

CONFERENCE 2000 HIGHLIGHTS FROM ST IVES



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INTRODUCTION

Sally Fawkes and Richard Jackson,
Conference Organisers

AS WE WELCOMED THOSE who attended the conference in St Ives, we would now like to welcome the whole membership to these highlights of the St Ives conference, 'Perceptions'.

WHY ST IVES? A committee decision was made to take this conference away from an established glass environment to an environment of natural beauty that the membership would find stimulating. St Ives also had the advantage of being home to a thriving artistic community which is built on an important movement in British art.

Producing a programme for such a diverse membership is a real challenge. After much consideration and debate the resulting programme of speakers delivered lectures on various aspects of creative activity through glass, from conceptual realisations to specific research in technical development. In addition technical seminars gave the opportunity for in-depth discussion.

Trade stands have proved to be extremely popular with delegates so we decided to expand this area, bringing a greater number and diversity of suppliers, including ones from the USA, Netherlands and Switzerland.

A completely new introduction was a viewing area for

videos showing such diverse topics as astronomical telescope lens production and glass blowing in India.

Saturday night was the entertainment highlight, an exclusive event for the delegates at the Tate St Ives. The whole gallery was opened with talks delivered by the gallery curator, while up in the roof terrace restaurant overlooking the sea a superb buffet was served. It was the perfect opportunity to relax and enjoy each other's company.

An exhibition of CGS members' work was held at the Plumblin Gallery. CGS instigated this project, but it was organised and selected completely by Arthur Hancox, the gallery owner. The exhibition was judged to be a great success by all, being well received locally and most appreciated by our membership. Arthur plans to continue his contacts with our members and with the society generally.

The conference was not without its mishaps. Two key speakers, Bernard Dejonghe and Caroline Broadhead, had to

pull out at the eleventh hour due to sudden illness. Both asked that their deepest apologies be given to those at the conference and they have asked to be included in the programme at the next conference. Surviving this everybody appeared to go home having had a very positive intense experience in St Ives.

We would like to extend our thanks to our sponsors, South West Arts, British Glass Education Trust, Plowden and Thompson, Whitbread Breweries and the Tate Gallery, and to all those who gave their help and support in bringing this event to fruition. These include the rest of the CGS committee for their support prior to and at the conference, in particular Colin Reid and Shital Pattani for their close involvement, Sally Eaton for administering the bookings and Fiaz Elson for being on hand throughout the weekend in St Ives. Thanks also to Judi Menges for managing the funding applications, Katherine Shaw and Eva Warzyniak for organising the trade stands and Barbara Beadman for supplying many of the videos on offer.

THE LECTURES

Professor Ronald Pennell AT WOLVERHAMPTON UNIVERSITY

'To me there is no past or future in art. If a work of art cannot always live in the present it must not be considered at all. The art of the Greeks, of the Egyptians, of the great painters who lived at other times, is not an art of the past; perhaps it is more alive today than it ever was. Art does not evolve by itself. The ideas of people change and with them their mode of expression.'

Picasso

THIS QUOTATION HAS PUT INTO WORDS much of what I think about art. Because I see myself on a journey to nowhere, my career is only a by-product of what I do. So I received the suggestion that there should be a Pennell Retrospective from Julia and Martin Ellis in the autumn of 1996 with caution. Usually I take part in about seven exhibitions each year so there is no reason for nostalgia as I am always looking forward to the next work. However, Julia, being an expert in artist management, saw that there was a solution to my doubts; she said that I could produce about a third of the show as new works, so I was hooked.

A year later with the exhibition and tour adopted by Wolverhampton Art Gallery, Julia Ellis and Pauline Thomas as co-curators and major sponsorships in place, something happened that was to have a profound influence on the course of the exhibition. Coincidentally, also in Wolverhampton, Professor Keith Cummings and Stuart Garfoot were wondering whether I would be interested in accepting the first Visiting Professorship of Glass Studies at the University.

A meeting was arranged and it was agreed that I should



▲ **TOE TO TOE** (1999), KILN-CAST, ENGRAVED AND CARVED GLASS

carry out my new work at the Glass Department within the School of Art and Design, using the facilities for kiln casting, architectural and hot glass.

My first year at the School was just like being a student with a fancy title; I began modelling, mixing plaster and waiting hours for glex moulding rubber to melt. Just as my patience was coming to an end, Jacqueline Cooley returned to the School from leave. She became my part-time assistant and under her guidance I made very rapid technical progress, eventually making castings and surface finishing them with diamond wheels of my own design, including some castings in bronze. My new vessel forms were blown by Carl Nordbruch, who was working at the School. Although there was little time, I also wanted to learn to paint on glass. Fortunately, Vanessa Cutler in Architectural Glass, who refused to believe that I am hopeless at painting, showed me how. I did no more than make a start, but some months later I put my first glass painting together with my first sand casting and added the title 'Diverse Elements', afterwards sending a slide with my entry for the Corning Museum's New Glass Review. To my surprise it was selected and gained the vote of one of my



▲ **THE TRIUMPH OF THE SHEILA NA GIGS** (2000), PAINTED, ENGRAVED, ETCHED AND LAMINATED GLASS (DETAIL)

favourite artists, Dana Zamečnikova. Like David Reekie, I love irony, but one's best works are seldom selected for the Corning Review, so it must mean that inspiration can triumph over technique.

A few weeks before the exhibition opened I engraved several glass plates which Stewart Mason printed for me at the School of Printmaking. His help and enthusiasm has encouraged me to concentrate more on this aspect of my work, and he has recently printed my first lithographs.

At present as my assistant, Vanessa Cutler is helping me to create painted, engraved and laminated glass panels. The first ones were mounted on stainless steel stands for me by Anthony Beckett for an Artsway touring exhibition called 'Get Real-Romanticism and New Landscapes in Art'. Guess who is the curator who persuaded me to do a whole lot of new work . . .



▲ **THE DEATH OF THE GREEN MAN** (2000), PAINTED, ENGRAVED, ETCHED AND LAMINATED GLASS (DETAIL)

Keith Seybert and Angela Thwaites

TO BOLDLY MOULD

AN INVESTIGATION AND COMPARISON OF CONTEMPORARY WORKING METHODS AND MOULD MATERIALS FOR USE IN THE KILN FORMING OF GLASS

THE BEGINNING

IN 1997, after a Winston Churchill Fellowship Grant to visit the Czech and Slovak Republics, Liz Swinburne became aware of the diversity in methodology of kiln casting glass. Intrigued by the variations of approach and techniques, Liz developed a proposal for study focused on current studio practice worldwide.

In 1998, Liz took this proposal to the Arts and Humanities Research Board for funding. Having been awarded the grant, the project started in May 1999 with the appointment of me,



▲ KEITH SEYBERT AND ANGELA THWAITES EXAMINE TEST PIECES FROM THE KILN.

Keith Seybert from the States, as research assistant. I came to glass through the back door, having trained early on as a bronze caster, thus my experience in refractory mould making started in 1980. This experience was turned towards glass when I began to incorporate it as a material in my sculptural endeavours around 1983. This eventually led to a second MFA in Glass (the first being in Sculpture) started at Washington University in Saint Louis, Missouri, in the early 1990s and finished with a five-month stint at Pilchuck, where I continue to be a regular.

After additional funding was granted, extending the project to two years, my research partner, Angela Thwaites, joined the team. Angela's experience in working with glass is wide ranging indeed, not the least of which is having been awarded post-graduate scholarships by the British Council to study in Prague with Libensky in the early 1980s. Ange is also a veteran of Pilchuck (way long time ago!) and has been running a successful glass studio in London for many years.

THE MIDDLE

SURVEY OF CURRENT PRACTICE

Working together, in light of our diverse combined experience, we developed a four-part strategy for the in-depth examination of current kiln casting practice on an international level, taking into account the historical context.

It quickly became apparent that a standardised list of questions and terms would be necessary to poll practitioners worldwide and establish what is happening in the field. Drawing on professional contacts in the UK and abroad we began, slowly, to accumulate data in the form of written responses to the questionnaire.

After hearing about the project, Rik Jackson and Sally Fawkes invited us to speak at the CGS conference in St Ives. We saw this as a great opportunity to publicise our project and to expand the number of participants in our database. The response from the delegates exceeded our wildest expectations and continues to grow, adding significantly to the relevance and value of our project.

Yet this survey is only one aspect of our research, albeit an important one. Equally important is the systematic testing of recipes and methods derived from the Survey and the Literature Review. The latter is also a key part of our work and will form a second important source of information which we hope to make available as a 'user-friendly' resource for interested parties. Other areas of interest are health and safety, economy and efficacy.

TESTING

We decided that it would be essential to adhere to strict guidelines of accuracy in measurement and documentation (as opposed to the handful of this and a pinch of that cooking approach which is how most of us make moulds) if these tests were to be easily duplicated. With this in mind, we have determined to use the metric system throughout – volume, weight and temperature. We also feel it is essential to keep clear and detailed records of our results both written and visual. To this end, we make extensive written notes on each firing and digitally photograph the resultant moulds and glass when removed from the kiln.

In short, we are attempting to apply scientific method to something that has always been handed down or exchanged by word of mouth. We feel this area has been too long in the province of proprietary knowledge, and we are looking to provide a greater level of 'transparency'.

LITERATURE REVIEW

As anyone who has ever studied the kiln forming of glass knows, there is very little written on the topic and some of the information available can be misleading or at worst inaccurate.

Some notable exceptions are: the excellent paperback by Jim Kervin and Dan Fenton, *Pâté de Verre and Kiln Casting Glass* (published in the USA, 1997); Keith Cummings' seminal work of the late 1970s resulting in his first book *The Technique of Glass Forming* (published by Batsford in 1980), and then his second book *The Techniques of Kiln-Formed Glass* (published by A&C Black, 1997), and sections in Charles Bray's *Dictionary of Glass – Materials and Techniques* (also A&C Black, 1995). Charlie has also been most helpful in his correspondence with us. (There are sections of other books and texts which are also very useful, and we will make a complete bibliography by the end of the project.)

After perusing the Royal College Library, we then endeavoured to find more technically orientated information at Imperial College and historical background in the V&A's archive. These sources proved useful, but it was not until a trip to Corning, and the world-famous Rakow Library (the largest repository of glass information in the world) that we really hit pay dirt!

We now have, in one place, what we believe to be every book and article on kiln casting written in English (and some in French – Ange's prerogative to read it) in the last fifty years. However, we are constantly looking for more, so if you think you have some thing that we have not looked at, see our e-ddresses below and please send it!

THE END

At the end of the project we plan to disseminate the information we have gathered at an international conference to be hosted by the RCA in 2001, to which we want to invite everyone who has contributed. We also have hopes for publishing the material and setting up a website, so if you are unable to attend the conference you will still be able to access the information.

Speaking of conferences; we had a most enjoyable and informative weekend in Cornwall. It was also good for Keith to have some exposure to the people involved in British glass.

Despite speakers Bernard Dejonghe and Caroline Broadhead unfortunately having to withdraw at the last minute, the conference flowed well. We would like to end by saying how much we enjoyed the CGS conference in St Ives, and thank you for the support and enthusiasm of those who participated in our discussion group and are taking part in the survey. Look forward to seeing you at the Royal College next year!

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Ed Smy

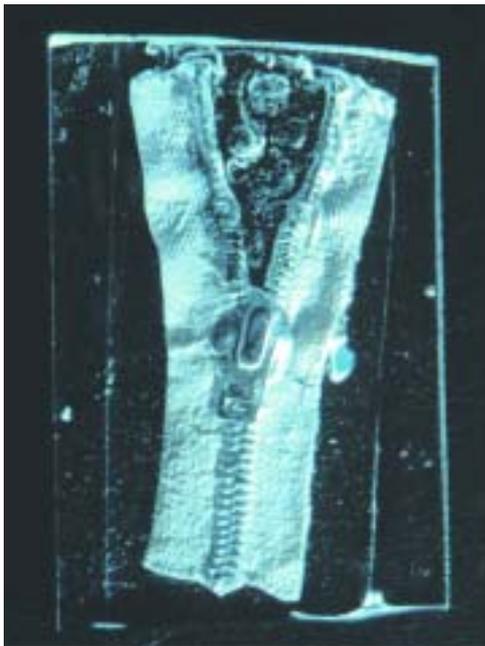
THE SOL-GEL PROCESS

AN IMPORTANT CHALLENGE for the artist whose aims are to mould and cast glass is to find a way of achieving some creative control over the molten state. It was during a sabbatical at the Royal College of Art, while researching the transferable skills between ceramics and glass, that I realised the importance of moulds in the development of both disciplines.

When casting methods are employed by a ceramicist, the artist has the advantage of access to a room temperature liquid clay (slip), allowing more direct control over the

material. Control can be exercised over the thickness of the cast and absorbent materials can be dipped and coated resulting in a facsimile of the original object. The glass artist working with form that relies on a liquid phase has to choose between hot glass and kiln working. It is the very nature of this hot liquid phase that places restrictions on the artist both in the ability to directly configure and the range of forms that can be achieved. The Sol-Gel process provides a means for the glass artist to overcome these restrictions by enabling a more direct and intimate relationship with the material at the crucial forming stage.

Research into the liquid phase of both materials resulted in a chance reading of a scientific review of the Sol-Gel process. The process, based on chemical synthesis, claimed that a glass could be constructed allowing access to a liquid stage at room



► **ZIP**
FACSIMILE AS
INCLUSION IN
GLASS



◀ **SINTERED**
HOLLOW FORMS
CAST FROM
DISSOLVABLE
SUBSTRATES



◀ **WET GEL CAST**
AND SILICONE
RUBBER MOULD

▲ **COLOURED TEA**
BAG FACSIMILE AS
INCLUSION IN GLASS

temperatures and requiring little or no finishing after forming.

Following this brief sabbatical I pursued links with Sheffield University to allow me the opportunity of a longer, in-depth period of study to explore more fully the implications of the Sol-Gel process in relation to my own work as a teacher and an artist.

SOL-GEL PROCESS

The Sol-Gel process provides a chemical route to making a glass. Sol-Gel refers to two physico-chemical states. The sol is a solution of the ingredients required to make the glass, mixed on a molecular level of homogeneity. The sol can then be transformed into a wet solid gel, followed by dry gel with high porosity. Further processing (e.g. sintering) enables a fully densified silica glass to be achieved.

In constructing a glass via the Sol-Gel process, five active stages can be identified:

SOL	0 – 100°C
WET GEL	0 – 100°C
DRY GEL	0 – 100°C
POROUS GLASS	0 – 100°C
DENSIFIED GLASS	1000 – 1500°C

The first four stages are achievable at room temperatures. To densify silica glass, temperatures over 1000°C are required and in some cases up to 1500°C depending on the pore size of the dry gel. My recent work involves reducing these temperatures by the addition of fluxes.

SOL

The preparation of an inorganic material via chemical routes is not new. The fact that one can suspend a solid in a liquid, then remove the liquid and finally densify the solid underpins most qualitative chemical analysis. In the Sol-Gel process the materials involved include acids and/or alkali and other toxic materials and it requires the artist to consider fundamental chemistry.

In the forming of a gel the central component is silica, usually in the form of a metal alkoxide or colloid. When combined with water and a catalyst, reactions involving hydrolysis and polycondensation and/or gelation occur. If the sol is homogeneous a clear liquid stage precedes a viscous one followed by the formation of a solid wet gel. Prolonging the viscous stage can be achieved with modifications to the sol, creating the potential for casting applications.

CASTING GLASS GELS WITH SILICONE RUBBER MOULDS

Silicone rubber has opened up opportunities for casting applications generally denied to glass practitioners. Casting Sol-Gel glass gels into silicone rubber moulds enables intricate shapes, with undercuts, to be cast with minimal finishing prior to the forming of a glass. When taken through to a fully densified glass no more finishing is required. The resultant glass will have retained the original form and detail but will have achieved a shrinkage of 50 per cent.

COATING DISSOLVABLE SUBSTRATES

Casting glass gels into silicone rubber moulds restricts the form to solid sections. Thinner sections can be achieved but

require complex moulds. To enable thinner sections and hollow forms to be cast, I attempted coating dissolvable substrates. I found that salt and chalk could be carved, coated and then dissolved with water (salt) and dilute acid (chalk) leaving the gel cast intact. Organic/combustible material could be coated or impregnated and then burnt away leaving a facsimile of the original in the form of a dry gel.

WET GEL

After casting or forming the wet gel needs to be converted to a dry gel prior to the forming of a glass. The gel is now a rigid silica 'sponge' retaining both large amounts of water and organic materials which need to be removed. Capillary stresses are induced if a liquid is forced out of the fragile silica structure and could result in cracks in the final glass. In industry super-critical drying processes replace the water with an inert gas leaving the network intact. Finally organic materials can then be removed by leaching the gels in dilute acid solutions.

Natural drying, if controlled, can lead to the formation of a porous glass. With the loss of pore liquids the silica network shrinks with the result that a porous glass is formed. However, this can take up to weeks or months.

DRY GEL

A dry gel will be free from both water and organic materials. At this stage gels can be carved and shaped, however the dry gel is very fragile and requires careful handling. Industrial applications can include material for catalytic converters and insulation for buildings.

SINTERING

To achieve a densified glass, the dry gels need to be sintered in a kiln and fired to temperatures between 1000°C and 1500°C. The glass achieved will be a pure silica glass and will have an extremely low expansion coefficient.

POTENTIAL FOR THE GLASS ARTIST

An important part of my work with Sol-Gel has been the aim to adapt the process to a studio environment. Basic chemistry equipment (e.g. hot plate stirrers and fume cabinets) have been essential non-adaptable equipment. The challenge in my research has been to find transferable low-tech equipment as a substitute for high-tech processes employed by the material scientist in fast-drying gels and the avoidance of capillary stresses while drying. One breakthrough was my idea to use a domestic pressure cooker. This has enabled the leaching of organic materials from the gel to be achieved without damage to the cast. A microwave oven has been effective in reducing drying times down to minutes, substituting for super-critical drying and avoiding the impractical times involved in natural drying.

The potential of Sol-Gel has been direct access to a room-temperature liquid glass, presenting the possibility of slip casting, impregnation of non-glass materials and further transferring of ceramic practice to glass. The requirements for any curious glass artist wishing to explore this process include a fearless approach to basic chemistry and considerable imagination.

Oh, and a grasp of atomic weights!

Aron McCartney

THE DESIGN AND UTILISATION OF THE CERAMIC SHELL MOULD TECHNIQUE IN FORMING STUDIO GLASS

THE METHODS USED TODAY for the investment moulding of metals have a long and ancient history. The first written accounts are by the monk Theophilus Presbyter in his book *Schedula Diversarum Artium* (circa 1100). Many translations of the mediaeval Latin text have been edited, describing methods employed for painting, glass making and metal working of that time.

Investment moulds are made from materials commonly known as refractories which are heat, and to some extent abrasion, resistant. They are usually built in layers upon patterns made of wax with each layer playing a specific role in the mould construction. When the wax is removed from the investment mould it is filled with molten metal which cools, contracts and solidifies at room temperature. This method is called the lost wax process otherwise known in the glass world as *cire perdue*.

The moulding method fell out of fashion for casting metals and was rediscovered by B.F. Philbrook of Iowa in 1897, while he was researching alternative methods of casting dental fillings and inlays. The true significance of the process was realised by Dr William H. Taggart of Chicago who, in 1907, published his research detailing the process using new wax compounds.

It took the demands of World War II for the method's significance to become truly apparent. It proved to be an ideal way of manufacturing precision-finished parts for armaments and the aircraft industry as it obviated the need for extra machining and welding assembly. The Truecast

company in the USA and Rolls-Royce in the UK were leading companies developing the investment block process to the shell investment process. Introduction of the shell investment allowed for greater control of material temperatures to an extent that turbine blades in jet engines are single crystal metal castings, which enhances the strength and stability of the metal blades.

The investment technique widely taught and applied on the glass course at Stourbridge (now part of Wolverhampton College of Art and Design) varied on the plaster, flint and grog combinations. This well-practised method produces a relatively heavy and cumbersome mould which takes a long time to dry. Drying has to be programmed into the kiln firing cycle or takes place near some other external heat source such as a furnace. Handy if you've got one!

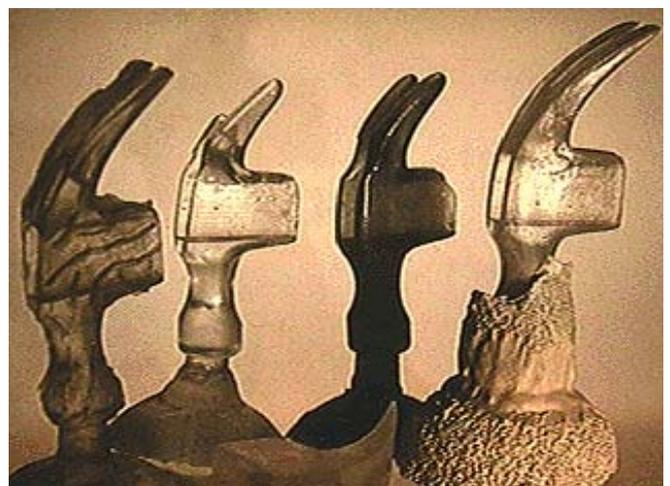
My introduction to lost wax ceramic shell investment moulds began with the observation of the process, applied to the casting of metals, bronze and aluminium, at the foundry of Central Saint Martin's College of Art and Design, London. The shell process had been introduced by the LeverHulme fellow David Reid (1994–1997) as a pared-down system devised so as to be easily accessible to small foundries and sculptors. It dispensed with major technical equipment and materials were mixed as needed in buckets by hand. Using relatively crude equipment the lightweight shell investment moulds produced impressively accurate metal castings with fingerprint impressions evident in the final casting.

In order to assess whether shell investments could detail similar qualities in moulding glass, practice-based research began examining possibilities of using the shell for all its obvious advantages. The initial areas of research enquiry began with establishing the surface interaction of the shell investment with a limited number of glass types, as follows:

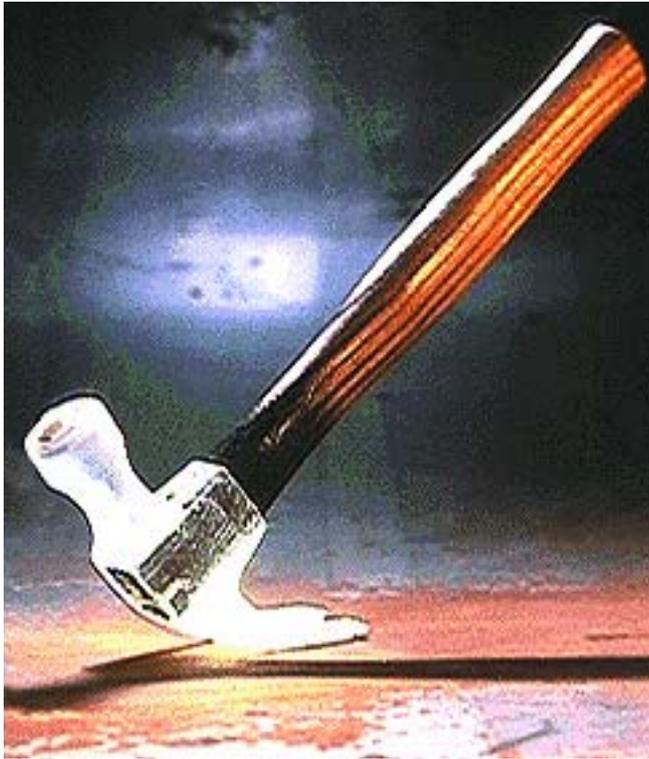
DARTINGTON	24% lead glass
PHILLIPS	6% lead glass
PLOWDEN & THOMPSON	soda lime glass
REGEN TV MONITOR	a barium and lead glass
	Commercial float glass



▲ FLAT PLATE TESTS, CERAMIC SHELL AND VARIOUS GLASS TYPES



▲ HAMMER HEAD PATTERN GLASS TESTS. LEFT TO RIGHT: PLOWDEN & THOMPSON SODA LIME GLASS, PHILLIPS 6% LEAD GLASS, REGEN MONITOR SCREEN, DARTINGTON 24% LEAD.



▲ **HAMMERACTION** ARON McCARTNEY

These glass types were chosen as they were easily accessible with some of them known to be common materials to many glass studios producing blown and kiln-cast work. A controlled set of tests, devised to evaluate the interaction of these glass types with flat open samples of ceramic shell made from different formulations, was conducted. This followed simple material science methodologies, where a control is set up to help make comparative assessments of the test experiments, the control in these cases was the plaster-flint type mixes. The tests looked at combining commercially available release materials, known in the trade as mould dopes, with the investment as well as comparing against manufactured ceramic shell type materials, e.g. Zircar mould mix 6. It was clear from the first series of flat plate tests that shell investments could be made to work with most of the glass types, the most difficult being the reclaimed monitor screen glass. In these samples mould adhesion was most apparent. The tests also established that the shell investments created in the foundry were superior in application and thermally more stable than plaster and Zircar mould mixes.

Testing then progressed to a wide range of pattern types of

differing complexity but of similar scale. Assessments were made of the quality of surface finish, clarity of the glass and thinness as well as the temperatures at which mould interaction began to occur.

The research established that shell moulds were able to cast complex glass patterns and that the surface reproduction of the glass was superior to that obtained from the usual plaster grog investments.

Successful processing requires knowledge of optimum melt temperatures, the fluidity of the glass and minimum soak times. Using the shell investment method means that much lighter and smaller moulds can be used leading to greater efficiency in the processing of the glass. Lower temperatures and shorter annealing times can be set as there is less mould to insulate the glass, helping thermal loss. Also less space is used in the kiln so more moulds can be set up and as they are dry do not contribute to the corrosion of electric heating elements.

Other mould types created for blowing, slumping and fusing can be used many times, relining when necessary or between firings. Another advantage of the shell investment is that it is relatively easy to remove the wax pattern using a simple gas torch. The heat, which is applied externally, penetrates quickly through the thin mould to the wax.

A full account of the research is to be published in the latter part of 2000 and describes the process and its application across a variety of glass disciplines. The work should benefit glass practitioners and promote art and design ideas that might otherwise have not been possible.

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Françoise Dupré LITTLE VOLCANOES

IN *ROOTPRINTS* French writer, Hélène Cixous discusses the notion of the poetic as always '... in the process of seething, of emitting, of transmitting itself. Each object is in reality a small virtual volcano'. (1) The text, argues Elizabeth Grosz, is always in a provisional and momentary position, a condition which limits its identification and does not allow its

autonomy or permanency. (2) For Grosz, the process of production leaves traces on, in, outside or on the borderline of the text and the author and reader also leave residues. Grosz' and Cixous' understanding of writing is inspiring and useful because it offers a different way of thinking about creativity and its relation to the body and implies that the identity of an art object resides in the process which takes place between the object and the subjects (artist and viewers).

The constant state of flux in which creativity is makes its locating rather difficult. I search for traces and residues. I explore the peripheries of art and often locate myself and my

work on borderlines between the private and the public – the domestic space of the home and the public space of the gallery.

The body has been a central theme in my work. Inspired by mediaeval, religious imageries and medical representations of the body and informed by feminist and psychoanalytical theories, I have explored and investigated issues of body fragmentation, its vulnerability, function and interpretation. My research has been informed by and has engaged with late twentieth-century debates around issues of the aesthetic of bodily transgression.

I make and place objects which respond to and engage with particular locations. I employ a wide range of materials and processes – casting, sewing, construction. I manipulate domestic and personal objects which I transform into hybrids bringing together art and daily life and articulating the problem of gender identity.

Glass casting is an important aspect of my practice. I use glass because its physical state is provisional and temporal. Glass is a transitive material which can be compared to our state of being and the ephemerality of the human body. For me glass makes a wonderful metaphor for the body and the creative process itself. Its in-between state and its transitory quality make glass one of the locations where little volcanoes can erupt.

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Françoise Dupré's work can be visited on the following websites:

- www.thegallerychannel.com/emplacements
- www.thegallerychannel.com/francoisedupre
- www.axisartists.org.uk/fcis.educagri.fr/~ecm.rurart/

► **YOUNG THING**
(1998), CAST GLASS,
FELT, SYNTHETIC FUR,
HAIR BANDS, FABRIC
STRAPPING TAPE
AND CLAMPS;
DETAIL OF WALL
INSTALLATION
'YOUNG THINGS'.
COMMISSION FOR
THE EXHIBITION 'ME
AND YOU' AT
WALSALL ART
GALLERY



FXP

◄ **ÉTATS D'ÊTRE**
(STATES OF BEING –
1999), CAST GLASS,
FABRIC STRAPPING
TAPE, COTTON, EAR
PLUG, STAINLESS
STEEL CABLE AND
CLAMPS; DETAIL OF
INSTALLATION FOR
THE EXHIBITION
'MESSAGERS DE LA
TERRE' AT RUR' ART,
ROUILLE, POITOU-
CHARENTES, FRANCE



ALEX SAUNDERSON



FXP

▲ **MY FIRST SEWING KIT**
(1996), CAST GLASS AND
SEWING KIT, INSTALLATION FOR
SOLO EXHIBITION 'FAIT MAISON'
AT THE ADAM GALLERY,
LONDON

► **YOUNG THINGS**
(1998–1999), CAST GLASS,
RUBBER, FELT, FABRIC
STRAPPING TAPE



FXP

David Pearl

THE ARTICULATE APERTURE

A THOUSAND YEARS AGO the Anasazi of New Mexico created the perfect work of art and architecture. With light as the medium, they integrated form, structure and meaning in their spiritual space – the Kiva. A circular construction, buried beneath the ground or perched in a high inaccessible cave, the Kiva is accessed by ladder from the top through a small square central opening. Inside, within the dark womb of the earth, the space is dramatically illuminated by a central shaft of light through the single opening. The Anasazi believed that light (the spirit) quickened earth to create life, and that they literally climbed up out of the earth. This was re-enacted with ritual and architectural expression every time they ascended that ladder back into the world.

Strikingly, in Europe at the same time we were in a creative fervour expressing, making manifest our world view (or at least the Christian cosmos) in that great period of cathedral building. The artist in light was the central participant in that dark and mysterious theatre. The relationship of structure, symbol and function parallels quite wonderfully the Kiva. It is tempting though, in this unadorned age, to prefer the simplicity and succinctness of the Anasazi vision. The story is, it's not told. Both, of course, depend on knowing

participation, a culturally shared vision.

The window's central importance to the artifice of architecture is rooted in a potent natural symbolism. Light into darkness. Henry Moore said of a hole in a piece of sculpture that it is a revelation because it connects one side to the other. Likewise the window, that thin transparent skin, is the threshold between inside and outside. It is internal and external. The window reveals space and surface. It establishes the quality and quantity of light. It frames the seen. It literally shapes your view of the world. Its evolution from the oculus to window wall tells you the where, when and who of almost any building.

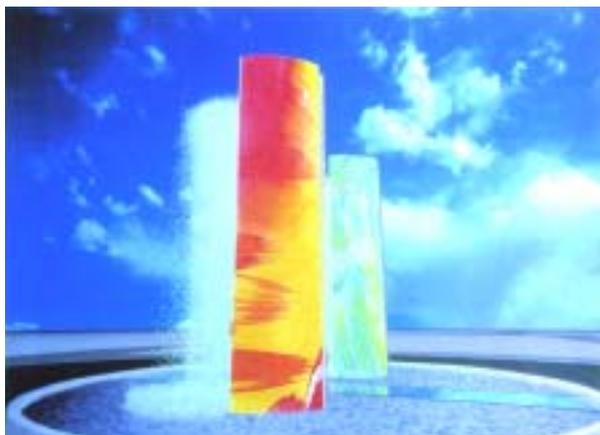
As a starting point for a work of art it becomes therefore somewhat intimidating. Great work in the medium throughout its history is rooted in this potency. The artist who correctly judges their response participates in the entire work of architecture. Participation in architecture therefore is a social act, a collaboration. Like jazz, you have to know how to play and you have to know how to listen.

The explosion of art into architecture and the final disappearance of the church as a credible client offers the greatest opportunities the medium has seen for centuries. The recent development of suitable working techniques for toughened and laminated glass at architectural scale is providing the wherewithal to realise them.

Without the glue of a shared cultural narrative, the real challenge now is what role meaning can play in contemporary art and architecture.



▲ **TOWER OF THE ECLIPTIC**, SWANSEA, WALES. HAND-BLOWN GLASS, DICHRONIC FILTERS AND DRILLED ALUMINIUM. FIVE-METRE DIAMETER ROOF LIGHT TO ACCESS TOWER. ARCHITECT: ROBIN CAMPBELL



◀ **COMPUTER MODEL** TEN-METRE TALL, CURVED GLASS TOWERS AND WATER FEATURE, CARDIFF CITY CENTRE, DAVID PEARL AND AMBER HISCOTT

▲ **KIVA**, NEW MEXICO

DAVID PEARL

TATE ST IVES LECTURES

◀ THE TATE GALLERY, ST IVES



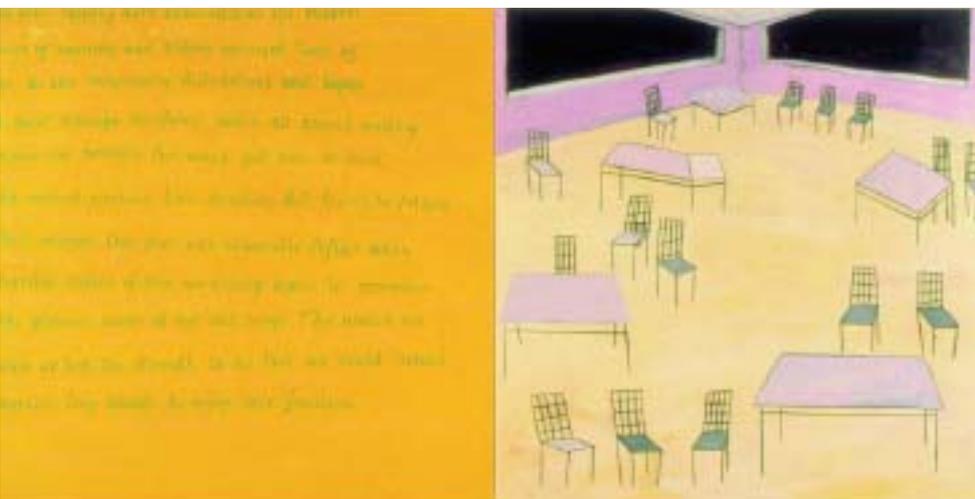
DISPLAYS 1999–2000: THE FAR HORIZON
Exhibitions dates: 13 November 1999 – 7 May 2000

The Far Horizon was themed to complement the Wilhelmina Barns-Graham exhibition, featuring work by many of her contemporaries. The display also included ten new paintings by Lubaina Himid and a suite of prints by Anthony Benjamin, presented alongside poems by W.S. Graham.

LANDSCAPE PROVIDED AN IMPORTANT FOCUS for the generation of post-war artists who were experimenting with new ways of conveying the experience of light, colour, form and texture. The Far Horizon explored this theme, featuring works by Ben Nicholson, Winifred Nicholson, Barbara Hepworth, Naum Gabo, William Gear, Peter Lanyon, Denis Mitchell, John Wells, Patrick Heron and Terry Frost.

Highlights included paintings such as *Window Sill*, *Lugano* 1923 by Winifred Nicholson, *Wings Over Water* 1930 by Francis Hodgkins and *Tall Country and Seashore* 1951 by Peter Lanyon.

Paintings by Lubaina Himid (b.1954, Zanzibar, Tanzania) were produced as a result of a residency in St Ives in 1998–1999 when she worked from a temporary studio at the lifeguards' hut situated on Porthmeor Beach. The beach provided a vivid source of inspiration, which she incorporated into this series of paintings of interiors, depicting brightly coloured sea vistas beyond. These works brought together elements of text and imagery which alluded to continuing themes in her work such as rootedness, migration, the domestic, the sublime, mysterious narratives and direct humour. Her work has been featured in exhibitions at the ICA, the Whitechapel Art Gallery and the Hayward Gallery in London and is also included in the public collections of the Tate Gallery, the Arts Council and the Victoria and Albert Museum.



◀ LUBAINA HIMID, **HAVANA NIGHTSCHOOL** (1998–1999), TATE GALLERY, ST IVES

Wilhelmina Barns-Graham

AN ENDURING IMAGE

Exhibition dates: 13 November 1999 – 7 May 2000

IN THE AUTUMN OF 1999 Tate Gallery St Ives celebrated the life of Wilhelmina Barns-Graham with a thematic exhibition of over forty paintings and drawings. She has been a central figure of the St Ives School for over sixty years and is one of the most inventive painters associated with the group. This exhibition will include a number of new works which have never previously been exhibited.

Barns-Graham was born in St Andrews, Fife, in 1912. She moved to St Ives in 1940, where she became a contemporary of Ben Nicholson, Barbara Hepworth and Naum Gabo. In 1942 she joined the Newlyn and St Ives Society of Artists, which were both then mainly composed of traditionalists. She was instrumental in bringing the avant-garde into the St Ives Society and a breakaway group, the Penwith Society, was formed in 1949. Although based in St Ives, she spends periods of time in St Andrews and both places provide a backdrop for much of her work.

This exhibition explored the way in which natural phenomena have become important themes in the development of her work over a period of six decades. Her pursuit of dramatic effects in nature; sun on glaciers, rain on clay, wind on sand and volcanic rocks, has taken her to Sicily, Lanzarote, the Isles of Scilly, Orkney, the clay workings of Palinuro, the rocks of Formentera and the Grindelwald glacier. In the 1940s scenes were often viewed from an elevated perspective, as though witnessed from the flight path of a bird. Works from this period included *Island Sheds, St Ives 1940*. In paintings such as *Glacier Crystal, Grindelwald 1950* her practice of opening up the interior of a form to reveal a series of translucent caverns was a subject she exploited to great effect.

In the 1960s she created paintings where squares and circles seems to be set in motion across the picture space. In the 1970s she produced works using a multitude of parallel lines depicting geological and microscopic formations where complex forms enclose tighter structures such as fossils or diamonds. Since the 1980s there has been a sense of increasing freedom in her work, resulting in paintings depicting the movement of waves and the dynamics of life on the beach. Work on these themes included *Eight Lines Porthmeor 1986*, *Untitled FC 1987* and *Splintered Ice 1987*. More recently, paintings using bands and blocks of intense colour as seen in *June Painting, Ultramarine* and *Yellow 1996* yield their own particular sense of space and rhythm.

Barns-Graham has had two retrospective exhibitions, in 1989–1990 and 1992–1993, which toured the West Country, the Midlands, Scotland and London. She has also been included in three major survey exhibitions at the Tate Gallery in London in 1977, 1985 and 1986. Work for the exhibition at Tate Gallery St Ives came from her St Ives and St Andrews studios, the Tate Gallery Collection and the Scottish National Gallery of Modern Art, Edinburgh.



▲ WILHELMINA BARNS-GRAHAM, *SPLINTERED ICE* (1987), OIL ON CANVAS, TATE GALLERY, ST IVES

TWO PAINTERS: ALFRED WALLIS AND JAMES DIXON

Exhibition dates: 20 May – 29 October 2000

TWO PAINTERS AT TATE ST IVES was a major exhibition of the work of Alfred Wallis (1855–1942) and James Dixon (1887–1970); two of the most significant naive artists to have worked in the British Isles in the twentieth century. The exhibition brought together over seventy paintings, several of which have never been seen in public before. Both artists were fishermen by trade and took up painting late in their lives. Wallis was from Cornwall, while Dixon was from Tory Island, off Donegal, yet despite this and a gap of almost thirty years in their ages, the similarities of their background and artistic principles make this exhibition particularly relevant.

Wallis painted subjects that were personal to him, often using boat paint on irregularly shaped pieces of board, exploiting the unusual shapes to give a structure for his compositions. His paintings of boats at sea, town and harbour scenes have become synonymous with the heritage of Cornwall. Works such as *The Schooner* and *the Lighthouse* (c.1925–1928) were on show at Tate St Ives.



Dixon is best known for his portrayal of the sea around Tory Island. He used oils on paper or board, creating paintings which are remarkable for their expressive brushwork and subjective depiction of their realities of island life. Paintings such as *Scotch Lugger Passing Tormore in the Evening* (1945) were included in the exhibition.

A fully illustrated catalogue was published (£19.95) and during the course of the exhibition there was a full programme of talks and events at Tate St Ives.

▲ ALFRED WALLIS, **THE SCHOONER AND THE LIGHTHOUSE** (C.1925-1928), OIL AND PENCIL ON CARD, PRIVATE COLLECTION

Sally Fawkes and Richard Jackson

A RARE OPPORTUNITY FOR ST IVES CONTEMPORARY GLASS SOCIETY MEMBERS' EXHIBITION



COURTESY OF THE CORNISHMAN / P MONCKTON

'The exhibition is definitely a first for St Ives, a first for Cornwall, and a rare opportunity to enjoy the work of national and international glass makers.'

The St Ives Times and Echo and Hayle Times,
31 March 2000.

'After seeing this I'm amazed and a total convert to new glass. This is wonderful.'

Ruth Brownny,
Penzance.

'Fantastic! Didn't realise glass could be so creative.'

Imogen Base,
Falmouth.

'Beautifully and thoughtfully presented, accompanied by very informative commentary.'

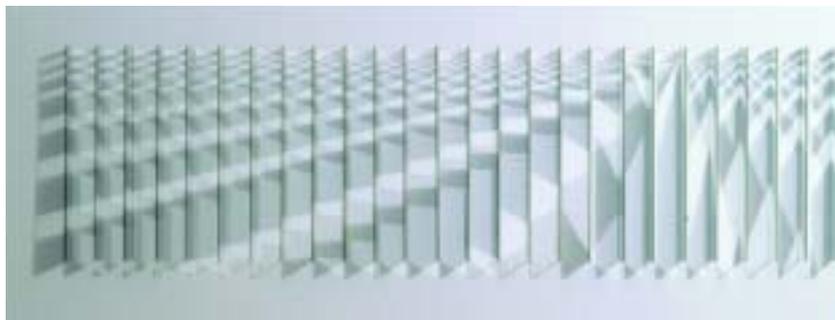
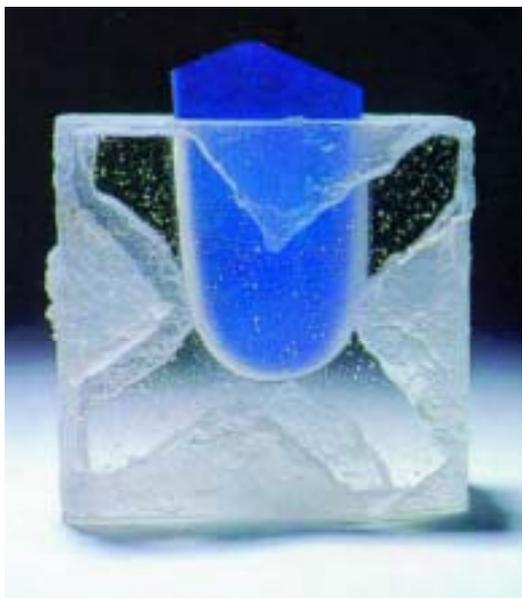
Jill and Tonie Stolberg,
Birmingham.

◀ ARTHUR HANCOX OF THE PLUMBLINE GALLERY WITH SOME OF CGS MEMBERS' EXHIBITS.

ARTHUR HANCOX of the Plumblin Gallery in St Ives was delighted to invite CGS members to submit slides for an exhibition to coincide with the Conference. Arthur was impressed by the quality and diversity of the work and had a hard time selecting the forty-plus exhibitors.

Arthur decided to celebrate the diversity of the work of our members rather than trying to force a theme. Given the restrictions of space the exhibition presented the wonderful range that glass offers as a material for artistic expression.

This was the first exhibition dedicated to the work of our members and was a huge success. Superbly located on Barnoon Hill, opposite the Barbara Hepworth Museum, the Plumblin Gallery achieved excellent sales exceeding Arthur's expectations and attracted very positive media coverage from the local press. Some of the exhibitors were invited to exhibit in Arthur's annual autumn exhibition which opened at the beginning of September.



◀ LIZ SHAREK, **PACIFIC VESSEL**

▲ CHRIS WOOD, **LINES OF LIGHT**

Max Jacquard THE ST IVES WEEKEND – A PERSONAL PERCEPTION

THERE WAS A SMALL psychological hurdle to overcome. Travelling for over five hours to a remote corner of England to spend the weekend with a bunch of glass enthusiasts. It seemed a daunting prospect! But then the idea took on a certain poetic charm. St Ives offered no obvious glass connections (a certain quality of light perhaps?) yet, possessed with an enduring air of artistic romance, the venue represented an inspired choice of neutral territory. I found myself conjuring images of rustic hermits and Bohemian artists' colonies and began to think of the trip as a sort of pilgrimage. Bodmin Moor loomed wild and impressive as I neared my destination while delegates at the coast were already witnessing leaping dolphins – it was going to be a weekend outside the normal run of experience.

Ronald Pennell kicked off the programme of lectures, somehow confirming my hopes of sighting a wild-eyed Bohemian. Professor Pennell delivered his talk with the same playful individuality as he approaches his work. An artist with his own unique language, it seems that whatever he touches – be it the deeply engraved vessels, wonderfully expressive drawings or the more recent cast and cold worked figures – all bear that unique Penellian stamp. He is exemplary as a

creator in that all of his work in whatever medium has a confidence and panache that demands it be taken seriously and thus serves to enhance his already significant reputation worldwide.

Far from being an established figure, he showed himself to be a cheeky maverick – always keen to escape the straight-jacket of categorisation. Having changed careers midway through his life (he worked for ten years as a gem engraver) he is a powerful spokesperson for self empowerment. 'Learn to live with unpredictability,' he advised us. Now revelling in his new post as Professor at the University of Wolverhampton, Ronald has embarked on the next stage of his artistic journey, adapting a whole new set of techniques that featured heavily in his retrospective exhibition.

Robert Stephan's lecture was by contrast quite matter-of-fact in delivery. His achievements, however, are considerable and, like Pennell, a lesson in how to redefine your working parameters. Stephan started in glass by melting Pepsi bottles in a ten-gallon steel drum. He developed a fascination for the spaces inside glass, what he describes as 'heavy emptiness'. This led him to experiment with dichroics. Previously the sacred domain of NASA space scientists and optical engineers seeking perfectly even coatings, Stephan encountered considerable resistance to his research. Undaunted, he purchased a second-hand machine and after much tinkering was able to get the thing working in his garage. The dazzling iridescent colours deposited onto thin layers of glass are then fused, cut and re-fused to create complex patterns within simple block forms. Stephan's work is coming out of the area

where art meets science and his pioneering attitude, finding ways to apply new technologies to the studio environment, is having a great influence on studio practice.

The theme of technological innovations and refinement and the impact it can have on art was developed as the dominant theme of the first day. Ed Smy was the next to speak, astonishing conference delegates with the revelation that glass can be formed at room temperature! The process is known as 'Sol Gel' where glass is chemically produced from a liquid solution and Smy's aim is to try to explore the creative potential for this technique. His early experiments look rather like shrunken slipcasts made with flour and water and he seems to be a long way from controlling the drying out process without cracking and general decomposition. This lecture connected with the last talk of the day from Aron McCartney who is currently researching the potential for applying ceramic shell technique to glass casting. This process, favoured by bronze casters, is potentially much stronger and less wasteful of materials than traditional block moulds but is naturally less sympathetic to the glass surface, being more inclined to stick and less able to accommodate the differential expansion and contractions of the super-cooled liquid. The results of both speakers' work will be published in papers later this year.

A similar resolution is planned for another project currently in progress at the Royal College of Art. Angela Thwaites and Keith Seybert, two experienced kiln formers from either side of the Atlantic, have been brought together to test and document different mould recipes of the more traditional investment plaster type. Gathering information from glass makers all over the world, they have already put several hundred standardised cone-shaped castings through the kilns at the RCA. While realising that certain mould mixes are more suited to certain types of casting it is exciting to think that their exhaustive survey could finally put an end to much of the old wives' tales, secrecy and misinformation surrounding the alchemical practice of mould mixing.

Coming away from this series of lectures and the technical seminars that followed I was left with the impression that we are at the dawning of a new age where studio glass is concerned. The previous generation has relied heavily on the uniqueness of its personal techniques, being reluctant to divulge hard-won secrets learnt through years of trial and error. Now it would seem that all aspects of the making process are being openly discussed and documented and the technical background to glass art, while it will always remain complex and scientific, can begin to be seen as a more stable platform for artistic expression.

There was little time to dwell on such matters, let alone have a quick shower and slip into one's glad rags. The glamorous CGS buffet reception at the new Tate St Ives was about to swing into action. Attractions of the evening proved too numerous to absorb in just one go: the superb food, the wonderful building with its exciting arrangements of internal spaces, revealing ever more of that famous coastal twilight as you ascended, the feeling of being in such varied and excellent company; it was hardly surprising that I only took in a small portion of the work on display. As an enthusiastic gallery guide expounded on the virtues of Wilhelmina Barns-Graham's canvases my mind wandered back to this romantic notion of an artistic clique, drawing strength and inspiration from being in a community with like-minded, creative types.

Was there a relationship to our present-day glass community I wondered? Perhaps the reality is different from the impression we receive from reading books or visiting museums. I suspect that the St Ives Group, much like the Bloomsbury Set, contained one or two really progressive thinkers whose brilliance cast a dazzling light on those around them. Maybe this is another way of saying that the creative frisson between a few strong individuals can inspire a whole group to discover a new artistic language. Whatever the cause, it gives collectors and promoters of art a convenient bracket with which to present, discuss and celebrate the work.

The thematic presentation of seemingly inter-related works at the Tate St Ives was in stark contrast to the CGS members' exhibition at the Plumblin Gallery nearby. Arthur Hancox had gamely struggled to make some sense of a plethora of forms and expressions from our diverse membership. The most successful exhibits were a series of semi-opaque cast float glass panels by Marjorie Pert, hanging like a tapestry in the stairwell, and a fascinating wall panel by Chris Wood, its Bridget Riley-like optical patterns inspired by the furrows in fields near her East Anglian home. The rest of the work did not sit happily together in the small space and the viewer was made aware of the immense diversity of conceptual direction in British glass. Compared with the Czech cast glass, for example, or Venetian stemware, this menagerie of ideas is much less coherent and comprehensible as an artistic language and can be seen as a major factor behind the neglect of British work in international collections.

Day two of the lecture programme was marred by the non-appearance of Bernard Dejonghe who had put his back out – no doubt lifting one of those massive glass blocks without bending from the knees! Nevertheless, there was plenty of food for thought, such as the creative process of Françoise Dupré, a multi-media sculptor based in London. Françoise described herself as a bricoleuse – a kind of DIY collagist, bringing together a variety of materials and techniques to create installations of objects referred to as 'hybrids'. Glass is used as a transitive substance, making connections between rubber and woven fabric, for example. It is also a metaphor for the body – being the solid anchor for a number of weird, limb-like extensions. Her work provoked a potentially interesting debate about the use of the complex language of glass in relationship with other substances but this was cut short by the clockwork-like efficiency of the conference organisers. In fact there was little opportunity throughout the weekend for discussion at the end of lectures and this is my only criticism of an otherwise flawlessly run weekend. My thanks to Richard Jackson and Sally Fawkes for all the hard work they put in to make it such a success.

I left St Ives feeling enlightened and inspired, and as with any good pilgrimage a number of new ideas to ponder. As we greet the new millennium it seems particularly apt to see glass art in a period of transformation. Certainly the issues confronting glass artists today are very different from the ones which concerned the pioneers of the studio movement in the 1970s and 1980s. The conference represented a remarkable range of approaches to the medium and one could almost ask – what do we really have in common with one another?

Today, the concept of artists and designers who use glass

would seem far more appropriate than the term 'studio glass maker'. In the light of this concept one might well ask: 'What is the point of a glass conference?' I would conclude that there is none, other than that it represents a forum, an opportunity to share our separate enthusiasms, to compare and contrast in a world of creative diversity where only one excuse is needed. Glass continues to be that mercurial touchstone.

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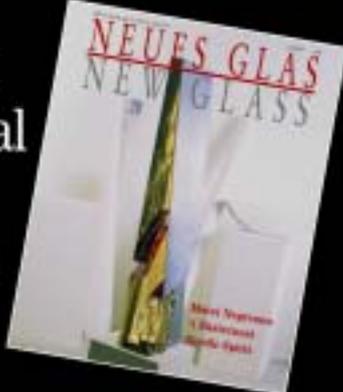
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