was clearly reflected by the recent exhibition “Glass Routes”, it is not an exaggeration to say that all of the Chinese works in the third room were sculptural objects (except mine), which makes a big contrast with the works of Western artists, where glass falls into diverse ranges of interior, jewellery, architecture, textile, product, installation and craft.



246. Staff and students’ works are exhibiting at Guan Donghai’s office at the Academy of Art & design, Tsing Hua University. Photo by Xue Lu 2008.

What also interests me is that if we pay attention to the location of contemporary glass, we may find that works are normally placed in museums, exhibitions, art galleries or within private collections. Though Chinese glass has not yet widely represented in worldwide museums, anyone who has been offered a chance to experience contemporary Chinese glass will notice that glassmakers are called “artists” rather than craftsmen or designers, and their works have been accepted in galleries with the same value as fine art works. As I have characterised the differences between blown and kiln-formed glass, particularly the greater formal possibilities of kiln-formed glass in realizing sculptural ideas, this perhaps gives a greater understanding of the reason that most of the Chinese makers take up kiln-formed glass.



247. Selected map of contemporary Chinese glass works. (for full size map, Map 2 – Contemporary Chinese Studio Glass)

Like modern sculptures, these glass works have common characters of scale and form. Artists prefer to use stand-up vertical forms and fresh colours to attract people’s eyes. None of the work was made for utility.

Furthering this clue, more evidence can be found in the last eight years to illustrate this feature of Chinese studio glass. For instance when we look at the titles of the contemporary Chinese glass exhibition, we will find names such as “*China Rise: Chinese Contemporary Sculpture in Glass*” and “*Explorations: Contemporary Glass Sculpture*”. Obviously, the intention is to classify glass practice as an art activity, attempting to draw a line between it and traditional craft making.

At this moment Chinese makers are beginning to be comfortable with their technical accomplishment and enjoy the fame which is being enjoyed by the pioneers, when the

Western world started to take an interest and invest in Chinese sculptural works. However, as for me, what I am considering are the challenges and opportunities we are facing in the future.

I clearly remember the conversation with my supervisor Professor Keith Cummings once about why British glass is so good nowadays; he said that because during the 1970s, glass did not sell well, practitioners ascribed the reason to themselves that their works were not attractive enough. In consequence, they started to explore new directions and possibilities, which made contemporary British glass diverse and high quality, for this also paradoxically created a freedom to experiment.

Perhaps, the example provided by the development of Australian Studio Glass will serve to shed light on the early stage of Chinese glass development. Beginning in the early 1970s, Australian Studio Glass passed through three main phases after taking American Studio Glass as a progenitor: the first decade of the 1970s was a pioneering stage of learning skills and busy construction of studio-based workshops. The majority of the works were imitations of American masters' in terms of forms, colours and ideas. Following the American model blown glass dominated practice.<sup>66</sup> The second stage, which lasted until the middle 1980s, involved innovation of technique, and its diversification and sophistication. The most significant was the introduction of kiln-forming, which resulted in the split between functional production works and unique objects of art; in terms of technique and idea, Sculptural works dominated. The third phase emerged in the late 1980s, which concentrated on specific skills and self expression. By the middle 1990s, a mature understanding of skills, process and idea became its main character.

*“Currently, the focus is on integrity (in both maker and object), and originality: there has also been a shift in the attitude of makers regarding craft and art, so that a revaluation of the crafterly aspects of creative practices, including studio glass and the qualities of the medium, has lately resulted.”* (Ioannou, 1995, p.20)

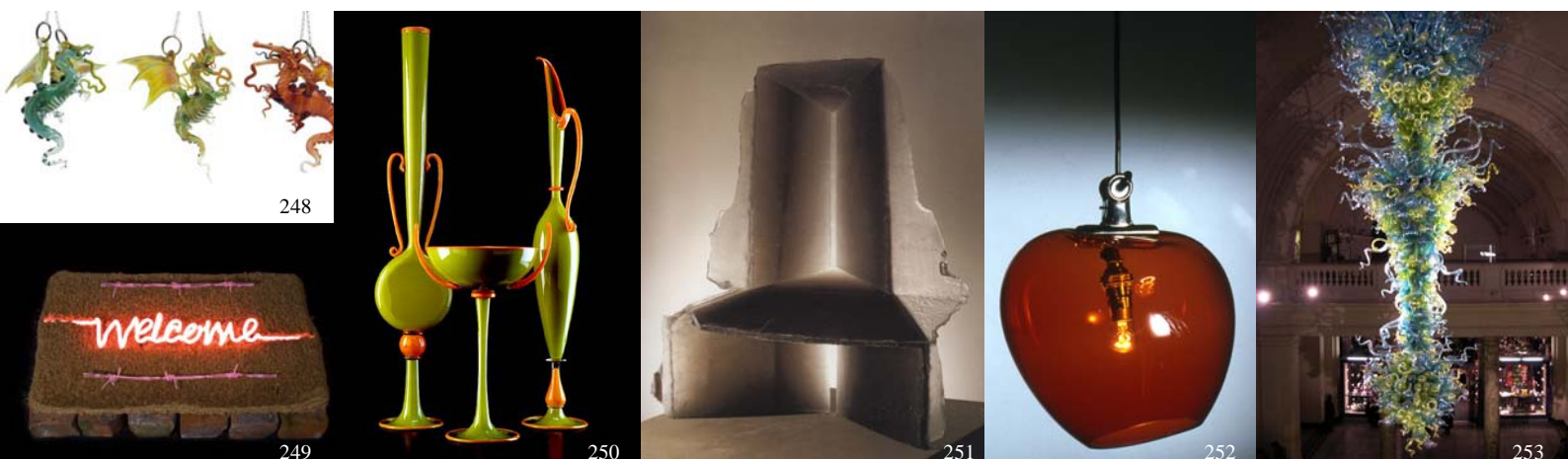
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<sup>66</sup> Until the oil crisis in the middle 70's, furnaces were relatively cheap to run.

This has helped me to understand that there are common analogies for a new medium to be adopted into a new climate. Contemporary Chinese glass, as far as I can see, is nearing the exit of the first stage, like the end of 1970s' in Australia. Because China had taken the British mode in the first place in 2000, kiln-formed technique dominated the practice rather than blowing. However, this does not give us an excuse to exclude other forming techniques and to restrict the application of glass in the field of interior, architecture, product, jewellery design etc..

Even if Chinese glass specializes in the technique of kiln-forming, diverse results are still not far out of reach, works from Czech and Slovakia being good examples to examine. Though it is hard not to connect Czech and Slovak together when noticing contemporary casting glass, their works are not intrinsically similar. The type of abstract geometrical optical glass sculpture is typical of today's Slovak Republic, is distinct from the big scale monumental glass of the Czech Republic, even though they share the same root of abstract art as well as the technique of kiln-casting. Thereby, infinite possibilities and opportunities are always available even within the same basic process..

Today, Chinese glass is developing under a free and open cultural climate. Contemporary Chinese glass is lucky in that it is not experiencing the same situation that happened to the Western Studio Glass Movement in the 60s and 70s, that saw a concerted split of art and craft, where they became separate sectors in institutions, museums etc, although there are limitations in China, most of which are the result of decisions taken by influential individuals. An open mind in the creative use of using material and technique should be widely encouraged in practice.



(From left to right)

248. Julie Anne Denton, *Hanging Dragons*, Flame-worked glass, each 12cm x 12cm, 2008.

249. Sharon Foley, *Please don't step on the Mat*, Neon glass with kiln-formed glass, coir matting and bricks, 2007.

250. Dante Marioni, *Orange and Green Trio*, blown glass, greatest height: 40 inches, 1999.<sup>67</sup>

251. Stanislav Libenský and Jaroslava Brychtová, *Empty Throne*, Cast glass, H: 120cms W: 63cms, 1989.

252. Elanie Sheldon and Sheldon Cooney, *Bulldog light*, blown glass, 50\*10\*6cm.

253. Dale Chihuly, Glass installation at the reception of V&A, London.

Allowing great freedom, contemporary practitioners deliver different messages and intentions by using the same material. Their works cover fields of jewellery, product, interior, architectural and sculpture, extend the boundaries between fine art, applied art and design.

<sup>67</sup> Available at: [http://www.dantemarioni.com/index.php?page=detail\\_current&artID=10](http://www.dantemarioni.com/index.php?page=detail_current&artID=10)  
[Accessed 11 December 2008]

### **3.4.2 Case Study 1: Guan Donghai**

The glass sculptures of Guan Donghai provide a good example to illustrate how contemporary Chinese glass has been influenced by Western practice whilst attempting to maintain traditional cultural references. The case study also investigates the conceptual evolution and technical development of a major professional Chinese practitioner.

Guan Donghai graduated with a Masters degree of Glass from Wolverhampton in 2003. The study in the UK, as he claimed, became a very important milestone of his personal career. Before the overseas' study, he was a stranger to glass and trained as a fine artist.

His initial interests were in blown glass. A nine-month practice was the first step which helped him to understand and to know the material. According to Guan's (2008) opinion, artists could fairly quickly learn basic techniques and make something with a simple form, some of his early blown pieces being simple cups and bowls. Due to the time limitation of study and high demand of skills on blown glass, he shifted into sand-casting during his last stage of study. His first series of sand-casting works were in the form of a dragonfly decorated with raised square cubes. Gradually, a vocabulary and personal language was formed by using small dots and cubes. He found it free of restraints to evolve, combine and exercise these elements.



254. Guan Donghai, *City gate-3*, Sand-casting glass and cast bronze, H: 32cms, 2003.

255. City gate in North West China.

256. City gate of the Palace Museum, Beijing.

“*City Gate Series*” was created based on this concept. “*City gate 3*” is an early piece. Technically, there was no innovation, the making process being easy and straight forward. What he needed to do was to make a sand mould with dots and cube in relief, achieved by pressing ready-made object into the sand. A layer of graphite powder was sprayed carefully to separate glass and sand. After finishing all these preparations, liquid glass was cast into the sand mould, and because glass cannot flow like water, it would not fulfill the deeply pressed dots, therefore, the front of the glass got a fire polished shining result which contrasted to the rough body that had come into contact with the sand. The similarity between this piece and the real Chinese city gate is obvious, whatever the outline shape, or the decorative elements, they share the same character and aesthetic.



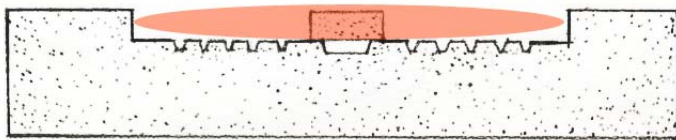
257. Guan Donghai, *City gate-5*, Sand-casting glass, H: 30cms, 2003.

Both technical experiment and personalized making processes can be discovered in his following works, “*City gate 5*” for example was assembled from three separate sand-cast pieces. Usually sand-casting is undertaken with an open-mould, which means the finished piece always has at least one surface flat, making the work a wall piece or a solid block. By contrast, after pouring hot glass into the sand mould, it was allowed to settle down for a few minutes but before the glass lost its heat and viscosity, Donghai bent the flat slices into desired shapes. Some basic intrinsic qualities of sand-casting are fully utilized in his work, for instance, the coarse burned texture and translucent surface posed by the sand, and the grayish and rusty colours caused by the leftover of graphite and sand.

His shift to the idea of making is simple and the result is not perfect, but the transformation is vital. The slight development of the making process helped him to realise his sculptural intention.

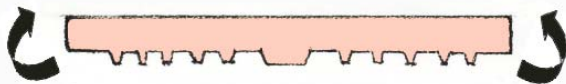


**The making process of the bottom piece of Guan Donghai's "City Gate 5":  
258-261.**



1. Cast liquid glass into the sand mould

258



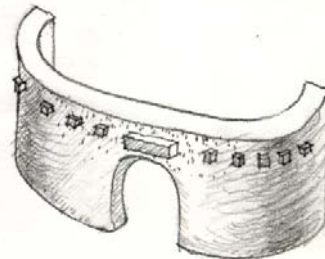
2. Remove the sand mould when glass settles down,  
bend glass before it lost heat and viscosity.

259



3. After bending

260



261



262. Guan Donghai, *City gate-I*, Sand-casting, kiln-formed glass and cast bronze, H: 32cms, 2003

Significant movements have been developed in the work “*City gate I*”, in which the head motif and the more abstract gate forms came into being. Spiritually, it was enhanced by the power of Chinese cultural and tradition. This was realized firstly by using bronze patina and rusty colours, secondly by sandy surface texture, and finally by the extruding hanging bronze heads.

In order to stress fear and awe, he separated the gate and heads with distinct colours and finished by two different forming methods. The nine identical heads were bronze-cast using the same wax mold to present standard and power, whilst the decayed character of the sand-casting surface perfectly revealed the trail of history. Then the heads were inserted and stuck into the slots of the main body which were cast during sand-casting.

Concerning the idea of using this kind of method, Donghai presented this in his artist statements:

*“I want my works to be powerful. So I am looking for elements, which represent this power due to their forms and colors. From ancient weapons or city gates, which I abstract, I can feel and express an emotional power.”* (Fahrner-Tutsek, 2008, P.128 artists’ statement)



263. Guan Donghai, *City gate-2*, Sand-casting glass, H.30cms, 2003.

264. Bertil Vallien, *Boat*, sand-casting.

Based on the idea of “*City gate 1*”, “*City Gate 2*” extended more technical options with influences from the work of Swedish glass practitioner Bertil Vallien. Maybe having noticed the potential in Vallien’s meter-long sand-casting ship, Donghai attempted to sand-cast his ready-made small heads into the whole piece. Certainly, the outcome was not very satisfactory. Because controlling the right temperature of fusing ready heated components within the sand-casting piece is highly skillful and subject to accidental effects, the coloured heads in Donghai’s piece nearly lost their original form and expression. This might be the reason that he did not use this method again in his following works.



265



266

265. Guan Donghai, *City Gate-8*, kiln-cast glass, 33×24×9cms, 2006.

266. Guan Donghai, *City Gate-7*, kiln-cast glass, 48×32×12cms, 2006, Collection of Alexander Tutsek-Stiftung.

After Donghai went back to China, because of the limited facilities in the studio at Tsing Hua University, he had to temporarily give up sand-casting while concentrating on lost-wax casting, while conceptually, still insisting on old themes.

But, why a choose city gate as a main theme? This is undeniably related to Donghai's personal life experiences. In ancient China, the closed city represented peace and safety, the city gate symbolized the route towards it and the wall became a barrier to protect it.

As a five-year-old, Donghai took a primary school pride with his father to Beijing Tiananmen Square, to the gate of heavenly peace. Later on, Donghai spent his university life in Beijing and became a teacher in the Art College. The close proximity with the historic gates and walls deeply impressed him and made their mark on his creative pathways. The ancient city gate and wall, in his eyes, are exact symbols of power and Chinese culture. Nevertheless, he did not just copy the form and scale-down the prototype into a feasible size for glass; what he created is a personal expression, experience and knowledge, and supported by experimenting with viable

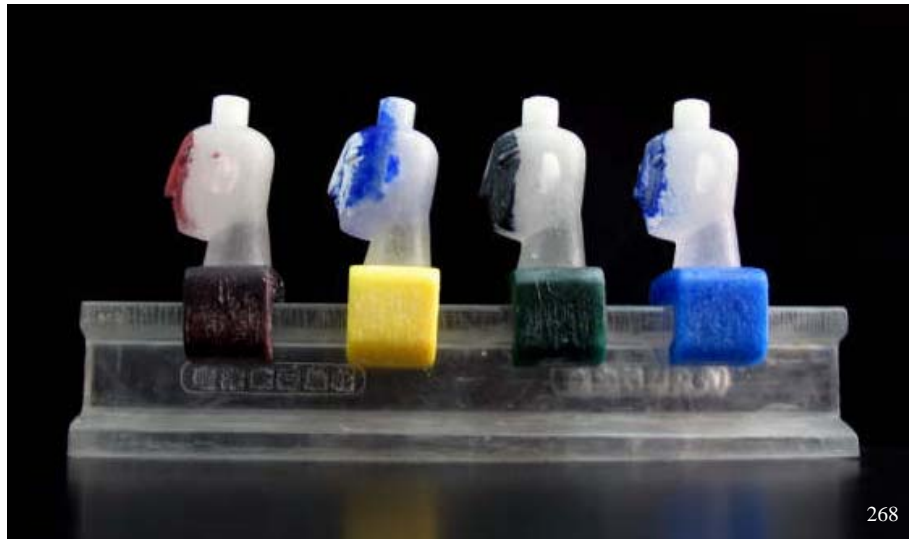
techniques. This is clearly reflected in his story-telling works and his own statements.

*“The power and dignity presented by an ancient city gate is closely related to its function as guard facility to separate, protect and reject, which eventually make it a symbol for the overwhelming conservative power, which kills human nature and wipes out individuality. The group of heads in my City Gate series is a symbol for a group concept, with facial expressions of curiosity and anxiety to look at the world outside. It could also be influenced by the inside environment, since the emperor used to cut off criminals’ heads and hang them up on the gate wall.”* (Fahrner-Tutsek 2008, p.129 artists’ statement) (See the exerted heads located at the middle part of “City Gate 7” figure 266)

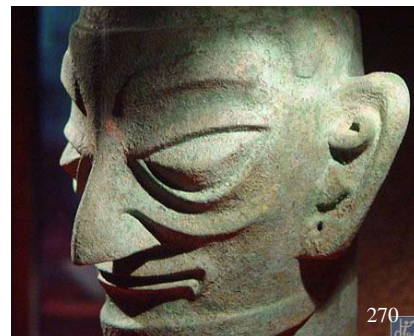
Donghai’s example is a matter of self perception, but to some extent, demonstrates a prevalent stream that nowadays Chinese artists have a self confidence to draw their own experiences into the art creation.

What I am also interested in is the way Donghai expresses Chinese culture - his work is exciting and suggestive. Although he draws inspiration from ancient Chinese bronze, jade and stoneware manufactures, he employs the mould casting and cold processing that gave form to their ancient precedents. We may see some indistinct shadows of existing historical forms in his glass, but as a big contrast with ancient times, he does not merely copy or duplicate historical examples, but uses historical elements and symbolic metaphors from an observant and independent sense of Chinese tradition.

Whether made by sand-casting or kiln-casting, Donghai is trying to maintain certain qualities that he pursues. We rarely find polished surfaces and sharp edges in his works. The choices of translucency and bright colours, such as yellow, red, green and blue are personal responses to the understanding of Chinese cultural references. In other words, creation is based on existing examples. The ancient Chinese art and craft strongly influence his glass not only technically, but also aesthetically.



267. Guan Donghai, *Régime*, lost-wax casting glass, H: 23cms, 2006, Collection of Alexander Tutsek-Stiftung.



268. Guan Donghai, *Régime* - detail, lost-wax casting glass, H: 23cms, 2006, Collection of Alexander Tutsek- Stiftung.

269. San Xing Dui bronze mask, Xia and Shang dynasty (2070BC-1046BC), Collection of San Xing Dui Museum, Cheng Du.

270. San Xing Dui bronze mask, Xia and Shang dynasty (2070BC-1046BC), Collection of San Xing Dui Museum, Cheng Du.

For example, the translucent glass and surface reflect the influence of the subtlety of a jade aesthetic. The stylized heads (figure 268) that run through Donghai's work are

similar to the bronze mask of San Xingdui, but he retains a cylinder shape of trussed hair to represent a typical character of ancient Chinese, and the appearance is much more close to human beings, not like the deified bronze mask (figure 270). The head, plus the way he decorated the face, whether it is inspired by face-painting of the Beijing opera, is undeniably Chinese. More clues can be examined from his work “*Weapon Series*”. (See Appendix 16 - Other works of Guan Donghai)

Equally, the education in the UK and the influence from Western artists, as Donghai stated himself, were significant and decisive, not solely because it allowed him to know glass, but helped him to form the concept of creating.

In the work “*Régime*”, he used the same methods of lost wax as Professor Keith Cummings, adding pre-cast glass inclusions into the wax model to achieve very specific color effects and surface quality. The way of using identical heads also links with another British glass artist David Reekie. Externally, their works have a number of similarities, such as the translucency quality of material, their elegant proportions and the use of architectural elements. What is more important is the approach of conceptual interpretation; and the attitude towards the material that treats glass as an expressive medium to work for ideas.



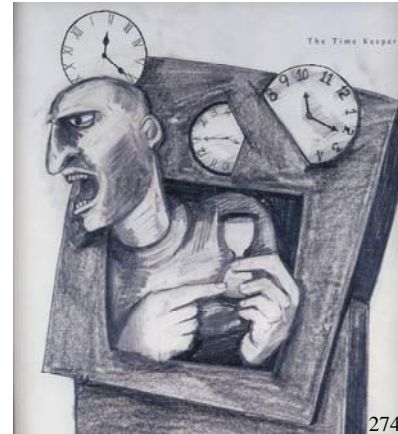
271. Guan Donghai, *Régime* - detail, lost-wax casting glass, H: 23cms, 2006, Collection of Alexander Tutsek-Stiftung.



272. David Reekie, *Time keep*, lost-wax casting glass. 273



273. Wax mold and sketch, David Reekie's working space.



274. David Reekie, *Time keep*, drawing.

When examining the process of making and the development of ideas, Donghai and Reekie share certain consistencies, but with individual features. Professor Andrew Brewerton gives a description of their similarities and differences:

*“Each head (Figure 271) is bonded at the neck to a horizontal C-section runner in opaque pâte-de-verre, locked in serried rank like vitreous commuter counterparts, for the machine-age, of the terracotta warriors at Xian. It is interesting to compare this approach to figuration with the work of the English glass artist, David Reekie, another brilliant draughtsman, with whose work Guan may be familiar. In both cases, we witness precision, formal elegance, subversive humour, cryptic games, the stark portrayal of the human condition, with all the terse immediacy of a newspaper cartoon or an epigram. But in Régime, for example, every trace of the individual drama that Reekie characteristically explores is expunged, and a different kind of political sensibility shows itself as an unblinking preoccupation with the forms of power.”*

(Brewerton, 2006)

Although the works of Donghai and Reekie are both political, the different sensibilities between them that Brewerton suggests are absolutely true. The political content of Donghai's work narrates past, feudal and symbolic stories, conveying the message of awe and seriousness, and has its root in Chinese culture.

Clearly the architectural components in both cases are not the same; Reekie applies to



create a platform for performance, whilst Donghai uses a background to organize his heads for story-telling.

Donghai's methods of developing ideas and technical experiments have been passed onto his students at Tsing Hua University. Li Zhengning is perhaps the most representative example to date.



275



276

275. Li Zhenning, *People 8*, cast glass and metal stand, 50×33×28, 2007.

276. The red flower in front is a typical ornament during the traditional Chinese wedding. David Reekie's way of creating a platform for glass figure has been used in his work.

In brief, Donghai's intention to relate to the past and traditions by using sculptural forms and symbolic narratives has developed through a personal vocabulary of technique and visual image. This provides a good example for Chinese practitioners, whereas the dominance of the single sculptural object limits insight into one aspect of the practice as an independent glass artist.

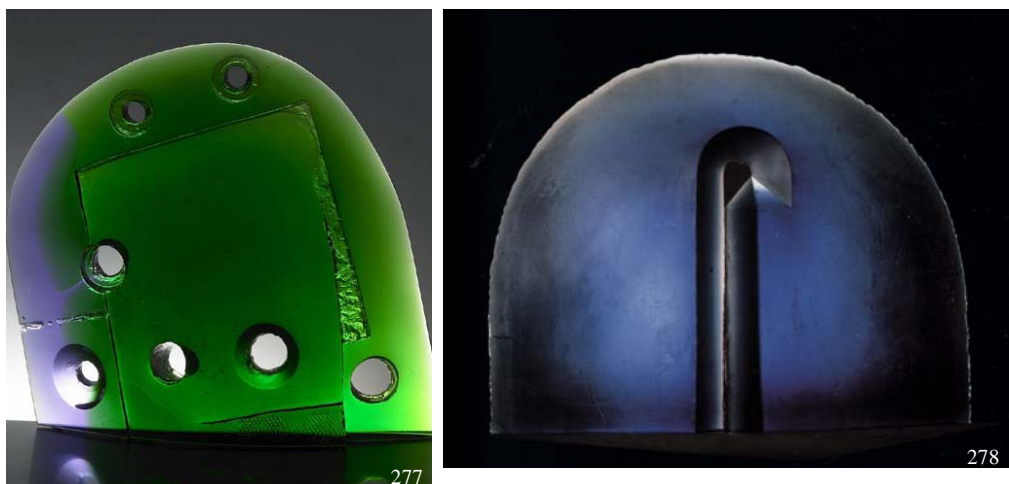
### 3.4.3 Case Study 2: Zhuang Xiaowei

From the works of Guan Donghai and his students, an open attitude and a strong attempt to relate to Chinese culture and traditions is observed. Whereas, not all Chinese practitioners pursue the same route, for example, Zhuang Xiaowei, Head of Glass at Shanghai University, considers poetry as a major inspiration of creation. He states:

“就纯艺术的层面来说，我从来没有在重大的社会题材中得到过启发，我的灵感全部来自于诗意。我的工作就是将诗意铸造在玻璃里，去表现生命的感悟，并将它强化到一个获得陶醉和解脱的高度……我所有的创作都是在一个可见的和不可见的，逻辑的和感觉的，现象的和抽象的世界之间游走。

*In my works of art, social issues have never stimulated me. Rather, the source of inspiration for me is always, and only, my vision of poetry. My work is to cast poetry into glass, to realize in the material the spirit of life itself, and distil it to a degree of purity where it revels in itself...All my works are roamings between the worlds of the visible and the invisible, thought and perception, imagination and abstraction.”* (Zhuang, 2008, translated by Cora lee and Justus Krueger)

Contrasted with Donghai’s concern about politics, Xiaowei’s is more individual and private, a complete self-expression and perhaps self-complacent behavior. We are considering both of these artists as teachers and, in their products, as role models.



277. Zhuang Xiaowei, *Memory*, open-mould cast and polished glass, 40 x 38 x 9cm, 2007.

278. Stanislav libenský & Jaroslava Brychtová, *Arcus I*, kiln cast glass, H: 75cm W: 98cm, 1991, Collection of V&A (No.C.4-1993). \*

Actually, in my opinion, his work is much closer to contemporary Czech glass, especially the big scale kiln-casting pieces of Stanislav libenský & Jaroslava Brychtová<sup>68</sup>. Connections between them are displayed not only by forms and colours, but a sculptural attitude.

Stanislav libenský & Jaroslava Brychtová's artistic philosophy is expressed through abstract concepts, represented by geometrical form. This is largely rooted in the Western art movement of Cubism and Abstract Expressionism. In the 1960s in Czechoslovakia, this specific aesthetic and way of producing sculptural glass helped its glass artists to win an independent place of their own within world glass, creating a new concept that differed from traditional ideas, and extended the application of glass potential into other areas, such as decorative interior installations and architectural features.

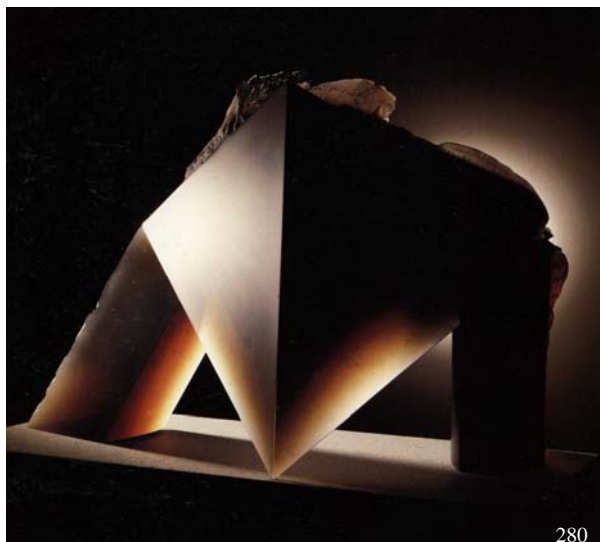
The technique required in Libenský and Brychtová's casting work is the most basic one of kiln-forming, but demanded high experiences because of the size. Perhaps influenced by their works, and restricted technically at the beginning of his practice,

<sup>68</sup> The sculptural character of Czech glass was due to the initial teaching philosophy from avant-garde sculptors. In the second half of 20<sup>th</sup> century, Stanislav libenský (and his wife Jaroslava Brychtová) were leading figures, who succeeded the head of glass at the Prague Academy of Fine Arts (now as the Academy of Art, Architecture and Design) after Josef Kaplický. They encouraged their students to explore the possibilities of monumental glass that relate to architectural space.

Xiaowei decided to take this method (using open-mould casting with glass billets) as a main technique for his studio. His early works were relatively small, but gradually achieved similar dimensions as Czech artists' work (figure 279 & 280).



279



280

279. Zhuang Xiaowei, *Gray Flute Series I*, open-mould cast & polished glass, 61x19x17cms, 2006. \*

280. Stanislav libenský & Jaroslava Brychtová, *Coronation*, kiln cast glass, H: 50cm W: 80cm, 1987-88. \*

Creative expression surely requires time to evolve. Today, most contemporary practitioners dealing with kiln-forming are working individually. Usually, making a medium size kiln-casting piece, the whole process from idea to final object, takes at least a month to finish, depending on the monumental scale. The most difficult part in the process is firing, during which the refractory mould might crack or even collapse due to the heat and weight causing an incomplete cast. Of course, the cold processing after firing is another time-consuming stage that requires great effort and patience. For instance, Libenský's work does not have a totally polished finish, but displays on its surfaces a selection of different characters. Sometimes, fine ground surfaces are parallel to polished ones in the same piece to create contrasts.

The amazing speed of Chinese development in glass seems not to have allowed people to stop and have enough time to think. The reality is that some cast pieces are finished within several days under the help of a factory and technicians. Take Xiaowei's works as an example, in order to achieve a meter high scale casting piece, clay is used instead of wax to make an original mold, with the form that is suitable for

open-mould casting; this means that clay could be easily removed to make a casting refractory mould. The stage of making an open-mould is much easier and quicker than lost-wax, and with less inherent risks to. However, this kind of work has to remain flat within at least one surface. After firing, when the glass is removed from the refractory mould, cold-processing of his meter-sized work, including grinding (from rough to fine) and polishing, is finished in a local glass factory, by skilful technicians using industrial facilities. This saves huge amounts of time, and makes up for the shortage of equipment at university studios.

However, by sending works to the factory for further processing, from my own point of view reduces creative possibilities. As primary decisions that depend on judgment, dexterity and care, could be made by the artist, these are, now replaced by factory technicians or workers, whose activity follow exact orders and are fully predetermined. No organic development can happen under this kind of activity. This is one reason that most contemporary craft practitioners insist on making objects by themselves to allow a longer and more flexible creative journey.

His choices of technique and process have allowed Xiaowei to develop a style of abstract geometrical glass sculpture, which is also reflected in the works of the students he trains, and has now become the typical style of Shanghai University, in contrast with the works from Tsing Hua University. This could be clearly seen from the “Glass Routes” exhibition (at Bilston Craft Gallery 08/2008 and at London Glass Art Gallery 05/2009) where works from these two institutions were exhibited side-by-side. The size of the work that Xiaowei exhibited is extremely important for him, for it emphasizes the character of a sculpture. Moreover, this has helped glass to find its own way of developing in contemporary China and defined in the first place the status of glass as a new subject in university hierarchies.



281. Wan Qin, *Calligraphy II*, open-mould cast and polished glass, 88 x 24 x 7cms, 2006.

Wan Qin's work represents a great influence of his tutor Zhuang Xiaowei. Though the form is much organic than Xiaowei's, the method and idea of making glass are the same. Their sculptural ambition is realised mainly by the form and size of the work.



282. Cheng Xiang (graduate from Shanghai University), *Cloud*, kiln-casting, 20 x 16 x 8cm, 2002.



283. Colin Reid, *R938*, kiln-casting, H: 43 W: 34cm, 2000.

Cheng Xiang, another formal student of Xiaowei, also regards glass as a sculpture medium, but with different influences from English glass artist Colin Reid, by using various surface qualities, such as nature textures and high polished surfaces, to reveal the nature of material, to make contrasts and expressions.

What I have been trying to formulate through Xiaowei's example is the significance of sources of influence for an artist, and the role of a tutor. When we select our source, not only the form or the colour captures our eye, but the matter concealed behind it, such as the nature of a sculptural rather than a functional intent.

### 3.5 Summary

In response to the research questions (Chapter 1: Introduction p.12), in this chapter, I have addressed the questions:

- What is contemporary Chinese studio glass practice?
- Is it possible for Chinese practitioners to keep our own culture accent/tradition while influenced by the Western practice?
- And the most important is --- how ?
- Can insights be drawn from:
  - 1) The comparison with a similar situation in the Qing dynasty?
  - 2) The production and positioning of a personal body of work?
- Can general guiding principles be established through this study which can guide short and long term development in contemporary China?

I have identified the Chinese Studio Glass Movement from 2000-2009 and its links with the West, by examining the origins of the setting up of educational programs, technical achievements, current situation of practice (material, process, philosophy, cultural status), challenges and opportunities.

Comparisons between the Western Studio Glass Movement have been drawn to act as a basis for discussion, and to act as reference points to provide suggestions. Examples drawn from personal practice, including experiments with material, personal working methods and diverse application of techniques, have been woven into each part to provide detailed explanations and from which to generate comparative insights.

Moreover, the comparison between nowadays and the Qing dynasty runs through the whole chapter, charting a pattern of Chinese glass activity, resulting in the summary of a series of similarities and differences.

**Summary of the similarities and differences between Qing and contemporary Chinese glass:**

<b>Similarities</b>	<b>Qing dynasty</b>	<b>Contemporary China</b>
<b>A focused artistic ambition:</b>	Reflected on a personal interest of the Emperor	Driven by individual practitioners
<b>Access to adequate technical knowledge:</b>	Realized by Jesuit missionaries who transport techniques	Through overseas' study, and demonstrations by visiting artists and scholars from the West
<b>Validation from cultural institutions:</b>	Imperial Workshops patronised by the royal family	University level educational institutions supported by the government
<b>Western influences</b>	Technologies of making glass Techniques of forming glass Aesthetic style	Western studio glass practice (Conceptual idea, forming techniques)
<b>Relationship with tradition and other Chinese art &amp; crafts</b>	Close relationship with other Chinese craft & art	Has the attempted to relate to Chinese culture and tradition, but also with other attitudes
<b>Conceptual idea</b>	Borrowed form, colour and decorative patterns from other Chinese craft forms	Copying from other craft forms (Loretta Yang) Imitating works of Western glass practitioners
<b>Objects domain:</b>	Singe object	Singe object dominated, less installation
<b>Symbolic meaning:</b>	Very important when designing forms and patterns	Applied in some of the works
<b>Aesthetic preference:</b>	Inherited from traditional jade, ceramic, bronze etc.	Inherited from traditional art and crafts, and evolving into contemporary context
<b>Cost &amp; value</b>	High	High
<b>Placing of work:</b>	Royal family and high classes	Exhibitions, museums, galleries, private collections



<b>Differences</b>	<b>Qing dynasty</b>	<b>Contemporary China</b>
<b>Way of transferring knowledge</b>	Accept knowledge from Jesuits in a passive position	Study abroad and choose suitable techniques
<b>Mode of learning skill</b>	Trained as an apprentice	Educated within university level
<b>Motivation of making glass</b>	Curiosity of the Emperor Display wealthy and a substitution for other high cost materials	Personal cause and aspiration, mainly base on self-realisation or self-consciousness
<b>Attitude towards glass material</b>	From the perspective of other craft materials, as a substitute	Revealing the own properties of glass material (truth to material)
<b>Material</b>	Make their own glass by using Western recipes and local ingredients	Purchase glass products from retailers and exclusive factories
<b>Working process</b>	Designer / Maker partnership mode (Design and make are separate, order than make)	Artist maker mode (Design and maker by the same person, make than try to sell)
<b>Glass forming methods</b>	Blowing techniques and its associated decorations	Techniques of kiln-formed glass
<b>Cultural position of glass (glassmaker)</b>	In a relatively lower hierarchy in Chinese art and crafts, compared with jade, bronze and ceramic. Making glass was a job for living for the makers or artisans. Works were anonymous	Became equally important in the university hierarchy. Glass work became art, and signed and dated by the makers. People who make glass called “artists”
<b>Forms</b>	Craft form Most with utility forms Small part with sculptural form	Art form 90% are sculptural forms, not for use. Almost no functional forms
<b>Colour</b>	Monochromic colour in translucent or opaque glass	No limitations for colour Mostly transparent and translucent glass
<b>Surface (texture)</b>	Carved and polished surface	Mostly high polished surface
<b>Scale of work</b>	Small and medium size	Mostly large scale

**Chapter 4:**  
*Personal Practice*

## **Chapter 4: *Personal Practice***

This chapter is based on different study experiences in China and the UK, using my own example to indicate possible methods of absorbing Chinese culture into contemporary studio glass practice, and how the same source of inspiration can develop into diverse outcomes according to the material and processes applied, and act as engines for individual creativity.

I have suggested in Chapter 2 the conventional way of retaining Chinese traditions in the Qing dynasty was realised by borrowing historical form, colour and pattern. However, the practice of directly repeating or imitating tradition is not recommended as a good method to develop Chinese culture nowadays, especially at university level. The methodology developed from the International Studio Glass Movement has provided universal principles of contemporary glass practice. Although Chinese glass has been influenced by the Western model, it seems that this method has not been well grafted into Chinese glass practice.

My study experiences at Universities in both China and UK has given me a firsthand knowledge of the differences between the two education systems. In Chinese art schools, normally, students are taught to follow what has been explored by the pioneers to avoid mistakes and unnecessary frustrations. From having an idea to making a final object, the emphasis is always on the result rather than the process. Researching works such as doodles, drawing, sketch, modeling, technical experiment and context exploration sometimes are left out or shortened into one or two steps. Accordingly, imitative works or works lacking in creativity are prevalent. Works from the same studio usually have a “family” style in which is hard to distinguish from each other.

However, these are extremely important aspect in the West, where students must show the whole stages of development of ideas and selection of relevant materials and

techniques, to ensure the originality of the final work and to help students establish their own creative pathways. This perhaps, is the main aspect that has resulted in the differences between my work and most Chinese practitioners’.

The well-established international glass artist Dale Chihuly offers a good example of how to look at Venetian glassmaking traditions that are taken and developed by contemporary practitioners from different cultural backgrounds.

Chihuly is famous for his high-colored organic blown forms of sea creatures. Drawing and sketching sea forms became an essential stage to outline and develop his ideas which are finally realized by using traditional Venetian glass blowing skills and techniques. Of course, his method is not just a direct reproduction of sea forms into glass material or a copying of historical Venetian examples, but a very individual perception and expression that is based on personal knowledge, experiences and backgrounds. Therefore, even if the same source has been taken, different people have different ideas and angles to express.



284. Dale Chihuly, Drawing of Sea Creatures.



285. Dale Chihuly, *White Seaform*, mould-blown glass set with black lip wraps, 10\*20\*15inches, 1984.

In the following sections, I will use my own example to explain the nature of the Western creative process and how it can help us to retain Chinese culture and traditions in contemporary practice.

## 4.1 Case Study 1:

### **Influence of Traditional Chinese Ink Painting – a Main Philosophy**

In the introductory chapter, I mentioned that the centrifuged works made during my MA study were influenced by traditional Chinese ink painting. More than that, the influences in terms of its philosophy, methods and visual forms have been present throughout all my PhD practice, however, with different outcomes due to a creative application of the material and forming processes. Two series of my personal practice will be discussed and analysed as case studies – “Winter Landscape” and “Vessel”.

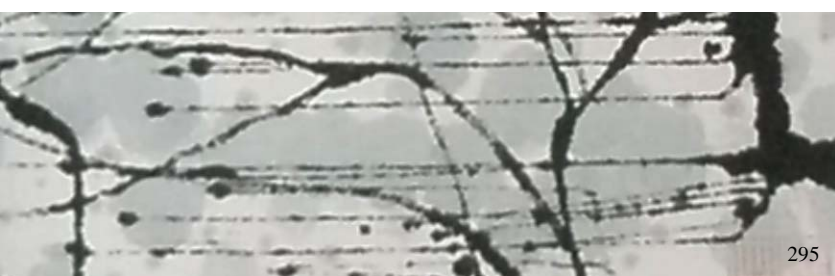
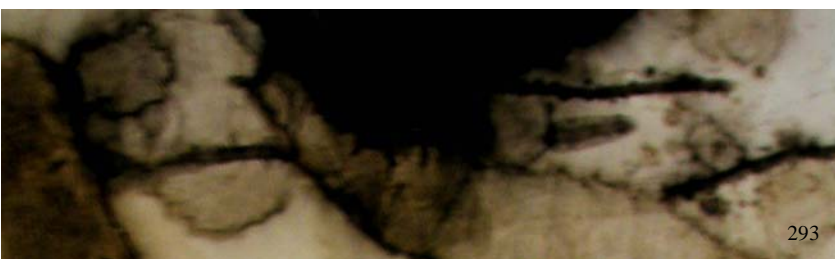
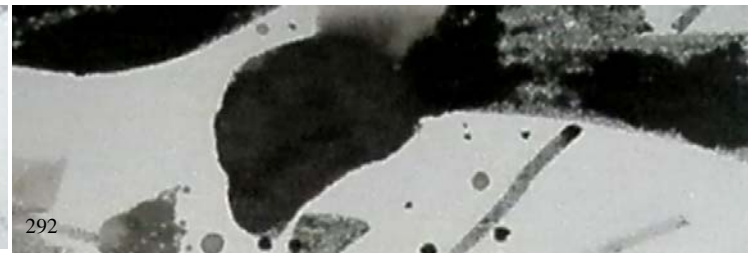
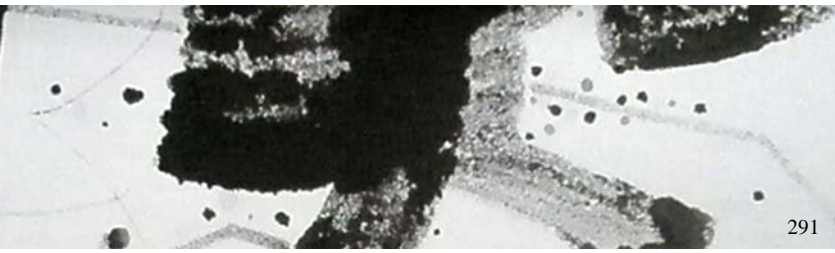
For brush painting, the theory of “making the form to show the spirit”<sup>69</sup> explains that a painting should serve as a method to convey not only the appearance of an object, but expresses how the artist looks at it. Usually, a well-composed draft is conceived before drawing. Once painted, because of the nature of the *xuan* paper and ink, it has to be completed at one go, it is impossible to make any alterations of wrong strokes. The texture of the paper or silk allows the brush wet with Chinese ink, to move freely on it, and to make strokes varying from dark to light, from solid to hollow. Simple lines and colours are turned into a highly-developed form of art.



286. Playing with Ink on *xuan* paper by using salt solution.

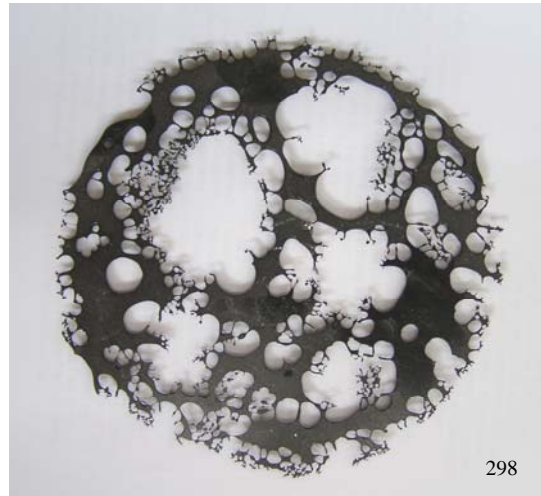
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<sup>69</sup> This opinion was firstly put forward by Gu Kaizhi (345-406) in the Jin dynasty (265-420).



87-296. Varying effects of ink on *xuan* paper

Due to a personal preference for ink painting, I intended to interpret the brush technique and use of ink via glass. Because the relationship between water and ink gives brush painting its unique flavour, therefore, solid glass and temperature might be important. I tested the idea by using powder in black and white first, then in different colours and combinations. The results were interesting, surprising and proved to be viable.



297-300. Test samples: Gaffer powder glasses were combined together and fired at 900°C. In some pieces, white glass (Gaffer G101) acted as a canvas, black powder (Gaffer G050) was sprayed above by hand or tools such as toothbrush, to achieve a gradually shaded tone at the joints. This works especially well with the colours of white and black, firstly because of the contrast, secondly due to the nature qualities that black absorbs heat much easier and expands in an extreme degree, thus penetrates into every gap of the white powder like brush painting that forms organic patterns. If pure black is applied in purpose, delicate edge is come into being.



301. More tests have been experimented to examine the accuracy of all parameters (scale, the way of loading glass, temperature, annealing procedure etc.,)

Surface treatments were tested respectively on these fired pieces to get an ideal quality, including sandblasting, grinding with various frits, polishing etc..

The results were recorded and became a foundation for my formal practice.



302-305. XUE Lu, *Winter Landscape series-Moon1 / Tree / Pond / Moon2*, Kiln-formed glass, D: 15.8cm, 2006/7.

“*Winter Landscape Series*” was achieved after numerous tests and careful selection from the results. It is a personal perception of nature landscape, contains impressions of various sites and moments. For example, “*Winter Landscape-Tree*” (figure 303) is based on real images of winter trees with discarded leaves and bald branches, whilst “*Winter Landscape-Moon*” (figure 302/305) is a shadow of a dim moon light penetrating through a window. Considering the composition of ink painting as a main principle, white background was applied, which broke through a fixed way of thinking, and this method is largely used in ink painting, called “leaving blank”.



In this case, glass was used as a medium to make a three dimensional canvas of impressionistic drawing. It emphasizes the harmony of the form, pattern and colour, and encourages the natural properties of glass under the operation of heat.

This series of works, according to answers from questionnaires given to Chinese anticipants, reflects a strong connection with Chinese culture and traditions, especially aesthetically. (see Appendix 17 - Questionnaire: Investigation of Contemporary Chinese Glass and personal works). These works physically relate to ink painting:

*“The works remind me with Chinese form and cultural spirit, a sentiment of ink painting...”* (Zhang DeMing, Questionnaire 12/2006, Shanghai University, question no.1)

*“The works are quiet, a lingering charm of ink painting, have oriental philosophy...”*  
(Sun Xin, Questionnaire 08/2008, Tsing Hua University, question no.14)

On account of the small size and the soft smooth surface quality of the work, it is suited to be handled, which also relates to the love of touch in traditional Chinese craftsmanship. When these pieces were exhibited, people were encouraged to touch and feel, whereas this is normally forbidden by other glass practitioners.

The philosophy and method of drawing an ink painting have also been represented in the work of “*Vessel series*” and “*Ink series*” achieved by different concepts and techniques. (For the works of “*Ink series*”, see Appendix 15).



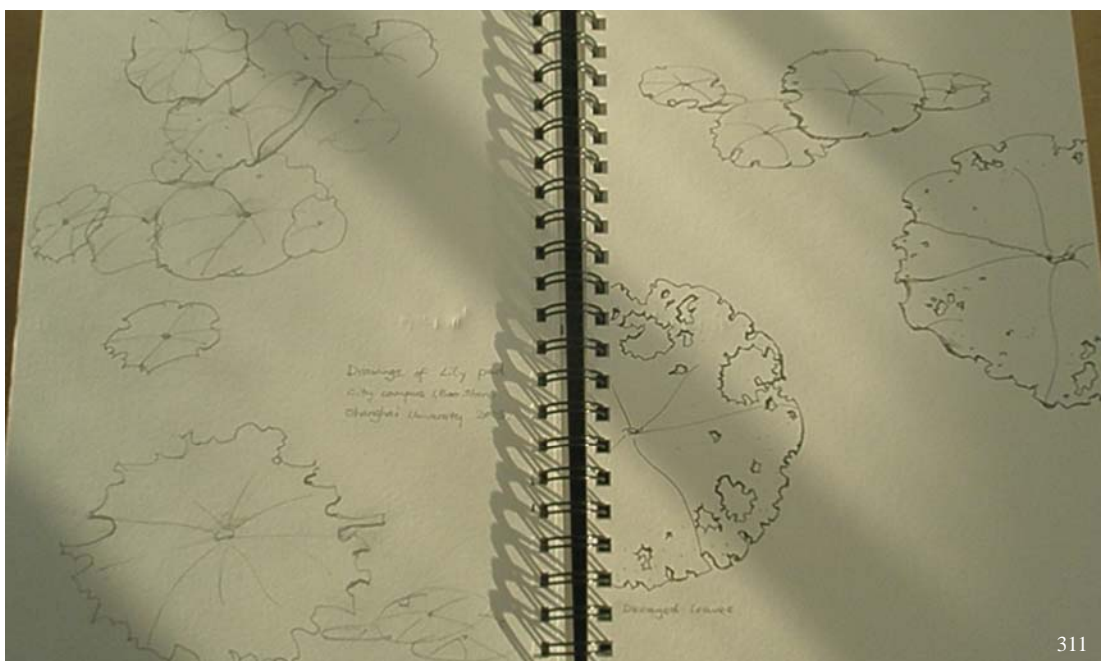
306/307. Observing nature -- Photos of lotus leaf.



308/309. Observing nature --Lotus leaf: decaying.



310. Ren Bomian, *Lotus and Mandarin Duck*, ink on silk, Qing dynasty, L: 138 cm W: 42cm, Collection of Palace museum, Beijing. 清, 任伯年, 荷花鸳鸯图.



311. Drawings of lotus leaf.



312. Xue Lu, *Vessel Series-1*, kiln-formed glass, D: 32cm, 2007/8. Copyright of the photos-Alexander Tutsek-Stiftung, Photo by H.-J. Becker.

Lotus and its leaf was a popular theme that has long been used in traditional Chinese painting for the quality of cleanness as growing in the muddy pond.

“莲之出淤泥而不染，濯清涟而不妖，

中通外直，不蔓不枝，香远益清，亭亭静植，可远观而不可亵玩焉。

*It is so pure, delicate and bright.*

*The lotus is consistent, continuous and coherent deep inside.*

*It appears to be straight, proper and honest.*

*It gives a fantastically good smell and people could even sense its excellent smell far away.*

*It has no unnecessary branches.*

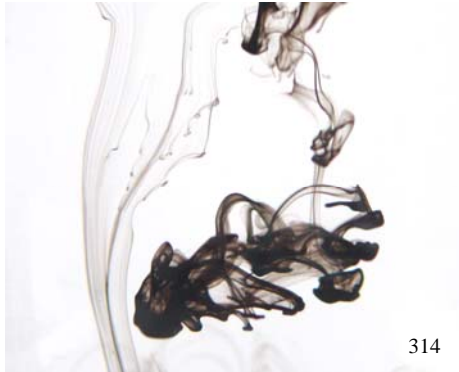
*It can be only appreciated distantly but not touched blasphemously.”*

(Zhou, Song dynasty)

Figure 312 reflects mostly the aesthetic influence of a brush painting, displaying a print-like effect. The relationship between water and lotus leaf is transformed by glass through the technique of kiln-casting with a subtle hand-ground surface and a pure translucency.



313



314



315



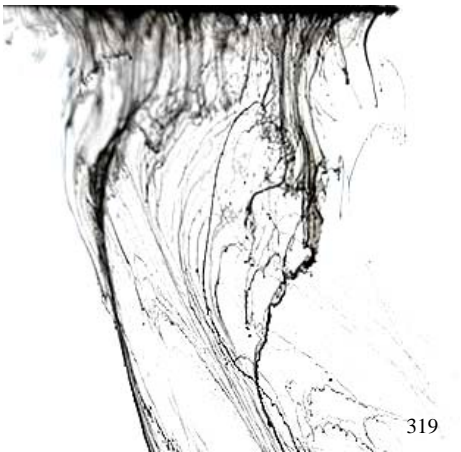
316



317



318



319



320



321

313/321. Playing with ink and water - different effects and stages when ink drops into water.



322. Xue Lu, *Vessel Series–Bronze*, kiln-formed glass, D: 32cm, 2008.

323. Detail of *Vessel Series–Bronz*.

A certain measure of copper powder was placed at the rim space of the refractory mould, i.e. at the bottom of the mould, then covered with clear granule glass. Under the redox effect when firing, copper turned to blue, melting with and penetrating into clear glass, stressed by the rising air bubble and extended onto the surface of the mould. The effect shares similar principles and visual qualities to that of ink flowing in the water.

Though these three examples display the same influence from brush painting, various outcomes revealed the infinite possibilities and potential. This is not determined by the source of influence, but the way you choose it and manipulate information under the creative application of material and its process.

## 4.2 Case Study 2: Vessel Form

The shift in the meaning of a vessel form in the modern era started with the work of Tiffany in the early 20<sup>th</sup> century, and be further validated by the Studio Glass Movement from 1960s. The blown glass at the beginning of the American Studio Glass Movement in 1960s and 1970s is a powerful argument to demonstrate that practical forms can be labeled as art, challenging traditional ideas that vessel forms were associated only with craft and utility.

*“Vessels can be functional or nonfunctional and practical or decorative, or they can be used as a format for painting and sculpture.”* (Price, 2005, p.9)

I am always fascinated by the vessel form. Collecting different bottles became a hobby when I was very young. Not only for their nice shape and diversity, but the

space held and created. Therefore, the forms in most of my works have connections with the vessel or have the potential to allude to it. The vessel becomes the carrier of an idea, a metaphorical rather than a functional form. For example, the broken edge in Figure 325 indicates that the form has a sculptural intention.



324. Xue Lu, *Vessel Series-2*, kiln-formed glass, D: 32cm, 2008, Collection of Alexander Tutsek-Stiftung. Copyright of the photos-Alexander Tutsek-Stiftung, Photo by H.-J. Becker.
325. Xue Lu, *Vessel Series-1*, kiln-formed glass, D: 32cm, 2007/8, Collection of Alexander Tutsek-Stiftung. Copyright of the photos-Alexander Tutsek-Stiftung, Photo by H.-J. Becker.
326. Xue Lu, *Vessel Series-Bronze*, kiln-formed glass, D: 32cm, 2008.

The “*Vessel Series*” was made by kiln-forming, it displays a solid presence in vessel form, despite its esthetic intent, it is hard at first glance to determine whether it is a work of design, art or traditional craft.

The simple round shape in ancient China was a symbol of heaven; here I chose it as a general metaphor through which to interpret site and landscape; I believe it is the most basic and ideal form of the universe that can embody everything.

Within traditional Chinese craft making, aesthetic decisions were strictly performed to ensure the integral harmony for the object and its user. An example of a Chinese bowl was illustrated in the earlier section “The evolution of the foot-ring”, (p. 81) to account for my argument. Consistently, the pursuit of aesthetic harmony still can be traced in contemporary practice.

### References to traditional Chinese craft making:

The “*Vessel Series*” experimented with the philosophy of “cross-discipline” at the glass workshop at SIVA.<sup>70</sup> The form of the work gives an impression of something historic, reminiscent of ancient Chinese craft making. Specifically, the influence of Chinese porcelain and bronze manufactory has played a great role. A porcelain form acted as a prototype, which was shaped by hand on a turning wheel, then developed into different wax versions, for example, the main body of “*Vessel series -Bronze*” is supported by ready made ‘legs’, which displays the impact of Chinese bronze.



327. Ceramic prototype coated with paint, hand-shaped on pottery wheel.

Making process for “*Vessel Series-2*” (Figure 324):



328-330. The gel-flex mould and wax cast from it.

“*Vessel Series-2*” used the most normal version of lost-wax casting. Wax model was cast from a gel flex mould that could be used for repetition. The wax model became my original form to start with. “*Vessel Series-2*” was cast from this simple form straight forward. The pure monochrome colour was achieved by loading disc glass closely and firmly. After firing, the whole piece was ground by fine frit to remain a mat surface which could absorb light.

<sup>70</sup> In 2007, I got a chance to set up a university glass program in Shanghai Institute of Visual Art. This is the first studio that combined Glass & Ceramic together to share with working spaces, techniques, facilities and staffs. “*Vessel Series*” was experimented within this circumstance.

Making process for “*Vessel Series-1*” (Figure 325):



331-332. Wax model for “*Vessel Series-1*”, cast with a lotus leaf.

Cast refractory mould, then lost wax and carefully tear off the leaf, leave the texture complete. Because the leaf was cast within wax at random, when it was removed, the rim of the vessel was no longer complete, but with damaged edge.

This piece used the same gel-flex mould as “*Vessel Series-2*”, but added a nature leaf when cast wax to achieve elaborate textures.



333-335. Loading powder glass in specific places into the mould.

Covering by big chunks and firing.



Making process for “*Vessel series -Bronze*”(Figure 326):



336-342. This piece was finished by a much more complex process than the above two. The main body used the same prototype as Figure 324/325, but applies copper powder to get the colour, and the legs were cast from a kind of traditional Chinese medicine. They were formed separately and assembled together afterwards.

This piece displays the influence from the work of Professor Keith Cummings in terms of the making process and application of metal. Bronze colour was realized by oxidized copper powder and wires.

Technically, it will be impossible to cast this piece in one due to the complex form, whereas, the specific making processes established by Professor Keith Cummings provided a good solution for me.



343. Detail of a piece of Professor Keith Cummings. Pre-cast glass sections, as well as the metal wires were added to wax model before wax-steaming. The sections remained in place and fused into the final cast. It becomes a good method to control the colours and details. The way of mixing glass with other material became crucial in his work, and provided more creative opportunities for glass.

344. Detail of one of the glass leg of my work "*Vessel-Bronze*".



345. Personal kiln-formed glass pieces “Winter Landscape” paralleled to the Qing dynasty Chinese Cameo glass (1736-1796) loaned from the Broadfield Glass House Museum, exhibition of “Glass Route: from Wolverhampton to China”, Bilston Craft Gallery, 22<sup>nd</sup> August 2008. Photo by Xue Lu.



346/347. My work “Vessel – Bronze” exhibited among the sculpture pieces from Shanghai University and Tsing Hua University, exhibition of “Glass Route: from Wolverhampton to China”, Bilston Craft Gallery, 22<sup>nd</sup> August 2008. Photo by Xue Lu.

**Chapter 5:**  
***Conclusion***

## **Chapter 5: *Conclusion***

This research project has for the first time assembled a wealth of evidence relating to the Western influences on the making, decorating and forming of Chinese glass, both historically from 1696 to 1796 and contemporarily from 2000 to 2009, from the specific perspective of a glass practitioner. It is the first practice based study which has sought to analyse contemporary developments against a historical background, and to use historical references in a contemporary academic and creative context.

Both studies have been carried out to determine the actual impact from the West, the reactions towards the imported influence and the maintenance or otherwise of an authentic Chinese cultural accent. This enquiry has been guided by the demand to provide a background and parallels to the contemporary situation. Connections between the historic and the contemporary have been identified, general principles relating to the similarities and differences have been drawn from the analysis, and a body of personal work and its methodology has been produced to act as a paradigm that operates within the contemporary situation. It is hoped that insights gained during the study, can be offered as guidance for the future, particularly in relation to the development of educational glass practice. [See Appendix 18: List of Publications, Exhibitions and Conference Presentations of XUE Lu (2006-2009)]

### **5.1 Areas of Focus (Summary of Research)**

In Chapter 2, I have analysed the factors and methods by which the Chinese kept to their cultural tradition despite a strong Western influence in the Qing dynasty. It provided data that has helped me to answer the questions of “Is it possible for Chinese practitioners to keep our own culture accent/tradition while influenced by the Western practice?” and “How?”

In Chapter 3, I have charted the Chinese Studio Glass Movement from 2000 to 2009, illustrating its genesis, development and achievement, whilst clarifying its problems,

challenges and opportunities. Comparisons with the parallels of Western Studio Glass Movement in other countries from 1960s have been drawn to act as a basis for discussion, and to act as reference points against which to generate suggestions. Examples drawn from personal practice have been woven into each part to provide detailed explanations, and from which to develop insights. I have also compared the current situation with the Qing dynasty. This analysis and comparison has helped to shed light on the questions of “What is contemporary Chinese studio glass?” and “Can insights be drawn by the comparison with a similar situation in the Qing dynasty which may be used in the development of contemporary Chinese glass?”

Chapter 4 focused on my personal creative pathways, which explored possible methods to maintain my own cultural accent under the current Western impact upon the Chinese academic scene. These included the analysis of different stages of this creative activity, from initial inspirations, development of ideas, experiments with materials, the forming of personal working processes, to the finishing and presentation of the final work. A “cross disciplinary” approach has been adopted in addition to the use of a wide range of glass forming techniques. It has helped me to address the questions of “Is it possible?” and “How”, insights have been drawn from the production and positioning through the exhibition and publication of my work across a spectrum of glass applications in art, design and craft.

## **5.2 Outcomes**

Contemporary Chinese Studio Glass, has, in the last decade experienced a rapid development based on the imported Western model and has increasingly entered into the context of the world-wide movement since 2000. The continuous setting up of glass programs in Chinese universities, the ever increasing number of makers and the social status of glass works promises a good future. The contribution to international glass exhibitions in recent years (2008/09 “Glass Routes” in the UK and 2008-09

“Glass. China” in Germany) suggest a general recognition of Chinese glass as a new power, as more articles are written to introduce the emerging Chinese Glass Movement, and the interest in purchasing art works, and in the artists themselves. This is very much part of the global interest in Contemporary Chinese Art in general. However, it has been compromised by a number of factors, for instance, the shortage of professional staff, technical information and facilities, and the fact that academic glass culture is still searching for its own method and philosophy of practice. From the observation of physical works produced by university academics, we may notice that Contemporary Chinese Glass has developed along a relatively narrow path, which is limited to simple techniques and a few creative constituents. Sculptural work has achieved a premier position, whilst the possibilities in other areas, such as design, applied art or architectural applications have been largely ignored. The high social status of artists has encouraged most practitioners to devote their creative energies in the production of single objects whilst neglecting the diverse potential for applications of contemporary ideas for “using glass as a material (not a subject)”. This follows the model of the individual artist producing signature works, a prime example is provided in the British artist David Reekie. Although an attempt to address cultural issues has emerged in some of the Chinese practitioners’ works, it has not been widely accepted and inculcated into academic programs. Following on from this, most of the Chinese works display a similar visual appearance and little individuality or cultural character. Contemporary Chinese Glass is still in the first stage of learning skills and growing up.

Having a similar relationship to Western influences, the successful historic example indicates that Qing glass practice developed through absorbing, inducting and evolving through a number of stages, during which there occurred a fusing of imported ideas and skills with Chinese cultural and traditions; not simply a straight transfer from the techniques or styles of the West, thus creating works of an interesting hybrid character. The differences of ancient and contemporary life styles between the two cultures, the predominance of other Chinese art and craft and well

formed aesthetics, resulted in the continuity and coherence of the development of a particular character of Qing glass, both technically and aesthetically. The evolution from blowing to carving (in 2.3.2 and 2.3.3) suggested the operation of a strong aesthetic preference and cultural attitude towards the material in ancient times which helped to create such cultural qualities. From my observations, Qing glass was treated from the perspective of other craft materials, mainly jade, ceramic and bronze. Other more conventional glass properties never seemed to be appreciated and employed compared to its development in the West. This also became one of the reasons for the decline of Qing glass from the beginning of the 19<sup>th</sup> century.

From the analysis of the history (Chapter 2) and the comparisons that run through the whole Chapter 3, a series of similarities and differences has emerged and have been summarized (in the table on p.200) to provide a visual focus points within the changing context.

Today, the creative component occupies a more central position than that of the Qing dynasty, the crucial change to glass as a means of expression from glass as a traditional craft material to contemporary art medium allows great freedom for individual practice. The shifts, such as the method of expression, purpose of making, attitude toward material, the status of work etc. in contemporary China has created a different model of practice, within which great opportunities are embedded.

This theory has been tested through the production of my personal creative works, and in the analysis of these and observation of the work of other Chinese practitioners, both within the University departments and in the emergence of the artists and their works into the public domain.

The production of my works influenced by the Western methodology of practice illustrates the changing context and how it affects contemporary practice. Although the inspiration of traditional Chinese ink painting runs through my whole practice, diverse outcomes have been achieved and developed by applying different glass materials and techniques, which indicate the importance of enquiry to feed creativity,



and thus provided insights into contemporary Chinese educational theory and practice.

### **5.3 Original Contributions**

The historical approach was used to generate new methods of working within contemporary Chinese glass practice and the guiding principles (in 5.4) drawn from the comparison applicable to contemporary Chinese glass education are two of the main contributions offered by this research. These are based on and examined through my personal studio practice, upon which a vision for future development has been conceived.

The nature of the historical and contemporary analyses and their comparison has made it possible to illustrate a pattern of Chinese glass activity (both similarities & differences) and to evaluate the most feasible approaches for contemporary Chinese studio glass practitioners to develop their own practical methods; placing this enquiry within a historical comparison has provided both a mirror and reference point.

Using methods, such as examining objects, making maps, juxtaposing images and re-producing historical objects in the studio (recorded in the form of the demonstrations of making processes, graphic illustrations, sketches, maps, videos and actual samples), the historical study has been crucial to this study, and, together with the physical investigations, has helped to create a new model for, and insights into future research in this area. Especially, the examination of historical objects has brought out comprehensive physical evidence that lay undiscovered or unpublished prior to this study. Some representative examples have been selected and for the first time replicated to suggest innate truths, and for the aim of the study, have helped me to accumulate first hand physical evidence that underpins my arguments. A full-scale map of the Qing glass (focuses on the Kangxi to the Qianlong periods) has been designed

and produced, and is the first time that such an illustration of the developments and evolution has been presented. The juxtaposition of images with Western examples and other Chinese craft forms has been another way to help identify authentic manifestations of Western influences, along with the impact of domestic craft making. These approaches have sought to avoid the kind of subjective perspectives in existing literary sources, caused by the fact that the bulk of previous research has been carried out by art historians, critics or archaeologists. My approach, by contrast, bases itself on the primacy of the object itself, and seeks the truth embedded within the material and its manipulation allied to the formal and functional legacies.

These methods have been used in parallel with contemporary study and supplemented by university visits, exhibitions and questionnaire. Much of this information, has been presented in its entirety in appendix form although it has helped to inform the formal writing.

Significantly, the role and perspective of my personal creative work, both in terms of the works themselves and their contribution for the research, are crucial. Three series of works have been achieved as a development of my professional career, alongside the progress and documentation of a personal methodology of practice, which is then considered as a case study for contemporary practice. More importantly, their exposure to, and feed-back from their audiences through a number of exhibitions in China during the study has enabled me to further understand the context, and examine people's reaction and attitude towards this newly established art medium. Certainly, this kind of knowledge can-not be obtained without displaying real works, and the contrast/comparison resulting from exhibiting my works parallel to the Chinese practitioners' are surprising, and again have been used to provide insights for the future.

The translated book of Professor Keith Cumming (*Techniques of Kiln-formed Glass*) and the articles published during the study are not only a part of the research for this project, but also fill in a gap for contemporary Chinese academic scene.

Additionally, extensive appendices, including almost all of the most typical Qing

examples within each of the categories, as well as information about contemporary university glass programs, museums, galleries and practitioners are included as supportive material and for anyone who might be interested to build upon this and carry out research in the future.

#### **5.4 Recommendations / A Vision**

At the moment, it is extremely important for Chinese Studio Glass to step into a new stage of development. According to the activity of Chinese glass practice across the two periods, and their parallel Western experiences, Contemporary Chinese Glass practice in the future must achieve a mature understanding of concept, material and process, and needs to develop its own character despite Western influences, not only by extending technical ranges and material understanding, but more importantly, by operating within a wider creative ethos, and establish a proper creative component within personal and institutional enquiries.

An open mind in relation to our own culture and traditions should be encouraged in practice. This will only be achieved by setting up historical elements within educational glass curricula to increase the understanding of the past, to encourage the maintenance of our own cultural accent within the strong influence of Western examples. Except where the courses directly relate to glass, basic training in a broader sense, such as drawing, model making, researching skills etc., ought to be widely developed in Chinese schools of Art & Design, to help students form the skills and habits of creation independent of the material. Then gradually, works with originality and a strong cultural character can be achieved and refined.

In addition, the concept of “cross-disciplinary practice” needs to be widely promoted in glass programs, in order to fuse new ideas and opportunities both technically and philosophically, and increase the chance for glass to work with other materials. Thus, glass will be treated as a material, not only as a subject, and it will help to clarify

where a glass program should fit in the Chinese university curriculum. All these measures for university level curriculum can be realized by personal impacts through teaching activities and national wide academic exchanges.

Since Chinese Studio Glass is still in its infancy, opportunities and challenges are generally experienced as peer to peer. Within the next few years, as kiln-formed techniques continue to expand, Chinese glass will face more challenges which, if responded to dynamically could result in a period of innovation of technique and a more general diversification. The dominance of the art work and its associated “artist & maker mode” might be challenged by the great demand for artistic industrial products. As most current practitioners are focused on the production of single sculptural objects, we ought also to realize the opportunity to act both as artists and designers. Making personal work and designing for industry can be balanced and bring mutual benefits, and this has been proved by well-established Western practitioners, such as Bertil Vallien. The philosophy of using glass as a material instead of a subject and the extended working mode can help Chinese glass to break away from the production of the single signature object, and to extend the application into other fields, such as jewellery design, product design, interior and architecture. These issues can be achieved by encouraging an interrelationship between local glass industries to provide a wider platform for students to practice outside the limitations of a studio environment. Viable ways such as work placement and project schemes within the various branches of industry are suggested.

On the other hand if the Chinese glass makers remain limited within a small technical scope, and therefore continue to produce only sculptural objects, following styles of other Western artists’, Contemporary Chinese Studio Glass in academia will flourish like the blooming of a flower, spectacular, but short-lived.

Measures, such as keeping a constant contact with the wider international glass community, whether in the format of formal academic exchanges or through personal visits and studies, can be employed to inject fresh ideas and shorten our way of exploration. The experiences learned from the study of the Western Studio Glass

Movement within each country will provide insights for current China. In addition, activities such as the setting up of regular conferences and seminars, establishing organizations, and publishing books, articles and periodicals will help to form a visionary and academic atmosphere for practitioners. Through these measures, the issue of maintaining Chinese cultural in contemporary glass practice will be constantly discussed and encouraged in relevant conferences and seminars.

During the study, I have already begun to engage with Chinese contemporary glass education through university visits and lectures, published articles, constant exhibitions, setting up a university level glass & ceramic combined studio<sup>71</sup> and even the design and use of the questionnaire. [See Appendix 18: List of Publications, Exhibitions and Conference Presentations of XUE Lu (2006-2009)]

## **5.5 Limitations and Future Research**

As the contemporary section is open-ended and on-going, this research has provided a general introduction to the movement within a certain time period (from 2000-2009), the study is just at the right position and time to affect its direction, it may not have been as opportune earlier, before trends had emerged, or later when limitations may have become too entrenched.

Several issues have been revealed during the study, which can be considered as areas for future research. Firstly, is the extension of creativity in glass to wider applications (design, architecture...) through links with industry. Additionally, this research is conducted mainly through a maker's perspective, less concerns have been put on from the view of the observer. The constant improvement of the critical and technical contexts within which glass works emerge will create a gradually maturing system

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<sup>71</sup> The glass workshop at Shanghai Institute of Visual Art runs from September 2007. Lectures and presentations have been delivered on two research visits to China (December 2007 and May 2008)

that involves educators, curators, collector, dealers and critics. A wider cultural analysis will be an issue which needs to be constantly addressed.

As to the Qing dynasty, this research provides a new viewpoint for anyone one who wishes to continue its investigation, and is meant to provoke more activities and investigations into ancient Chinese glass. In addition, is the extension of my research method to other eras (Chinese glass before the Qing dynasty) and artifacts made from other materials.

Using personal practical works as a case study has provided a powerful argument to support my opinions, whereas the influences, ideas, methods, techniques etc. are naturally based on personal choices, which, by opening up the subject, and establishing some general criteria and methods will hopefully inform and encourage future research, studio practice, and educational theory. As a practitioner, making works is a life long project, the works produced during the study only reflect a period of my creative journey. Personal practice will continue.

The integration into university curricula of the recommendations in practice, such as the design and documentation of the glass courses is also an on-going project, as well as the establishment of a contextual network, conferences, publications and information exchange.

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**Appendices:**



## Appendix1: Qing dynasty Chinese ruby red glass



Ruby red *Gu*, mould-blown glass, Yongzheng mark and period (1723-35), H: 18cm, Collection of Charlotte C. and John C. Weber.



Ruby red vase, mould-blown glass, Yongzheng mark and period (1723-35), H: 22.5cm, Collection of Charlotte C. and John C. Weber.



Ruby red Vase, mould-blown glass, Yongzheng mark and period (1723-35), H: 22.8cm, Collection of Robert Hatfield Ellsworth.



Ruby red vase in the form of horse's hoof, mould-blown glass, Qianlong period (1736-96), H: 9.1cm, Collection of the Palace Museum, Beijing.



Transparent ruby red bottle, blown glass, Qianlong mark and period (1736-96), H: 17.9cm, Collection of Alan E. Feen



Ruby red water container, blown glass, Qianlong period (1736-96), H: 2.9cm, Collection of the Palace Museum, Beijing.



Ruby red bowl, mould-blown and carved glass, Qianlong period (1736-96), D: 17.2cm, Collection of Walter and Phyllis Shorestein.



Ruby red bowl, mould-blown and carved glass, Qianlong period (1736-96), D: 17.2cm, Collection of Walter H. and Phyllis Shoresteirs.



Ruby red bottle, mould-blown and carved glass, Qianlong period (1736-96), H: 10.3cm, Collection of Alan E. Feen



Ruby red box with cover, mould-blown and carved glass, late 18<sup>th</sup> to 19<sup>th</sup> century, D: 7.3cm, Collection of Alan E. Feen



Opaque ruby red vase, mould-blown and carved glass, Qianlong mark and period (1736-96), H: 23cm, Collection of Walter and Phyllis Shorestein.



Ruby red jars, mould-blown and carved glass, 18<sup>th</sup> century, H: 8.2cm, Collection of Charlotte C. and John C. Weber.

## Appendix 2: Qing dynasty Chinese enamel glass



Mallet shaped vase, blown and enameled glass, Yongzheng mark and period (1723-35), H: 14.6cm, Collection of the Royal Ontario Museum, Toronto 99.8.207.



Snuff bottle, blown and enameled glass, Qianlong mark and period (1736-96), H: 7cm, Collection of the Palace Museum, Beijing.



Snuff bottle, blown and enameled glass, Qianlong mark and period (1736-96), H: 6cm, Collection of the Palace Museum, Beijing.



Snuff bottle, blown and enameled glass, Qianlong period (1736-96), H: 8.5cm, Collection of the Palace Museum, Beijing.



Brush pot, blown and enameled glass, Qianlong mark and period (1736-96), H: 8.3cm.



Snuff bottle, blown and enameled glass, Qianlong mark and period (1736-96), H: 4.6cm, Collection of the Palace Museum, Beijing.



Pouch-shaped vase, blown and enameled glass, Qianlong period (1736-96), H: 18.8cm, Collection of Alan and Simone Hartman.



Brush washer, blown and enameled glass, Qianlong period (1736-96), H: 3.5cm. Collection of Li Jingsun.



Flower pot, blown and enameled glass, Qianlong period (1736-96), H: 7.1cm, Collection of Li Jingsun.

## Appendix 3: Disparate Categories



Vase, blown glass with gilt decoration, QianLong mark and period (1736-96), H 18.4cm, Collection of Robert H. Clague.



Vase, blown glass with gilt decoration, QianLong mark and period (1736-96), H 14.5cm, Collection of Charlotte C. & John C. Weber.



Vase, blown aventurine glass, QianLong mark and period (1736-96), H: 15cm, Collection of V&A (C. 694-1936)



Vase, blown aventurine glass, 18<sup>th</sup> century, H: 19cm, Collection of Alan E. Feen



Water container, blown glass, aventurine glass, Middle Qing dynasty, H: 4.5cm, Collection of the Palace Museum, Beijing.



Bottle, blown aventurine glass, 19<sup>th</sup> century, H: 12cm, Collection of V&A (C. 690-1936) \*



Pair of fluted vases, blown and cut glass, in imitation of realgar, Qianlong mark and period (1736-96), H: 12.7cm, Collection of James Biddle.



Snuff bottle, blown glass in imitation of realgar, Qianlong period (1736-96), H: 5.7cm.



Cup, blown glass with marvered and dragged decoration, 18<sup>th</sup>-19<sup>th</sup> century, H: 7cm, Collection of Mrs. Barney Dagan



Flower pot, blown glass with red speckles, Middle Qing dynasty, H: 9.7cm, Collection of the Palace Museum, Beijing.

## Appendix 4: Qing dynasty Chinese aventurine glass



Aventurine celestial chicken, carved glass, Qianlong period (1736-96), H: 15cm, Collection of the Palace Museum, Beijing.



Aventurine miniature rocky, carved glass, Qianlong period (1736-96), H: 12.5cm, Collection of the Palace Museum, Beijing.



Aventurine flower and water container with the shape of citron and pomegranate, carved glass, Qianlong period (1736-96), H: 13.5cm, Collection of the Palace Museum, Beijing.



Aventurine flower and water container with the shape of bamboo and peach, and with ivory stand, carved glass, Qianlong period (1736-96), H: 10.2cm, Collection of the Palace Museum, Beijing.



Aventurine flower and water container, carved glass, Qianlong period (1736-96), H: 15.5cm, Collection of the Palace Museum, Beijing.





Aventurine vase, carved glass, Qianlong period (1736-96), H: 18cm, Collection of the Palace Museum, Beijing.



Aventurine vase in gourd shape, carved glass, Qianlong period (1736-96), H: 12.3cm, Collection of the Palace Museum, Beijing.












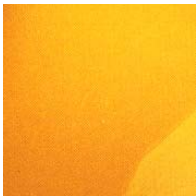

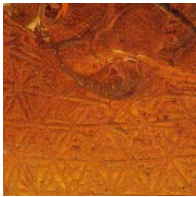
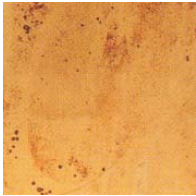
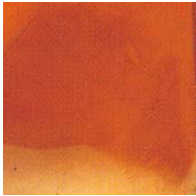


Aventurine Zun, carved glass, 19<sup>th</sup> century, H: 13.1cm, Collection of Li Jingxun



Aventurine brush pot with ice crackle pattern, carved glass, Qianlong period (1736-96), H: 13.5cm, Collection of the Palace Museum, Beijing.

## Appendix 5: Chromatogram of Qing dynasty Chinese Glass

<p>Transparent colorless 近无色透明</p>		<p>Transparent tea 茶色</p>	
<p>Opaque white 霁雪白</p>		<p>Transparent yellow crystal 黄晶色</p>	
<p>Opaque white 凝脂白, 呆白</p>		<p>Translucent pale yellow 淡黄</p>	
<p>Translucent ivory 象牙白</p>		<p>Opaque pale yellow 不透明淡黄</p>	
<p>Opalescent white 藕粉白</p>		<p>Opaque yellow 不透明亮黄</p>	
<p>Translucent white 涅白</p>		<p>Opaque yellow 娇黄</p>	
<p>Weathered greenish white imitating nephrite</p>		<p>Transparent amber 琥珀色</p>	
<p>Weathered greenish white imitating nephrite</p>		<p>Opaque orange imitating realgar 仿雄黄</p>	

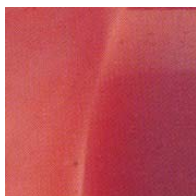
Translucent pale pink  
淡粉红



Opaque pale pea green  
不透明淡豆绿



Opaque pink  
不透明粉红



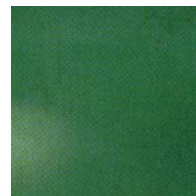
Opaque pea green  
不透明豆绿



Opaque red imitating  
carnelian 不透明红玉髓



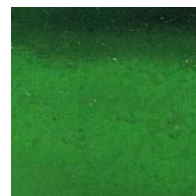
Opaque green  
不透明绿



Transparent ruby red  
宝石红



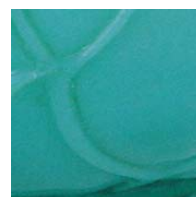
Transparent green  
绿



Transparent red  
红



Opaque turquoise  
绿松石



Transparent dark red  
暗红



Opaque blue-green  
不透明蓝绿



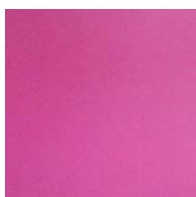
Opaque cowpea red  
不透明豇豆红



Transparent  
blue-green 蓝绿



Transparent light purple  
亮紫



Opaque pale blue  
不透明淡蓝



Opaque peacock blue  
孔雀蓝



Opaque light blue  
不透明浅蓝



Translucent pale blue  
淡青



Translucent sky blue  
淡天蓝



Transparent flashed blue  
亮蓝



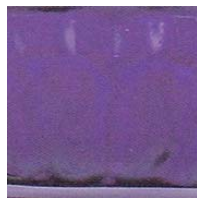
Transparent blue  
蓝



Transparent sapphire blue  
宝蓝



Transparent purple  
紫



Transparent amethyst  
深紫



## Appendix 6: Qing dynasty Chinese imperial yellow glass



Opaque yellow vase, mould-blown and faceted cut glass, Yongzheng mark and period (1723-35), H: 15.1cm, Collection of Walter and Phyllis Shorenstein.



Opaque yellow jar, blown glass, Yongzheng mark and period (1723-35), H: 3.8cm, Collection of the Palace Museum, Beijing.



Opaque yellow *Zadou*, mould-blown and carved glass, Yongzheng mark and period (1723-35), H: 9.9cm, Collection of the Palace Museum, Beijing.



Opaque yellow box, blown glass, Yongzheng mark and period (1723-35), H: 3.3cm, Collection of the Palace Museum, Beijing.



Opaque yellow water container, blown glass, Yongzheng mark and period (1723-35), H: 5.6cm, Collection of the Palace Museum, Beijing.



Opaque yellow *Zadou*, mould-blown glass, Qianlong mark and period (1736-96), H: 7.9cm, Collection of Alan E. Feen



Opaque yellow *Zadou*, blown glass, Qianlong mark and period (1736-96), H: 5.9cm, Collection of Mrs. Barney Dagan

Opaque yellow glass cups, mould-blown glass, 18<sup>th</sup> century, H: 6.4cm, Collection of Mrs. Barney Dagan



Opaque yellow flower pot, blown glass, 18<sup>th</sup> century, D: 5.9cm, Collection of Mrs. Barney Dagan



Opaque yellow brush washer, blown glass, 18<sup>th</sup> century, D: 12.7cm, Collection of Alan E. Feen



Opaque yellow cylindrical brush holder, blown glass, 18<sup>th</sup> century, H: 12.7cm, Collection of Alan E. Feen



Opaque yellow bottle in gourd shape, blown glass, 18<sup>th</sup> century, H: 18.9cm, Collection of Walter and Phyllis Shorestein.



Opaque yellow bottle, blown glass, 18<sup>th</sup> century, H: 17.5cm, Collection of Mrs. Barney Dagan



Opaque yellow snuff bottle, blown glass, 18<sup>th</sup> century, H: 6.7cm, Collection of Mrs. Barney Dagan



Vessel in shape of ancient water pouter, mould-blown glass, Qianlong period (1736-96), H: 17.9cm, Collection of Bristol City Museum and Art Gallery (N4750). \*



Opaque yellow vase, blown glass, Qianlong period (1736-96), H: 21.2cm, Collection of Bristol City Museum and Art Gallery (N4760). \*



Opaque yellow bottle, blown glass, Qianlong period (1736-96), H: 15.8cm, Collection of Bristol City Museum and Art Gallery (N4763). \*



Opaque yellow bottle, blown glass, Qianlong period (1736-96), H: 14.6cm, Collection of Bristol City Museum and Art Gallery (N4765). \*



Opaque yellow bottle, blown glass, Qianlong period (1736-96), H: 11.7, Collection of Bristol City Museum and Art Gallery (N4778). \*



Opaque yellow bottle, blown glass, Qianlong period (1736-96), H: 21.6cm, Collection of Bristol City Museum and Art Gallery (N4769). \*



Opaque yellow *Zadou*, mould-blown glass, Qianlong period (1736-96), H: 10cm, Collection of Bristol City Museum and Art Gallery (N4766). \*



Opaque yellow *Zun*, mould-blown glass, Qianlong period (1736-96), H: 22.2cm, Collection of Bristol City Museum and Art Gallery (N4768). \*



Opaque yellow bowl, blown glass, Qianlong mark and period (1736-96), H: 6.5cm, Collection of the Palace Museum, Beijing.





Opaque yellow bowl, blown glass, Qianlong mark and period (1736-96), H: 4.3cm, Collection of the Palace Museum, Beijing.



Opaque yellow incense burner *Din*, mould blown and carved glass, Qianlong period (1736-96), H:7.2cm, Collection of Li Jingxun



Opaque yellow brush washer, mould-blown and carved glass, Qianlong mark and period (1736-96), H: 6.5cm, Collection of the Palace Museum, Beijing.



Opaque yellow water dropper in the form of lotus leaf, blown and carved glass, 18<sup>th</sup> century, D: 11cm, Collection of Alan E. Feen



Opaque yellow bowl, blown and carved glass, Qianlong mark and period (1736-96), D: 27cm, Collection of Walter and Phyllis Shorenstein.



Opaque yellow bulb bottle, blown and carved glass, Qianlong period (1736-96), H: 7.2cm, Collection of Walter and Phyllis Shorenstein.



Opaque yellow vase, blown and carved glass, Qianlong period (1736-96), H: 16.8cm, Collection of Bristol City Museum and Art Gallery (N4772). \*



Opaque yellow *Gu*, blown and carved glass, Qianlong period (1736-96),  
H: 20.6cm, Collection of Walter and Phyllis Shorenstein.



Opaque yellow vase, blown and carved glass, Qianlong mark and period  
(1736-96), H: 15.2cm, Collection of Walter and Phyllis Shorenstein.



Opaque yellow vase, blown and carved glass, 19<sup>th</sup> century, H: 20.6cm,  
Collection of Mrs. Barney Dagan

## Appendix 7:

### Qing dynasty Chinese cased and cameo glass



Multi-coloured vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 23.5cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 15cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 14.6cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 14cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 29.5cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 10.7cm, Collection of Bristol City Museum and Art Gallery (N4667).



Cameo warrior vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 48.9cms, Collection of the Corning Museum of Glass (57.6.10)

*“Translucent red over colorless glass having the appearance of crushed ice, blown in a mold and cameo-carved. The globular body is decorated with five galloping horsemen. One brandishes a pair of lances while the rest carry large globular bags on shorter handles. The action takes place in a rocky landscape dotted with trees and bushes. A ramp leads to an elaborate temple carved on the neck; four monks on the porch of the temple point to a hanging painted scroll decorated with a headless figure.*

*The size and quality of carving on this vase are extraordinary. It would appear that some sort of tournament is depicted. The objects which have been described as racket or fan-shaped seem to be bulbous rather than flat. They resemble punching bags in that they appear to be segments of cloth or leather sewn together. Whether they are targets for the lancer or oversize padded maces used to unseat him is unclear.”*

Charleston, Masterpieces, p.180, no. 82; Short History, p.34, no.28; Warren, “Chinese Glass,” p.114, fig.40; Guide, p.80, no.104.



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 25cm, Collection of Bristol City Museum and Art Gallery (N4652).



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 7.7cm, Collection of Bristol City Museum and Art Gallery (N4653).



Cameo waster jar, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 9.8cms, Collection of the Palace Museum, Beijing



Cameo brush pot, mould-blown cased glass, Qianlong period (1736-96), H: 11.7cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 21.8cm, Collection of Bristol City Museum and Art Gallery (N4675). \*



Cameo censer burner, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 7.3cms, Collection of the Palace Museum, Beijing



Cameo bowl, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 12.5cms, Collection of the Palace Museum, Beijing



Cameo bowl, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 8.25cms, Collection of Alan E. Feen.



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 15.1cm, Collection of Bristol City Museum and Art Gallery (N4685).



Cameo water container, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 3.6cms, Collection of the Palace Museum, Beijing



Cameo dish, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 1.4cms, Collection of the Palace Museum, Beijing



Cameo water container, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 3.9cms, Collection of the Palace Museum, Beijing



Cameo snuff bottle, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 6.1cms, Collection of the Palace Museum, Beijing



Cameo fish shape snuff bottle, mould-blown cased and carved glass, Qianlong period (1736-96), L: 7.5cms, Collection of the Palace Museum, Beijing



Cameo bowl, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 9.3cms, Collection of the Palace Museum, Beijing



Cameo bowl, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 13.3cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 11cm, Collection of Bristol City Museum and Art Gallery (N4554).



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 19.8cms, Collection of the Palace Museum, Beijing

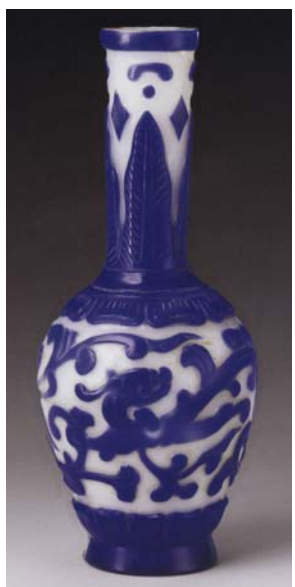




Cameo vase, mould-blown and carved glass, 19<sup>th</sup> century, H: 21cms, Collection of Alan E. Feen.



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 18.6cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 13.1cms, Collection of the Palace Museum, Beijing



Cameo bowl, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 5.3cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, 18<sup>th</sup> century, H: 20.4cms, Collection of Walter and Phyllis Shorenstein.



Cameo censer, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 6.8cms, Collection of the Palace Museum, Beijing



Cameo sacrificial vessels, mould-blown cased and carved glass, Qianlong period (1736-96), H: 18.7/23.6cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 16cms, Collection of the Palace Museum, Beijing



Cameo vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 16cms, Collection of V&A (No.C.1525-1910). \*

*"The elegant design of fish, shellfish and lotus was cut and ground through a thick overlay of glass, to reveal the turquoise, which has in turn been worked into a rippling lotus-leaf pattern. It is known that Japonism inspired late 19th-century Western designers, such as Emile Galle, but pieces like this vase illustrate the lesser known influence from China."* (Liefkes, 1997, p.83)



Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 23.1cm, Collection of Bristol City Museum and Art Gallery (N4747). \*



Cameo vessels, mould-blown cased and carved glass, 18<sup>th</sup> century, H:11.7/14.3/10.2/9.8cms, Collection of Robert H. Clague.



Cameo vase. Mould-blown cased and carved glass, 19th century, H. 9¼ ins, Collection of Broadfield Glass House Museum (BH20). \*



Cameo vessels, mould-blown cased and carved glass, Qianlong period (1736-96), H:15cms, Collection of V& A (C.84-1910). \*



Cameo vessels, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H:14.6/22.9cms, Collection of Robert H. Clague.



Hexagonal red bottle, mould-blown and carved glass, Qianlong mark and period (1736-96), H: 4.7cms, Collection of Alan E. Feen.



Cameo box, mould-blown cased and carved glass, Qianlong period (1736-96), H: 4.7cms, Collection of the Palace Museum, Beijing



Amber bowl, mould-blown and carved glass, Qianlong period (1736-96), H: 9cm, Collection of Bristol City Museum and Art Gallery (N4613). \*



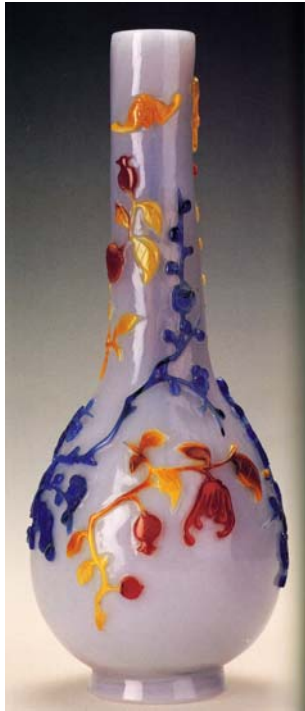
Amber bottle, mould-blown and carved glass, Qianlong mark and period (1736-96), H: 10.8cms, Collection of Mrs. Barney Dagan.



Transparent blue vase, mould-blown and carved glass, 18<sup>th</sup> century, H: 18.1cms, Collection of Alan E. Feen.



Transparent deep blue vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 26.3cms, Collection of Walter and Phyllis Shorestein.



Translucent white vase, mould-blown cased and carved glass, 18<sup>th</sup> century, H: 24.7cms, Collection of Walter and Phyllis Shorestein.



Opaque white cameo vase, mould-blown cased and carved glass, 18<sup>th</sup> to 19<sup>th</sup> century, H: 21.9cms, Collection of the Chrysler Museum, Norfolk, Virginia (76.1).



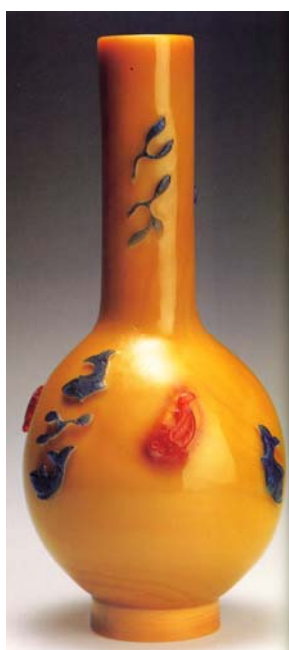
Cameo vase, mould-blown cased and carved glass, Qianlong period (1736-96), H: 15.9cm, Collection of Bristol City Museum and Art Gallery (N4718). \*



Opaque white vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 17.2cms, Collection of Walter and Phyllis Shorestein.



Opaque white covered vase, mould-blown and carved glass, 19<sup>th</sup> to 20<sup>th</sup> century, H: 24cms, Collection of Alan E. Feen.



Amber vase, mould-blown cased and carved glass, Qianlong mark and period (1736-96), H: 19.8cms, Collection of Walter and Phyllis Shorestein.



Green vase, mould-blown cased and carved glass, 18<sup>th</sup> century, H: 13cms, Collection of Mrs. Barney Dagan



Gourd shaped vase, mould-blown and carved glass, 18<sup>th</sup> century, H: 9.5cms, Collection of Mrs. Barney Dagan



Peachbloom brush washer, mould-blown cased and carved glass, 18<sup>th</sup> century, D: 5.7cms, Collection of Mrs. Barney Dagan



Brush washer, mould-blown cased and carved glass, 18<sup>th</sup> century, D: 5.1cms, Collection of Mrs. Barney Dagan



Covered box, mould-blown cased and carved glass, 18<sup>th</sup> century, D: 9.5cms, Collection of Mrs. Barney Dagan





Opaque green tripod jar, mould-blown cased and carved glass, Qianlong period (1736-96), H: 8.2cms, Collection of Walter and Phyllis Shorestein.



Melon shaped water pot, mould-blown cased and carved glass, 18<sup>th</sup> century, H: 7.6cms, Collection of Charlotte C. and John C. Webber.



Water pot, mould-blown cased and carved glass, 19<sup>th</sup> century, H: 5.4cms, Collection of Robert L. Chasin.



Pair of jars, mould-blown cased and carved glass, 19<sup>th</sup> century, H: 13.7cms, Collection of Mrs. Barney Dagan



Lotus bowl, mould-blown and carved glass, 19<sup>th</sup> century, D: 18.4cms, Collection of Alan E. Feen



Lotus bowl, mould-blown and carved glass, 19<sup>th</sup> century, D: 16cms, Collection of Mrs. Barney Dagan



Cameo vase, mould-blown cased and cut glass, Qianlong period (1736-96), H: 7.3cm, Collection of Bristol City Museum and Art Gallery (N4708).



Mustard-yellow bowl, mould-blown and carved in relief with sprays of prunus and birds, 19th century, D. 6½ ins, Collection of Broadfield Glass House Museum. \*



Celadon-coloured bowl, mould-blown and carved glass in relief with a dragon chasing the Jewel among cloud-scrolls, 18th century (with WanLi Reign Mark, in imitation of celadon-glaze pottery made in WanLi period 1572-1620), H. 4 ins.,

Collection of Broadfield Glass House Museum (BH25). \*



Censer burner, mould-blown and cut glass, Qianlong period (1736-96), H: 14cm, Collection of Bristol City Museum and Art Gallery (N4557). \*

## Appendix 8: Qing dynasty Chinese facet-cut glass



Crizzled clear hexagonal water container, mould-blown and cut glass, Kangxi period (1662-1722), H: 4.5cm, Collection of V&A (C.164-1938). \*



Amber hexagonal water container, mould-blown and cut glass, Yongzheng mark and period (1723-35), H: 3.1cm, Collection of Palace Museum, Beijing.



Opaque pink vase, mould-blown and cut glass, Yongzheng mark and period (1723-35), H: 13cm, Collection of Alan E. Feen.



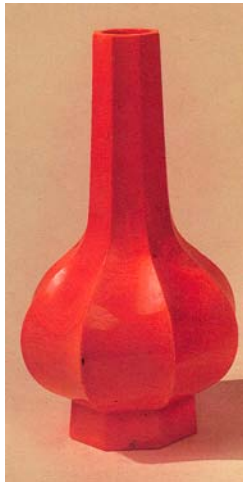
Opaque yellow vase, mould-blown cut glass, Yongzheng mark and period (1723-35), H: 15.1cm, Collection of Walter and Phyllis Shorestein.



Ruby red vase, mould-blown and cut glass, Yongzheng mark and period (1723-35), H: 22.5cm, Collection of Charlotte C. and John C. Weber.



Realgar octagonal vase, mould-blown and cut glass, Qianlong period (1736-96), H: 14.1cm, Collection of Bristol City Museum and Art Gallery (N4528). \*



Orange octagonal vase, mould-blown and cut glass, Qianlong period (1736-96), H: 12.7cm, Collection of James Biddle



Red octagonal vase, mould-blown and cut glass, Qianlong period (1736-96), H: 14.2cm, Collection of Bristol City Museum and Art Gallery (N4532). \*



Green octagonal vase, mould-blown and cut glass, Qianlong period (1736-96), H: 15.3cm, Collection of Li Jingxun.



Transparent deep blue vase, mould-blown and cut glass, Qianlong mark and period (1736-96), H: 23.7cm, Collection of Walter and Phyllis Shorenstein.



Transparent blue vase, mould-blown and cut glass, Qianlong mark and period (1736-96), H: 27cm, Collection of Walter and Phyllis Shorenstein.



Sapphire blue octagonal vase, mould-blown and cut glass, Qianlong period (1736-96), H: 15.1cm, Collection of the Palace Museum, Beijing



Sapphire blue octagonal vase, mould-blown and cut glass, Jiajing period (1796-1820), H: 14.1cm, Collection of the Palace Museum, Beijing



Sky blue brush washer, mould-blown and carved glass, 18<sup>th</sup> century, H: 2.8cm, Collection of Li Jingxun.



Green waste jar, mould-blown and cut glass, mid-Qing dynasty, H: 8.7cm, Collection of the Palace Museum, Beijing



Ruby red jars, mould-blown and cut glass, 18<sup>th</sup> century, H: 8.2cm, Collection of Charlotte C. and John C. Weber.



Sky blue brush washer, mould-blown and cut glass, 19<sup>th</sup> century, H: 9.7cm, Collection of Li Jingxun.



Jar, blown and cut glass, 19<sup>th</sup> century, H: 17.8cms, Collection of Robert H. Clague



Pair of bowls, mould-blown and cut glass, second half of 19<sup>th</sup> century, D: 16.3cms, Collection of Robert H. Clague.



Sky blue octagonal vase, mould-blown and cut glass, Daoguang period (1821-50), H: 14.1 cm, Collection of the Palace Museum, Beijing



Blue octagonal vase, mould-blown and cut glass, Xianfeng mark and period (1851-61), H: 14 cm, Collection of Li Jingxun.



Blue octagonal vase, mould-blown and cut glass, Guangxu mark and period (1875-1908), H: 18.8 cm, Collection of Li Jingxun.



Amber octagonal vase, mould-blown and cut glass, Guangxu mark and period (1875-1908), H: 13.9 cm, Collection of Li Jingxun.

## Appendix 9: Qing dynasty Chinese glass with back-up foot ring



Clear vase, blown glass, Yongzheng mark and period (1723-35), H: 44cm, Collection of the Palace Museum, Beijing.



Crizzled clear *Zun*, blown glass, Yongzheng mark and period (1723-35), H: 18.6cm, Collection of Royal Ontario Museum, Toronto (930\*102.3).



Blue *Zun*, blown glass, Yongzheng mark and period (1723-35), H: 19.5cm, Collection of the Palace Museum, Beijing.





Blue bowl with cover, blown and diamond-point engraved glass, Yongzheng mark and Period (1723-35), H: 13.7cm, Collection of Li Jingxun.



Blue bowl, blown and diamond-point engraved glass, slightly crizzled, Yongzheng mark and period (1723-35), D: 17.3cm, collection of Asian Art Museum of San Francisco B87 M7

## Appendix 10:

### Qing dynasty Chinese glass with ribbed decoration



Ribbed dish, mould-blown glass, Kangxi period (1662-1722), D: 14cm, Collection of the Asian Art Museum of San Francisco, the Avery Brundage Collection (B62 M64)



Ribbed dish, mould-blown glass, Kangxi period (1662-1722), D: 14.2cm, Collection of Li Jingxun



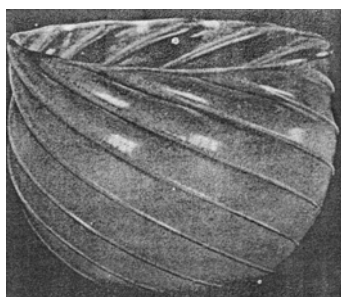
Ribbed dish, mould-blown glass, Kangxi period (1662-1722), D: 14.1cm, Collection of the Corning Museum of Glass (79.6.17)



Ribbed dish, mould-blown glass, Kangxi period (1662-1722), H: 4.1cm, Collection of Bristol City Museum and Art Gallery N4549. \*



Bowl with ribbed decoration, mould-blown brownish-yellow glass, Kangxi period (1662-1722), D: 25.4cm, Gift of Wilfred Buckley, Formerly Eumorfopoulos Collection, Collection of V&A (C. 680-1936). \*



Bowl, mould-blown crizzelled glass, Kangxi period (1662-1722), D: 27.7cm, Collection of V&A



Covered jar, mould-blown glass, Kangxi period (1662-1722), D: 20cm, Collection of the St. Louis Art Museum (No.32.21).



Jar, mould-blown glass, Kangxi period (1662-1722), H: 30.5cm, Collection of Palace Museum, Beijing.



Fluted vase, mould-blown glass, Kangxi period (1662-1722), H: 14.9cm, Collection of Walter H. and Phyllis Shorestein



Vase, mould-blown glass, Qianlong period (1736-96), H: 17.6cm, Collection of the Palace Museum, Beijing.

## Appendix 11:

### Qing dynasty Chinese glass with *Façon-de-Venice* influence



Crizzelled handkerchief bowl, blown glass, Kangxi period (about 1680 -1700), H: 5cm, Collection of V&A (C.173-1938) \*



Colouless crizzeld footed bowl, mould-blown glass, Yongzheng mark and period (1723-35), H: 11.2cm, Collection of Aelson-Atkins Museum of Art, Kansa City, Missouri (no.35-118).



Vase with red and blue strips, blown and trailed glass, Qianlong period (1736-96), H: 30.4cms, Collection of Britstol City Museum and Art Gallery (N4746). \*



Vase with white strips, blown and trailed glass, Qianlong period (1736-96), H: 30.4cms, Collection of the Palace Museum, Beijing



Blue vase with flower mouth, blown glass, middle Qing dynasty, H: 22.2cms, Collection of the Palace Museum, Beijing



Altar vessel, mould-blown and carved glass, Qianlong period (1736-96), H: 12.5cm, Collection of Bristol City Museum and Art Gallery (N4574).

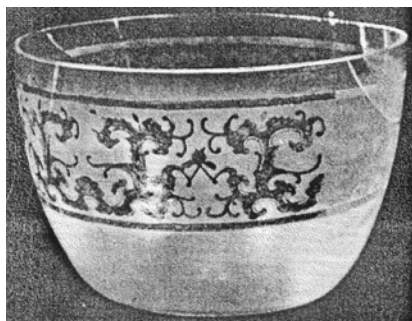
## Appendix 12: Qing dynasty Chinese engraving glass



Pair of cups, blown and diamond-point engraved glass, Kangxi period (1662-1722), H: 5.6cms, Collection of the Corning Museum of Glass, Corning, New York (76.6.1 A,B.).



Dish, blown and wheel engraved glass, Kangxi period (1662-1722), D: 24cm, Museum of Fine Arts, Boston (52.114).



Bowl, blown and diamond-point engraved glass, Kangxi period (1662-1722), D: 24.8cm, Collection of Röhsska Museet, Gothenburg.



Dish, blown and diamond-point engraved glass, Kangxi period (1662-1722), D: 11cm, Collection of Walter H. and Phyllis Shorenstein.



Cobalt blue bowl, blown and diamond-point engraved glass, Kangxi Period (1662-1722), D: 17.3cm, Collection of V&A (No.C.830-1883). \*

Honey (1949) notes:

*"A blue-glass bowl and cover [No.C.830-1883], much decayed, recalls a shape familiar in K'and His porcelain and is decorated with diamond-engraved cloud-scrolls showing great delicacy and firmness of touch.*



Bowl, blown and diamond-point engraved glass, YongZheng Period (1723-35), H: 7cm, Collection of Li Jingxun.



Bowl, blown and diamond-point engraved glass, YongZheng Period (1723-35), H: 5cm, Collection of Li Jingxun.



Blue bowl, blown and diamond-point engraved glass, YongZheng mark and Period (1723-35), H: 13.7cm, Collection of Li Jingxun.



Orchids amber cup, blown and wheel engraved glass, Qianlong mark and period (1736-96), H: 4.3cm, Collection of Walter H. and Phyllis Shorestein.



Orchids amber cup, blown and wheel engraved glass, Qianlong mark and period (1736-96), H: 3.4cm, Collection of the Palace Museum, Beijing.



Bowl, blown and wheel engraved glass, Qianlong mark and period (1736-96), H: 5.8cm, Collection of Li Jingxun.



Cup with cover, blown and wheel engraved glass, Qianlong period (1736-96), H: 14.4cm, Collection of the Palace Museum, Beijing.



Bowl, blown and wheel engraved glass, Qianlong period (1736-96), H: 7.1cm, Collection of Broadfield Glass House Museum (BH 24). \*



Sky blue censer, vase and box, blown and wheel engraved glass, Qianlong period (1736-96), H: 7.7/3.2/13.4cm, Collection of the Palace Museum, Beijing.





Sky blue vase, blown and wheel engraved glass, Qianlong period (1736-96), H: 18.9cm, Collection of Bristol City Museum and Art Gallery (N4543). \*



Cobalt blue brush washer, blown and diamond-point engraved glass, Qianlong period (1736-96), H: 3.6cm, Collection of Bristol City Museum and Art Gallery (N4549). \*



Stem cup, blown and wheel engraved glass, 18<sup>th</sup> century, H: 10.8cm, Collection of Li Jingxun.



Cup, blown and wheel engraved glass, Jiaqing Period (1796-1820), H: 6.5cm, Collection of Li Jingxun.

## Appendix 13: List of Chinese University Glass Studio

### Glass Studio, Fine Arts College, Shanghai University

上海市宝山区上大路 99 号 200436 上海大学美术学院 玻璃工作室

99 Shang Da Road, Bao Shan Area, Shanghai 200436

Tel: +86 (0)21 66132818

<http://www.shu.edu.cn/Adm>

### Glass Studio, Shanghai Institute of Visual Art

上海市松江区文翔路 2200 号 201620 上海视觉艺术学院 实训中心玻璃工作室

No.2200, Wen Xiang Road, Songjiang Area, Shanghai 201620

Tel: +86 (0)21 67823212

<http://www.siva.edu.cn/>

### Glass Studio, College of Applied Art & Design, Shanghai Second Polytechnic University

上海浦东新区金海路 2360 号 201209 上海第二工业大学 应用艺术设计学院 玻璃工作室

No.2360 Jin Hai Road, Pu Dong new Area, Shanghai 201209

Tel: +86 (0)21 50217702

<http://www.shspu.edu.cn/>

### Glass Studio, Arts & Crafts Department, Shanghai Arts & Crafts Vocational College

上海市嘉定区嘉行公路 851 号 201808 上海工艺美术职业学院 工艺美术系 玻璃工作室

No.851 Jia Hang Gong Road, Jiading Area, Shanghai 201808

Tel: +86 (0)21 61421860

<http://www.gymy.cn/structure/index2>

### Glass Studio, Academy of Arts and Design, Tsing Hua University

北京市海淀区 100084 清华大学美术学院 玻璃艺术工作室 (C114)

C114, B150, Academy of Arts & Design, Tsing Hua University, Haidian District, Beijing 100084

Tel: 010-62798758

<http://ad.tsinghua.edu.cn/qhmy/index.jsp>

### Glass Studio, China Academy of Art, Hang Zhou

杭州西湖区转塘镇象山 352 号 中国美术学院 公共艺术学院 玻璃工作室 310024

352 Xiang Shan, Zhuan Tang Town, Hang Zhou 310024

<http://www.chinaacademyofart.com/default1.htm>

**Glass Studio, Nan Jin Arts Institute**

南京市虎踞北路 15 号 210013 南京艺术学院 玻璃工作室

No.15 North Hu Ju Road, Nan Jing 210013

<http://www.njarti.edu.cn/>

**Glass Studio, Modern Handicraft Art Department, Shang Dong University of Art & Design**

济南市千佛山东路 23 号 250014 山东工艺美术学院 现代手工艺学院 玻璃工作室

No.23 East Qian Foshan Road, Ji Nan, Shan Dong province 250014

<http://www.sdada.edu.cn/gyms/>

**Glass Studio, School of Art & Design, Shen Zhen Polytechnic**

深圳市西丽湖 深圳职业技术学院 艺术设计学院 玻璃工作室

XiLi lake, Shen Zhen 518055

Tel: 0755-26019270

Fax: 0755-26019271

<http://design.szpt.edu.cn/>

**Glass Studio, Academy of Visual Arts, Hong Kong Baptist University**

香港浸会大学 视觉艺术院 玻璃工作室

6/F&7/F, Fong Shu Chuen Library, Ho Sin Hang Campus, Hong Kong Baptist University.

Tel: (852) 3411-7847

Email: ar@hkbu.edu.hk.

<http://www.hkbu.edu.hk/eng-ver/index.php>

## Appendix 14:

### List of Contemporary Chinese Glass Museum & Gallery

#### **Two Cities Gallery, Shanghai**

上海双城现代手工艺画廊

上海市莫干山路 50 号 0 号楼 二楼 200060

2<sup>nd</sup> Floor, Building 0, 50 Mo Ganshan Road, 200060, Shanghai

Tel: +86 (0)21 5252 1518

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

#### **Liuli China Museum**

琉璃中国博物馆

上海市马当路 158 号 200020

No. 158 Ma Dang Road, 200020, Shanghai

Tel: +86 (0)21-5382 9886

<http://www.liulichinamuseum.com>

#### **Gaffer Studio Glass Gallery, Hong Kong**

香港田灣海旁道 7 號興偉中心 17 字樓 06-08 室

Units 6-8 17/F, Hing Wai Centre, 7 Tin Wan Praya Road, Aberdeen, Hong Kong

Tel: +852 2521 1770

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

#### **Kuro Contemporary Art, Hong Kong**

香港田灣海旁道 7 號興偉中心 16 字樓 04 室 (往華貴邨)

1604, Hing Wai Centre, 7 Tin Wan Praya Road, Aberdeen, Hong Kong

Tel: +852 9120 4264

Fax: +852 2987 8422

<http://www.koru-hk.com/>

## Appendix 15: Other centrifuged works of Xue Lu



XUE Lu, *dewdrop*, kiln-formed and centrifuged glass, D: 25cm, 2005



XUE Lu, *Ink Series 水墨系列-3*, kiln-formed and centrifuged glass, D: 32cm, 2005



XUE Lu, *Ink Series 水墨系列-4*, kiln-formed and centrifuged glass, D: 32cm, 2005



XUE Lu, *Ink Series 水墨系列-5*, kiln-formed and centrifuged glass, D: 30cm, 2005



XUE Lu, *Ink Series* 水墨系列-9, kiln-formed and centrifuged glass,  
D: 30cm, 2005



XUE Lu, *Ink Series* 水墨系列-10, kiln-formed and centrifuged glass,  
D: 30cm, 2005



XUE Lu, *Ink Series* 水墨系列-11, kiln-formed and centrifuged glass,  
D: 30cm, 2005



XUE Lu, *Ink Series* 水墨系列-12, kiln-formed and centrifuged glass,  
D: 30cm, 2005



XUE Lu, Ink Series 水墨系列-13, kiln-formed and centrifuged glass,  
D: 25cm, 2005



XUE Lu, Ink Series 水墨系列-14, kiln-formed and centrifuged glass,  
D: 30cm, 2005

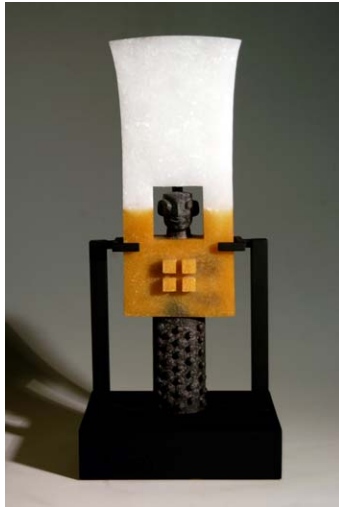


XUE Lu, Ink Series 水墨系列-16, kiln-formed and centrifuged glass,  
D: 30cm, 2005



XUE Lu, Ink Series 水墨系列-Lily pad, kiln-formed and centrifuged glass, D: 30cm, 2005/6

## Appendix 16: Other works of Guan Donghai



Guan Donghai, *Weapon Series 1*, Kiln-formed glass and metal structure, 64×24×18cms, 2006

Guan Donghai, *Weapon Series 2*, Kiln-formed glass and metal structure, 51×23.5×18cms, 2006



Guan Donghai, *Seven Swords*, Kiln-formed glass and metal structure, 55×110×6cms, 2006

*"The forms of the Weapon Series similarly take their bronze and jade ceremonial antecedents into a new architectural order – as scaled-down, intimate models of potentially monumental forms that continue employ the mould-casting and cold abrasive technologies that gave form to their ancient precedents."* (Brewerton, 2006)



## Appendix 17:

### Questionnaire: Investigation of Contemporary Chinese Glass and Personal Work

This investigation is based on a body of personal glass works which created from 2004 to 2007 during the study at the University of Wolverhampton (UK). People who are involved in this questionnaire are Chinese artists, designers, craftsmen, art historians and curators etc..

\* This questionnaire has been distributed twice during the study (in December 2006 and August 2008), There are two versions available with the same questions in different order. The English one listed here is the second version.

Name : \_\_\_\_\_ Professional area : \_\_\_\_\_

#### Questionnaire :

##### General questions about glass material:

- Do you think that Contemporary Chinese Glass Art have its own culture identity?  
Yes ( 54% )    No ( 4% )    Mix ( 31% )    Not always ( 11% )  
If Yes, What is it?
- Could you image glass as a material for contemporary sculpture?  
Yes ( 96% )    No ( 4% )
- What do you think about the appearance associated with glass, it is:  
Transparent (7%)    Translucent (15%)    Opaque ( 0% )    Mixture of the former ( 80% )
- According to your understanding of glass, why it is attractive?  
Material: (Such as color, reflection...) \_\_\_\_\_  
\_\_\_\_\_  
Visual language: \_\_\_\_\_  
Glass objects: \_\_\_\_\_  
Others: \_\_\_\_\_
- How do you feel about glass to imitate the quality of other materials?  
Acceptable (40%)    Non acceptable (15%)    Doesn't matter (45%)

6. The main function of glass in the early period was to imitate precious gems and stones, acted as a translucent or opaque material. What's your opinion if this quality to be applied in contemporary glass art?  
Acceptable (59%) Non acceptable (0%) Doesn't matter (11%) Comprehensible (29%)
7. Do you think traditional art forms could be directly copied in contemporary glass?  
Yes (39%) No (7%) Indirectly (54%)
8. How do you think about the scale of the work?  
Very important (0%) Not the most important (64%) Not important (36%)

#### Educational:

9. If you are a glass artist or glass designer, where you want your work to be placed at:  
Museums (30%) Art Galleries (24%) Specialize stores (4%)  
Shops (2%) For self-appreciation (11%) Academic exchange (27%)
10. The glass works of “\*\* glass workshop” are:  
Design works (18%) Art works (16%) Commercial products (66%)
11. What do you feel is the most important in contemporary craft education in the school of Art & Design?  
Material (3/11 33%) Technique (16%) Idea and concept (68%)  
Others (16% Inherit tradition and develop Chinese character, contemporary life )
12. Vocational education should be regarded as an important part in high education in School of Art & Design?  
Yes (50%) No (4%) Moderate (46%)  
How important the vocational skills are for artists and designers?
13. Do you think that Glass Design should be put in the curriculum in the glass education?  
Yes (62%) No (38%)

**Personal Work:**

14. Please choose two works you prefer and give reasons.

Number: \_\_\_\_\_

Reason: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. What associations and images raise the glass works in your mind?

Over all expression: \_\_\_\_\_

Historical references: \_\_\_\_\_

Symbolic: \_\_\_\_\_

Form: \_\_\_\_\_

Colour: \_\_\_\_\_

Material: \_\_\_\_\_

16. Do you feel that the works have a Chinese identity?

Yes ( 82% )    No ( )    Do not know ( 9% )    A little ( 9% )

17. Do you see any reference to the Chinese ceramic in the work?

Yes ( 64% )    No ( 12% )    Do not know ( 24% )

If Yes, What are they?

18. Are these works references ( ) in the language of the work?

Abstract ( 65% )    representational ( 11% )    others ( 23% Both )

19. Are there any comments or other issues you think is important have not been mentioned in this questionnaire?

**Personal Works:**

1. Winter Island  
2.5 \* 10.5 \* 25cm  
Glass, kiln-casting



2. Winter Landscape #1  
D: 15.8cm H: 2.5cm  
Kiln-formed glass



3. Winter Landscape #2  
D: 15.8cm H: 2.5cm  
Kiln-formed glass



4. Winter Landscape #3  
D: 15.8cm H: 2.5cm  
Kiln-formed glass



5. Winter Landscape #4  
D: 18.5cm H: 2.5cm  
Kiln-formed glass



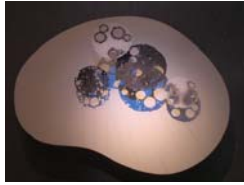
6. Winter Landscape #5  
D: 18.5cm H: 2.5cm  
Kiln-formed glass



7. Winter Landscape #6  
D: 15.8cm H: 2 cm  
Kiln-formed glass



8. Winter Landscape #7  
D: 15.8cm H: 1.5cm  
Kiln-formed glass



9. Floating Lily (exhibition piece)  
Installation  
Kiln-formed glass



10. Ink series -- bamboo  
20 \* 25 \* 35cm  
Kiln-formed & Centrifuged glass



11. Ink series -- Lily pad  
20 \* 25 \* 25cm  
Kiln-formed & Centrifuged glass



12. Ink series #8  
D: 40cm H: 25cm  
Kiln-formed & Centrifuged glass



13. Ink series #15  
D: 30cm H: 25cm  
Kiln-formed & Centrifuged glass

## Samples:

薛吕

2006年12月

## 关于中国当代玻璃艺术的调查

## 调查背景:

本人博士课题涉及到自清代(1644-1911年)以来中国古代玻璃和西方当代玻璃工作室运动的研究,希望通过对中国古代玻璃实物的分析以及个人当代玻璃艺术的创作实践,探讨中国当代玻璃艺术的现状及其未来的发展。

本问卷中涉及的作品都是本人自2004年以来在Wolverhampton大学艺术与艺术学院学习期间的玻璃艺术原创作品。

本问卷的调查主要针对从事艺术与设计的专业人士,希望能够得到各位前辈和从业人士的支持并留赠宝贵意见,再次感谢您的提携!

姓名: 李雯琳 专业领域: 油画 职称: 教授

## 问题:

- 关于图中的作品,您联想到的是什么?  
形式: 抽象 中国传统形式 中国文化内核  
色彩语言: 黑白 水墨格调  
材料语言: 以刚为柔 画法中见丰富
- 根据个人的审美喜好,您最偏向于图中的哪两个作品,为什么?(慎用美丽,漂亮等词汇)  
作品编号: 7 10  
理由: 7号作品于为简洁而更加变化,灵感与艺术  
拿地。10号作品以流动的状态与玻璃硬度  
及不规则造型形成的强烈对比。
- 您认为上述玻璃作品的表达形式为:  
抽象() 具象() 其它()
- 关于图中的作品,您认为与中国古代陶瓷是否有联系?  
是() 否() 不清楚()
- 关于玻璃材质,您认为它是:  
透明() 半透明() 不透明() 兼而有之()
- 您主观上能否接受玻璃模仿其它材料的特质?  
可以() 不可以() 随意()

&lt;请接背页&gt;

7. 5000 年的玻璃历史中，早期玻璃材料的功能主要是仿制其它稀有石材，以不透明的形式出现，如果将玻璃材料的这一特质运用在当代玻璃艺术中，您的感受？  
可以接受 (✓) 不可以接受 ( ) 无所谓 ( ) 可以理解 ( )

8. 从个人的观点出发，玻璃艺术的魅力在哪里？（视觉效果、材料本身、形成作品……）

材料本身的光学效果及透明艺术永恒在呈现新  
艺术的魅力所在。

9. 您认为玻璃材料能否成为雕塑语言？

可以 (✓) 不可以 ( )

10. 中国当代玻璃艺术是否应该具有中国传统文化的身份特征？

是 ( ) 否 ( ) 揉合 (✓)

11. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作？

是 (✓) 否 ( ) 间接 ( )

12. 中国当代手工艺教育中，您认为首先应该注重：

技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 (✓)

其它表述 ( )

13. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺：

是 (✓) 否 ( ) 适中 ( )

14. 当代玻璃艺术家作品的去向应该是：

美术馆、博物馆 ( ) 画廊 ( ) 专卖店 ( )

商铺 ( ) 艺术家自我愉悦的欣赏作品 ( ) 用于专业交流与展览 (✓)

15. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是：

设计性的 ( ) 艺术性的 (✓) 商业性的 ( )

16. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式？

能 ( ) 否 (✓)

薛吕  
2006年12月

## 关于中国当代玻璃艺术的调查

### 调查背景:

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姓名: 薛吕 专业领域: 艺术 职称: 博士

### 问题:

#### 1. 关于图中的作品,您联想到的是什么?

形式: 瓷器 水墨画 剪纸 毛笔书法 中国结  
色彩语言: \_\_\_\_\_  
材料语言: \_\_\_\_\_

#### 2. 根据个人的审美喜好,您最偏向于图中的哪两个作品,为什么?(慎用美丽,漂亮等词汇)

作品编号: 10 1  
理由: 红艺术品 中国结 即瓶(木质性创作)  
瓶(木质) 中国结 窗(木质)  
瓶(木质) 中国结

#### 3. 您认为上述玻璃作品的表达形式为:

抽象( ) 具象( ) 其它(  )

#### 4. 关于图中的作品,您认为与中国古代陶瓷是否有联系?

是( ) 否(  ) 不清楚( )

#### 5. 关于玻璃材质,您认为它是:

透明( ) 半透明( ) 不透明( ) 兼而有之(  )

#### 6. 您主观上能否接受玻璃模仿其它材料的特质?

可以(  ) 不可以( ) 随意(  )

<请接背页>



7. 5000 年的玻璃历史中, 早期玻璃材料的功能主要是仿制其它稀有石材, 以不透明的形式出现, 如果将玻璃材料的这一特质运用在当代玻璃艺术中, 您的感受?  
可以接受 ( ) 不可以接受 ( ) 无所谓 ( ) 可以理解 (✓)
8. 从个人的观点出发, 玻璃艺术的魅力在哪里? (视觉效果、材料本身、形成作品……)
9. 您认为玻璃材料能否成为雕塑语言?  
可以 (✓) 不可以 ( )
10. 中国当代玻璃艺术是否应该具有中国传统文化的身份特征?  
是 (✓) 否 ( ) 揉合 (✓)
11. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作?  
是 (✓) 否 ( ) 间接 (✓)
12. 中国当代手工艺教育中, 您认为首先应该注重:  
技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 ( )  
其它表述 ( 当代视觉语言 )
13. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺: 当代视觉语言  
是 (✓) 否 ( ) 适中 ( ) 创作
14. 当代玻璃艺术家作品的去向应该是:  
美术馆、博物馆 ( ) 画廊 (✓) 专卖店 (✓)  
商铺 ( ) 艺术家自我愉悦的欣赏作品 (✓) 用于专业交流与展览 (✓)
15. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是:  
设计性的 (✓) 艺术性的 (✓) 商业性的 (✓)
16. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式?  
能 (✓) 否 ( )

薛吕

2006年12月

## 关于中国当代玻璃艺术的调查

## 调查背景:

本人博士课题涉及到自清代(1644-1911年)以来中国古代玻璃和西方当代玻璃工作室运动的研究,希望通过对中国古代玻璃实物的分析以及个人当代玻璃艺术的创作实践,探讨中国当代玻璃艺术的现状及其未来的发展。

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姓名: 郭新 专业领域: 首饰与工艺 职称: 讲师 硕士生导师

## 问题:

1. 关于图中的作品,您联想到的是什么?

形式: 液体 流动的液体  
色彩语言: 水墨 印迹  
材料语言: 陶瓷 非玻璃材料

2. 根据个人的审美喜好,您最偏向于图中的哪两个作品,为什么?(慎用美丽,漂亮等词汇)

作品编号: 7 5  
理由: 有一种形式美,似乎想要表达的东西都很明确,有目的性

3. 您认为上述玻璃作品的表达形式为:

抽象() 具象() 其它()

4. 关于图中的作品,您认为与中国古代陶瓷是否有联系?

是() 否() 不清楚()

5. 关于玻璃材质,您认为它是:

透明() 半透明() 不透明() 兼而有之()

6. 您主观上能否接受玻璃模仿其它材料的特质?

可以() 不可以() 随意()

&lt;请接背页&gt;

7. 5000 年的玻璃历史中，早期玻璃材料的功能主要是仿制其它稀有石材，以不透明的形式出现，如果将玻璃材料的这一特质运用在当代玻璃艺术中，您的感受？  
可以接受 (✓) 不可以接受 ( ) 无所谓 ( ) 可以理解 ( )
8. 从个人的观点出发，玻璃艺术的魅力在哪里？（视觉效果、材料本身、形成作品……）  
综合材料本身特性，有思想内涵的作品，最终完成作品所  
包含的各种因素赋予其特殊魅力，是这种特殊语言达到  
一个明确而完美的艺术表现我个人认为比较重要。
9. 您认为玻璃材料能否成为雕塑语言？  
可以 (✓) 不可以 ( )
10. 中国当代玻璃艺术是否应该具有中国传统文化的身份特征？<sup>How</sup>  
是 ( ) 否 ( ) 揉合 ( ) 不一定
11. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作？  
是 ( ) 否 (✓) 间接 ( )
12. 中国当代手工艺教育中，您认为首先应该注重：  
技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 (✓)  
其它表述 ( )
13. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺：  
是 (✓) 否 ( ) 适中 ( )  
strongly agree
14. 当代玻璃艺术家作品的去向应该是：  
美术馆、博物馆 (✓) 画廊 (✓) 专卖店 ( )  
商铺 ( ) 艺术家自我愉悦的欣赏作品 (✓) 用于专业交流与展览 (✓)
15. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是：  
设计性的 ( ) 艺术性的 ( ) 商业性的 (✓)
16. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式？  
能 ( ) 否 (✓) 言即是一种形式，看怎么定义“中国当代玻璃艺术”或  
“设计性”

薛吕

2006年12月

## 关于中国当代玻璃艺术的调查

## 调查背景:

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姓名: 成乡 专业领域: 玻璃艺术 职称: 助教

## 问题:

1. 关于图中的作品,您联想到的是什么?

形式: 盘 环 壁

色彩语言: 水墨 晕染

材料语言: 玉 瓷 石

2. 根据个人的审美喜好,您最偏向于图中的哪两个作品,为什么?(慎用美丽,漂亮等词汇)

作品编号: No.3 No.10

理由: No.3 含蓄内敛,温润  
No.10 体量感极好,造型上又如打布,传达了水墨和竹两种中国元素的韵味。

3. 您认为上述玻璃作品的表达形式为:

抽象(✓) 具象( ) 其它( )

4. 关于图中的作品,您认为与中国古代陶瓷是否有联系?

是( ) 否(✓) 不清楚( )

5. 关于玻璃材质,您认为它是:

透明( ) 半透明( ) 不透明( ) 兼而有之(✓)

6. 您主观上能否接受玻璃模仿其它材料的特质?

可以(✓) 不可以( ) 随意( )

&lt;请接背页&gt;

7. 5000 年的玻璃历史中，早期玻璃材料的功能主要是仿制其它稀有石材，以不透明的形式出现，如果将玻璃材料的这一特质运用在当代玻璃艺术中，您的感受？

可以接受 (✓) 不可以接受 ( ) 无所谓 ( ) 可以理解 ( )

8. 从个人的观点出发，玻璃艺术的魅力在哪里？（视觉效果、材料本身、形成作品……）

材料魅力及材料语言表达优美是其它材料无法比拟的。

视觉效果上与光线关系密切。

作品形式多样、丰富。

9. 您认为玻璃材料能否成为雕塑语言？

可以 (✓) 不可以 ( )

10. 中国当代玻璃艺术是否应该具有中国传统文化的身份特征？

是 (✓) 否 ( ) 揉合 ( )

11. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作？

是 (✓) 否 ( ) 间接 ( )

12. 中国当代手工艺教育中，您认为首先应该注重：

技术的拓宽和发展 (✓) 以当代艺术为主理念的培养 ( )

其它表述 ( )

13. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺：

是 ( ) 否 ( ) 适中 (✓)

14. 当代玻璃艺术家作品的去向应该是：

美术馆、博物馆 (✓) 画廊 (✓) 专卖店 ( )

商铺 ( ) 艺术家自我愉悦的欣赏作品 ( ) 用于专业交流与展览 (✓)

15. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是：

设计性的 ( ) 艺术性的 ( ) 商业性的 (✓)

16. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式？

能 (✓) 否 ( )

薛吕

2006年12月

## 关于中国当代玻璃艺术的调查

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姓名: 萧森 专业领域: 设计 职称: 工艺美术师

## 问题:

1. 关于图中的作品,您联想到的是什么?

形式: 单纯、宁静、与世无争而略显孤寂

色彩语言: 缤纷五彩,含而不露

材料语言: 亲切、随和、天成

2. 根据个人的审美喜好,您最偏向于图中的哪两个作品,为什么?(慎用美丽,漂亮等词汇)

作品编号: 14 13

理由: 玻璃材质特征是其表现点,但有时也是其弱点,如何暖而不哗,穿透材料而抵本质,是难点。作品中能感受作者的探索

3. 您认为上述玻璃作品的表达形式为:

抽象  具象  其它

4. 关于图中的作品,您认为与中国古代陶瓷是否有联系?

是  否  不清楚

5. 关于玻璃材质,您认为它是:

透明  半透明  不透明  兼而有之

6. 您主观上能否接受玻璃模仿其它材料的特质?

可以  不可以  随意

&lt;请接背页&gt;

7. 5000 年的玻璃历史中，早期玻璃材料的功能主要是仿制其它稀有石材，以不透明的形式出现，如果将玻璃材料的这一特质运用在当代玻璃艺术中，您的感受？  
可以接受 (✓) 不可以接受 ( ) 无所谓 ( ) 可以理解 (✓)
8. 从个人的观点出发，玻璃艺术的魅力在哪里？（视觉效果、材料本身、形成作品……）  
作品的形成具有独特性，材料与视觉效果也具有不可替代性，漫长的制作过程给作者以足够多的对话交流时间。
9. 您认为玻璃材料能否成为雕塑语言？  
可以 (✓) 不可以 ( )
10. 中国当代玻璃艺术是否应该具有中国传统文化的身份特征？  
是 ( ) 否 ( ) 揉合 (✓)
11. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作？  
是 ( ) 否 ( ) 间接 (✓)
12. 中国当代手工艺教育中，您认为首先应该注重：  
技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 (✓)  
其它表述 ( )
13. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺：  
是 ( ) 否 ( ) 适中 (✓)
14. 当代玻璃艺术家作品的去向应该是：  
美术馆、博物馆 (✓) 画廊 (✓) 专卖店 (✓)  
商铺 ( ) 艺术家自我愉悦的欣赏作品 (✓) 用于专业交流与展览 (✓)
15. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是：  
设计性的 (✓) 艺术性的 (✓) 商业性的 (✓)
16. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式？  
能 (✓) 否 ( )

蒋吕

2008年06月

## 关于中国当代玻璃艺术的调查

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姓名: 蒋吕 专业领域: 玻璃艺术 职称: 副教授

## 问题:

## 关于玻璃材料的问题:

1. 中国当代玻璃艺术是否应该具有中国文化的身份特征?

是 (✓) 否 ( )

如果是,您认为该特征是什么?

博大精深,包容,

2. 您认为玻璃材料能否成为雕塑语言?

可以 (✓) 不可以 ( )

玻璃是,雕塑的材料之一.

3. 关于玻璃材质,您认为它是:

透明 ( ) 半透明 ( ) 不透明 ( ) 兼而有之 (✓)

因为它特色(透明,显于内部),所以有特殊的语言.

4. 从个人的观点出发,玻璃艺术的魅力在哪里?

材料本身: 吸引你对它无限探索,探索中

视觉效果: 显于你创造的智慧.

形成作品: \_\_\_\_\_

其他: \_\_\_\_\_

<请接背页>



5. 您主观上能否接受玻璃模仿其它材料的特质?  
可以 ( ) 不可以 (✓) 随意 ( )
6. 5000 年的玻璃历史中, 早期玻璃材料的特点主要是仿制其它稀有石材, 以不透明的形式出现, 如果将玻璃材料的这一特质运用在当代玻璃艺术中, 您的感受?  
可以接受 ( ) 不可以接受 ( ) 无所谓 (✓) 可以理解 ( )
7. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作?  
是 ( ) 否 (✓) 间接 ( )
8. 您认为玻璃作品的尺寸大小:  
很重要 ( ) 不是最重要 (✓) 不重要 ( )

关于玻璃艺术课程:

9. 如果您是玻璃艺术家或是设计师, 您希望您作品的去向是:  
美术馆、博物馆 (✓) 画廊 ( ) 专卖店 ( )  
商铺 ( ) 艺术家自我愉悦的欣赏作品 ( ) 用于专业交流与展览 (✓)
10. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是:  
设计性的 ( ) 艺术性的 ( ) 商业性的 (✓)
11. 中国当代手工艺教育中, 您认为首先应该注重:  
对于材料的认知 ( ) 技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 (✓)  
其它表述 ( )
12. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺:  
是 (✓) 否 ( ) 适中 ( )
13. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式?  
能 ( ) 否 (✓)

个人作品:

14. 根据个人的审美喜好, 您最偏向于图中的哪两个作品, 为什么? (慎用美丽, 漂亮等词汇)

作品编号: 8 3

理由: 8. 象中国古钱, 象天圆地方, 又不是对传统概念的直接模仿, 黑白处理也较得当, 使我想起环状星系, 中间虽是空白, 但有张力, 有想象。

15. 关于图中的作品，您联想到的是什么？(可选择填写)

总体印象： 饼。

历史文化： \_\_\_\_\_

象征意义： 盘中有没有饼的一种虚幻。

造型： \_\_\_\_\_

色彩： \_\_\_\_\_

材料： 造型、色彩，都有特点，可继续发展。

16. 您认为上述玻璃作品是否具有中国文化特征：

是 (  ) 否 (  ) 不知道 (  )

17. 关于图中的作品，您认为与中国古代陶瓷是否有联系？

是 (  ) 否 (  ) 不清楚 (  )

如果是，您认为有哪些联系？

没必要联系，它就是它，玻璃就是玻璃。

18. 您认为上述玻璃作品的表达形式为：

抽象 (  ) 具象 (  ) 其它 (  )

玻璃。

19. 您认为还有什么问题在此问卷中没有提及的，但对于您来说很重要？

如何探讨创作问题。

如何教学生创造。

2008年06月

## 关于中国当代玻璃艺术的调查

## 调查背景:

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姓名: 李时静 <sup>Teing Hua</sup> 专业领域: 玻璃艺术 职称: Technician

## 问题:

## 关于玻璃材料的问题:

1. 中国当代玻璃艺术是否应该具有中国文化的身份特征?

是 (  ) 否 ( )

如果是,您认为该特征是什么?

2. 您认为玻璃材料能否成为雕塑语言?

可以 (  ) 不可以 ( )

3. 关于玻璃材质,您认为它是:

透明 ( ) 半透明 ( ) 不透明 ( ) 兼而有之 (  )

4. 从个人的观点出发,玻璃艺术的魅力在哪里?

材料本身: 有多种工艺可能,亦可形成多种材料效果

视觉效果: 可能依据个人风格形成独特的视觉效果

形成作品: 既体现玻璃材质本身的魅力,又体现创作者的智慧

其他: \_\_\_\_\_

&lt;请接背页&gt;

5. 您主观上能否接受玻璃模仿其它材料的特质?  
 可以 ( ) 不可以 (✓) 随意 ( )
6. 5000 年的玻璃历史中, 早期玻璃材料的特点主要是仿制其它稀有石材, 以不透明的形式出现, 如果将玻璃材料的这一特质运用在当代玻璃艺术中, 您的感受?  
 可以接受 ( ) 不可以接受 ( ) 无所谓 ( ) 可以理解 (✓)
7. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作?  
 是 ( ) 否 ( ) 间接 (✓)
8. 您认为玻璃作品的尺寸大小:  
 很重要 ( ) 不是最重要 (✓) 不重要 ( )

关于玻璃艺术课程:

9. 如果您是玻璃艺术家或是设计师, 您希望您作品的去向是:  
 美术馆、博物馆 (✓) 画廊 (✓) 专卖店 ( )  
 商铺 ( ) 艺术家自我愉悦的欣赏作品 (✓) 用于专业交流与展览 (✓)
10. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是:  
 设计性的 ( ) 艺术性的 ( ) 商业性的 ( )
11. 中国当代手工艺教育中, 您认为首先应该注重:  
 对于材料的认知 (✓) 技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 ( )  
 其它表述 ( )
12. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺:  
 是 (✓) 否 ( ) 适中 ( )
13. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式?  
 能 (✓) 否 ( )

个人作品:

14. 根据个人的审美喜好, 您最偏向于图中的哪两个作品, 为什么? (慎用美丽, 漂亮等词汇)

作品编号: 5 7

理由: \_\_\_\_\_  
 \_\_\_\_\_

15. 关于图中的作品，您联想到的是什么？(可选择填写)

总体印象： 自然 \_\_\_\_\_

历史文化： \_\_\_\_\_

象征意义： \_\_\_\_\_

造型： \_\_\_\_\_

色彩： \_\_\_\_\_

材料： \_\_\_\_\_

16. 您认为上述玻璃作品是否具有中国文化特征：

是 () 否 ( ) 不知道 ( )

17. 关于图中的作品，您认为与中国古代陶瓷是否有联系？

是 ( ) 否 ( ) 不清楚 ()

如果是，您认为有哪些联系？

18. 您认为上述玻璃作品的表达形式为：

抽象 () 具象 ( ) 其它 ( )

19. 您认为还有什么问题在此问卷中没有提及的，但对于您来说很重要？

2008年06月

## 关于中国当代玻璃艺术的调查

调查背景:

本人博士课题涉及到自清代以来中国古代玻璃和西方当代玻璃工作室运动的研究,希望通过古代玻璃实物的分析以及个人当代玻璃艺术的创作实践,探讨中国当代玻璃艺术的现状及其未来的发展。

本问卷中涉及的作品都是本人自 2004 年以来在 Wolverhampton 大学艺术与设计学院学习期间的玻璃艺术原创作品。

本问卷的调查主要针对从事艺术与设计的专业人士,希望能够得到各位前辈和从业人士的支持并留赠宝贵意见,再次感谢您的提携!

姓名: 李振宇 专业领域: 玻璃艺术 职称: 硕士

问题:

关于玻璃材料的问题:

1. 中国当代玻璃艺术是否应该具有中国文化的身份特征?

是 () 否 ()

如果是,您认为该特征是什么?

在作品里能包含中国文化精神的元素

2. 您认为玻璃材料能否成为雕塑语言?

可以 () 不可以 ()

3. 关于玻璃材质,您认为它是:

透明 () 半透明 () 不透明 () 兼而有之 ()

4. 从个人的观点出发,玻璃艺术的魅力在哪里?

材料本身: 有着其他材料所不具备的视觉意味。视觉效果: 其视觉效果有着独特的意义形成作品: 在材料和工艺形成的效果本身的视觉独特性其他: 美学意义上的应用

&lt;请接背页&gt;

5. 您主观上能否接受玻璃模仿其它材料的特质?  
可以 ( ) 不可以 ( ) 随意 (✓)
6. 5000 年的玻璃历史中, 早期玻璃材料的特点主要是仿制其它稀有石材, 以不透明的形式出现, 如果将玻璃材料的这一特质运用在当代玻璃艺术中, 您的感受?  
可以接受 (✓) 不可以接受 ( ) 无所谓 ( ) 可以理解 ( )
7. 您认为中国古典艺术形式是否可以直接运用于当代玻璃艺术创作?  
是 (✓) 否 ( ) 间接 ( )
8. 您认为玻璃作品的尺寸大小:  
很重要 ( ) 不是最重要 (✓) 不重要 ( )

关于玻璃艺术课程:

9. 如果您是玻璃艺术家或是设计师, 您希望您作品的去向是:  
美术馆、博物馆 (✓) 画廊 (✓) 专卖店 ( )  
商铺 ( ) 艺术家自我愉悦的欣赏作品 ( ) 用于专业交流与展览 (✓)
10. 您认为当今市场上“\*\*琉璃工坊”的玻璃作品是:  
设计性的 ( ) 艺术性的 ( ) 商业性的 (✓)
11. 中国当代手工艺教育中, 您认为首先应该注重:  
对于材料的认知 ( ) 技术的拓宽和发展 ( ) 以当代艺术为主理念的培养 (✓)  
其它表述 ( )
12. 您认为在当前中国高等艺术教育中应当大力发展当代手工艺:  
是 ( ) 否 ( ) 适中 (✓)
13. 设计性的玻璃作品能否成为中国当代玻璃艺术中的重要形式?  
能 ( ) 否 (✓)

个人作品:

14. 根据个人的审美喜好, 您最偏向于图中的哪两个作品, 为什么? (慎用美丽, 漂亮等词汇)

作品编号: 13 7

理由: 与个人的审美取向较接近

15. 关于图中的作品，您联想到的是什么？(可选择填写)

总体印象：一种艺术的表达，传达的柔和和细腻

历史文化：\_\_\_\_\_

象征意义：\_\_\_\_\_

造型：\_\_\_\_\_

色彩：\_\_\_\_\_

材料：一种中国传统的工艺应用

16. 您认为上述玻璃作品是否具有中国文化特征：

是 (✓) 否 ( ) 不知道 ( )

17. 关于图中的作品，您认为与中国古代陶瓷是否有联系？

是 ( ) 否 ( ) 不清楚 (✓)

如果是，您认为有哪些联系？

18. 您认为上述玻璃作品的表达形式为：

抽象 ( ) 具象 (✓) 其它 ( )

19. 您认为还有什么问题在此问卷中没有提及的，但对于您来说很重要？



## Appendix 18:

### List of Publications, Exhibitions and Conference Presentations of XUE Lu (2006-2009)

#### Publications:

- Xue, L. (2009) Venetian Glass from the 15<sup>th</sup> to 18<sup>th</sup> century. *Journal of Shanghai Arts & Crafts*, **99**(1), pp.60-61. (Chinese Version)
- Xue, L. (2008) Contemporary Institutional Glass in China. in Fahrner-Tutsek, E.M (ed.) *Glass.China*. Munich: Alexander Tutsek-Stiftung, pp. 30-41. (English & Chinese Version)
- Xue, L. (2008) The Glass Seed: growing with soil of China. in Garfoot, S. (ed.) *Glass Route: from Wolverhampton to China*. England: the University of Wolverhampton, pp. 31-37. (English & Chinese Version)
- Xue, L. (2008) Glass Routes Exhibition. *Journal of Shanghai Arts & Crafts*, **97**(3), pp.72-74. (Chinese Version)
- Xue, L. (2008) Qing dynasty Chinese glass with the influence of FaÇon-de Venise. *Journal of Shanghai Arts & Crafts*, **96**(2), pp.98-99. (Chinese Version)
- Xue, L. (2008) The Practical methods of Chinese glass in the Qing Dynasty and Contemporary Periods. *Journal of Shanghai Arts & Crafts*, **95**(1), pp.97-99. (Chinese Version)
- Xue, L. (2008) Contemporary Chinese Glass in Academia. in Wang, D.W. (ed.) *The Third Annual Modern Hand-crafted Art Exhibition Paper*. Shanghai: Shanghai Lexicographical Publishing House, pp.60-64. (Chinese Version)
- Cummings, K. (2007) 玻璃艺术的窑制技 [Techniques of Kiln-formed Glass] (X. Cheng, and L. Xue, trans). Beijing: China Technology of Architecture Press. (Original work published 1997)
- Xue, L. (2007) Studio Glass Movement in Australia. *Journal of Shanghai Arts & Crafts*, **94**(4), pp.82-83. (Chinese Version)
- Xue, L. (2007) 20<sup>th</sup> century Glass Art and Studio Glass in Germany. *Journal of Shanghai Arts & Crafts*, **93**(3), pp.74-75. (Chinese Version)
- Xue, L. (2007) Contemporary Glass Art –Individual Practice. *Journal of Shanghai Arts & Crafts*, **92**(2), pp.72-73. (Chinese Version)
- Xue, L. (2007) American Studio-Glass Movement. *Journal of Shanghai Arts & Crafts*, **91**(1), pp.76-77. (Chinese Version)
- Xue, L. (2006) UK Contemporary Studio-Glass Movement. *Journal of Shanghai Arts & Crafts*, **90**(4), pp.80-83. (Chinese Version)
- Xue, L. (2006) Post War Czech Glass. *Journal of Shanghai Arts & Crafts*, **88**(2), pp.70-71. (Chinese Version)

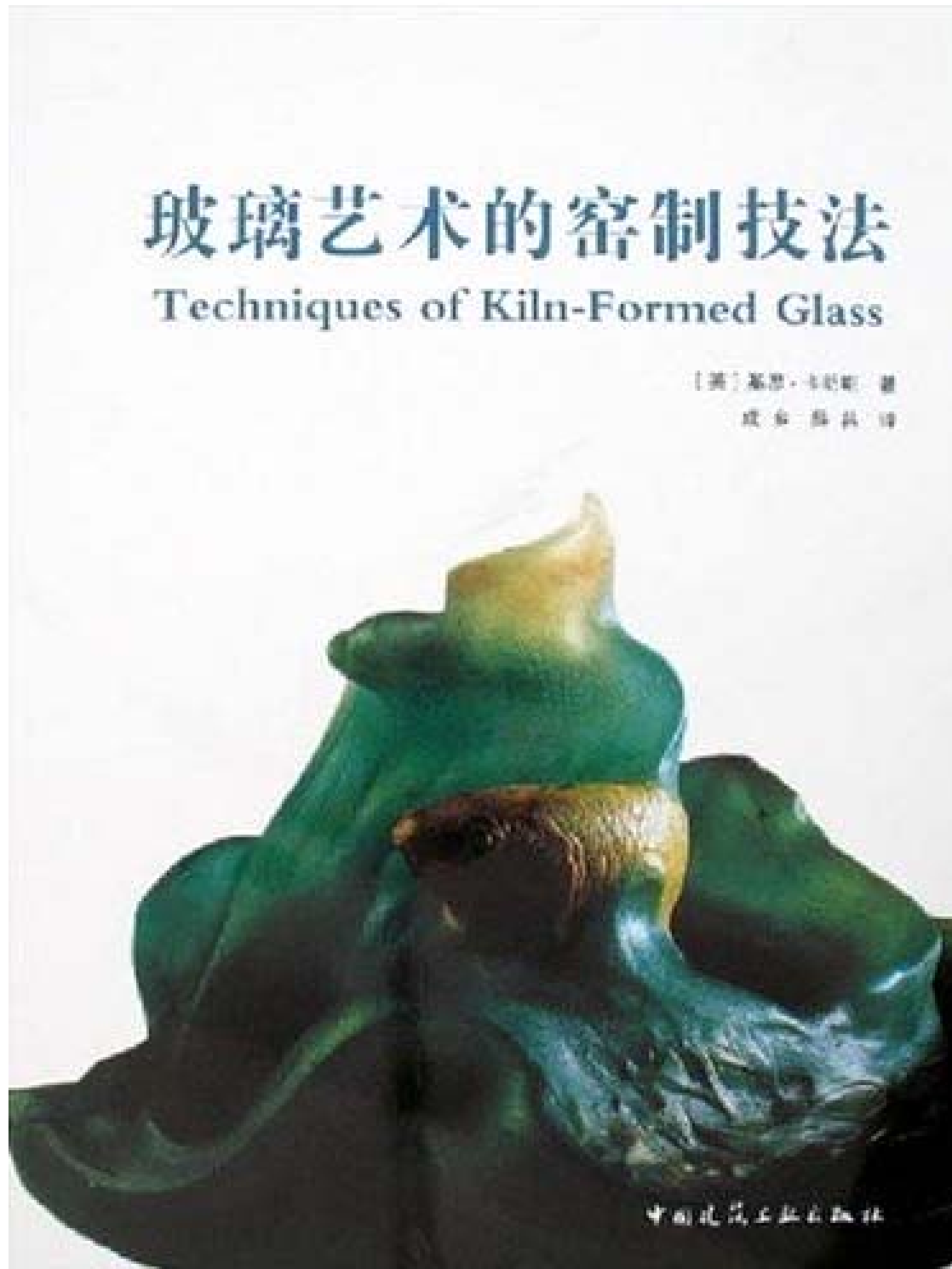
**Exhibitions:**

- 2009.5 "Glass Routes: from Wolverhampton to China", Glass Art Gallery, London, UK
- 2008.11 "Glass.China", Alexander Tutsek-Stiftung, München, Germany
- 2008.8 "Glass Routes: from Wolverhampton to China", Bilston Craft Gallery, UK
- 2008.1 The Third Annual Modern Hand-craft Art Exhibition,  
Shanghai Twocities Gallery, China
- 2007.10 "Refraction", Shanghai Twocities gallery, China
- 2007.9 "Research Progress Exhibition for PhD Students", SAD, Wolverhampton, UK
- 2007.7 New Designers, London Business Designer Center, UK
- 2007.3 "Parallels and Connections – A Ceramic and Glass Research Student Conference  
Exhibition", Sunderland University, UK
- 2006.12 "New Wave: Studio Glass Now", Shanghai Twocities Gallery, China
- 2006.11 "Shanghai Art Fair Emerging Artists Exhibition 2006", China
- 2006.9 "In the Name of Material", HSS Art Centre, Shanghai, China

**Conference Presentations:**

- 2009.3 Presentation on "Parallels and Connections – A Ceramic and Glass  
Research Student Conference 2", National Glass Center, Sunderland University, UK
- 2008.9 Presentation on "...One Thing Leads to Another..." research conference,  
School of Art & Design, Bath Spa University, Bath, UK
- 2008.1 Presentation on "The Third Annual Modern Hand-craft Art Exhibition" conference, Fine Arts  
College, Shanghai University, China
- 2007.9 Presentation on "Design Advanced Research Training (DART)" conference,  
Middlesex University, London, UK
- 2007.3 Presentation on "Parallels and Connections – A Ceramic and Glass  
Research Student Conference 1", National Glass Center, Sunderland University, UK

Samples of publications (translated book and articles):





## 艺林漫步

- 34 天道酬勤 朱惠卿与漆器创新 汤兆基  
INNOVATION OF ZHUHUIQING AND LACQUERWORK
- 58 仰望剑桥 文/图 李京南  
LOOKING UP TO CAMBRIDGE

## 工艺论坛

- 37 创意小产品中的同构思维浅析 郭晓宁 陈虹  
THE ANALOGICAL THOUGHT IN INVENTIONS
- 66 现代字体设计与篆刻艺术 顾晓凤  
THE MODERN FONT DESIGN AND CARVING ART
- 68 从当代广告中的工农兵形象看符号的时代性 郑玫  
THE IMAGE OF WORKER, PEASANT AND SOLDIER IN CONTEMPORARY ADVERTISING - THE IMAGE MAP OF ZHIFENG ST
- 84 刻刀下的神奇 吴旭亮  
THE MAGICAL STONE SEAL
- 86 色彩在书籍封面设计中的运用 胡红薇  
THE COLOUR USE ON THE BOOKCOVER DESIGNING
- 88 艺术符号民族化与民间艺术符号化 郭潼潼  
THE ART CHARACTER NATIONALIZATION AND THE NATIONAL ART CHARACTERIZATION
- 94 “细说”展示设计的艺术化 刘建国  
EXPLAIN THE ART OF THE EXHIBITION DESIGNING IN DETAIL

## 工艺传承

- 14 清代造办处的“恭造式样” 杨伯达  
THE GONGZAO PATTERN BY ROYAL WORKSHOP OF QING DYNASTY
- 32 无所不见景德镇 张凌云  
MADE IN JINGDE TOWN

## 工艺纵横

- 26 缘·异域陶艺行 项训  
DESTINY·APPRECIATE THE ARTS OF CERAMICS ON ALIEN LAND
- 30 如真如幻—琉璃影像装置艺术展 敏杰  
SHUTTLE BACK AND FORTH IN DREAM AND REALITY
- 54 南非珠饰 赵晖  
ORNAMENTS OF PEALS AND JEWELS OF SOUTH AFRICA
- 74 “设计共和”显现设计魅力 迪尚  
“DESIGNREPUBLIC” DEMONSTRATES THE REAL CHARM OF DESIGN
- 82 澳大利亚玻璃工作室运动 薛吕  
THE GLASS STUDIO MOVEMENT IN AUSTRALIA

## 首饰时尚

- 40 歌剧之夜——  
安特卫普世界钻石中心2007得奖作品在沪展示 晓春  
OPERA NIGHT-THE WINNING ENTRIES DISPLAY OF ANTWERP  
WORLD DIAMOND CENTER AWARD IN SHANGHAI
- 98 上海老凤祥珠宝首饰有限公司

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工艺纵横

# 澳大利亚玻璃工作室运动

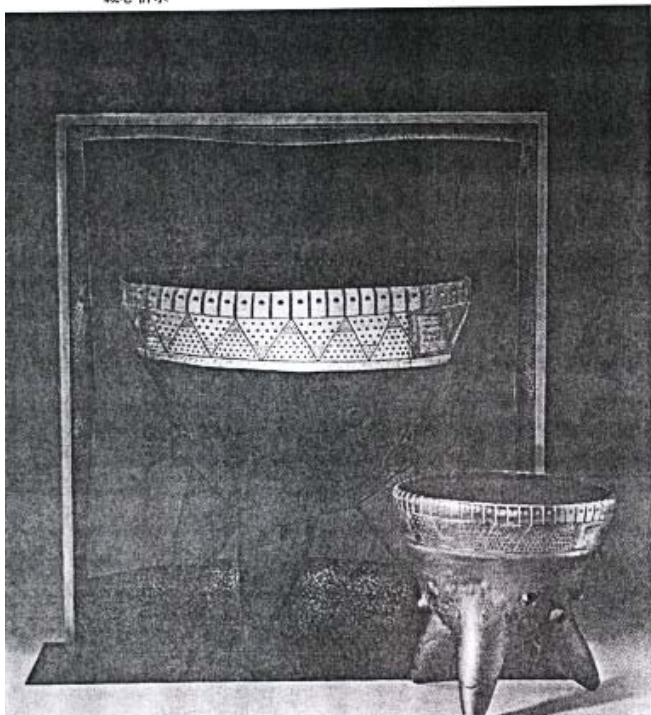
## AUSTRALIAN STUDIO GLASS MOVEMENT

■ 薛 吕



躯干，吹制玻璃和铜，100cm，1993

诚心祈求



澳大利亚的玻璃艺术是19世纪60至70年代工作室手工艺运动发展的产物，在全世界范围现代主义艺术，主要在“功能主义”和“回归材料本质”的背景下产生，受到美国抽象表现主义、波普艺术和狂热艺术思潮的影响发展而来。

该运动大致经历了三个阶段：

1. 70年代的“创业”阶段，主要以学习掌握基础工艺和筹建工作室、窑炉为核心，从事吹制和平板玻璃工艺，由于不熟悉材料特性，因此该阶段在吹制玻璃的形式、颜色甚至是理念方面很多都效法美国的玻璃艺术先驱。

2. 70年代末至80年代中期的技术革新、多样化和完善阶段。该阶段引入了玻璃窑制技术，并形成了功能产品性作品与单件“玻璃艺术品”的分离趋势，由于手工艺和纯艺术价值观念上的相互融合导致了以理念为主的玻璃作品大大超越了材料、传统和技术的束缚，但该时期玻璃展览、玻璃研讨会关注的问题仍然大多趋向于艺术家个人、玻璃制作加工工艺以及与玻璃材料、工作室相关的信息交流等，玻璃材料在手工、设计、工业领域存在统一性。

3. 80年代末至90年代的关注具体工艺和自我表达阶段，该阶段实践者对于工艺、制作过程以及想法之间相互作用的复杂关系有了成熟的理解和更好的阐释，如今关注的焦点在于作品的完整性和原创性，而手工艺与纯艺术之间的转换问题将继续存在。玻璃艺术评论家、学者对于玻璃历史文脉和玻璃艺术理论的更多关注，使当代的澳大利亚玻璃艺术从实用主义开始走向意识形态的研究，其中包括哲学理论、玻璃艺术的教育方式、专业发展、作品的文化地域性和国际性等问题，当然，创作理念成熟的同时也暗示着玻璃制作和加工工艺的精湛及进步。

澳大利亚玻璃工作室运动最初是由个人实践者的兴趣引发的，然而学院和玻璃艺术机构举办的展览、研讨会等活动才是推动该运动发展的关键力量，其中有代表性的为阿德莱德Jarn工厂（Jam Factory in Adelaide）、堪培拉艺术学院玻璃工作室（Canberra School of Art）、悉尼艺术学院玻璃工作室（the Sydney College of the Arts）、南澳大学设计学院玻璃工作室（The School of Design in the University of South Australian）和澳大利亚玻璃艺术协会（Ausglass），需要特别强调的是Ausglass，它在15年间从一个松散的社会团体发展成为目前澳大利亚最为重要的玻璃艺术机构之一。Ausglass通过玻璃艺术展览、玻璃双年研讨会、工作室培训课程、玻璃艺术杂志、海外研讨会报告等途径积极地推动着澳大利亚玻璃艺术事业的发展。机构与学院之间同时建立了紧密的合作关系，比如，两年



迷惑的碗, 吹制和铸造玻璃, 1994



无题 融合软化玻璃 直径50cm 1995

一次的玻璃艺术研讨会是在澳大利亚国内拥有玻璃工作室的大学的轮流举办的。这些措施很成功地将澳大利亚从事玻璃艺术的实践者凝聚在了一起, 形成了一个无形的网络。

而与国际广泛的交流成为了澳大利亚玻璃工作室运动的特征之一。来自国外的艺术家以及去海外留学的本土艺术家将新的技术和理念融入澳大利亚的玻璃艺术, 当然其中也包括来自本国玻璃工业设计理念的影响和技术支持。

#### 澳大利亚工作室运动中的吹制玻璃:

吹制技术是澳大利亚玻璃工作室初期阶段广泛使用的工艺。1972年, Stephen Skillitzi从美国玻璃工作室运动中带回的吹制技术首次向公众展示, 成为澳大利亚玻璃工作室运动的开端, 支持着该运动的发展。80年代吹制技术被推向了极致, 与工厂紧密相联的关系成为了澳大利亚吹制玻璃的特色, 即艺术家为工厂设计产品的同时也创作个人的艺术性展览作品, 并且从美国工作室运动中吸取了“合作式”的创作方式以及威尼斯 (Murano) 古老的玻璃制作传统, 合作的方式通常分为两种: 一是由个体艺术家支配的团队, 最终的作品由艺术家署名; 而另一种是两个实践者分享各自的设计技能和制作技术, 共同署名。这样在一定程度上复兴了传统吹制玻璃的合作创作方式, 工艺技术和风格, 在本国形成了吹制玻璃工作室网络连锁模式, 为新生代的玻璃实践者和学生提供学习积累吹制经验的场所。

虽然如今密制工艺逐渐地取代了其重要地位, 然而, 实践者相信吹制技术仍然会在玻璃艺术创作中发挥重要作用, 继续与人类的历史、材料、形式、色彩进行无穷的对话。澳大利亚的许多艺术家已经将密制工艺和吹制技术进行了革新性的融合使用, Brian Hirst就是其中最典型的代表。

#### 澳大利亚工作室运动中的密制玻璃:

80年代中至90年代初, 密制玻璃工艺, 尤其是铸造玻璃渐渐地取代了吹制玻璃的地位, 成为了澳大利亚玻璃工作室运动中的核心技术, 密制工艺步骤中具有的可变性和精确性促使玻

璃实践者纷纷将其作为艺术表达的方式。

80年代, Canberra艺术学院的玻璃工作室由Klaus Moje担任主任, 因此该学院的密制工艺成就尤为突出。并在1988年举办了密制工艺大师课程, 成为了澳大利亚玻璃艺术史上具有里程碑意义的事件。课程邀请了来自澳大利亚本国和美国、新西兰、美国、法国、德国的玻璃实践者, 让当地学生分享他们的创作方法和工艺技术, 该课程不仅为密制玻璃作品设立了标准, 而且在玻璃实践领域中为从事该工艺的实践者确立了地位。

当然, 密制玻璃日益受到瞩目的原因, 归根到底还是取决于密制工艺本身的特点和优势, 密制工艺的多样性, 对于材料应用和表达的潜在力量, 以及工艺步骤中允许实践者根据三维信息进行调整等等一些特征都促使了该工艺的迅速发展。目前澳大利亚的密制实践者在铸造, pâte-de-verre, 软化、融合等方面有突出的贡献, 一些艺术家甚至将密制工艺与吹制、彩绘等工艺相结合, 试图开拓玻璃的艺术表达能力。

其它的工艺技术, 如: 建筑玻璃、彩绘、灯工、砂铸造和光学玻璃的应用等也在澳大利亚的玻璃艺术中扮演了一定的角色, 丰富着玻璃语言的表达, 由于篇幅的关系不在此一介绍。

究竟是要从揭示材料本身特质的角度发挥材料的价值, 还是应该在纯艺术的绘画、雕塑、建筑等领域中寻找玻璃材料的立足点? 这个问题始终贯穿在澳大利亚的玻璃工作室运动中, 实践者们正不断地以多姿的玻璃艺术作品诠释着他们对于该问题的理解。

更正: 2007年第三期目录中“纪念性首饰·首饰艺术中的一朵奇葩”一文的作者应为: 袁文娟



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## 乃珊谈艺

- 46 百年婚纱  
WEDDING GARMENT OF HISTORY

程乃珊

## 论坛

- 68 用工艺塑造生活  
MOLDS THE LIFE WITH THE CRAFT

李绪红

- 70 战后的捷克玻璃艺术  
POST-WAR CZECHISH ART OF GLASSWARE

薛 吕

## 工艺纵横

- 14 “人文触觉”—— Droog大师设计展  
TOUCH OF CULTURE

龙 逸

- 24 “扬州工”捧出压箱绝活  
MASTER PIECE FROM YANGZHOU

邹 彬

- 34 宇达雕塑家画廊  
YUDA SCULPTOR DECORATED CORRIDOR

- 35 青铜艺术礼品熔金放彩  
BRONZE ARTWARE PUTS THE RAY

陈鹏举

- 57 根是生命的理由  
LIFE ROOTED

冯守国 陈恩琦

- 78 起厝筑梦 伍角船板  
ARTISTIC COLLECTIONS

- 96 南京绒花  
VELVET FLOWERS FROM NANJING

吴海燕

- 98 葫芦里装的什么“药”  
WHAT'S IN THE GOURD

秦 红

## 工艺传承

- 28 新时代的工艺美术百花园  
PRESENTATIONS OF NEW AGE ARTS AND CRAFTS

周家有

- 76 上海红木小件艺术  
MAHOGANY SCULPTURE FROM SHANGHAI

余世安

- 90 轻似晨雾 薄如蝉翼  
LIGHT AS DAWN MIST, THIN AS CICADA'S WINGS

辛 斋

## 艺林漫步

- 26 当代葛明祥的陶艺  
CONTEMPORARY PORCELAIN ART OF GE MINXIANG

杨永善

- 32 流淌音符的精彩人生  
LIKE FLOWING MELODIES

顾小慈

- 72 紫泥丹青一片情  
COLOR PAINTINGS

史俊棠

- 90 琢瓷成画巧天工  
DELICATE PORCELAIN WARE

朱裕平



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论 坛

# 战后捷克的玻璃艺术

## POST-WAR CZECHISH ART OF GLASSWARE

■ 薛 吕

20世纪中，捷克玻璃作为战后欧洲设计的重要部分几乎被世人遗忘。在过去40年中，捷克的玻璃艺术发展不被人充分认识，许多作品甚至在捷克自己的国家内都不为人所知。

众所周知，14世纪后世界的玻璃中心一直在波西米亚Bohemia，即今天的捷克和斯洛伐克。20世纪前半叶波西米亚玻璃就一直伴随着当时的主要艺术运动。1910至1920年，捷克当时的家具设计、玻璃和其他手工艺品就反映了立体派的思潮。40、50和60年代是欧洲和美国在绘画、雕塑、设计方面确立重要观念的时期，至今这些观念仍然作用着我们当代的艺术。当意大利和斯堪的那维亚的玻璃设计者在探索艺术观念和想法时，而捷克人却在进程中不断尝试将玻璃材料作为纯艺术表达媒介的可能性，尤其是作为抽象艺术的表达媒介，他们渴望将象征捷克文化和工业传统的玻璃艺术延续并推向世界。

1930至1940年中期，受二战和共产主义政治体制的影响，当时捷克国内没有形成艺术品市场，玻璃传统工艺在经济中仍然占有重要地位，但玻璃雕塑家在那时已出现，主要是为建筑和室内服务，建筑与环境设计对于玻璃技术与艺术人才需求大量增加。

战后的捷克玻璃艺术摆脱了其颓废状态，由Helmut Ricke在杜塞尔多夫Kunst Palast博物馆组织的“Czech Glass 1945-1980: 逆境中的设计”陈列了从未展出的欧洲个人收藏器皿和雕塑，以及从捷克、康宁玻璃博物馆和杜塞尔多夫等地借来的展品。同时出版的《展品目录》一书展示了捷克玻璃艺术在现代玻璃设计中确立其中坚地位的生命力和原创力。

为了进一步地揭示战后捷克玻璃艺术的发展，有必要了解当时捷克的社会和艺术大环境。1948年共产主义政权下的捷克共和国并不鼓励现代艺术和抽象艺术。“艺术为大众”的口号被大力宣扬，然而，玻璃艺术家进行探索的各种风格和手段却不

被列为纯艺术范畴，捷克政府利用玻璃作为国家的主要外销品，吸引外国游客，在设计博览会等世界性竞争中崭露头角，政府将设计视为无损于政治的手段来达到其目的，画家、雕塑家的创作被文化当局禁止，但却为玻璃艺术家提供了契机。

20世纪前半叶，捷克玻璃设计反映了绘画、雕塑和建筑上的各种思潮，虽然政府大力压制纯艺术，但不同于画家、雕塑家和设计师，玻璃艺术家以及其他从事应用艺术者有相当的自由度，因此捷克玻璃仍然与艺术保持了密切的关系。原因之一是：文化当局将玻璃视为一种功能性的装饰材料，玻璃的概念仅限于杯子、盘子，而不是艺术，“艺术是政权在观念上的宣传”，对政府来说，玻璃不是艺术。

1957年意大利米兰三年展，1958年比利时布鲁塞尔世博会是1948年共产主义政权领导以来捷克

人参与的首次国际性会展。为58年世博会设计的玻璃大型雕塑自由地展示了艺术家追求抽象艺术的热情。同时器皿和一些小型雕塑也作为商业产品展示，但仅限于少量生产。许多物件，如：雕刻器皿，热融玻璃实质上已经可以列入工作室玻璃艺术范畴。

在这两次会展中，以新面貌出现的捷克玻璃受到了大众的欢呼，67年加拿大蒙特利尔世博会，70年日本大阪世博会亦是如此。由于美国、欧洲的冷战态度，康宁博物馆举办的“Glass 1959”和纽约当代手工艺博物馆组织的“Glass: Czechoslovakia and Italy(玻璃：捷克斯洛伐克和意大利)”在当时只有很少的新闻报道，直到1989年“铁锤”倒塌之后捷克艺术家才获得充分的自由和控制展览的权力，67年蒙特利尔世博会对于美国和欧洲的玻璃工作室运动尤为重要。欧美的玻璃工作室先驱Harvey Littleton, Erwin Eisch, Dale Chihuly, James Carpenter, Marvin Lipofsky等在60年代后期和70年代都曾访问过捷克。

68年随着社会局势动荡，捷克玻璃艺术家又一次被政府压





制，直至1980年以后一些艺术家才被允许出国访问。

教育体制是另一个在捷克玻璃艺术发展进程中起到决定作用的因素。捷克的玻璃培训课程历史悠久，玻璃教育分为两个层面——基础教育在玻璃技术学校完成，然后进入大学接受进一步的深造。Zelezň Brod和Nov Bor是当地两个有名的专门的玻璃技术学校，与工厂保持密切的合作关系，教授玻璃切割、雕刻、灯工、建筑玻璃腐蚀以及当时正处于实验阶段的玻璃铸造技术等。

布拉格应用艺术学院是捷克玻璃艺术高等教育的中心，学制6年，为工厂、建筑业等各个领域提供人才。20世纪40年代，捷克的现代玻璃教育有了巨大改革，绘画成为课程中的一部分，主要注重玻璃材料在艺术领域的突破，玻璃的光学特质也被艺术地用于审美范畴。

在布拉格应用艺术学院有影响力的教师—Josef Kaplick教授学生这样的思想：纯艺术与应用艺术没有界限——无论艺术是好，是坏，所有的材料都平等。Kaplick是一个有才能的画家、雕塑家和平面设计师。他大力推行玻璃设计艺术化。他认为“必须有宽广的艺术眼界才能推动玻璃的前进，学生有必要了解建筑、雕塑和绘画”，他的学生不仅从玻璃历史中寻找灵感，而且从古代、现代的绘画雕塑中吸取养分。尽管当时政府谴责抽象艺术的堕落性，Kaplick却鼓励他的学生努力探索。总的来说，捷克艺术家很少揭示当代艺术，对于欧洲艺术家和设计师从事的艺术他们知之甚少。在现代艺术大师毕加索、巴洛克、贾克梅蒂、康定斯基、克里、蒙德里安、摩尔等思想影响下新的艺术运动不断兴起，但却不为那时的捷克艺术家们所熟悉，这也使得捷克的

抽象艺术发展更为有趣。

Stanislav Libenský, Rene Roubíček是战后捷克年轻有活力的新一代玻璃艺术家。教育家，Stanislav Libenský及其夫人Brychtová是在美国从事玻璃教育事业最有影响力的捷克玻璃艺术家，他们始终激励学生思考技术以外的因素，之后，在美国任教的Jiri Hrcuba和René Roubíček也将捷克的玻璃艺术继续推广，他们为玻璃教育事业所做出的贡献对玻璃工作室运动在各地的开展具有不可磨灭的影响。

耐人寻味的是：战后捷克玻璃艺术最为突出的特点是趋于抽象化。这在设计原稿中可以得到证实，许多手稿，从餐具设计概念到小型抽象绘画都展示了战后捷克玻璃艺术家如何将抽象观念转化为玻璃实物，并且暗示了捷克玻璃艺术与欧洲当代艺术运动以及美国抽象表现主义等绘画的内在联系，作品的本质往往清楚地设计稿中得以充分体现。很难想象离开了捷克艺术家影响的国际玻璃工作室运动会是如何的景象！

20世纪以来的捷克玻璃艺术其主要成就在于：将玻璃材料作为当代绘画与雕塑等纯艺术的表达媒介，而战后捷克玻璃是在多方面因素交叉作用之下形成的：捷克当时相对封闭的艺术环境；文化当局对于纯艺术的压制；政府对于国际展会的支持与推动；良好的应用艺术教育传统；画家、雕塑家在设计教学中的作用；艺术家的抱负以及他们拥有的合作和乐观主义精神在政治逆境中的磨砺。所有这一切都组成了战后捷克玻璃艺术对于世界玻璃艺术及其工作室运动的贡献。