FEBRUARY, 1986

FUSION JOURNAL OF

THE AMERICAN SCIENTIFIC GLASSBLOWERS SOCIETY
1507 Hagley Rd., Toledo, Ohio 43612

Challengers

JANUARY 28, 1986 11:39.13 A.M.

Astronauts Ellison S. Onizuka, Christa McAuliffe, Gregory B. Jarvis, Judith A. Resnik, Michael J. Smith, Francis R. Scobee and Ronald E. McNair

This issue is dedicated to these 7 Astronauts – A.S.G.S.

Photo by NASA

PRESIDENT'S MESSAGE

With the holidays behind us, it is time to look at 1986 as a very exciting and busy year for the members of the A.S.G.S.

Our 31st Annual Symposium and Exhibition will be hosted by the Ohio Valley Section in Cincinnati, Ohio on June 22-27, 1986. It is evident that Thomas Kern and his committees will have an excellent program for one and all. Also, our Seminar Director has prepared an excellent selection of subjects from which to choose. All in all, Cincinnati looks like an excellent place to be in June, 1986.

For those of us who like to have a little get-away in August of each year, Rudolf Schlott and a few fellow members of our Society have prepared an excellent event for us. It has become known as the 3rd International Symposium in Germany. The dates are August 14 thru September 4, 1986. There is also a Paris extension of approximately 4 days for those who wish to extend their stay in Europe. The itinerary looks very educational as well as enjoyable. There will be many tours and plenty of time for shopping. We will also attend the German Glassblowers Symposium. A wonderful time should be had by all.

The most important event that will take place this year is the local section meeting. These meetings, that are held throughout the year, are the heart and soul of our Society. Through these meetings, there is always a flow of information to and from our members. This flow of information helps to shape and fashion our Society to better serve its members. Our Society became what it is today only through input from the members. That is why I say the sections are the most important part of our Society and the section meeting the most important event that takes place yearly. Be an active member – support your local section.

There are many exciting events for the members of the A.S.G.S. to enjoy in 1986. I hope your plans include several, if not all, the events I have mentioned. All events are sure to be worthy of your participation. Make your plans early. Be there.

Jerry A. Cloninger
President, A.S.G.S.

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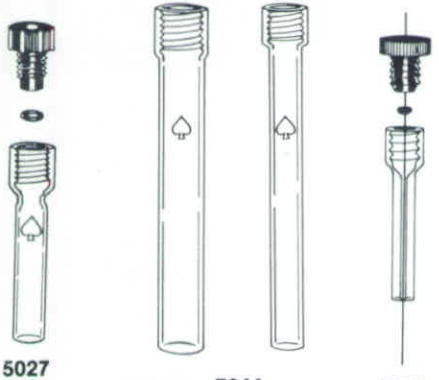

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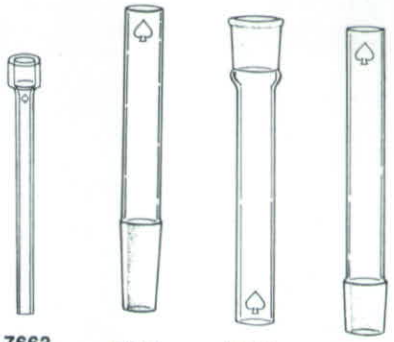

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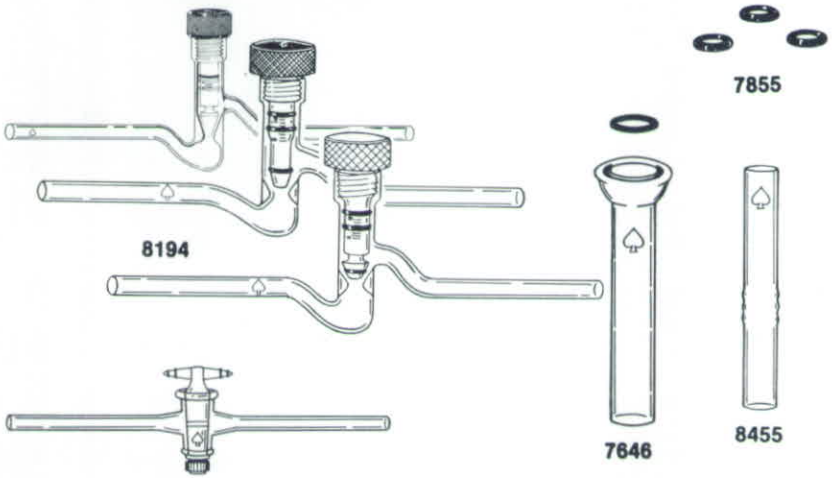

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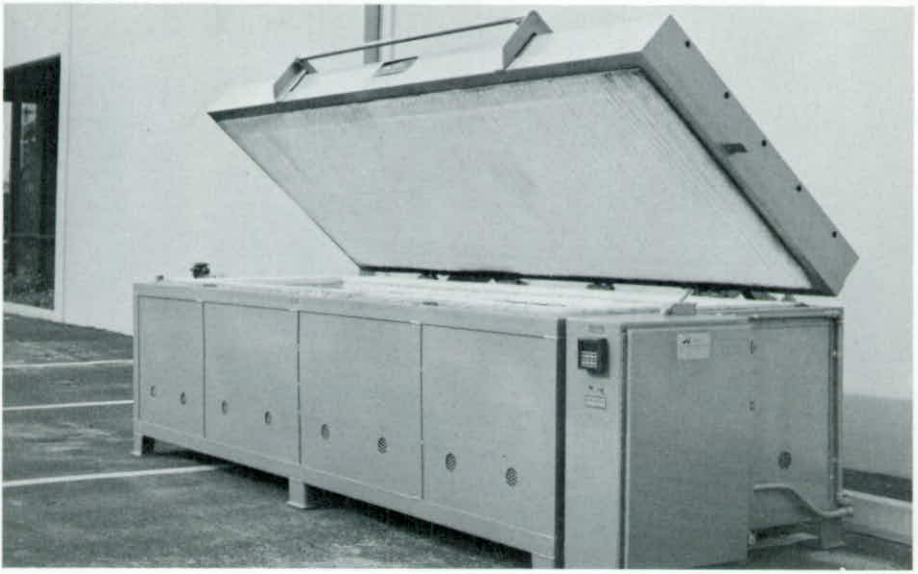

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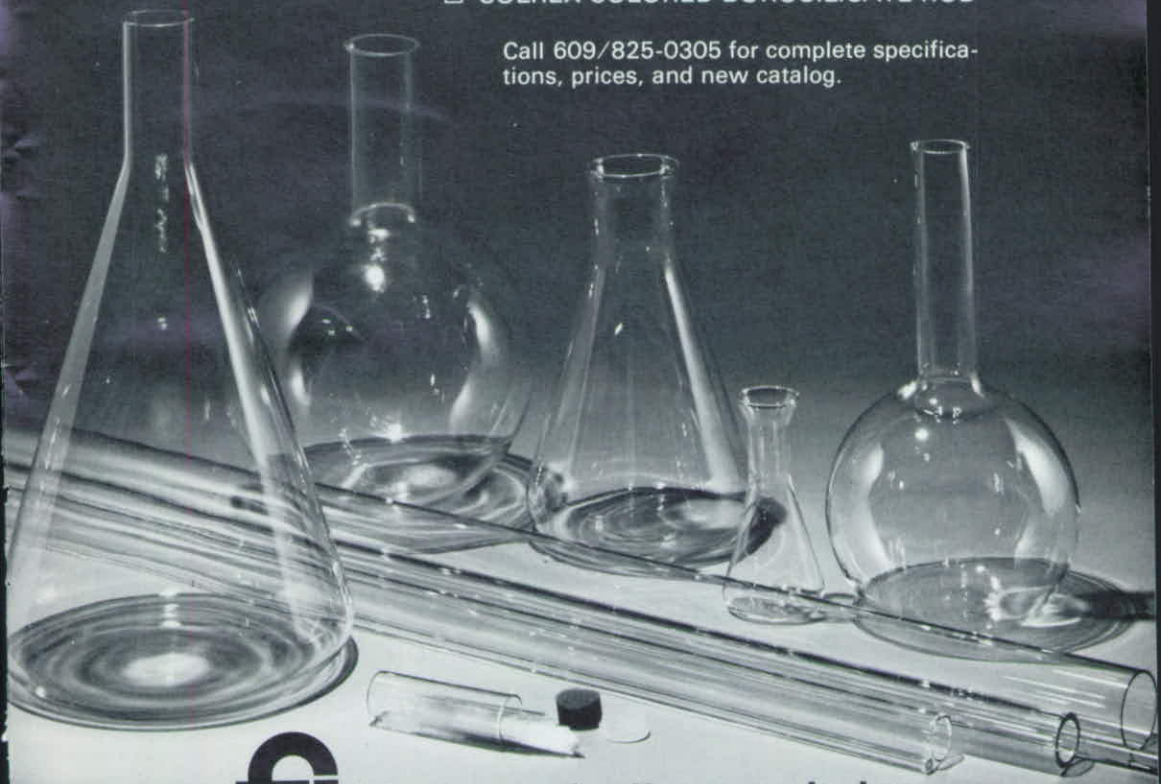

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3rd International Symposium

Everything is moving along on schedule. 102 (2/3) persons took advantage of our early bird offer. We also had some dropouts, which brings the group back to three buses. Your **best airfare** will be worked out for you. Our **meal plan** will be offered now, and all participants should have received the information. Everyone who signed up should have received their payment forms in December, 1985. The **ground package is due now. Airfare is due a minimum of 60 days before departure or June 15, 1986.**

The special tour to the **BASF Chemical Works** will be limited to two buses while the third bus will go on to the famous **spa city, Baden Baden,** where the BASF tour buses will meet them later that day. Please **return your sign-up form now,** because we have to make final arrangements.

Anyone interested in **presenting a paper** at the International Symposium, please **contact Mr. Ted Bolan.** We can also arrange to have your paper presented for you. A preliminary schedule for the symposium is printed with this.

SOME HINTS . . . . . .

For the tour, we recommend **easy care washables.** On the average the weather is warm, from the 50's at night to the 80's by day. A jacket is needed almost every evening. Light rain gear is also recommended. Bring a light sweater. Some of the hotels have outdoor pools and indoor pools – swimwear.

Medications: bring ample supply of your medicines, also a spare prescription or statement describing what medication is needed in case your medicine is lost.

You will need a passport – **GET IT NOW.**

No visa is needed.

No shots, etc., or vaccinations required.

The **water in Germany is O.K.** Just in case, for the very sensitive, we recommend Mineral Water.

Vegetarian – If you usually follow this diet on trips, or if you have to follow any other special diet, requests have to be made (1) one month in advance.

National Credit Cards are honored at many shops and in the more expensive restaurants and hotels.

You are allowed to bring **cigarettes and coffee,** since both are expensive. We recommend you bring your own cigarettes and some instant coffee. Also, (1) bottle of your favorite spirit can be bought upon departure in the duty-free shop.

MONEY: How Much Should You Bring?

Our **Meal Plan** provides (1) one meal per day plus breakfast. Lunch and dinner prices are approximately the same as in the USA. **For additionals,** you would need from $1.00 for McDonalds to $50.00 for a gourmet dinner. $10.00 on the average.

The **high speed train** to Lyon will be an additional $50.00 for those participating.

A **cup of coffee** averages $1.50 to $2.00. **1/2 liter of wine or beer** averages $2.50 each.

If you bring **electrical appliances,** such as hairdryer, iron, shaver, etc., you will need an adapter (voltage is 220-240 volts). Make sure your appliance has a switch to adjust, otherwise you will need a small transformer. Exact information will be mailed to all participants.

Airlines allow (2) two suitcases per person plus a carry-on. If you can do with less, it will be easier for you.

There is a **$300.00 limit on gifts and souvenirs** that you can bring back to the USA (duty-free).

What To See And Do On your Own:

Guide packages will be given out upon arrival in the hotels.

The A.S.G.S. has blocked some rooms in the Atrium Hotel. The room rate thru us is Max. -186.-DM for a double. Off the street rate is approximately 240.-DM. Advance booking thru us for a small double, 1 bed 1.4 meter wide = DM 160. Full size king 182.-DM.

For reservations write to – Rudolf W. Schlott, 32 Highland Down, Shoreham, L.I. NY 11786.

With best wishes for a happy New Year.

Your Symposium Committee

3rd International Glassblowing SYMPOSIUM

August 28–30, 1986

Nürnberg · Meistersingerhalle

PROGRAM

Thursday, August 28, 1986

8:00 a.m.	Departure for Mitterteich
	Visit of the SCHOTT-Ruhrglas glass factory, snacks
7:30 p.m.	Dinner at the Tiergarten Hotel in Nurnberg

Friday, August 29, 1986

10:00 a.m.	Lectures
12:30 p.m.	Lunch
2:00 p.m.	Inauguration of the exhibition
3:00 p.m.	Video and slide shows, discussion
7:30 p.m.	Dinner, exhange of experience

(Continued on next page.)

Saturday, August 30, 1986

10:00 a.m. Lectures
12:30 p.m. Lunch
2:00 p.m. Tour of the exhibition, Video and slide shows, discussion
4:00 p.m. Conclusion of the event. Free disposal of the evening.

The following subjects have been provided for the lectures:

- Modern-type work techniques in glass processing
- Safety in glass blowing
- Ventilation of workshops
- Prospects for the future

An abridged version of the lectures will be mailed not later than June 1986.

This charge includes:

Lunch on Friday and Saturday
Dinner on Thursday and Friday
Beverages served during breaks
Plus

We request all colleagues to take part in the exhibition with apparatus and instruments from glass process systems and the hobby area.

A special program has been devised for the ladies.

Plus, for A.S.G.S. members and your participants, there will also be a dinner on Wednesday and Saturday.

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CONTEMPORARY KILN INC.

New Zealand Society of Scientific Glassblowers

On August 30th and 31st this first symposium of the New Zealand Society of Scientific Glassblowers was held at the Department of Scientific and Industrial Research in the Hutt Valley (Wellington) and attracted 22 people from throughout the country.

Those attending the first National Symposium of the New Zealand Society of Scientific Glassblowers at the D.S.I.R, Wellington, August 30 -31, 1985.

On Friday the program started with a workshop session at which a range of techniques were demonstrated and discussed. Lunch was followed by a lecture/demonstration on optical glassworking by Mr. Gary Nankivell, a visit to Pilkington's glass-processing plant where the making of toughened and laminated glasses was demonstrated and the final session of the day was at the silicon wafer facility where the design and production of "custom chips", special integrated circuits for low volume production, was demonstrated.

Dinner on Friday night was at the Fishermans Table in Petone and was greatly enjoyed by all; the socializing carried on into the small hours.

Saturday morning included a visit to the Institute of Nuclear Sciences where Mr. Jim Judd conducted a tour of the Tandem Accelerater Mass Spectrometry Section and explained the methods and apparatus developed to produce targets for Carbon 14 analysis, followed by a review of the BSSG Training Program by Mr. Keith Holden, who is a BSSG examiner and a past-chairman of the BSSG Board of Examiners.

After lunch a meeting was held to canvass opinion on the aims and objects of the proposed society (much of which had been covered by correspondence throughout the country in the months leading up to the symposium) and the formation of the Society itself.

Three officers of the Society were elected: Keith Holden of the DSIR Wellington, chairman; John Penno of Otago University, Dunedin, secretary and Brian Carter of Carter Chemicals Ltd, Auckland, Treasurer. The officers were empowered to finalize constitutional details for presentation to the membership and the newsletter Glass-Sci was adopted as the official journal of the Society.

The afternoon finished with the showing of a video of the 1983 Workshop session video and videos from Schott and Herbert Arnold of Germany.

Without question the symposium was an outstanding success and it is to be hoped that the newly formed Society will in future benefit both the glassblowers and those that we serve in this country.

Sincerely
John Penno
Secretary, N.Z.S.S.G.

EDITORIAL

The Symposium held at DSIR Lower Hutt is over, its effect offer some valuable and some interesting spin-off's. The business, as differing from the professional, section of the meeting was fairly short, sharpish and marked by an obvious intention to be successful. Election of Officers of the proposed New Zealand Society of Scientific Glassblowers with starters in widely different boxes was closely run and gives us Keith Holden, DSIR, as Chairman, John Penno, University of Otago as Secretary and, a brilliant stroke, Brian Carter of Carter Chemicals Ltd. became our Treasurer.

Draft proposals on the Constitution revealed some disquiet and contention which a well-voiced sense of humour, lubricating and supplementing some common-sense solutions, overcame the difficulties. We hope the voice will be available at subsequent meetings.

"Glass-Sci" has been adopted as official Publication and communication medium of the Society, plus continuing its now accepted role of maintaining a ready forum to all those interested in our activities and combined expertise.

The entire Symposium was planned meticulously and successfully as the result of a major effort by the Glass Section DSIR and some significant concessions and consideration on the part of DSIR Management and Executive. We offer our sincere thanks, and acknowledge our indebtedness to all those involved. Thank you.

The workshop time slot was well filled with demonstrations of ingenuity and skills by several host and visiting glassblowers at levels which justify the happy and casual expectation of our users. Special mention must be made of Grant Franklin whose demonstration of Profile Forming on 105mm tubing was done under the additional eye of a television camera and a multitude of lights. Excellently done. It is to be hoped that a copy of the video may become achival, first in our library. Donations and funds towards our own video camera perhaps?

Optical Glassblowing Section DSIR is a revelation in cleanliness, variety in glass types and formulation, profusion of equipment, the peaks of precision expected and achieved, the nonchalance which comes from experience and confidence in ones back-up, machine and human.

I found special interest in the session with Jim Judd at the Nuclear Research Labs, as an enviable example of the kind of involvement with a particular (no pun intended) scientific problem itself and the other people concerned which we too rarely experience. The problem was with C14 dating techniques and its nice to report a first class success.

It is no reflection on the speaker at the Silicon Wafer Facility that I managed to understand very little of what was happening. Some things should in my opinion, remain the secrets of their inventors and advocates. I remain grateful that retirement caught up with me before I had to learn something new, I'm still not too sure about valves.

Pilkington Bros., the only commercial glass processor we encountered hosted us for about 3 hours. Quality control, random testing techniques and manufacturing methods were shown and explained to our three groups, each with its own guide and ready source of the answers to any questions we might raise, technical or otherwise. Quite different to many other conducted tours of commercial premises that I've experienced and quite an eye-opener.

Our social function, dinner at a venue on the Petone Waterfront was pleasant and relaxing. What ever you have heard about the reticence of Glassblowers is wrong, talk was the main concern of the evening, much of it 'shop', conditions and circumstances were recounted, sympathy and consolation offered and suggestions and remedies forwarded, all luckily, taken in good part. It is nice to be able to look forward to meeting so many friendly colleagues again sometime. I especially wish to acknowledge the trouble my good friend Brian Carter went to in driving me safely back to my Hotel. I thoroughly enjoyed the trip but hadn't realized 'til then how close Palmerston North and a certain disused Airport are to Wellington, – a lovely tour.

Ted Facer
Editor

Thanks is given to the N.Z.S.S.G. for reprint of these two articles.

SUBLIMATION APPARATUS: AN ALTERNATIVE DESIGN

A. C. Bunby and J. Reglinski
School of Inorganic and Physical Chemistry
Kingston Polytechnic.

Sublimation is one of the most important purification techniques available to synthetic chemists. It is a simple process where an impure solid is heated (sometimes at reduced pressure); the desired material volatilises and recondenses on a cold point, which is normally a probe or cold finger held directly above the impure material. A typical example of the standard apparatus is shown in diagram 1.

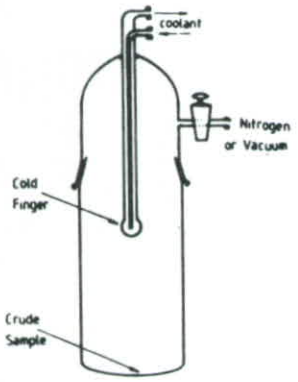

Diagram 1. A Typical Sublimation Apparatus

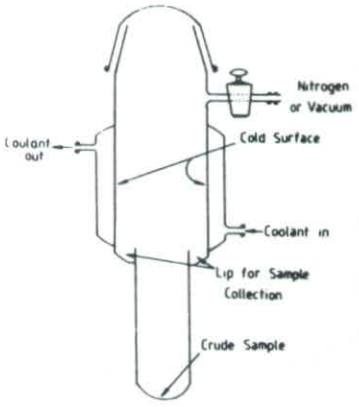

Diagram 2. The New Design

A major problem encountered with this design arises when either large amounts of product or large crystals form: the weight can be such that the material will detach from the probe returning to the impure mixture. Apart from being exceedingly frustrating this can extend the length of time required to prepare a compound and should the product be heat sensitive in the impure state, yields can be lower than expected. Elaborate probe designs have been developed to protect air sensitive products with argon or nitrogen; these can be very difficult to construct and have limited success.

Addressing these problems, we redesigned the sublimation apparatus as shown in diagram 2. This piece of equipment has been used with some success in our laboratories. It is a simple design comprising a well for the impure material; a cooling jacket around which cold water or slush acetone can be circulated and a tap above the cold jacket for

pressure regulation and as an inert gas supply. We dispensed with the cold finger, preferring to use the larger surface area of the vessel walls which can be cooled. A lip is incorporated into the design by extending the internal wall of the well.

The apparatus is loaded by passing the material to be sublimed down a piece of glass tubing (an extended joint is used for air sensitive compounds; this is attached directly to the vessel containing the impure sample), this ensures that the walls of the sublimation apparatus remain clean. When the base of the apparatus is heated the product sublimes onto the jacket walls, should it become dislodged it falls into the retaining lip rather than back into the heated area. If there are large amounts of slag remaining when the sublimation is complete the well can be blocked with a suitably sized septum cap. The pure material can be transferred through the quickfit joint under an inert atmosphere into a clean vessel. This is a more suitable arrangement to that encountered with the design shown in diagram 1. When an air sensitive or hygroscopic material has condensed on the cold finger, manipulations can be difficult with the resultant lose of product.

Further refinements to this design could be made. A trough could be incorporated instead of the cold jacket thus allowing the use of liquid nitrogen. A quick-fit joint can replace the well allowing the apparatus to be used by attaching it directly onto reaction vessels.

1. A. C. Bunby is the glassblower at Kingston Polytechnic.

Thanks to B.S.S.G. Journal. Vol. 23 No. 3

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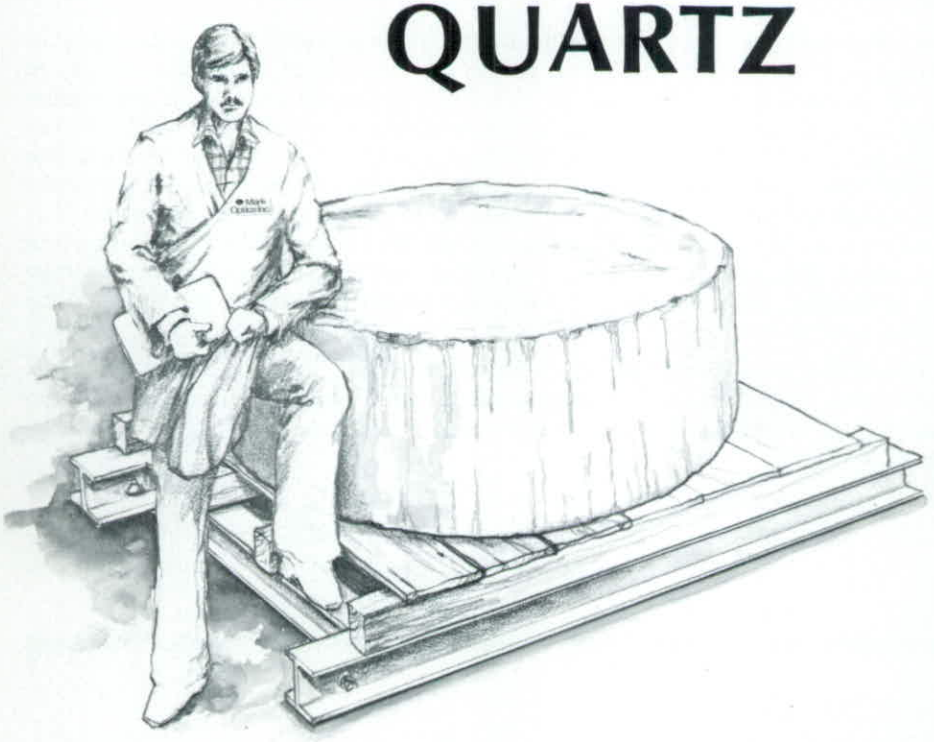

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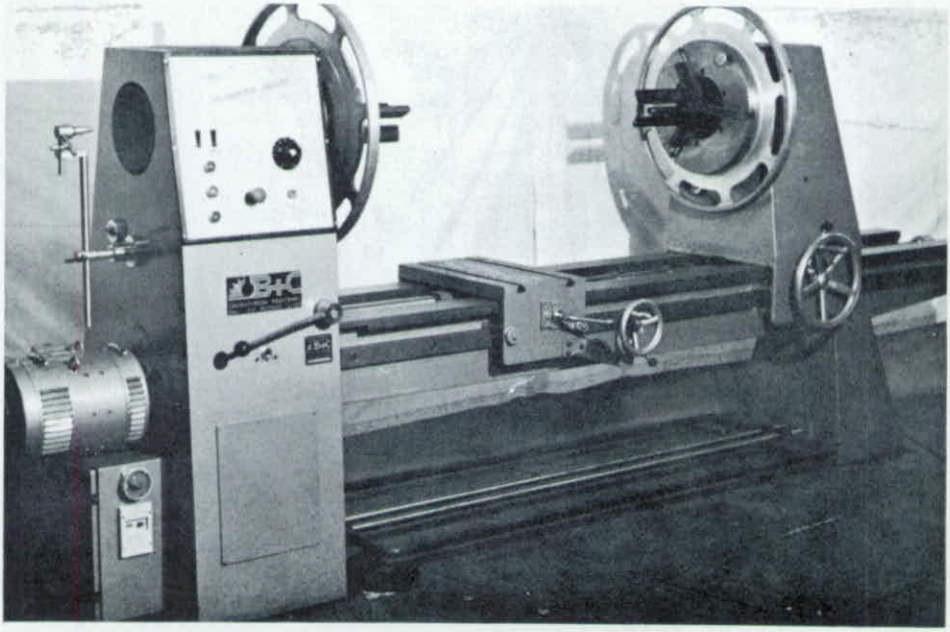

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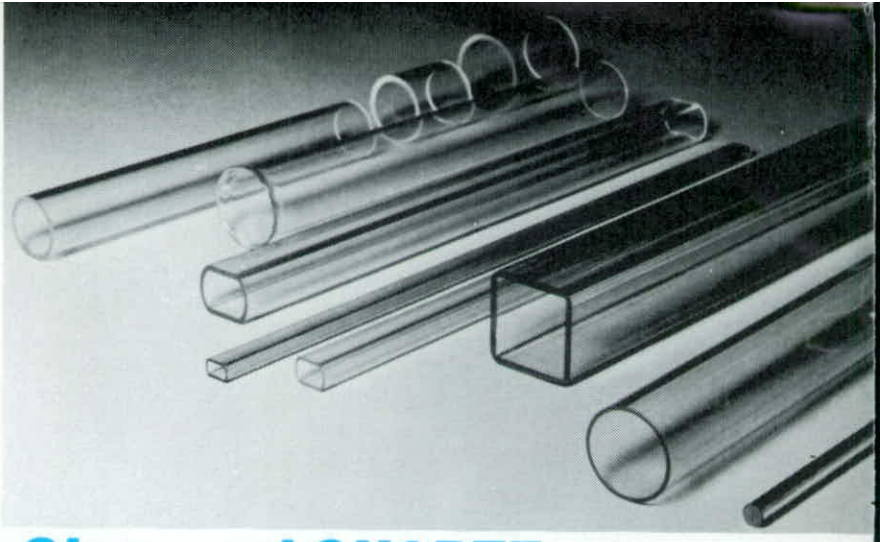

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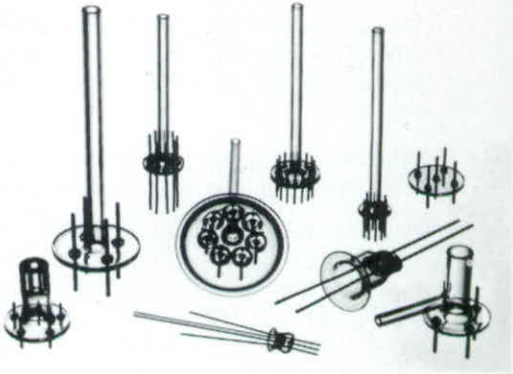

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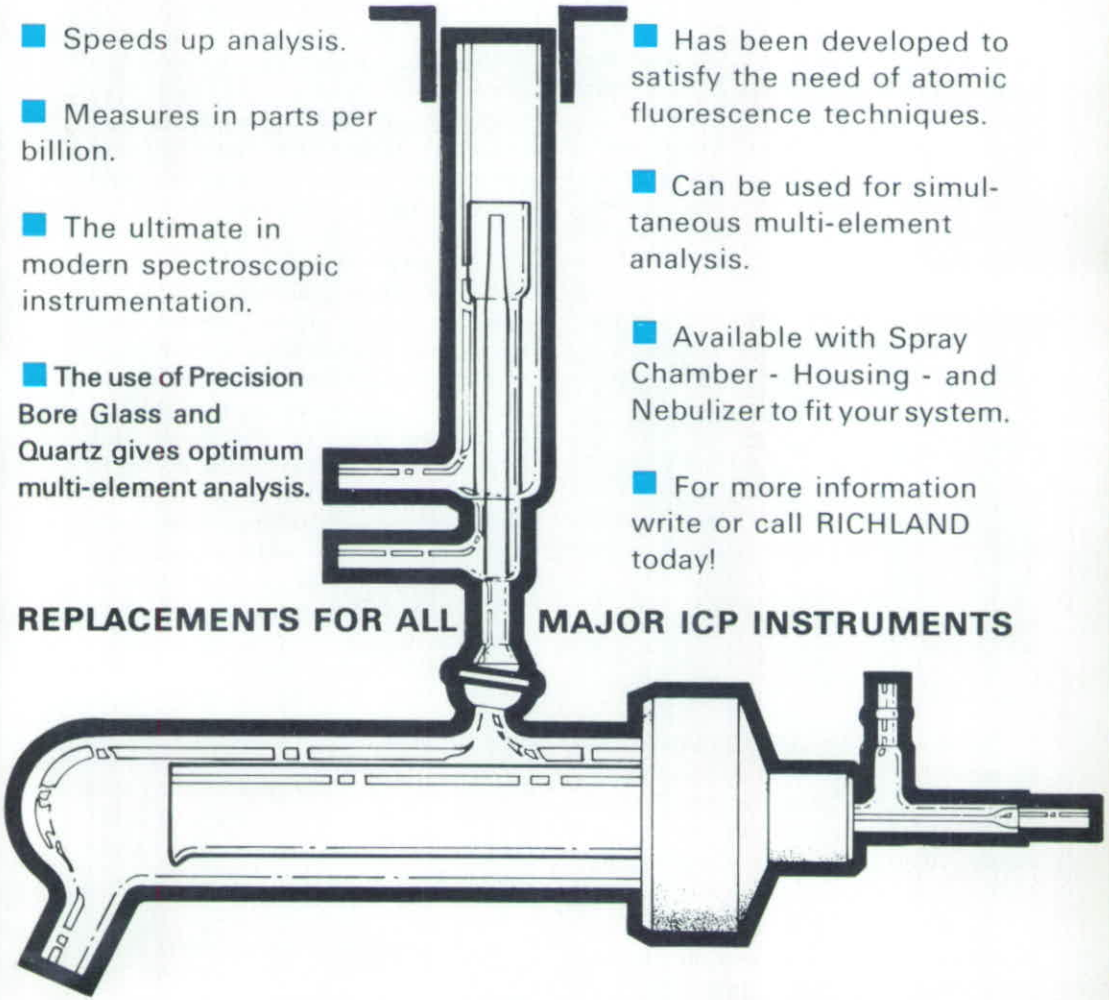

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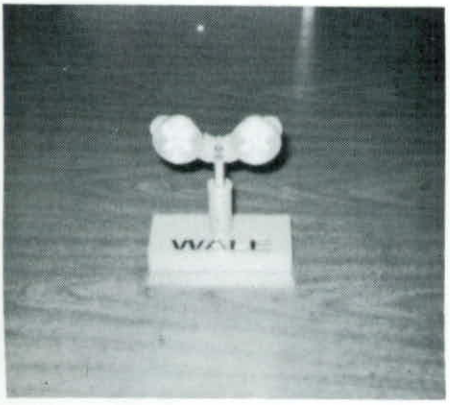

These rollers are easily adjustable up or down for height from approximately 5¼ to 8½ inches above the work bench. The adjustable rollers can be set to accommodate a wide variety of tubing sizes.

The WALE STEADY REST rollers are available from stock. For additional information contact: WALE APPARATUS CO., 400 FRONT STREET, HELLERTOWN, PA. 18055 or call (215) 838-7047.

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In addition to multi-fit sleeves, gloves and mittens manufactured from KEVLAR 29 aramid fibers, WALE APPARATUS CO. offers aluminized sleeves and gloves. These sleeves and gloves are particularly useful for reflecting the large amounts of heat radiated from high-capacity, high temperature torches and burners used in quartzworking applications.

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The aluminized rayon sleeves feature elastic cuffs on both ends insuring snug comfortable fit. They are available in 18" length, sufficient coverage for the entire arm.

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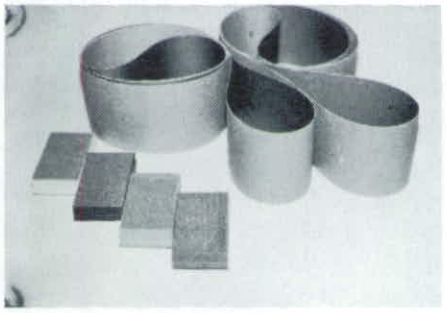

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1986 SCIENTIFIC GLASSWARE CATALOG

Chemglass, a leading supplier of scientific glassware since 1946 has announced the availability of its expanded 1986 catalog. Featured in this 60 page catalog will be a complete line of component parts available to the scientific glassblower along with a listing of routinely used scientific and laboratory glassware.

New products include double O-Ring high vacuum ℱ Joints, a complete line of fritted components, septum parts, and a detailed listing of flask blanks including Separatory, Recovery, Pear Shaped, and Heavy Wall Filtering flasks.

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Kontes is offering a comprehensive, eight-page brochure detailing the new Ultra-ware™ HPLC solvent handling system.

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Body copy completes the brochure with step-by-step explanations of each operation. Descriptive and ordering information for all accessories are also included.

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For further information contact Scott E. Wooden.

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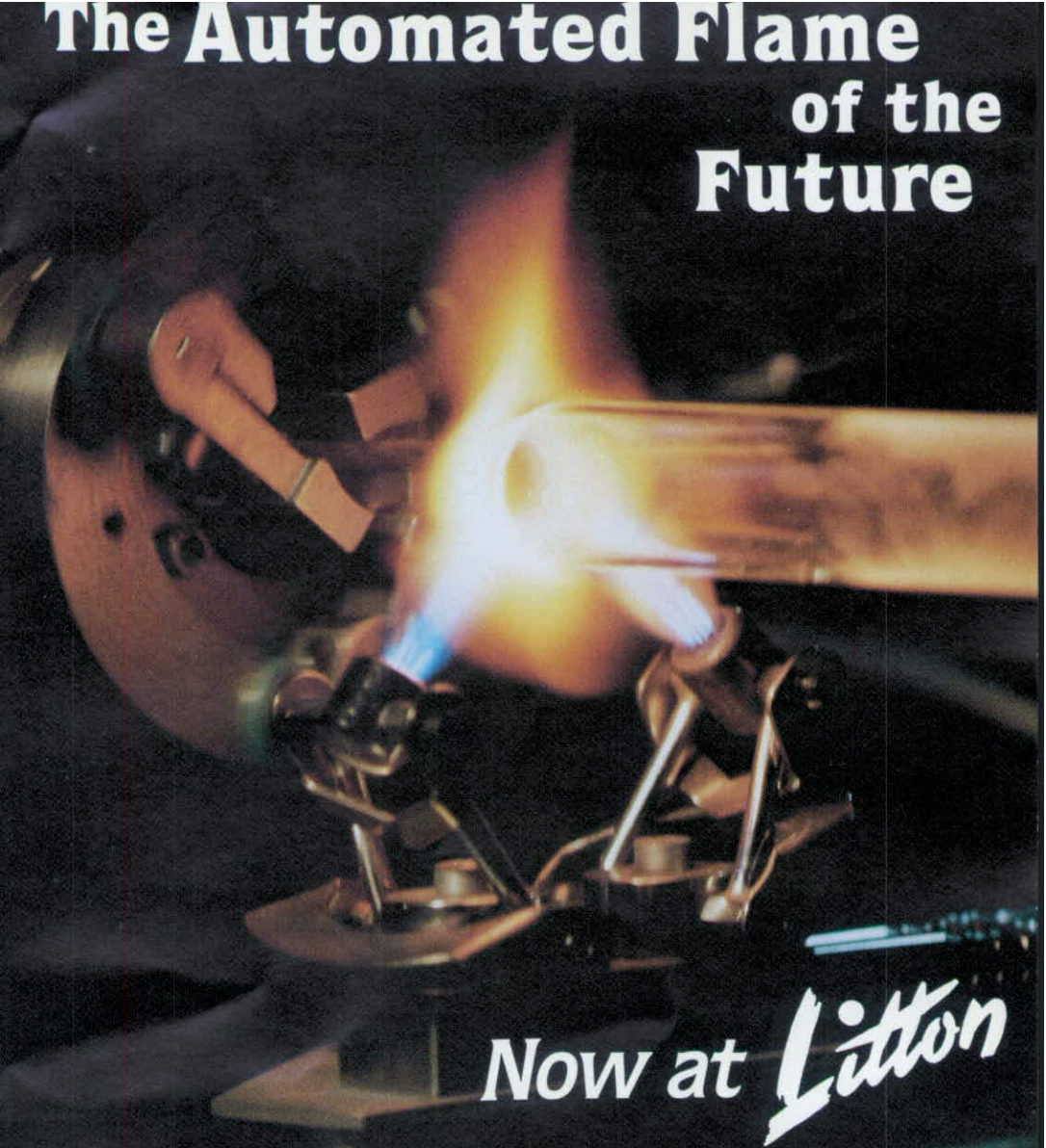

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PAST PRESIDENT'S REPORT

I read with pleasure the musings of my cohorts in this "Valhalla of the Great." If Bill Gilhooley didn't want to follow Arthur then how could I follow both. Only chutzpah will allow it.

The title of this article, "Past President's Points", is true, but I believe a little presumptive in its possible implications. It is true we former presidents had our finger on the pulse of the Society and, hopefully, did all with our limited abilities to keep the life fluids flowing through all its many veins. When our term of office was over and the Secret Service Protection was removed we became again, by virtue of that great wonder of democracy, just plain "Joe Glassblower " – a title I love and of which I am proud.

In this vein, as Joe Glassblower, I continue this column.

Fire cracks occurred in my work before and after being president so I know the office did not enhance my abilities. I suspect that a lot of cracks are caused by wind, a product most politicians have in excess. The solution was simple; I became a silent observer and blow only when asked.

My friends and I who had the honor to serve did, however, learn a great secret. A secret I will share with you if you promise not to reveal it to the dummy marginal glassblower who will always remain just that – a dummy. It is this; project humility and nurture a strong inward pride in what you do. Admit to being the second-best glassblower in the world since all the others know that they are the best. Call the friend you have made in this Society and ask for his advice with your problems. If he is the top man in his field he will be the first to admit he doesn't know it all and refer you to other members to supplement his advice.

I have for years leaned heavily on friends like Gilhooley, Dolenga, Campbell, Chandler, Drechsel and many more*. I still call Gilhooley out of the swimming pool in California for advice. Since he retired, it may take three calls to catch him without water in his ear. These fellows fed me with information for years and I must admit, just to you, that I still do not know it all. I do have the arrogance of saying to my clients I think I can make that apparatus because I know I have the resources of my friends minds and experience at my disposal.

Glassblowing is an ever changing field and I believe much is being accomplished by our younger members in areas most alien to us 'old goats'. Among them are cold working of glass with ultrasonic, diamonds and lasers. Don't sell the new kid on the block short. He may know things that our old cluttered minds cannot easily visualize.

When you call these friends in the society, realize they are also human beings, not just glassblowers. They have families and hobbies that they love to talk about. Also, remember that the free lunch and nickle beer doesn't exist anymore. You've got to give a little of what you want to get.

I am always heartened when I meet a new President of our Society who is filled with drive and the conniving ability to get things done. Our current President Jerry – what's his name – is especially good at the conniving. After recently buying Reubin sandwiches with sauerkraut for Sigrid and me, and after we had eaten it to the point of no return he told me I had to write this column. Nourished by sauerkraut, the food often associated with my origin, and seduced by the accompanying smile of Brenda how could I refuse. I do wonder how many Reubins Jerry has bought and how many smiles Brenda has radiated in order to keep this society humming along during his term of office.

It was really nice to chat with you, even if I did all the talking and at the risk of another fire crack. Just remember, I was asked.

It's time for my nap now – at 67 I think it's allowed.

Luf,
Karl
Glassblower, Brookhaven National Laboratory

*See Roster for complete list.

Obituary

William A. Sales, along with his wife Tina, died as a result of a private plane accident on November 29, 1985.

Bill Sales started in the glass industry as a Product Engineer for H.S. Martin & Son of Evanston, Illinois in 1953.

In 1970 he started William A. Sales Ltd., specializing in custom lab ware, distillation and cryogenics. He also pioneered in many areas of the quartz industry.

Bill was a charter member of the Midwest Section of the A.S.G.S. He became an associate member of the National A.S.G.S. on May 4, 1959. Bill was an active member, working on various committees for the Chicago Symposiums in both 1963 and 1976.

In June of 1985, Bill was honored by the Midwest Section and presented its Achievement Award.

Bill is survived by his two sons, William, Jr. and John, and two daughters, Marcia and Sharon. William A. Sales, Jr. has become the Chief Operating Officer of the company that Bill, Sr. founded.

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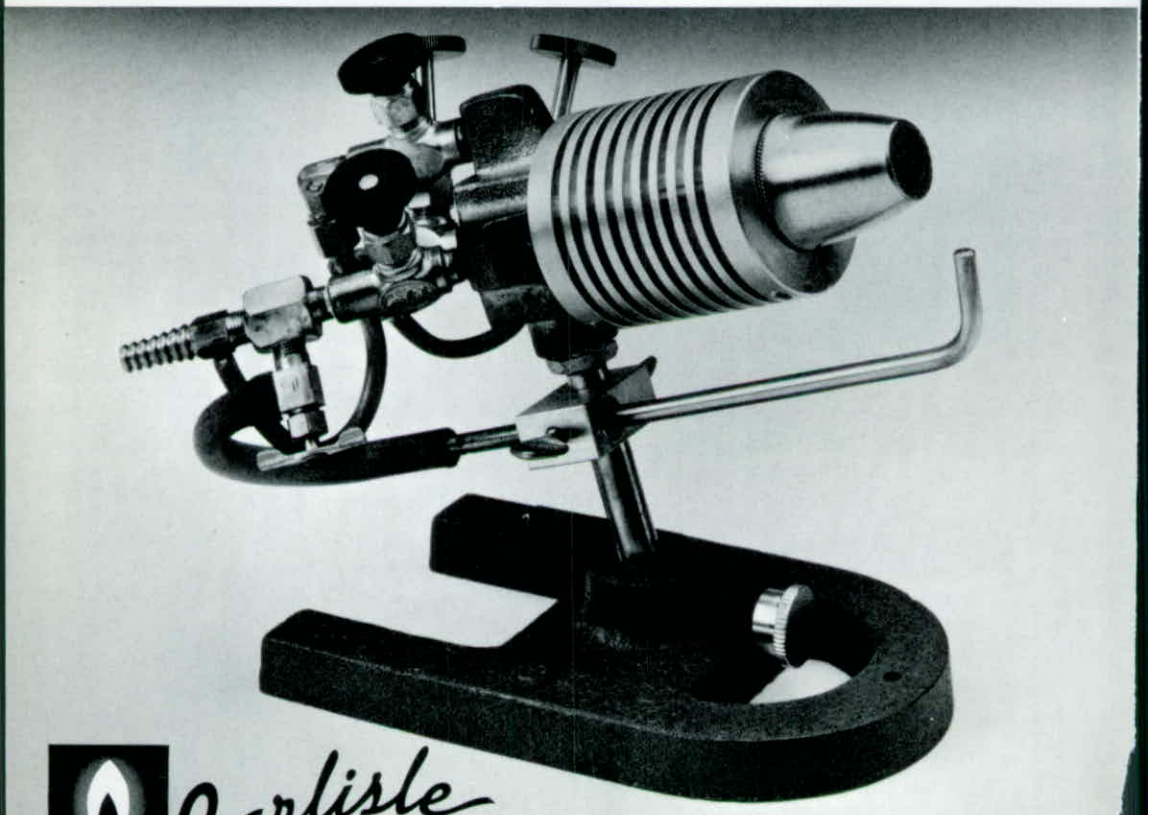

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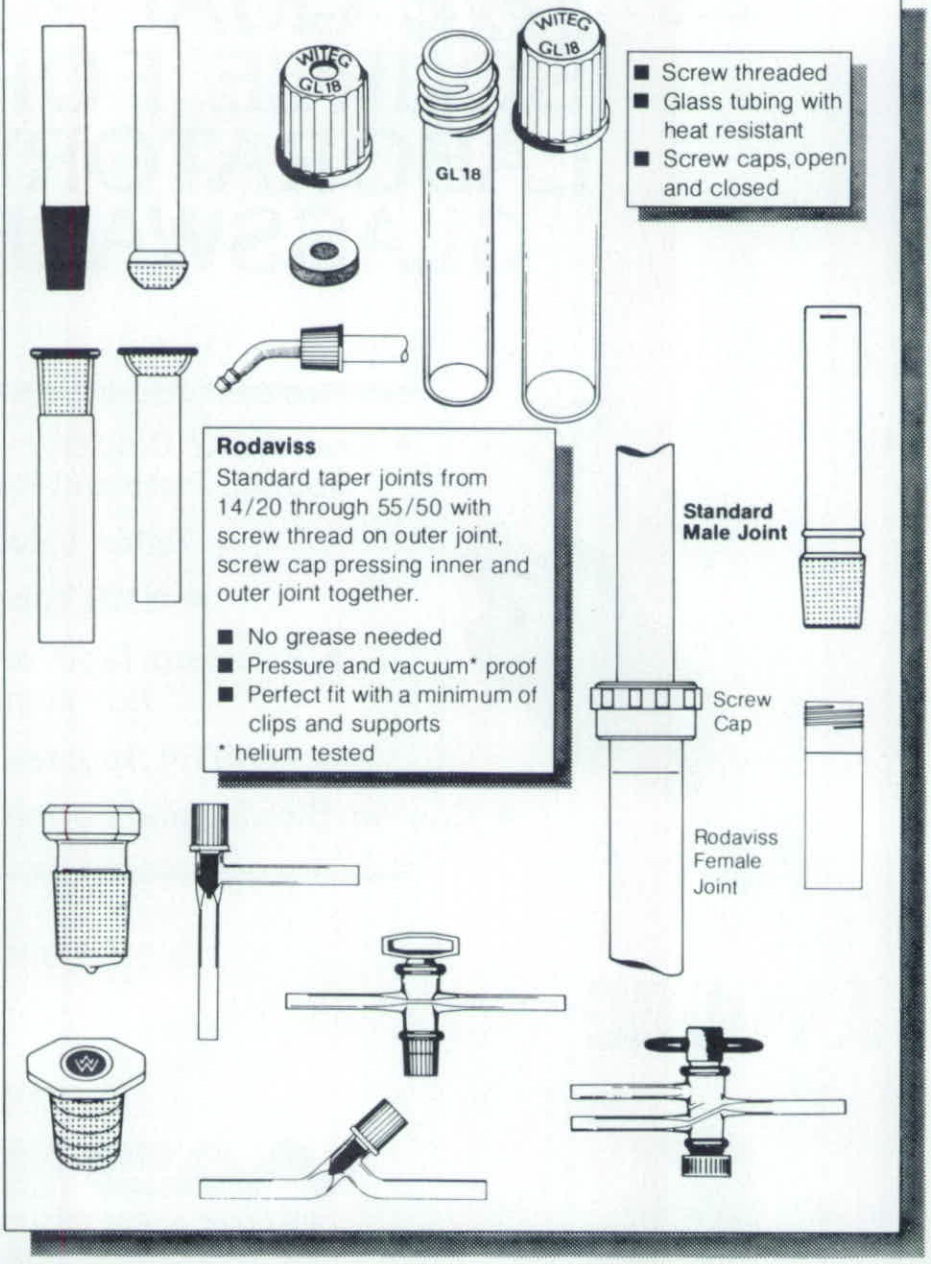

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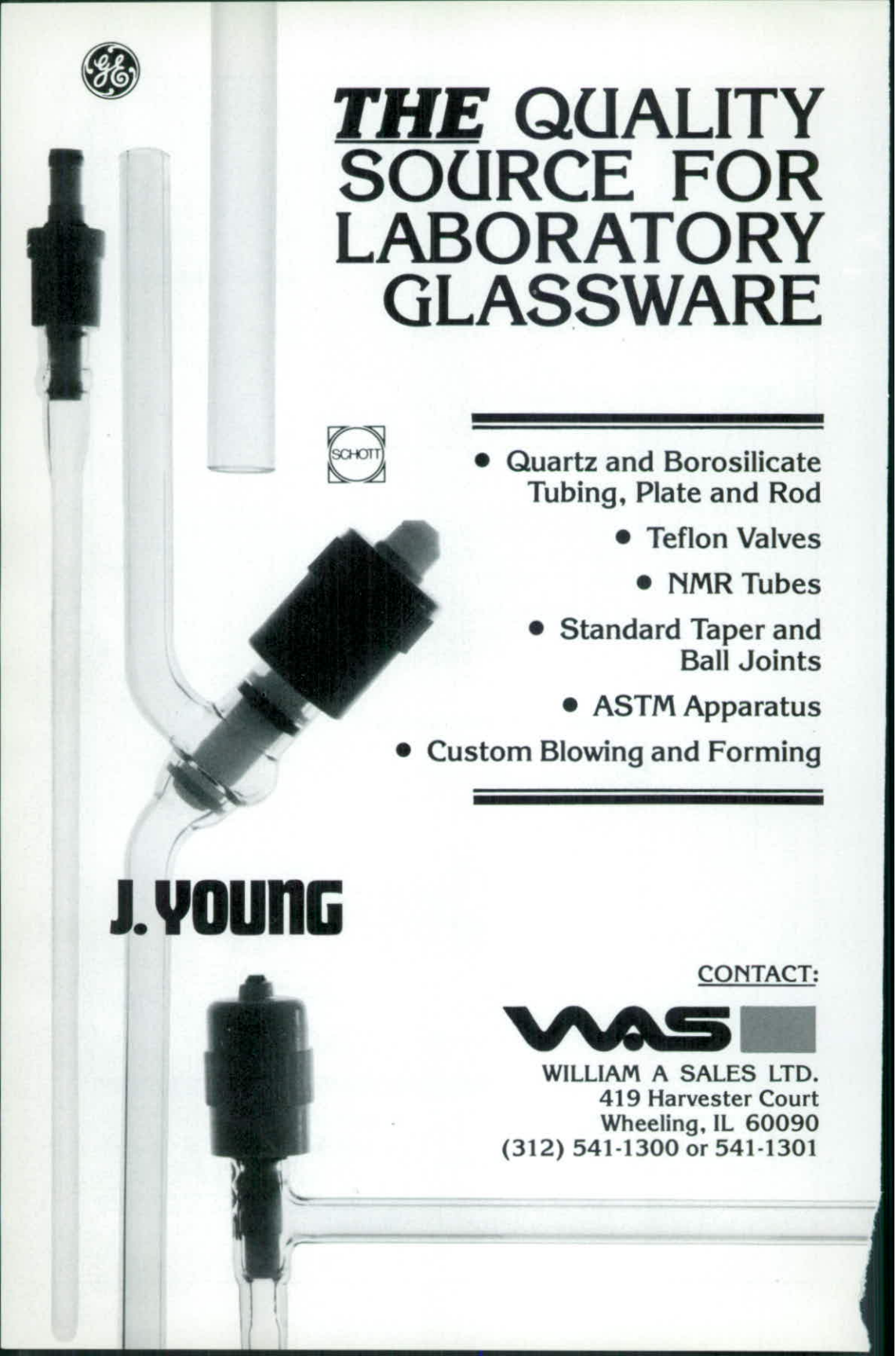

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ACID

Role of Acid Concentration in Leaching of Cordierite and Alkali Borosilicate Glass, T.H. Elmer, Journal of the Am. Ceramic Society, Vol. 68, No. 10, October 1985, pp c-273-4. Rods were leached in HNO_3 in various concentration of 0.04 to 16N for one hour. Studies were made of what concentration caused the greatest amount of glass loss (by weight) and the changes made by still versus active water. (The greatest loss came with a 3N solution with active water.)

ADHESIVE

Evaluation of a Glass Epoxy For Vacuum Applications, by J. Santhanan, S. Verma, and P. Vijendran, Vacuum, Vol. 35, No. 8, September, 1985, pp. 321-323. Properties of a glass-epoxy compound is studied following heat treatment at 150°C. under vacuum.

GLASS – APPARATUS

Kinetics Study of the Reactions $10 + NO_2 + M \dashrightarrow 10NO_2 + M$, $10 + 10 \dashrightarrow$, Products, and $1 + O_3$ (etc.), M.E. Jenkins and /R.A. Cox, Journal of Physical Chemistry, Vol. 89, No. 1, January, 1985, pp. 192-199. Fused Quartz vessel used in the study of photochemical reactions involving iodine particulates and gases related to environmental pollution experiments. Photomultiplier detector connected to the above jacketed vessel is interfaced to a Commodore PET computer. Main interest is the union of computers to glass apparatus.

GLASS – APPARATUS

Stable Alkaline Earth – Ammonia – Anion Radical Complexes and Their Thermodynamic Stabilities, by G. R. Stevenson, L. E. Schock, R. Conception and R. A. Peterson, Journal of Physical Chemistry, Vol. 89, No. 1, January, 1985, pp. 175-177. Calorometric study of compounds using a simple Pyrex glass-bulb system connected to a high-vacuum apparatus. A good description of a classic method.

GLASS – APPARATUS

Volume Changes for Thermally Induced Transitions of Block Copolymers of Propylene Oxide and Ethylene Oxide in Aqueous Solutions as Model Systems for Hydrophobic Interaction, by K. Williams, M. A. Simard and C. Jelcoeur, Journal of Physical Chemistry, Vol. 89, No. 1, January, 1985, pp. 178-182. Borosilicate glass dilatometer of novel design used in described experiment.

CHROMATOGRAPHY

Advantages and Applications of Wide-bore, Thick-film Capillary Columns In Gas Chromatography, by M. L. Duffy, American Laboratory, October, 1985, pp. 94-105. The performance of these new

capillaries is shown to be competitive and in some respects superior to that of conventional packed columns.

CONTAINERS

Industry Group Moves $5 Million for Stronger, Lighter Glass, Ceramic Industry, Vol. 125, No. 7, July, 1985, pp. 34-36. International Partners in Glass Research (IPGR) is composed of seven glass container companies (2 USA, 5 international) that are planning a 3 year program to develop glass that is 10 times stronger, yet lighter than container glass is today.

GLASS – DECORATION

Correcting Glass Frosting Problems, by W. Nixon, Jr., Glass Industry, Vol. 66, No. 9, August 10, 1985, pp. 14-16, 39. A review of potential sources of imperfections when acid etching.

GLASS – MACHINING

How To Drill Precision Holes In Brittle Materials, by B. W. Dunnington, Glass Digest, Vol. 62, No. 3, March 15, 1983, pp. 80-85.

GLASS – PROPERTIES

Properties of Lead Flourosilicate Glasses, by J. E. Shelby, Journal of Am. Ceramic So., Vol. 68, No. 10, October, 1985, pp. 551-4. Lead flurosilicate glasses containing up to 25 mol % PbF_2 were prepared. The dc electrical conductivity, thermal expansion, and transfromation-range viscosity of these glasses indicated that they are amnionic conductors and the fluorine significantly decreases the continuity of the vitreous network.

GLASS – SURFACE

Increasing the Electrical Strength of Glass Electrodes, by V. L. Chistyakov (et. al.), Steklo I Keramika, (Russ.), Vol. 41, 9/10, September/October, 1984, pp. 10-13, Glass & Ceramics (English Translation), May/June, 1985, pp. 431-433, (published by Consultants Bureau). Use of a polishing solution made of varying proportions of Hydrofluoric Acid & conc. Sulfuric Acid. At a temperature of 35-45°C. on an Aluminosilicate glass in order to improve the dielectric properties of said glass. The study was initiated to find methods of increasing; the service life of the glass-electrode components in industrial Ozone-generators.

GLASS – STRENGTH

Influence of Externally Applied Stresses on Kinetics of Ion Exchange in Glass, by A. K. Varshneya, G. A. Dumais, Journal of the Am. Ceramic So., Vol. 68, No. 7, July, 1985, pp. C-165-166. One mechanism to strengthening glass is to let it soak in a bath of molten KNO_3. In this experiment, the glass that was placed in this bath was in slightly (physically) bent. This showed that externally applied stresses could alter the average site for cation diffusion in glass.

GLASS – STRENGTH

Strength of Weathered Window Glass, by H. S. Norville and J. E. Minor, American Ceramic Society Bulletin, Vol. 64, Is. No. 11, November, 1985, pp. 1467-70. The strength of glass deteriorates with exposure to the environment. This "weathering" can cause significant strength reduction. Although this study limited itself to flat window glass, its general value is increased by the manner in which they applied stress to the glass: a frame was attached to the flat glass, then evacuated causing a vacuum on the tension side of the plate.

LASER

Thermal Stress Limitations to Laser Fire Polishing of Glasses, by Y. M. Xiao and M. Bass, Applied Optics, Vol. 23, No. 18, September 15, 1985, pp. 2933-2936, Glass Technology, Vol. 26, No. 4, August, 1985, pp. 55a (abstracts). Reports successful laser beam fire-polishing of fused quartz and borosilicate glasses.

METRIC SYSTEM

Through the Meandering Metric

System, by G. B. Levy, American Laboratory, October, 1985, pp. 137-141. This is a brief overview which highlights the path the metric system has taken during the course of its development.

MICROELECTRONICS

Novel V-Groove Structures on Silicon, S. Surian and E. P. Supertzi, Applied Optics, Vol. 24, No. 12, June 1, 1985, pp. 1784-87. An etch process on silicon has been developed that can generate micron size patterns (with flat walls) from a size of 7 um. This can be continued down to a 1 um size.

MICROWAVE

Controlled Microwave Heating and Melting of Gels, by R. Roy, S. Komarneni, and S. J. Yang, Journal of the American Ceramic Society, Vol. 68, Is. No. 7, July, 1985, pp. 392-5. This paper studies the absorption of microwave energy by solid (oxide) ceramics as a source of internal heating. Normally these ceramics have been considered transparent in the microwave, but this report says that that is far from true.

PATENTS

Method of and Apparatus for Straightening and Configuring a Preform Tube From Which a Light Guide Fiber Is Drawn, by B. Lynch and F. P. Partus – AT & T Technologies, U.S. Patent No. 4,477,273 - 16th October, 1984, American Ceramic Abstracts, Vol. 64 (1/2), January/February, 1985, pp. 18 No. 64-00391P.

POLISHING

Polishing Technique for Godalinium Galium Garnet, by R. G. Raether, and E. R. Prochnow, Applied Optics, Vol. 24, No. 21, November 1, 1985, pp. 3420. A technique for polishing large (76mm) diameter Godalinium Galium Garnet (GGG) is described using a mechanochemical method.

POLISHING

Polishing Vitrious Carbon, by R. S. Stolcis, R. T. Maney, P. P. Hed, R. Blachman, D. Edwards, Applied Optics, Vol. 24, No. 10, May 15, 1985, pp. 1399-1400. The physical and chemical properties of vitrious carbon (VC) make it an attractive material for low energy grazing angle x-ray mirrors. The process described gave a smoothness of 10 Å RMS or sell and a figure of K/10 or better were obtained.

SAFETY

Optical Hazard Evaluation of Laser Energy Transmitted Through Pinholes in Eye Protective Filters, by W. Van De Merwe, P. W. Conner, and D. H. Sliney, Applied Optics, Vol. 24, No. 21, November 1, 1985, pp. 3615-19. Exposure to laser radiation wavelengths between 400-1400 nm could cause serious damage to the retina. Multilayer dielectric coatings are frequently used to filter out energy at specific wavelengths. This paper describes theoretical and experimental data to evaluate whether pinholes in these coatings could possibly present an optical hazard.

SHOP EQUIPMENT

Getting the Most From Your Burners, by G. Neff, Jr., Glass Industry, Vol. 66, No. 6 (part I), May 10, 1985, pp. 14-16,39, Vol. 66, No. 7 (part II), June 10, 1985, pp. 18-24. This two-part article concerns itself primarily with gas firing practices as they apply to sealed-in burners, but parts of it can apply toward the glass shop.

TEMPERATURE MEASUREMENT

Phosphors and Fiber Optics Remove Doubt From Difficult Temperature Measurement, by Kennith Wickersheim and Mei Sun, Research and Development, November, 1985, pp. 114-119. Monitoring temperatures on delicate and/or hard to reach surfaces in air or vacuum is accomplished easily, accurately as a result of recent advances.

THIN FILMS

Monitoring the Arbitrary Thickness of Optical Thin Films and Their Error Simulation: A Method, Applied Optics, Vol. 24, No. 11, June 1, 1985, pp. 1693-5. A method of monitoring the absolute value for film layer transmittance and to monitor the thickness of optical thin film is described.

THIN FILMS

Optical Thin Films Produced by Non-vacuum Techniques, by Jan Haisma, Applied Optics, Vol. 24, No. 16, August

15, 1985, pp. 2666-73. A number of non-vacuum techniques (Optical Thin Film and Monocrystalline Growth, Atomic-mono layer growth, Chemical Aerosol decomposition, Spinning and dipping, Galvanocoating or Electrochemical processing, Chemical etching, Metal Annealing and (laser) annealing of amorphous films. A good breakdown of this subject with some very useful charts.

THIN FILMS

Thin-Film Deposition by Laser-assisted Evaporation, by H. Sanker and R. Hall, Applied Optics, Vol. 24, No. 20, October 15, 1985, pp. 3343-47. Laser assisted evaporation is being used increasingly as a thin-film deposition process. Characteristics of this technique are discussed along with source material scanning and focusing of the laser beam, optical elements to deliver laser power to the sources and placement of these elements to deposit thick films are discussed.

VACUUM

High-speed Motor For Use In An Ultrahigh-Vacuum Environment, by F. Engel and D. Braid, Rev. of Scientific Instruments, Vol. 68, No. 8, August, 1985, pp. 1668-69. The problems of outgassing of the stator winding insulation and the ball bearings are solved in this modified motor that has performed satisfactorily at a frequency of 200 Hz over prolonged periods.

VACUUM

Replacing Filaments in Glass Bayard-Alpent Ion Gauge, D. Bedding, T. Moran, and A. Brown, Review of Scientific Instruments, Vol. 56, No. 11, November, 1985, pp. 2170-71. A simple method allows unlimited replacement of filaments in glass Bayard-Alpent vacuum gauges.

VACUUM

Self-Pressurizing Liquid-nitrogen Filler, by P. E. Chumbley and N. M. Hulse, Rev. of Sci. Instruments, Vol. 56, No. 7, July, 1985, pp. 1478-79. A self pressurizing, two level automatic liquid-nitrogen filler is described which used vapor from the natural evaporation of cryogen in the research and supply Dewars to do the work. This has greater response time to other self pressuring systems and uses no external gas sources.

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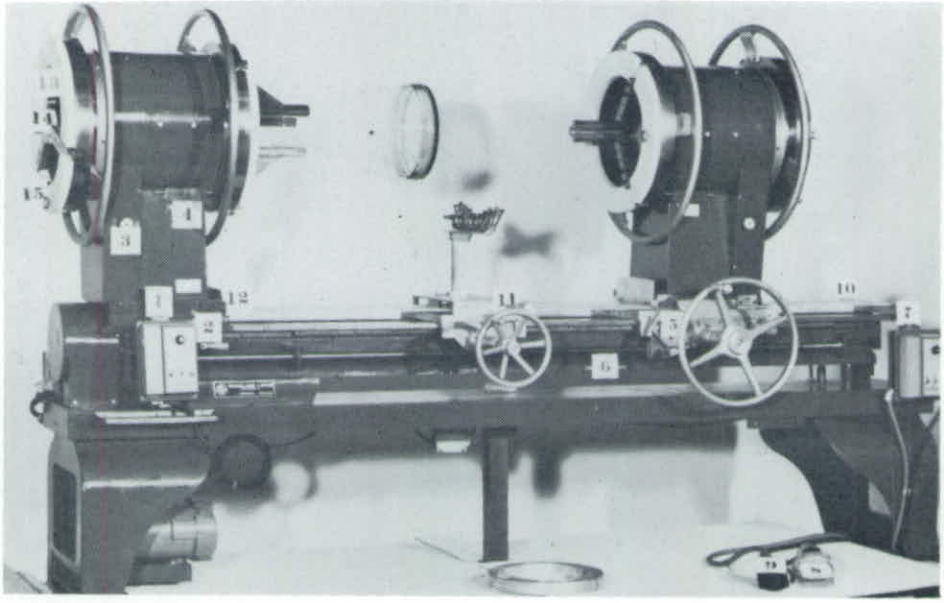

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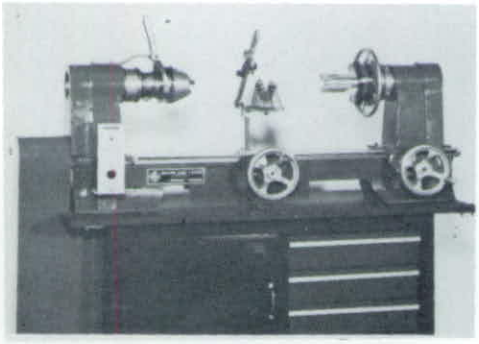

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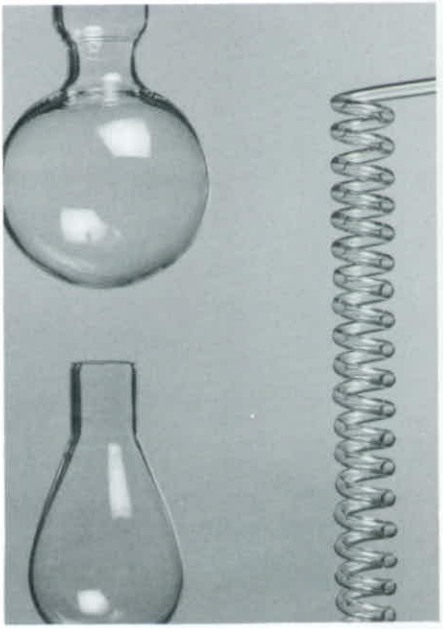

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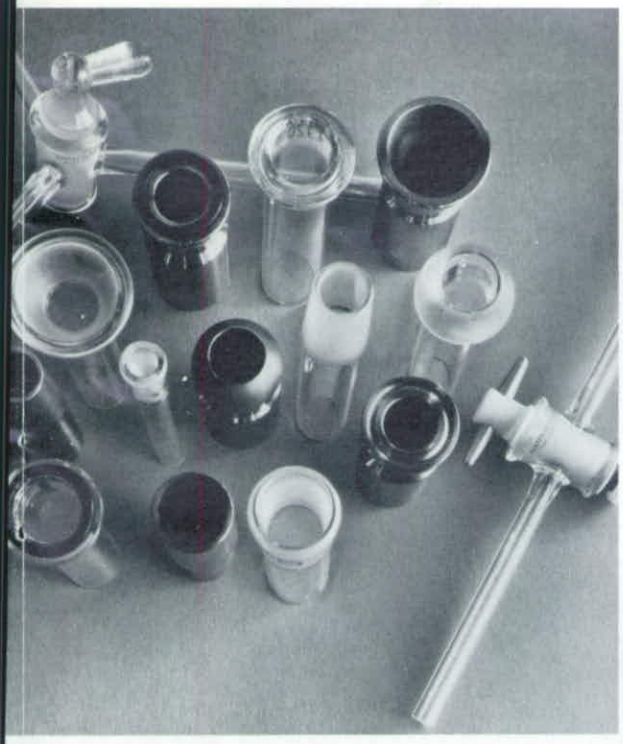

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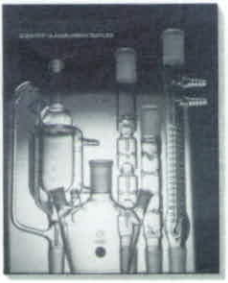

Ask for your copy of our NEW GLASSBLOWER Catalog and Special Glassblower's Discounts. Kontes, P.O. Box 729, Vineland, New Jersey 08360 (609) 692-8500, Morton Grove, IL (312) 470-1616, San Leandro, CA (415) 357-9513.

SECTION NEWS

Metropolitan New York Section

Frequently we report that our meetings are held at the Ehring's Tavern in the Bronx, New York. Then it should be no surprise to learn that our past (3) meetings were held at the celebrated restaurant. Just as customary is the graciousness, respect and professional service we all receive each time we gather there.

The first meeting of the 1985-1986 season was sponsored by the Kimble Glass Co. and attended by 28 people. Kimble was represented by Dave Marks, Barry Gardillo and tooling supervisor John Chermanko. Mr. Gardillo reminded us all of Kimble's concentration on quality glassware and how the world market has been affecting American products.

The secretary appointed Rudy Schlott as interim chairman, who quickly asked for a moment of silence, in remembrance of Geza Sebok, a long-time friend and member.

Members discussed the tolerances and saturation of asbestos in the workplace and Dave Wedson requested papers for the '88 symposium. Bob McKellin, from Wale, returned his 50/50 winnings to the chapter.

L-R: Barry Gardillo, Honia Edson, John Chermanko.

REPORT NO. 2

The November 1st meeting and dinner was backed by Schott Glass and hosted by Juergen Kramer. Mr. Kramer urged a mutual respect among all glass suppliers.

Business focused on guidelines for section representatives to future directors and awards for non-glassblowers. Members were reminded that all proposals and questions at the local level can be discussed at these meetings if requested. All 50/50 winners were presented fine-looking Schott rulers. Thirty members were in attendance.

REPORT NO. 3

Our annual family Christmas dinner was held on December 7th with 67 people present. Also present was National President Jerry Cloninger and his wife, Brenda, as honored guests.

After a delicious dinner our chairman and host, Rudy Schlott, began the meeting by thanking sponsors Eck & Krebs, Lunzer Diamonds, Mercer Glassworks, Schott Glass, Wale Apparatus and Wilt Industries for their help.

The section gave special thanks to former Corning rep Ray Buckley by presenting him with a hand-blown gift. Dimitri Costea's beautiful glass tree and Schott's hand-blown display plate made for an exciting 50/50 drawing.

In addition Bill Wilt said his Golden Blowhose Award, given to him earlier this year, was deeply appreciated. Ted Bolan discussed the idea of non-glassblowing members becoming regular members to help strengthen the society's future. A moment of silence for William Sales and his wife was given in respect to their contributions. Everyone enjoyed themselves, and "thanks" to Karen and the entire staff.

Chairman Rudy Schlott & National President Jerry Cloninger.

Sponsors of the meeting L-R: Juergen Kramer, Bill Wilt, Manfred Mirsch, Jerry Cloninger, Danny Wilt, Bob McKellin.

Members enjoying after-dinner talk.

Sincerely
John Pucylowski

Pittsburgh Tri-State Section

Twenty-one members and potential members of the Pittsburgh Tri-State Section met on October 25th at the home of Francis Roth. Chairman Robert Greer presided over a brief business meeting.

The Society VCR tapes of Newport Beach and Cherry Hill symposium workshops were viewed and discussed.

Master glassblower, Francis Roth, gave a workshop demonstrating his expertise gained from a lifetime in the field. Retired in 1980 from U.S. Steel Research, Francis began blowing glass under the tutelege of his father in the home shop he still uses.

Larry E. Harmon
Sec/Treas – Director

Hudson-Mohawk Valley Section

The Hudson-Mohawk Valley Section fall business meeting was held at Olin Research Center in Cheshire, CT on November 23rd. Fifteen members and guests came to see the latest glass products from Kontes and the new products by Carlisle Gas Burner Corporation. The representative from Kontes, Paul Spielman, gave a presentation on how Kontes is helping the glassblower by making a good product with a competitive price. We also had the privilege of hearing the representative from Carlisle, Ron Bolnick, give a presentation on burner assemblies for large quartz work.

Our host, Joe Walas, from Olin Research Center, showed us his new glassblowing lab, which was very impressive. Ron Bolnick, from Carlisle, demonstrated a new lathe burner assembly. After seeing the glassblowing lab, Joe Walas gave us a tour of the Olin research facility and took us to a very nice buffet lunch at Olin's cafeteria. The buffet lunch was sponsored by Kontes.

Chairman Joe Baum called the business meeting to order after lunch. The meeting was very lively, with much discussion on various topics of interest.

Thanks to our sponsors, Paul Spielman from Kontes and Ron Bolnick from Carlisle, who made the meeting enjoyable. Thanks to Joe Walas, our host, who made it possible.

Sincerely,
Tim Landers
Secretary/Treasurer

New England Section

The New England Section kicked off the 1985/86 year with an Oktoberfest celebration on October 24th, at the Chelmsford Elks Club in Chelmsford, MA. The 35

members and guests in attendance were treated to a delicious German cuisine sponsored by Mr. Andrew Picariello of Corning Glass Works. Dinner was followed by a most interesting and informative presentation entitled "Total Quality at Corning", delivered by Mr. Lee Thomas of C.G.W.

Mr. Andrew Picariello, Sales Representative from Corning Glass Works – sponsor for First Business Meeting 85-86.

Mr. Lee Thomas from Corning Glass Works speaks to the New England Section about "Total Quality" at Corning.

After a brief business meeting and directors' report, members were invited to renew acquaintances over cocktails. Our special thanks to Andy and Lee for a memorable evening.

DECEMBER MEETING

The December meeting took place on December 5th, in Waltham, MA, sponsored by G.T.E. Laboratories.

A sandwich buffet was followed by a lecture and slide show on **Fiber Optics** given by Mr. Don Briere of G.T.E. We were then invited to tour the fiber drawing laboratory and glass shop.

2nd Business Meeting at G.T.E. Laboratories in Waltham, MA.

Mr. Donald Briere from G.T.E. Laboratories speaks about Fiber Optics.

The evening was well attended and professionally sponsored. Our thanks to all who participated, especially Don Briere and A.S.G.S. members at G.T.E.: Gus, Brad and Dom.

The New England Section would like to wish all sections a happy, healthy and successful New Year.

Respectfully,
Edward Mitchell
Secretary

Delaware Valley Section

The Delaware Valley Section has had two meetings so far this year. Both have been held at the Five Points Inn, Vineland, NJ. A buffet dinner was served at both.

The September meeting saw the arrival of five new officers . . . Bob Goffredi – Chairman: Norman Neill – Vice-Chairman; Cindy McNellis-Eberwine – Secretary/Treasurer; Kenneth Everingham – Director; and E. Victor Pesce – Alt. Director. We had a cocktail hour which was sponsored by Fischer & Porter and Andrews Glass and we thank them for their active part in this meeting.

L. to R. – Front row: Cindy McNellis-Eberwine, Sec./Tres.; Vince Arena - Andrews Glass; Mohamad Younus - Andrews Glass; Leroy Whitson - Andrews Glass. Back Row: E. Victor Pesce, Alt. Director; Ken Everingham, Director; Bob Goffredi, Chairman; Norman Neill, Vice-Chairman.

L. to R. – Peter Zulner, Joe Luisi. (They are holding the award Peter received from our Section.

We all had the opportunity to meet a very gifted young man. His name is Peter Zulner, who is a 2nd year student of Joe Luisi, at Salem Community College. He received a very special award from the Delaware Valley Section given every year to the student with **The Most Potential to Succeed.** We wish Peter the best.

Our October meeting was most interesting. GTE Sylvania presented a Quartz Product Presentation, given by Mr. John Reed. They also sponsored our cocktail hour. We thank John and GTE Sylvania for their support and contribution to this meeting.

The topic which received the most discussion at both meetings was the Delaware Valley Section's sponsorship of the 1988 Symposium and Exhibition. Dave Edson, our Chairman for this symposium, had done a wonderful job. Also in October, a site selection had been decided upon. The 1988 Symposium and Exhibition will be held at Resorts International Hotel and Casino in Atlantic City, NJ. We hope to see you all there.

Cindy McNellis-Eberwine, Secretary/Treasurer

Southeastern Section

The Southeast Section will be celebrating its 30th anniversary this year with a meeting in Atlanta, Georgia, Friday and Saturday, April 4-5. The tentative schedule of events is as follows:

Friday, April 4

10 - 12 Registration
1 - 4 Tour of Lockheed Georgia C5B Facility
Evening open to cocktail hour, etc.

Saturday, April 5

9 - 11	S. E. Section Annual Meeting
1 - 4	Films, workshops & papers at the Lillie Labs
4 - 6	Reception at "The Lillie Pad"
6:30 - 9	Banquet & Installation at Aunt Fanny's Cabin

The meeting headquarters will be the Bradbury Suites, 4500 Circle 75 Parkway, Atlanta, Georgia 30339. Phone (404) 956-9919 – mention A.S.G.S. Section Meeting for special $45 - $55 rates. All A.S.G.S. members are cordially invited to join us at this beautiful time of the year in the South. S. E. members will receive information packets about March 1; others may receive information by contacting Rick Smith, Sec., 3431 Lake Drive, Smyrna, Ga. 30080, phone: (404) 436-8959.

Southern California Section

The December meeting of the Southern California section was held at California State University at Los Angeles. Our host Gary Coyne gave a demonstration of computer graphics: How he uses the computer to make permanent drawings and also how he makes use of the graphics in the design of vacuum systems. Jim Merritt gave a demonstration on making hemi-spherical dewars and water jacketed petri dishes by indenting rather than sealing. Our next meeting will be on Saturday, February 22.

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FUSION

ISSUANCE AND CLOSING DATES

a. Published quarterly – February, May, August, November.

b. Issued 1st of Month of issue date.

c. Copy to set due 1st of preceding month. Complete plates and space reservations due 1st of preceding month. Inserts due at printing plant 5th of preceding month. Last forms close 2 weeks prior to publication date.

d. Cancellation of space not accepted after 2 weeks before publication date.

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	1 Ti.	4 Ti.
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CIRCULATION INFORMATION

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BOARD OF DIRECTORS MEETING

Cincinnati, Ohio
MOTIONS
November 8, 1985

MOTION:
Owen Kingsbury, Accept both minutes of June meeting. 2nd by Daniel Baker.
MOTION PASSED

MOTION:
Fred Kennedy, Program for T. I. Computer, not to cost more than $500.00, and not be paid for until Beverly shows ability to use same. 2nd by Owen Kingsbury.
MOTION PASSED

MOTION:
Owen Kingsbury, To raise the price of the soft copy to $25.00 and the hard copy to $33.00. This is only for the Newport Beach Proceedings. 2nd by Larry Harmon.
MOTION PASSED

MOTION:
Larry Harmon, To combine the Seminar Program with the Symposium. 2nd by Rudolf Schlott.
MOTION PASSED

MOTION:
Larry Harmon, Seminar rates remain the same as 1985. They are: $65.00 for members; $85.00 for non-members. 2nd by Rudolf Schlott.
MOTION PASSED

MOTION:
David Daenzer, I move that $1,000.00 of the Seminar Program balance be moved into the 1986-87 Symposium budget and that any remaining Seminar monies be moved to the Society Reserves. 2nd by Rudolf Schlott.
MOTION PASSED

MOTION:
David Hovey, I move that the names of National Papers and National Exhibits Chairmen be changed to: National Technical Papers Advisor and National Exhibits Advisor. 2nd by Larry Harmon.
MOTION PASSED

MOTION:
Rudolf Schlott, I move that a maximum of $2,500.00 of A.S.G.S. Reserve Funds be used to meet expenses of the 29th Symposium which remain after its monies have been exhausted. 2nd by Owen Kingsbury.
MOTION PASSED

MOTION:
Robert Russell, To set registration fees for the 1986 Symposium at $50.00 for advance member; $65.00 for desk member; $80.00 for advance non-member; $95.00 for desk non-member; $40.00 for day card. 2nd by Rudolf Schlott.
MOTION PASSED

MOTION:
David Hovey, That the price for an 8' x 10' booth at the 32nd Symposium be set at $550.00 and that any larger booth will be set at the same price per square foot as the 8' x 10' ($6.875 / sq. ft.). 2nd by Larry Novak.
MOTION PASSED

MOTION:

Larry Novak, I move to accept the Midwest Section's offer to host the 1989 Symposium. 2nd by James Merritt.

MOTION PASSED

MOTION:

Owen Kingsbury, That the S.E. Section host the 35th Annual Symposium in Atlanta, Ga. (1990). 2nd by Larry Harmon.

MOTION PASSED

MOTION:

Rudolf Schlott, To establish the Memorial Award fund for the purpose of funding the Memorial Award, and moving from our General Reserve Fund into the Memorial Award Fund the amount of $1,500.00. 2nd by Owen Kingsbury.

MOTION PASSED

MOTION:

Robert Ponton, To have lunch served at the hotel hosting the B.O.D. meeting. 2nd by Owen Kingsbury.

MOTION DENIED

MOTION:

David Hovey, To increase the Home Office Service Contract by 7% for the fiscal year 1986-87 (August 1, 1986 - July 31, 1987). 2nd by Owen Kingsbury.

MOTION PASSED

MOTION:

Larry Harmon, I move to authorize Jim Panczer to purchase new shelving units. The purchase price is not to exceed $2,800.00. We ask Jim to get a second estimate of equal quality and purchase cheapest. Further that the funding come from Reserve Funds. 2nd by William Wilt.

MOTION PASSED

MOTION:

Fred Kennedy, I move the meeting be adjourned. 2nd by Larry Novak.

MOTION PASSED

LETTER TO THE EDITOR . . .

December 3, 1985

Dear Mr. Panczner:

The Education Committee would like to obtain a listing of Colleges or Universities that offer introductory glassblowing courses. The committee receives many letters of inquiry from people looking for all levels of formal and informal classes on scientific and ornamental glassblowing. If we could obtain such a listing, the Education Committee would be in a better position to answer the inquiries we get.

If you or someone you know teaches a course, please let me know. Some of the information I would like is:

1. Criteria or prerequisites
2. Class duration
3. A basic syllabus if possible
4. Is the class offered for credit or non-credit

Please send the information to: Robert J. Ponton, Department of Chemistry, University of Wisconsin-Milwaukee, 3210 N. Cramer Street, Milwaukee, WI 53211.

Sincerely,
Robert J. Ponton
Chairman, Education Committee A.S.G.S.

CLASSIFIED

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Glass shop equipment – Litton Lathe model ESA complete with 6 chucks, several torches and 2 ribbon burners. Wilt model 358 electric annealing oven 29"x29"x97". Belt sander. Lapping machine. Wet cut-off 14". Plus miscellaneous tools and supplies. Write – Mooney Process Equipment Company, 32700 W. 8 Mile Rd., Farmington, MI 48024 or Call (313) 476-7220.

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SEEKING RELOCATION

Glassblower with 15 years experience in a research environment, seeking employment, please write – T. Perks, Memorial University of Nfld., St. John's, Nfld, A1B 3X7 Canada.

HELP WANTED

Modern workshop south west of France is seeking a glassblower experienced in bench and lathe work. Common market citizenship required. Contact – Trinquart, Z. I. Thibaud, 31084 Toulouse, France, Phone 61.40.22.33.

SEEKING RELOCATION

Scientific master glassblower, Certificate, with extensive experience in production and design. Sixteen (16) years with university and R&D is desiring permanent position in challenging and growth environment. Resume and references upon request. Write to code FS-86-1, 1507 Hagley Rd., Toledo, Ohio 43612.

HELP WANTED

Glassblower capable of making Kovar to glass seals for x-ray and power tubes with minimum of 5 years experience. Please call collect: Bruce Meland (213) 477-0019, Omega Laboratories Inc., 2050 Cotner Ave., Los Angeles, CA 90025.

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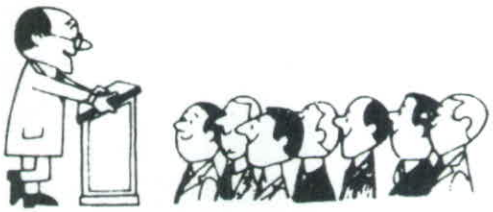

YOU TOO CAN PRESENT A PAPER*

David L. Hovey
Lincoln Laboratory, Massachusetts Institute of Technology
Lexington, Massachusetts 02173-0073

Robert J. Ponton
Department of Chemistry
University of Wisconsin-Milwaukee
Milwaukee, Wisconsin 53201

The Glassblowers Society generally has had problems obtaining technical papers for the annual symposium. This is especially true as to papers given by glassblowers. The purpose of this article, therefore, is to encourage **all** glassblowers to give technical papers for the following reasons. Obviously there is a direct benefit for our Society. However, there are two other very good reasons why one should make such an effort, 1) professional growth and 2) personal growth. Here is an opportunity to do something beneficial, not only for your Society, but for yourself as well.

Professional growth should be an ongoing process as we gain experience and maturity. There are many areas in which we can work toward professional growth, but giving a technical paper is one of the best.

Let us emphasize number two for a minute. When we say 'something beneficial for yourself,' we mean just that! There is a great deal of **personal growth** that comes from recognizing, dealing with, and resolving what most surveys agree is the most universal fear we have: **Public speaking.** Because of this, many of us have been saying **no** for a long time to obligations that would require us to speak in front of a group. Think how much better you will feel when you have overcome this fear and can say yes to these opportunities! That's what personal growth is all about! The way to deal with this speaking problem will be taken up as we go along, but to start with let's examine the overall process of a technical presentation. We'll call it a one-step-at-a-time procedure.

Step 1. **Get motivated**: If you are asked to be an officer of a club or organization, it's easy to justify refusing on the grounds that you are too busy. This may be true of some, but for most of us it's avoiding the issue of public speaking. Now, if you are really lucky, one day your boss will say to you, "Could we have a presentation about the work in the glass shop?" That may sound more like bad luck than good, but it is a definite incentive. What are you going to do, say No? Without motivation from one source or the other, you will have to provide some incentive on your own. Start by recognizing the great potential gain involved here and give yourself a little kick in the rear. You'll be very glad that you did. The impact may lift you out of a rut that you didn't realize you were in.

**The Lincoln Laboratory portion of this work was supported by the Department of the Air Force.*

Step 2. **Start small.** The best way to accomplish what may seem to be impossible is to break it down into small, possible pieces. In other words, you set your own goals, and accomplish them one step at a time. You need to discover first that you can stand and open your mouth in front of a group and not disintegrate. The best way to do this is in a small group, with a very short speaking obligation. This opportunity may be found at work, at home, in church or other groups. There is an organization that exists for just this purpose, with clubs all over the country. Participation in this organization allows you to progress comfortably with people of similar interests.[1] Another great way to get some direct experience toward this goal is to give a brief presentation about some aspect of glassblowing at your section meetings. You would be talking to a much smaller group, and would have a more comfortable 'Workshop' atmosphere. This would be a great confidence builder and would enable you to consider a more formal presentation.

Step 3. **Develop confidence**: One discovery you will make is that you get very pleasant non-verbal "feed-back" from your audience. Similar to the warm response we experience when communicating on a one-to-one basis, this will encourage you to continue. After some very small speaking parts, you will be more comfortable and can assume larger parts. As you take these larger speaking parts, you will acquire the necessary confidence. With this confidence, you are now ready to write your technical paper.

Step 4. **Prepare the paper.** The presentation for an A.S.G.S. symposium can be on any topic considered to be of interest to our membership. It could describe a new technique, or a simplified method of a standard operation. Shop safety and history of glass are other areas to be considered. Whatever topic you decide on, keep your paper brief and to the point. A.S.G.S. guidelines request that papers be kept under 20 minutes. Remember to target your audience. If your paper deals with a new or unique piece of apparatus, please consider that, as glassblowers, most of us are primarily interested in how a particular piece of apparatus was constructed. An in-depth explanation of how the piece was used may not be necessary. Briefly explain, in simple language, what the apparatus was used for and then proceed to explain the construction or its unique features.

Any presentation needs to be organized by starting with an outline. Bear in mind that it should have an interesting opening to catch the attention of the audience. You should follow by building a logical thought sequence, leading to a conclusion which allows the listener to develop a reaction. It is a little like telling a good story. You need an introduction, a main body of information, and a conclusion. As one person put it, you tell them what you're going to tell them, then you tell them then you tell them what you told them.

Visual aids are generally used when presenting a paper. The two types most often used at A.S.G.S. meetings are slides and overhead transparencies. Visual aids are encouraged for a number of reasons. Studies have shown that people tend to remember 50% more information from a lecture when visual aids are used. They also add to the professional look of your presentation by steering audience attention to the highlights of your paper, and helping to clarify any gray area or idea which may be difficult to verbalize. A picture truly is worth 1000 words.

[1]Toastmasters International, Santa Ana, CA.

Given a 20-minute time frame, you should choose either slides or overhead transparencies. Switching from one to another could be distracting and confusing. One doesn't need access to a full-blown graphic arts department to use visual aids. Overhead transparencies can be made simply and easily on your own. Many new photocopiers have the capability to make transparencies. You simply design your transparency on white paper, replace the paper in your machine with the proper transparency film, and copy as usual. There are machines that are specifically designed for making overhead transparencies. One such machine is the Thermo Fax Transparency made by the 3M company.

To help make your transparencies more eye-appealing, you can add artwork. For those of us not blessed with artistic ability, most campus bookstores sell books of "Clip Art". These are books loaded with arrows and fancy borders of all shapes and sizes, characters and people's faces. All manner of accent art can be used to add the finishing touch you desire. Even cartoon books can be good sources for usable material. Figure 1 outlines some basic principles that make visual aids more easily understood.

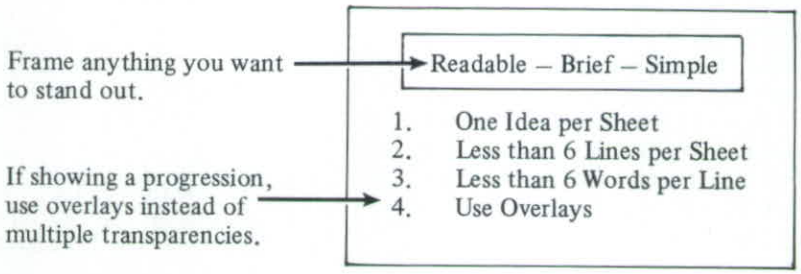

Fig. 1 Sample Transparency

The reason for using overlays is to avoid the distraction caused by changing many transparencies when showing a sequence.

Slides can be easily made with any camera that will accept slide film. A 35mm SLR with automatic flash and tripod is ideal. Slides can be taken from drawings, books and sketches. It is a good idea to take two or three shots of the same subject. By changing shutter speed and aperture settings each time, you will have a choice of exposures from which to select each slide. This procedure can be particularly helpful when trying to photograph glass apparatus, as lighting and camera angle can be difficult. Another good source of help are co-workers that have given presentations, as they may be willing to give you direction in preparing your paper. If you would like additional information, there are four reference books listed below that are full of many good ideas.

Conclusion

We have attempted in this article to motivate the scientific glassblower to present a technical paper. We have provided some basic instruction in the preparation and presentation aspects that should be considered. Bear in mind that most people who have given a technical presentation never thought they could do it. However, they accepted the challenge, completed the process, and have grown a great deal. They are now glad they

gave that first paper, as you will be when you have done so. Your Society will benefit from your effort, but the greatest rewards are yours to gain! Do it soon!

Bibliography

Communication for Business and Professions by Patricia Hayes Bradley and John E. Baird, Jr. (Wm. C. Brown Co., Dubuque 1983).

A Handbook for the Scientific and Technical Secretary by George Freedman (Barnes & Noble, New York 1967).

How to Speak Like a Pro by Leon Fletcher (Ballantine Books, New York 1983).

A Guide for Better Technical Presentations, edited by Robert M. Woelfle (I.E.E.E. Press, New York 1975).

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The A.S.G.S. 31st Annual Symposium and Exhibition

If most of our plans for the symposium are on schedule, all of you should have a copy of the advance program along with registration material for the seminars, spouses program, etc. Our seminar chairman, Larry Harmon, deserves some special thanks for getting together an excellent program at such an early date. Hopefully, this will give all of you plenty of time to make your plans to attend in Cincinnati on June 23 to June 27, 1986.

The Cincinnati Marriott

One important reminder that you may read more than once is that because of action taken by the Board of Directors in November, the seminar program is now an official part of the symposium. One change resulting from that action is that to attend the seminars you must be a **registered attendee**. There has been no increase in fees for participation in any part of the symposium program.

We stul need people to present technical papers and to demonstrate live workshops. If anyone feels that he or she can contribute to our program, please contact the appropriate chairman. Names and phone numbers are listed in August FUSION.

I would like to thank the following sponsors for their generous offers of support:

Thursday Cocktail Party – Schott-Ruhrglass, represented by Schott America

Exhibitors' Reception – Kimble Glass Company

Open Bar – Wednesday Riverboat dinner-cruise – Wilt Industries

Entertainment – Wednesday Riverboat dinner-cruise – Friedrich & Dimmock, Inc.

Banquet Entertainment – Corning Glass Company

Wednesday Speakers Breakfast – Ace Glass Company

Wednesday Section Chairmen's Lunch – Kontes Glass Company

Thursday Speakers Breakfast – Wilmad Glass Company

Very truly yours,
Thomas Kern, Chairman
The A.S.G.S. 31st Annual Symposium and Exhibition

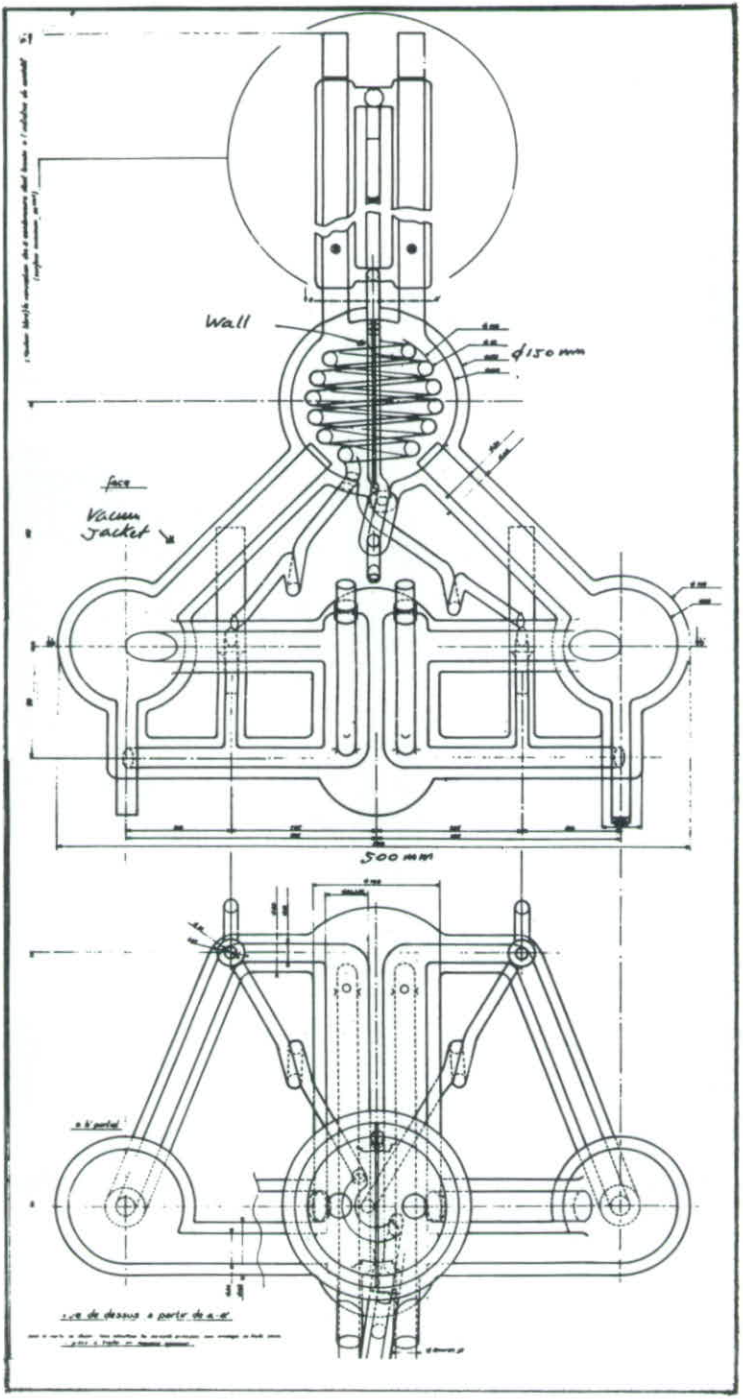
A MEILLEUR OUVRIER de FRANCE
In a Class by Himself

Last summer I had the chance to meet with Mr. Pierre Pignat in Lyon, France. He is one of the best known and respected French artisans in the field of scientific glassblowing, with a reputation of French know-how in South America, the Middle East, Southeast Asia, Africa, as well as in Europe. From a family of scientific glassblowers he started in the glassblowing business by selling glass ornaments to his little friends at school, which he made in his father and uncle's shop! But what is most interesting about him is that he is one of few Frenchmen through the years to earn the title of the best Master Craftsman of France. The contest is open to other types of craftsmen as well, from haute-cuisine (see P.S. about Paul Bocuse) to cabinet making, photography, furrier, glass cutting, diamond cutting, glassblowing with an iron pipe . . . to name a few. It was started by Albert Lebrun in 1924, who later became President of France. The last sixty years they have had sixteen national exhibitions. The last one was in 1982, the next will be June, 1986. It is regarded by most as the ultimate professional contest in France and medals are delivered by the prime minister. For centuries France has had a reputation for art and craftsmenship and it certainly put Mr. Pignat in perspective.

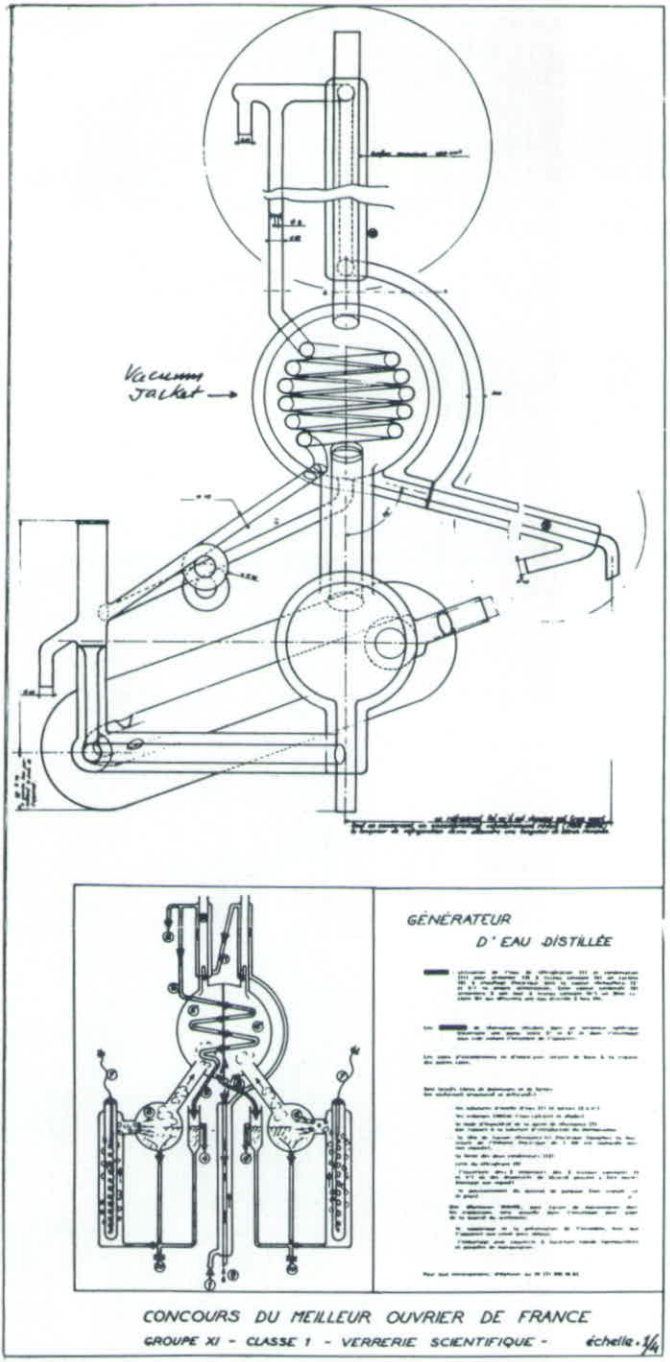
Mr. Pierre Pignat with Mr. Jambon's masterpiece.

Today Mr. Pignat has a shop of his own in the suburbs of Lyon with about twenty employees, half of them glassblowers. One, Mr. Jambon, is himself a "Meilleur Ouvrier de France". The company, which has a small engineering department, specializes in large distillation apparatus as well as custom made glassblowing for research laboratories and industries. It is well equipped according to modern standards and the shop is pleasant to work in, but the main strength is the quality of work and complexity illustrated by a drawing and picture of the apparatus made by Mr. Jambon for his masterpiece in 1982.

The year Mr. Pignat competed he first had to take an examination to screen and eliminate candidates not able enough. After this first step is taken, the remaining contestants are given a drawing (like the one shown), but the liberty to improvise on the



The conception of the condensors are left to the imagination of the candidate.



Generator of Distilled Water.

same theme is accepted as long as the same difficulties exist. Other elements can even be introduced in the presentation of the final apparatus, as long as it represents the evolution of advanced laboratory techniques. The finalists are judged on the difficulties and the aesthetics of their masterpieces. Since it takes several weeks to realize those peculiar apparatuses, the work is done in the respective shops under supervision and a code of

honor. Finished masterpieces are exhibited at the national exposition in Paris. A jury composed of professionals is in charge of choosing a winner, a difficult task . . . often there are "ex-eaquo"! There is no reward except the glory and the satisfaction of being recognized by one's peers as the best. But the reputation bears some fruits! . . .

One may say about this contest that not only do you have to have the skill but perhaps even more, the time, since we all have to make a living. But isn't the ultimate behind our craft and art making a masterpiece (the signature of the Master)? . . . then time is not money!

Christian B. Boussert
"Meilleur Ouvrier de France 1989"

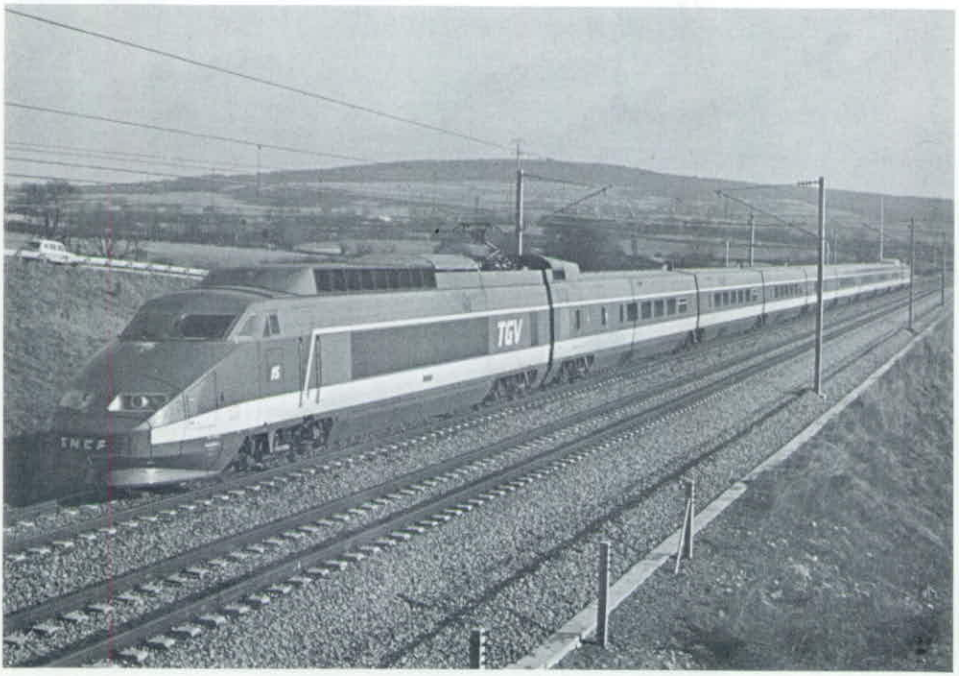
P.S. A visit to Mr. Pignat's shop in Lyon will be included for the ones who are interested in the trip to France after the International Symposium in Germany. This visit will be in conjunction with a ride on the T.G.V. (High Speed Train). Lyon is the third largest city in France with a population of over a million. It is well industrialized but nice looking and known to be the culinary capital. Mr. Paul Bocuse, a "Meilleur Ouvrier de France" also, and known as the ambassador of French cuisine, (he has cooked for the rich, famous and powerful all over the world) is a friend of Mr. Pignat and we have discussed the possibilities of having a memorable dinner at his restaurant for the ones who are interested. There are other master glassblowers throughout the world, but as far as cooking, France is the ultimate. This day could be the day to remember forever!

NOCH PARIS!

The lucky members who will go on to Paris after the third international meeting in Germany, or anybody who wants to meet us in Paris, will be happy to know that Rudolf

Schlott and his committee are busy organizing a memorable stay. Included will be the visit to the glassblowing school, "Lycee Technique Dorian" (see the 1981 symposium's Proceedings). After the visit, the French association of manufacturers of hand-made glass apparatus will honor the visitors with a party. An exhibit from the glass institute, "Institut du Verre", will be on display. This will take place on Saturday, September 6th. Also the largest museum of the world on sciences and techniques is supposed to open this year in Paris, and should be of great interest for scientific glassblowers. (It will be more or less interesting depending on the nearness to completion by the time of your visit!) We will also organize a guided tour of the famous monuments and museums. (We recommend the Museum of Glass of Baccarat). For the less professional, maybe a night at the Lido or the Moulin-Rouge will be more interesting? Details will be available at a later date.

Saint Gobain, the largest company which manufactures flat glass in Europe, will open one of its factories nearby Paris (accessible by the Metro). This factory is supposed to be the state of the art in automation for glass manufacturing of containers. So far we are not authorized to bring more than 25 visitors (no pictures will be allowed and no direct competitors!). Consider taking the T.G.V., the fastest train on earth, which links Paris to Lyon in two hours and goes on to Marseilles at the average speed of 280 km per hour.



We are studying the possibility of staying overnight in Lyon to make the trip even more attractive and also include a visit to a quartz blowing shop well known in Europe. Also S.A.V., a large glassblowing manufacturer located in Paris, will display some of its products in Lyon. We would like you to stay longer in France. Please let us know if you can . . . We have more to show! You are all welcome to the City of Lights.

Christian B. Boussert

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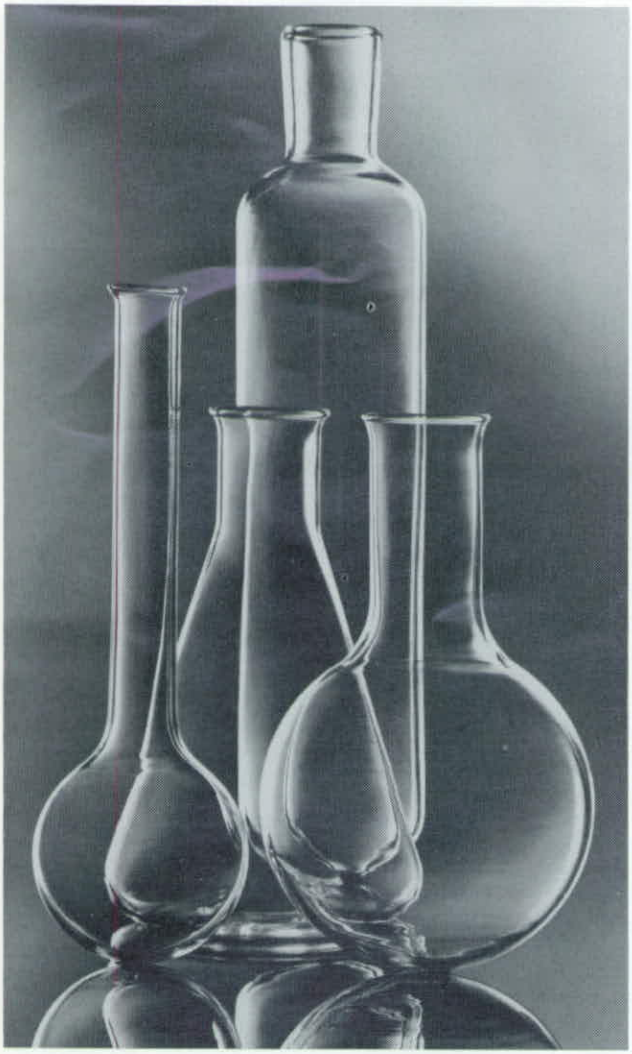

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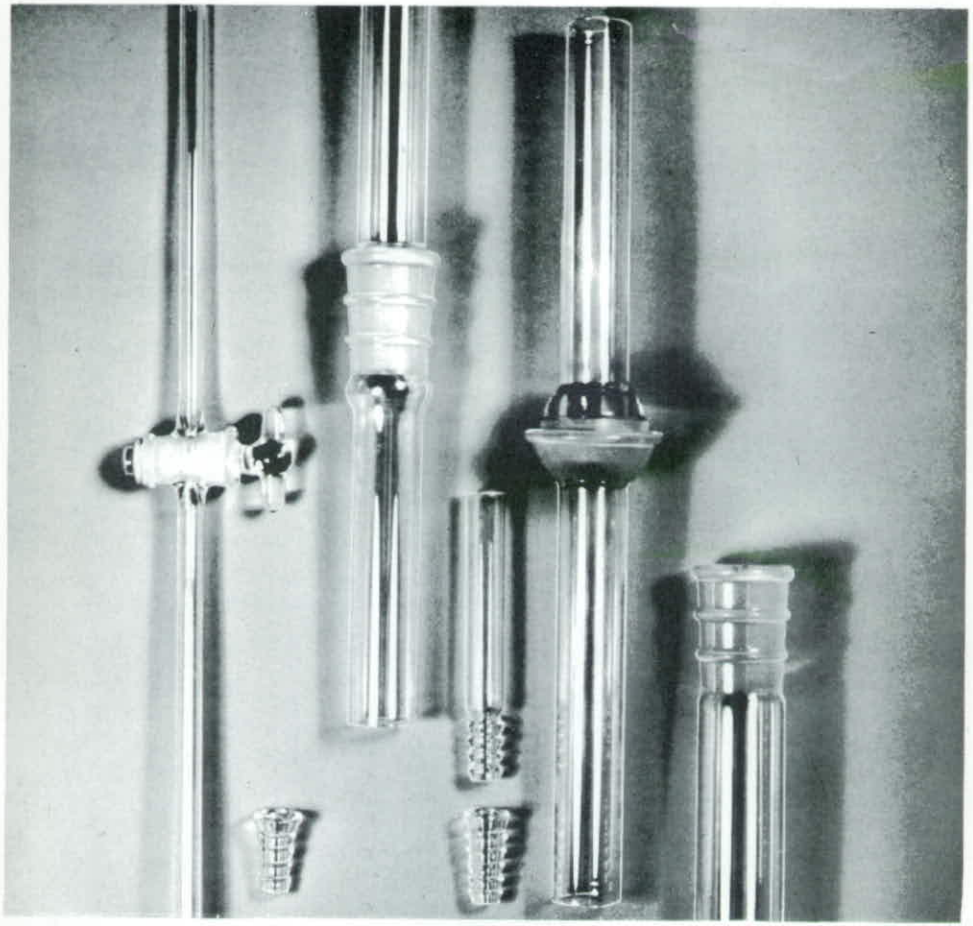

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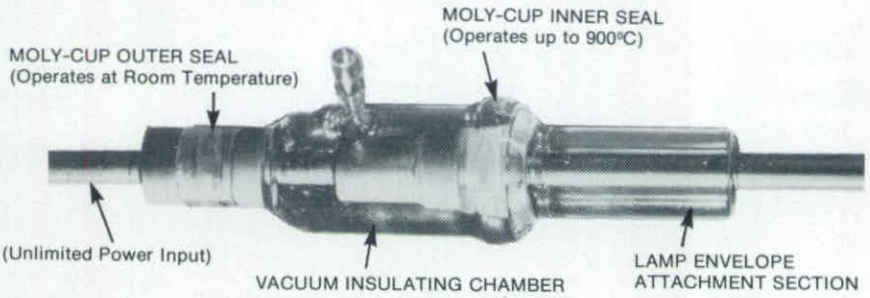

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