

British Society of  
**Scientific  
Glassblowers**



**Journal**

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No. 1



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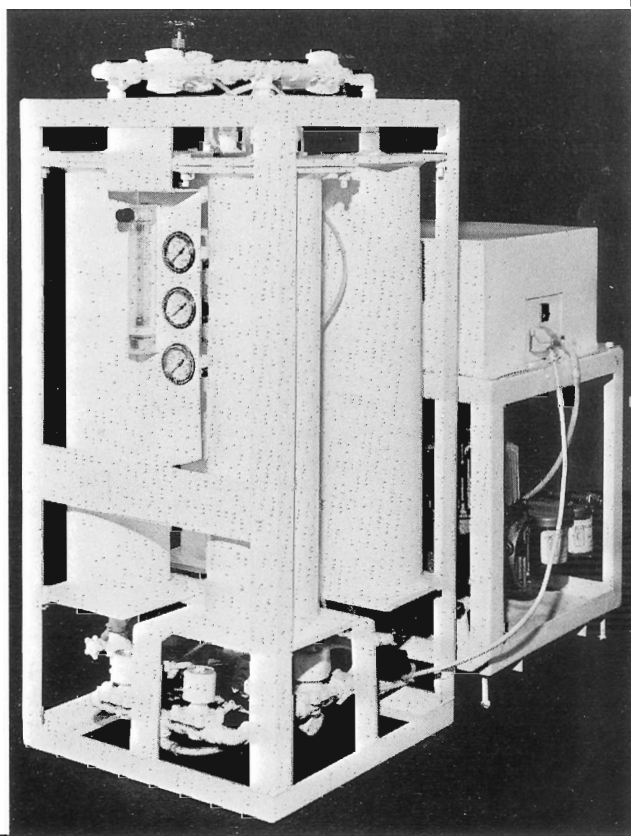
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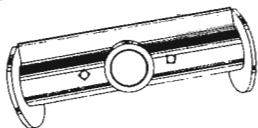
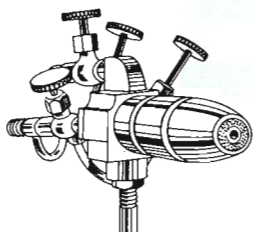
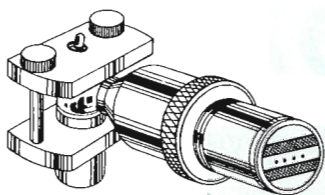
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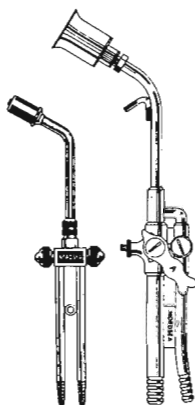
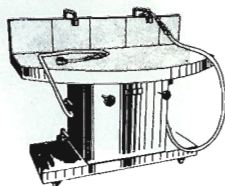
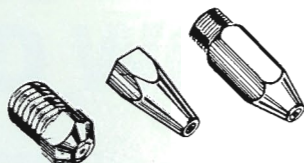
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Founded 1960

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## OVERSEAS MEMBERS AND VISITORS

The British Society of Scientific Glassblowers extend a warm welcome to visitors to the United Kingdom and will be pleased to assist in arranging visits to industrial and other establishments, if this is desired.

It is necessary that early notice is given to the Hon. Secretary . . . giving,  
time and date and place of arrival,  
address whilst in the United Kingdom,  
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# British Society of Scientific Glassblowers

Founded 1960

VOL. 15 JANUARY, 1977. No. 1

Editor  
Asst. Editor

R. E. Garrard  
F. G. Porter

Journal of the B.S.S.G. School of Chemistry  
University of Bristol

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## Editorial

The society is on the threshold of yet another New Year and is in the unique position that gives the society a completely fresh executive.

Much has been achieved during the past decade in spite of all manner of set-backs including this present economic recession. As a society we have gained experience that will stand us in good stead and perhaps in the very near future we shall see provisions made within our scheme of qualifications, that stems from this experience, for it is increasingly obvious that there is a great need for a status of glassblower between the one who has achieved the Standard of Competence and the Master glassblower. The society's Standard of Competence can be realized without any "on the job" training and this means there is often a vast difference between the college trained and the apprentice glassblower, the latter having a much broader experience of scientific glassblowing..... so perhaps this is the time for a review of the whole scene..... for there are still a number of glassworkers in this country awaiting developments..... perhaps now, with our educational policy becoming clear, they will feel it is the right time for them to join our ranks.

For those of you with doubts or reservations, now is the time to ask your new executive for intentions, and should there be any errors of the past left unsettled... the can be put to rights, given good will and everyone's help.

Looking at the society in its broadest concept, most members would probably agree that it has been forward looking, although perhaps rather timidly at times, to provide status for the scientific glassblower of today... and the qualifications that can be obtained are a direct result of the British Society of Scientific Glassblowers' activities.

Society activities can be enhanced if we can increase our membership, **WILL ALL MEMBERS HELP TO RECRUIT NEW MEMBERS.**

"Help to strengthen our influence in connection with our profession"

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## **THE 16th ANNUAL SYMPOSIUM AND 1st INTERNATIONAL SYMPOSIUM OF THE B.S.S.G. HELD AT THE TARA HOTEL LONDON DURING 9th, 10th AND 11th OF SEPTEMBER 1976.**

The Chairman of the B.S.S.G. Mr. R. Harvey opened the proceedings by welcoming everyone, especially the overseas visitors. He went on to give a brief history of how the 1st International Symposium came about by saying that at the 13th. BSSG Symposium in 1973 a meeting was held to discuss holding an International Symposium. Those present included Willem Luiten from Holland, Dieter Schaudel and Hans Muller from Germany, Christian Boussert from North America, Charles Glover, Dr. Oldfield, Ron Mason, George Robertshaw, myself and one or two others from the BSSG, but the original concept of a jointly run symposium by various societies was thought to be, at that time, unacceptable.

Shortly after this John Glover, a Director of the Mid West Section of the ASGS contacted us regarding a visit he proposed organising of a party of ASGS members to Europe.

Charles Glover our Journal Business Manager and I, then met a travel agent Mr. Gilbert Gerber who was at that time representing the ASGS, at London Airport early one morning before breakfast. It was at that meeting that I decided to put to my Council that we could hold our Annual Symposium, call it International and run it ourselves with whatever co-operation we could get from other glass-blowing societies. This was ratified by Council.

I then wrote to the Dutch, French and German societies and informed John Glover of my intentions. Willem Luiten of the Stichtung Glastechniek stated that the Dutch Foundation was not able to support the proposed symposium but that individuals would be invited to contact us. My good friend Hans Muller of the Vereinigung Deutsche Glasblaser also stated that individuals would be invited to attend.

I then set up a committee composed of members of the Thames Valley and Southern Sections under the chairmanship of Mr. Fred Morse. Fred then showed his authority by immediately co-opting me on to his committee.

Considerable interest has been shown in this symposium not only from the various educational bodies from all over the world which have contacted us but also from the industrial areas and I would like to welcome those businessmen who are attending one of our symposiums for the first time this year, I hope you find it interesting and of mutual benefit. I would also like to welcome those overseas visitors from: — USA, Canada, Australia, Israel, Switzerland, Germany, South Africa, Uganda, Austria, Holland, Iran and of course our own BSSG members.

Regarding the long term aspect of this symposium we hope that this creates a greater



feeling of mutual respect and understanding between our various countries as well as our societies and that the future will bring a greater rapport and co-operation not only in the fields of craft technology and science but also in the social sphere where we can learn to appreciate each others qualities and can assist in solving each others problems.

Perhaps in the future an International can be held every fifth year or so with the venue changing from country to country but for the present we of the Symposium Committee, along with the BSSG as a whole wish you all a good symposium.

The Chairman introduced the first speaker, Mr Stafford Scholes President of the B.S.S.G.

Mr Scholes said that his lecture was to be a warming up lecture, since that seemed to be the function for which he, as opening speaker, had been employed. However it was better to precede any speaker than have to follow a really good one. The lecture was given in a light hearted, but never the less professional manner. It is hoped to publish the President's paper in a future edition of the BSSG Journal.

The afternoon lecture 'Production of Silica Based Fibres for Optical Communications' was given by Dr. C.R. HAMMOND of Southampton University. Dr. Hammond opened by giving a general resume of the use made of these fibres, saying just how much the G.P.O. used them in cable form. He explained how using the principle of Vapour deposition the phosphosilicate glass was formed. We were shown slides of the drawing process and winding of the finished fibres. Fibres of 4 Kilometres had been drawn at Southampton but he understood that longer ones had been drawn elsewhere. The Journal editors have a full copy of this excellent paper, it will be published in full.

During the evening a reception which had been sponsored by Messrs. Corning Ltd., EMI Electronics Ltd. and R.B. Radley Ltd. was held in the Avoca Suite at which members had their first opportunity to mix and talk to friends old and new.

The first of the Friday lectures was given by Mr. A.F. TAYLOR of Culham Research Labs. Mr. Taylor in his lecture gave a very broad outline of uses that Lasers had been put to in industry. He instanced: Drilling of watch diamond holes, Wire drawing dies the cutting of precision slots and holes, nameplates even the cutting of materials in the 'rag trade'. In our own field he explained how glass tube could be cut, cleanly without chips and the elimination of the need for fire polishing, thermal cracking of tubes four at once, by splitting the beam, sealing of glass ampoules filled with objectionable chemicals. He explained how, that by law, it was the responsibility of the Laser designer to fulfil the safety obligations laid down, so that it would be almost impossible for the beam to be anything other than :fail safe., since the CO<sub>2</sub> Laser beam was invisible even on impact at the material. Mr. Taylor concluded by saying that he was unable for ethical reasons to state the names of users of Lasers in industry since secrecy was a feature of any research they may do. However he did say that 'Thorn Lighting' were the first company to use lasers in this country on a commercial basis. This paper in complete form has been received by the editor of the B.S.S.G. Journal and will be published fully.

# ANNUAL AWARDS 1976



Mr. Laingan presenting the Jobling Cup to Mr. B. Jones.



Mr. K. Wood presenting the Wood Cup to Mr. D. Jobling.



Dr. Hetherington presenting  
Thermal Syndicate Trophy to Mr. J. Burns.



Mr. Flack presenting the Flack Award to Mr. A. Thompson.



Chairman of BSSG, Mr. R. Harvey addressing the members attending Society Dinner.

## TOP TABLE



Mr. & Mrs. Grover (ASSG) W. Leuten (Stchting Grastechnik) Mr. & Mrs. F. Morse, B.S.S.G.

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## LETTER FROM U.S.A.

I would like to take this opportunity to thank you, as symposium chairman, and the B.S.S.G. for the hospitality extended to our society at the first international symposium, which you hosted in London this past month.

The symposium itself, the trade show, and the facilities in the hotel were all of excellent calibre. The ladies program which you prepared was also very well received. You are to be congratulated on the very fine effort put forward by your symposium committee.

My hope, as I expressed it at the banquet, is that this initial meeting will foster a further and more extensive interchange of ideas between our societies. This could only result in higher levels of achievement and a larger degree of professionalism.

Again, my thanks on behalf of the A.S.G.S., to all concerned, for a most pleasant and rewarding experience.

Very truly yours,  
Werner H. Haak President, A.S.G.S.



The second lecture of the Friday session was on ZERODUR by Dr. G. MULLER Jenear Glaswerk Schott and Gen Mainz W. Germany, who opened by saying that Zerodur was a zero expansion material and was used principally in the making of Telescope Mirror substrates. The lecture which was supported by slides showed how the material was produced. From a 26 ton melt which took three weeks to found an 18 ton block was cast and annealed at a cooling rate of 0.01 degree C per hour over a period of 150 days. We were shown slides of special handling devices used at their works to manoeuvre this huge slab, the faces of which were ground flat with extreme precaution taken to ensure that no damage occurred during the processes. The substrate was then taken to the Karl Zeiss factory where the polishing was completed. The project which had been financially backed by the Government cost around 1 million dollars and would not have been done had not this guarantee been made. This paper is in hand for publication in the B.S.S.G. Journal.

The third lecture of the Friday Session was by Mr. K.D. BARR of Messrs. Henry Wiggin & Co. and was entitled 'Metals in the Glass and Electronic Industry'. Mr. Barr gave an outline of the types of materials made at their factory saying that most uses that the valve industry had was for Nickel and Nickel alloys. The lecture which was supported by slides explained the various processes used in the production of components. This paper in full has been received by the Journal editor and will be published.

The first of the afternoon lectures which had been surrounded by an aura of mystery so far, was entitled 'Colour is fun' and was given by Dr. A.W.S. TARRANT of Surrey University. As the ladies had been warned not to wear anything made of nylon, and that once the lecture started no one would be allowed to enter or leave since the doors would be locked, we all sat somewhat intrigued as to what was to come. We need have had no fears, Dr. Tarrant presented with great wit and ingenuity a lecture well timed to give interest and light relief from the more technical lectures we had so far received. Dr. Tarrant and his assistant with the aid of a bank of slide projectors gave us an insight into the uses of colour in design in industry the home and places of recreation, the advantages of different colour used in various circumstances. He passed around jelly and blancmange in colours like grey and brown and asked the 'tasters' to name the flavour. It was amazing how wrong people were! So the point of colour being associated with flavour was made. Other foods were shown in colours different from normal and looked most unpalatable. An excellent lecture demonstration and enjoyed by the one really mixed audience we have had.

The first of the American lectures was given by Mr. P. LUNZER and was entitled 'Diamond Tools for working Glass'.

This paper has been received in full and will be published.

The second lecture by Mr. R.J. BRUNFELDT of Phillips Petroleum Company Oklahoma, was entitled 'A Laboratory Machine for redrawing and coiling Glass Tubing'.

This paper has been received in full and will be published.



The Annual Dinner and Dance was once again a most successful and sociable occasion and started with the 'top table' being piped in by a piper resplendent in ethnic attire. After the dinner itself the loyal toast was proposed by the B.S.S.G. President Mr. Stafford Scholes, who then welcomed the overseas visitors.

Mr. WERNER HAAK President of the American S.S.G. replied on behalf of the overseas visitors. In his speech Mr. Haak said how much he and his colleagues had looked forward to this Symposium, he felt there was great potential for the interchange of ideas and techniques between glassblowers all over the world and that as a result of this symposium a real movement in this direction would take place.

The presentation of awards then took place. The Jobling cup would in future be known as the 'Corning Trophy', since the name of the Company has now changed. The winners of the awards and certificates of merit are listed elsewhere in this Journal. The names of those candidates successful in gaining the Master Glassblower Certificate were also read out, each one present standing as his name was called. On completion of the awards and speeches, everyone left the room whilst the tables were cleared and the dance preparations were made. An interval during the dance had been scheduled when the Certificates of Master Glassblower were presented to the candidates by Mr. Stafford Scholes, President of B.S.S.G. and Mr. Keith Holden, Chairman of the Board of Examiners.

The A.G.M. got off to a good start with reports being accepted without too much question. The only major surprise was the decision of Mr. Stafford Scholes not to stand for a further term of office as President, there being no other nominations, this office is now vacant. The new officers are now:

Chairman B.S.S.G.	Mr. G. Robertshaw
Hon. Secretary	Mr. K. Holden
Asst. Secretary	Mr. R. Brown
Treasurer	Mr. D. Herrick

Our new Librarian is Mr. P. Halliwell.

The Journal is still in the hands of:

Mr. R. Garrard	Editor
Mr. F. Porter	Asst. Editor

The Journal does however need a new advertising Manager and the BSSG are most grateful to Mr. Charles Glover for all his services during the long period of time he has handled the Journal's financial affairs. Members may recall that Charles was awarded the Thames Valley Trophy for his services to the B.S.S.G. two years ago. Our Chairman Mr. R. Harvey thanked all those who had served him. In conclusion he introduced the new officers of the Society to those present. In his reply to Mr. Harvey, the incoming

Chairman Mr. G. Robertshaw thanked members for their confidence in electing him as Chairman B.S.S.G., and hoped that new ideas he hoped to bring into the B.S.S.G. would be fruitful.

Following the Annual General Meeting, a paper was given by Mr Hugo Bierman laying out the proposed training schedules of the American Society of Scientific Glassblowers, Future training programmes were roughly outlined and some indication of training given in industry were mentioned. Members were able to view some literature relating to their schemes at the end of the lecture.

The first of the Saturday afternoon lectures was by Dr J. L. Lambert of Messrs Heraeus Quartz Fused Products Ltd of Weybridge. Dr Lambert gave us an excellent insight into the production of vitreous silica and subsequent processes of manufacturer. The uses to which vitreous silica is now put are legion. In industry, large pipeline in chemical plant is now in great demand. In the semiconductor field, new horizons have been opened. In our own application as Scientific glassblowers, complex pieces of research apparatus are produced. It is hoped to publish this paper by Dr Lambert in full in a future issue of the BSSG Journal.

Final lecture of the Symposium was entitled 'Recent advances at Corning', a lecture given by Dr. Gail SMITH.

This lecture which was essentially a series of slides with a running commentary given by the lecturer himself, gave us an interesting picture of the Corning organisation. 135 years old, 'Corning' employ 35,000 people and supply 60,000 different products. Sales now run at 1,000 million dollars. Their famous product Pyroceram was now universally established. The slides which showed the environment in which Corning employees worked was truly enlightening. The factory in New York State itself is in a most beautiful setting of green fields and well landscaped approaches. Modern decor and lighting within the factory make conditions of work most acceptable.

We were shown slides of the components made at Corning, and of Mica Glass ceramics which could be drilled or machined. Corning have a research and development group backing second to none. The dry but never the less engaging humour of Dr. Smith added just the right touch to a most pleasant and entertaining presentation.

The closing address by the retiring President Mr. Stafford Scholes ended this most successful International Symposium. Mr. Scholes said that this was to be his Swan Song since he had decided against a further term of office. He told of his introduction to the

glassblowers art by Mr. Ted Evans and Mr. Fred Luadaka some years ago, and of how his interests had developed during his term of office. He endorsed the view of the President of the A.S.S.G. that interchange of ideas and techniques would be of wide interest and use throughout the world. Our own library had already had requests from overseas organisations including Russia and this was quite something. He quoted the words of John Donne one time Dean of St Paul's, 'No man is an island unto himself'. How true that statement is, as I am sure all those who have participated in any organisation at officer level will most surely know. In conclusion, Mr. Scholes thanked all those who had made this Symposium the success it was and wished future success and expansion to the B.S.S.G.

### **DEMONSTRATIONS.**

The quality and varied techniques shown this year were of a very high standard and apart from B.S.S.G. members demonstrating glassblowing operations on the **Lathe — suck Seals — Bellows — bulbs — flanges etc.**, those given by companies and associations outside the B.S.S.G. need a special mention.

#### **Vacuum Sealing of Silica Windows to Silica tube.**

Mr. David Blessing, University Notre Dame, Indiana, U.S.A.

#### **Mercury Switches Glass Ceramic Seals with Tungsten Electrodes.**

Mr. Hobbs of Messrs. Engel and Gibbs, Boreham Wood.

Mrs. Wall and her Ladies of the Guild of Glass Engravers.

#### **Hand engraving of Flint and Lead glass ware.**

E.M.I. Electronics **Flat Pinch Seals,**

Machine demonstration.

**Films.** The new Corning film was of great interest and will be well worth showing at Section meetings. it was the only one I was able to see completely since my commitments reporting the Symposium took up so much time. However I am told that there are now sufficient films available to satisfy any section wishing to lay on a film evening. Mr. K. Holden Hon. Sec. BSSG can provide Section Secretaries with a list of film now available.

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## **CANDLESTICK COMPETITION**

WINNER: MR. WARWICK BRENCH. M.B.S.S.G.  
(UNIVERSITY OF SURREY)

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**at Bristol Polytechnic (*new building*)**

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M.R. Lock (*symposium secretary*)

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## Library News

As you are all aware the BSSG library now has its home in the Dept. of Organic Chemistry at the University of Liverpool, and as Librarian I intend to present through the journal a page of library matters for each edition. On taking over the library I discovered several books not included in our holdings so my first article this quarter deals with those.

The following books have now been added to the library.

### 1. **X Ray Optics — A:J:C: Wilson 1962**

This is an enlarged and reset edition of Prof. Wilson's first edition and incorporates all the fundamental advances in the study of defraction of X rays by finite and imperfect crystals, including the introduction of mean square breadth as a measure of line broadening?

### 2. **Microstructures of Surfaces using Interferometry — S. Tolansky 1968**

This book is essentially an introduction to the techniques used in multibeam interferometry in the examination of any surface. It is written for scientists and technicians interested in surface microtopography and illustrates the simplicity of method accuracy and wide application of the techniques involved. The book contains a remarkable atlas of photographs demonstrating the power of the method on metallic mineral and organic surfaces.

### 3. **The First Book of Glass — Sam & Beryl Epstien 1964**

As the title suggests, a book for someone wanting to learn about glass.

### 4. **The Corning Glass Centre**

### 5. **Modern Glass Working — M.C. Nokes 1948**

Obviously a bit dated, but a very compact and comprehensive book for the student and nostalgic reading for anyone else reading once again about Hysil and Pheonix etc.

### 6. **The Glassmaker — Leonard Everett Fisher 1964**

History and techniques used by the old colonial American craftsmen. Mr Fisher is a graduate of Yale Art School, where he was awarded the Weer prize, the Winchester fellowship and an apointment as Assistant in Design Theory. Well known as an artist and illustrator his outstanding graphic work has been recognised by the American Institute of Graphic Arts. An interesting book, beautifully illustrated.

### 7. **Elementary Calculus — C.V. Durell MA. A. Robson MA 1933**

### 8. **Elementary Trigonometry — Rev. J.B. Lock MA 1904**



## BOOK REVIEW

### **Fortunes in Formulas for Home, Farm and Workshop**

Edited by Gardner. D Hiscox & Prof. T. O'Conner Sloane

867 pages — 1948

Containing selected scientific formulas, trade secrets, processes and money saving ideas.

I have just completed reading this book and add that if it were to be reprinted today, in our time of soaring prices, it would, I have no doubt, be a best seller.

There are detailed formulas and instructions for manufacturing such invaluable concoctions as;— wart cures, shoe polish, perfumes, insect powders, hand creams, cough drops, adhesives, negroes hair straightener, and hundreds more. An article on page 371 under section heading Glass, caught my eye for it tells us as follows how to cut glass without a diamond. I quote, "Dip a piece of common string in alcohol and squeeze it reasonably dry. Then tie the string tightly around the glass on the line of cutting. Touch a match to the string and let it burn off. The heat of the burning string will weaken the glass in this particular place. While it is still hot, plunge the glass under water, letting the arm go well under to the elbow so there will be no vibration when the glass is struck. With the free hand strike the glass outside the line of cutting giving a quick sharp stroke with a stick of wood, a long bladed knife or the like and the cut will be as clean as if made by a regular glass cutter".

*If this is the way you cut your glass tube, then I suggest you use your library, for we have many books with improved methods described.*

### **Book Scene**

**Acquisitions:** Refractory Blocks For Glass Tank Furnaces — J.H. Partridge — Society of Glass Tech. 1935, 117 pages, well illustrated.

Found in a second hand book shop and bought for 30p.

**Book on Order:** The Encyclopedia of Working with Glass — Milton K Berlye — Multimedia Publishing.

**Glassblowing** — Frank Kulasiewicz — Watson Giphthill Pitman.

1975. £16.95. 214 pages

A superb book, unfortunately not really related to us, but of great general interest, it's about free blown glass, and it deals very comprehensively indeed with designing and building furnaces and tools, safety consideration melting glass as well as techniques of forming, decorating colouring. All quite beautifully presented in step by step photographs.

## Acquisitions

### Handbook of Glass Manufacture Vols I and II

Ed. Fay V. Tooley, 1961      Ogden Publishing Co.,  
Secondhand bookshop      £1.50  
Review to follow in next edition.

### The Manufacture of Steel

G. R. Bashforth, 1963      Chapman and Hall Ltd.,  
Secondhand bookshop £0.50

Glassblowing A Search for Form. Harvey K. Littleton, 1971, Van Nos Reinhold,  
£14.95. 143 pages.

Again a book not truly related, and in many ways similar to Kulasiewicz's book. In particular it described the way hand blown articles are made from molten glass, and explains why artists in increasing numbers choose to work in this way. It is the author's purpose to suggest the dimensions of glass as a medium for the artist, rather than to define properties, or to set rules and limits for its formation. A good book interesting, and well illustrated, but I choose not to buy it at this time.

## BOOKS OVERDUE

**Books** Glass Tubing — R.E. Threlfall

**Journals** **Fusion** August November — 1974

February May — 1975

**S.G.S.A.** All copies except Vol. 1 No. 1.

(**Australian  
Society**)

Anyone holding on to these please return them to me.

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## Annual Competitions results for 1976, with previous successes

<b>A. D. Wood Cup —</b>	Winner —	Dean Jobling of Corning, Sunderland, (won A. D. Wood Cup in 1975)
<b>Jobling Cup —</b>	Winner —	Brian Jones of Corning, Sunderland, (awarded Certificate of Merit in 1973) (awarded Certificate of Merit in 1972)
<b>Thermal Trophy —</b>	Winner —	John Burns of T.S.L., (won Thermal Trophy in 1974) <b>Certificates of Merit to:</b> Glen Harvey of T.S.L. Glen Foley of T.S.L.

### David Flack Memorial Trophy

Winner —	A. Thompson of Corning, Sunderland, (won David Flack Memorial Trophy in 1975) (won David Flack Memorial Trophy in 1974) (won Jobling Cup in 1969) <b>Certificates of Merit to:</b> Hans Baumbach H. P. K. Baumbach (won certificate of Merit in 1974) (won Certificate of Merit in 1973) (won David Flack Memorial Trophy in 1972) W. Young (won Certificate of Merit in 1975) (won Certificate of Merit in 1973) (won Certificate of Merit in 1972) Paul Le Pinnet (won Certificate of Merit in 1972) (won Jobling Cup in 1971) (won Jobling Cup in 1970) S. G. Hill
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## Examination results for the year 1976

### Warley College of Technology:

Introduction to Elementary Scientific Glassblowing.

Date: 11th June

M. W. Hughes	Credit
D. Crane	Credit
J. Lowe	Pass
S. J. Morris	Pass

### Bristol University, School of Chemistry:

Lathe Glassworking Stage 2

Date: 8th July

W. A. Rainey	Pass
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### University of Ibadan, Nigeria.

Introduction to Elementary Scientific Glassblowing.

Date: 3rd Sept.

Gideon Aderale	Credit
Wilfred Adelaja Oshinaike	Credit
Adebayo Saidi	Pass
Adebayo Ayodele Adeyemi	Pass
John Ninachukwu Ikeorah	Credit
Ajike Njoku Mbah	Credit

### Hounslow Borough College.

Introduction to Elementary Scientific Glassblowing

Date: 14th June

H. Satti	Pass
G. Webber	Credit
C. Mayne	Credit
D. Murray	Credit
Khalid Hasim	Credit
L. Peiris	Credit
G. Ugwuzor	Credit
C. Beever	Credit
A. Hossain	Pass

### Scientific Glassblowing Stage One

Date: 15th June

C. Mayne	Credit
A. Lawrence	Credit
R. Harris	Distinction
Khalid Hasim	Credit
G. Webber	Distinction
J. Ghoman	Credit
B. Sharp	Credit
A. Hossain	Credit

### Scientific Glassblowing Stage Two

Date: 15th June

Date: 16th June

R. Harris	Credit
S. Bhardwaj	Pass
J. O'Bainke	Fail

### Standard of Competence

Date: 18th June

R. Harris	Pass
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Ron Brown demonstrating Lathe techniques.

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## **FREE** (FROM LIBRARIAN)

1 copy — Glass at a Glance.

1 copy — The Application of Carbon and Graphite in the Glass Industry.

1 copy — Updated Library Holdings and Information on How To Use Your Library.

1 copy — Oxide Chart for Colours in Glass.

## **\* A GETTEROFFERER\***

**R. W. Conway**

I was interested in the article by Mr I.C.P. Smith on safety, (reference. BSSG Vol. 12 No. 3) where he gave his method of extracting glass tubing from bungs.

There is a method I have used since the '20's making use of a tool known as a "getterofferer" for extracting glass tubing from rubber bungs as well as rubber tubing.

It is made by beating a length of 3mm dia. wire, either nickel or copper, about 400mm in length for about 150mm... to a width of 6mm decreasing in width to the round 3mm at which end, some sort of handle is contrived.

The flattened wire will need annealing in the process of beating, before obtaining the semi hard strip and should be given a slight curvature along its length.

To use, the wetted tool (water, spirit or oil) is pushed between the glass and the rubber, the curve of the tool matching the glass, wriggling round or by a series of removal and reinsertion.

This tool will answer the problems involved with rubber bungs, rubber tubing and where glass tubing is bent adjacent to rubber tubing.

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## **Abstractors for the Society Journal needed**

**ANY MEMBER WHO REGULARLY READS THE SCIENTIFIC JOURNALS  
WHO CAN SEND INTERESTING ABSTRACTS TO THE LIBRARIAN AND  
ABSTRACTS EDITOR.**

**PLEASE CONTACT:  
P. HALLIWELL, DEPT. 'ORG' CHEMISTRY, UNIVERSITY, LIVERPOOL.**

## **R.W. JENNINGS & CO. GAIN A "SILVER"**

Not a medal, but an anniversary. Twenty-five years ago Mr. R.W. Jennings, together with his wife Mrs. H.L. Jennings founded this well known firm of Laboratory Suppliers, and Scientific Glassworkers.

The original location of the firm was in Clarence Street, Nottingham, but very soon larger premises were needed and these were found in Fisher Gate.

At this time J.S. Stepanian joined the firm as General Manager and expansion continued until a whole series of premises in Fisher Gate were occupied, including some very fine and historic caves under Hollow Stone.

Re-development of the area became a real possibility and once again new premises were found in Thos. Adams Buildings in Nottingham's famous Lace Market. Here, the chemical store occupied the old air raid shelters and the disused chapel became the glass store.

At this stage P.L. Whaley joined the firm as a Sales Representative, later becoming Sales Director, and the firm became a limited company.

Once again congestion and a need for more space caused a move and the purchase of the attractive premises in the rural village of East Bridgford which are the present and (hopefully) permanent headquarters of R.W. Jennings & Co. Ltd.

The staff now totals twenty persons and it will be the Company's pleasure to entertain them, together with some very old friends, at a party to be held at the Old Elm Tree at Hoveringham on the 16th December, 1976, twenty-five years to the day, since Mr. & Mrs. Jennings first drove over Trent Bridge into Nottingham.

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**BRITISH SOCIETY OF SCIENTIFIC GLASSBLOWERS.  
APPLICATION FOR MEMBERSHIP**

To the Hon. Secretary, B.S.S.G.

I wish to apply for ..... membership of the Society and submit herewith particulars in support of my application. If elected I undertake to accept, and agree to abide by, the constitution and bye-laws of the Society. I enclose £..... (being £1.00 Entrance Fee and £..... Annual Subscription).

Signature .....

Date .....

**BLOCK CAPITALS**

Name in full .....

Date of Birth .....

(1) Home Address .....

(2) Name and Address of present employment .....

Please address all correspondence to (1)/(2) .....

Position held .....

Education .....

Number of years Glassblowing experience .....

Published work, diplomas etc. ....

Membership of other professional bodies .....

Recommended by: .....

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— Student £3.00

Cheques and postal orders payable to "The British Society of Scientific Glassblowers" and crossed. Forward to:—

Hon. Secretary, B.S.S.G. 6 Ludlow Drive, West Kirby, Wirral, Merseyside, England.

For office use.

Accepted for ..... Membership. Date .....

### Glassblowing Experience.

Employer.	Dates.	Position Held.
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### Membership, Definition of.

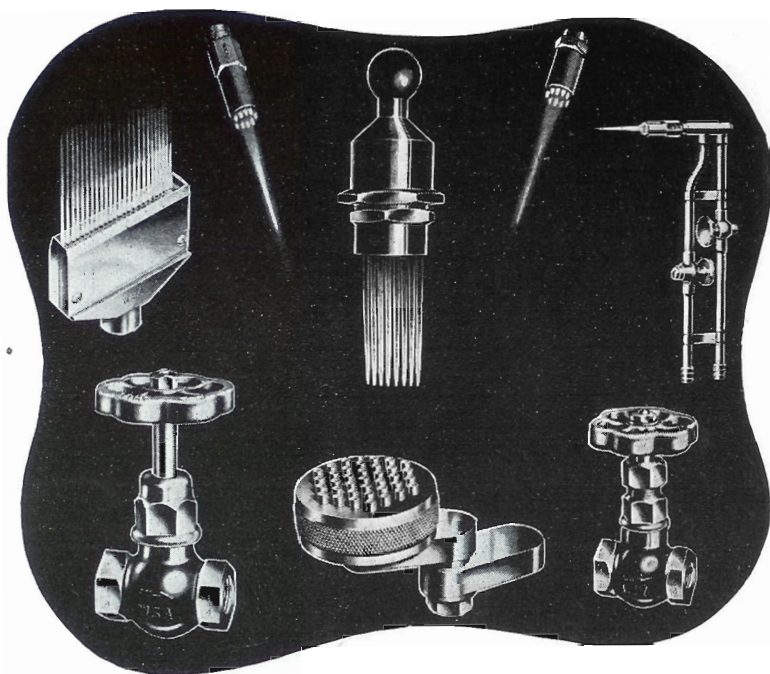
A Full Member is a person who has been employed for a minimum period consecutive years as a Scientific Glassblower, or has passed the "Standard of Competence" examination.

A Student Member is a person who, (1) is under 21 years of age and is an articulated apprentice or (2) is receiving instruction from a qualified glassblower and has been engaged on Scientific Glassblowing for less than five years.

An Associate Member is a person who is not a Scientific Glassblower, but is interested in the aims and objects of the Society.

An Overseas Member is a person who whilst fulfilling the requirements for membership is in residence outside the British Isles.

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