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My pursuit of a successful glass business

Margery Pearl

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MY PURSUIT OF A SUCCESSFUL GLASS BUSINESS

By

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January 1986
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__________________________________________
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Date: January 19, 1986
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PROPOSAL

I am interested in designing and producing a line of marketable art glass. The purpose of this paper is to explore various aspects of the operation of a small production studio, including the designing of pieces.

My research will include interviews with successful glassblowers who operate their own studios and also participate in craft shows. Knowledge gained from research for this paper will prepare me for the "real world" experiences of being a working glass artist.
INTRODUCTION

In 1976 at Carnegie-Mellon University, I enrolled in my first course in glassblowing.

I fell in love with the medium. Since then, I have sought out studio space so that I could blow glass.

I worked at the New York Experimental Glass Workshop as secretary and treasurer in exchange for blowing time. I did not receive any formal instruction there and I had no one to emulate.

I participated in workshops at Haystack\(^1\) and Penland.\(^2\) Some of my instructors were Howard Ben Tré, Kathleen Mulcahy, Marc Peiser and Jim Harmon.

It was very healthy for my work to have been exposed to different processes and techniques. I was able to witness diverse viewpoints within the media.

My personal work style has emerged throughout this growth process, taking with it what I consider to be the assets of each individual teacher.

Howard Ben Tré is an artist who casts glass into shapes that suggest giant gear wheels, iron radiators and rocket bases. He admires common industrial shapes and molds glass on a grand scale to mimic their

\(^{1}\)Haystack Mountain School of Crafts - Deer Isle, Maine.

\(^{2}\)Penland School of Crafts - Penland, North Carolina.
forms. His workshop exposed me to casting glass and all the techniques involved.

Kathleen Mulcahy taught me the basics of glassblowing and embellishing the vessel. Marc Peiser who is well known for his life-like drawings of nature on glass vessels introduced me to the technique of cast block sculpture. These pieces are polished and technically exquisite.

The workshops at Haystack and Penland were very beneficial. I worked in a team with other people for the first time. We blew glass for a minimum of 4 hours daily. Constant critiques and advice were available. The exchange of creative ideas led to intense personal growth.

After spending a 2 month concentration at Penland, I decided to pursue my career in glass at Rochester Institute of Technology. R.I.T. was attractive because of the extensive facilities and the reputation of the faculty.
1(A). DESIGN

I built a glass studio so that I can have the opportunity to explore and develop my personal aesthetics, while at the same time be gainfully self-employed.

Developing a product line which can be successfully marketed, while making something beautiful is my main concern. A line is defined as a "group of related items identified easily as coming from the same source with similar characteristics."\(^3\) I am developing a line designed to suit a variety of people with differing incomes and taste. The prices range from inexpensive handblown pins, to mid-priced perfume bottles, and on to vases and bowls (plain and sandblasted) which are more expensive. In an effort to continue my artistic exploration and growth, I also create one-of-a-kind pieces. One-of-a-kind pieces allow me to develop new techniques while experimenting with materials, colors, and finishing processes.

My customers find that I offer a wide selection of interesting colors. The more expensive one of a kind work is partially targeted to the collector. The collector plays an important role in determining what acceptable standards are. When an important collector purchases a piece from a glass artist it seems that the artists' prices rise as does the demand for the work.

The glass pins have evolved from the need to make a low priced attractive item that anyone can afford. (See Slide #1) The composition of these pieces is similar to that of a small sketch. I arrange shards of glass on the kiln shelves. I then mix interesting and exciting colors to form unconventional non-objective shapes. The results are often unpredictable, and I try to duplicate the attractive accidents. Glass is a confining medium but designing the pins has given me a freedom that I have not previously known in working with Glass. My work is very influenced by the colors I choose. I wanted to design something that would be appealing to the younger market. I was interested in producing a line of perfume bottles that would be light, airy, humorous, and be reminiscent of the zany shapes and punky colors of the Milan Memphis collection. (See Slides #3 and 4)

Loosely defined, "Memphis is the head turning 1981 design collection from Milan. Punk for the home; asymmetrical patterns (waves, kidneys) and purely primary colours. Outward appearance of objects seem to defy their intended function. Details like a lid or a handle will be intentionally over or under scaled and unexpected finishes and colour will lend character and personalizing to the pieces."^4

The Memphis style is the source of my inspiration for the opaque patterned perfume bottles. (See Slide #3) The patterns that are on the glass are picked up in a semi-random way. I am careful to have all sides covered with chips and threads of glass because I don't like any blank areas. I prefer the lines on the bottles to stay crisp and not too confused, and look to create the feeling of movement and flotation.

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^4 Boston Magazine; "Deja New" George Jones; Home Fashion Director, Jordan Marsh, April, 1985.
My intent is that the opaque color should look as if it were suspended in the medium. I designed the transparent perfume bottles for a different client. The glass must be flawless and the lines must be smooth, unforced and pristine. These classic pieces can fit into any decor, and therefore they appeal to larger groups of people. Their sleek, clean, and functional lines are reminiscent of Scandinavian design.

Throughout history human beings have engaged in what seems to be an almost instinctual practice of rubbing sweet fragrances onto their skin. To accommodate this timeless self-indulgence there have always existed scent-makers willing to forage through the woods and meadows for roots, bark, berries, leaves and petals, and to brew these substances into sweet smelling potions. Likewise, there has always been a need for containers in which to store the perfume. In ancient Egypt where, during certain dynasties there were laws requiring the use of perfume by all citizens, glass, clay and carved alabaster were the materials Egyptians most often used to make their scent bottles.

Perfume has governed the design and even color of the container in which it is kept. Bottles are airtight, impervious to light, and frequently narrow necked. Since perfumes have always been costly, scent bottles have tended to reflect that fact in their luxuriance. Luxury aside, the scent bottle has always been designed first and foremost to be a functional container. A natural evolution has taken place in the design of my perfume bottles. (See Slides #2 and 3) They first began as short, thick-based chunky bottles. In looking for a more elegant and slender form, I began to make them taller. This evolved into a bottle with different proportions. The bottles now have thicker bases and are more concave in the middle. They bulge out where the bottle has been
expanded. The bases need to be larger to keep the taller bottles from tipping. It is important that the stoppers be long and graceful and have enough visual weight on top to balance the amount of clear at the base. If the stoppers are too small the bottle doesn't have the same visual impact.

At times I sandblast the surface of the glass on my more involved pieces. (See Slides #11, 4, and 5) I enjoy altering the piece to make it uncommon, unexpected and more intimate. Sandblasting gives the surface a velvety appearance, and it makes the work look soft as opposed to hard and shiny as glass is usually seen.

I mask off certain areas of the glass in designs that emulate the colors and patterns from the interior of the vessel. I design the pieces so that shadows are cast from the sandblasted surface into the interior space. The thicker the pieces the more successful this design technique becomes.

Aside from working with the physical properties of glass, my other concerns are designing with light. Many of the pieces change their appearance under different light situations. Transmitted light from a main source that is strong is carried throughout the glass and emanates from within. In the evening this changes to reflected light. The light carries to the surface and is reflected back when it hits an opaque surface. The darker the piece, the more light it absorbs.

My sandblasted pieces rely a great deal on how light plays upon them. My experiments with light and the surface of glass led me to further exploration. I wanted to "bend" the light. I began to facet the work employing many hours of coldwork. (See Slides #7, 8, and 9)
I make prisms of the glass so that it captures the light and changes its direction, casting rainbows on the wall, floors, and ceilings.

I have designed the ultimate perfume bottle. (See Slide #8) Its sharp linear triangular shape of glass laminated to the sides are reminiscent of the Art Deco era, as is the material Vitrolite,\textsuperscript{5} from which they are made.

\textbf{1(B). PRODUCTION AND TECHNIQUES}

A primary concern in the design of my work comes from a need to develop a practical approach to production. The work must be made quickly, with an emphasis on clean uncomplicated lines and aesthetics. It is more logical to make many perfume bottles at once so that the time to produce each unit is kept to a minimum.

I blow the bodies of several bottles, then make the stoppers, grind and polish the bottles, and finally fit the stoppers to the bottles.

Blowing many pieces at a time allows for experimentation. The metamorphosis of the work is a factor, and coherent train of thought allows me to trace my growth. The development of the more graceful perfume bottle is the result of blowing a series of bottles, (see Slide #2) each getting taller. I have isolated a series of production techniques for the creation of my product line. The techniques were developed by trial and error over the years while in schools, workshops,

\textsuperscript{5}Vitrolite - An obsolete industrial opaque colored glass manufactured in the twenties and thirties for architectural façades.
and from my own and other artists' experiences. Each of my products has its own process which I will describe.

GLASS LAPEL PINS

I have found lapel pins to be a very good item to wholesale. I make 100 at a time and they are all unique. They are wholesaled by the dozen.

Making glass pins involves the preheating of Kugler\(^6\) colors in an oven to approximately 920°F. The Kugler pieces must be preheated to prevent explosion due to thermal shock. First I heat the tip of my blowpipe until it is glowing red. Then I use it to pick up a piece of colored glass from the oven, which is heated next in the glory hole,\(^7\) made molten and centered with the aid of a graphite paddle. I start with a small bubble by blowing into the cool end of the blowpipe and wait for it to cool somewhat so I can gather molten glass over it. From the pot furnace I gather molten white glass\(^8\) out of the crucible. I use wooden blocks to center this glass. I gather and blow again, and then blow it into the size of a grapefruit. I don't anneal\(^9\) these pieces,

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\(^6\)Kugler Colors - Large range of glass color rods that are manufactured in Germany and imported to the U.S.A. Available at C&R Loo, Richmond, California. The glass is very concentrated and is compatible chemically and physically with many glasses.

\(^7\)Glory Hole - A fuel saving piece of equipment used for reheating pieces. The glory hole prevents accidental contamination of clear molten glass in the tank or crucible.

\(^8\)Fenton White - Opaque while cullet available from O.J. Gabbert, West Virginia.

\(^9\)Anneal - Annealing takes the stress out of glass which is caused by the blowing process. Glass is annealed at a temperature slightly lower than it begins to soften. The molecules of glass become more homogeneous and are less likely to crack the glass later. The thicker the glass the longer it needs to be annealed. My average annealing cycle is eight hours.
since they are quite thin and I plan to break them up anyway. At this point all the pieces are white on the outside, and colored on the inside. The globes are shattered into pieces and then arranged on kiln shelves and slumped together in an oven at approximately 1500°F.

Later any sharp edges of the pieces are ground down on a belt sander, and the backs of the pins are ground flat on a lap wheel. The pin backs are glued with epoxy to the back of each pin.

**TRANSPARENT PERFUME BOTTLES** (See Slide #2)

A. I first preheat the chosen transparent Kugler and then pick up the Kugler on the end of the heated blowpipe.

B. This is heated until molten in the glory hole.

C. The glass is centered and allowed to cool somewhat.

D. Molten glass\(^{10}\) is gathered over the color and then blocked and allowed to cool slightly.

E. For efficiency I must work quickly while the glass is still molten.

F. I blow into the pipe to create a small bubble about the size of a ping pong ball.

G. I use my jacks\(^{11}\) to form the neck and then gravity is used to stretch the piece by holding it vertically.

H. I reheat and do the final shaping with a wet newspaper pad.

I. I then reheat the bottom of the piece quickly, and flatten it out using the flat end of my jacks.

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\(^{10}\) Weston Cullet - Available from O.J. Gabbert, West Virginia.

\(^{11}\) Jacks - Large metal tweezer-like tools with blunt blades used for forming glass.
J. A punty rod is needed to transfer the piece and enable me to work on the lip.

K. The piece is carefully reheated after it has been puntyed up and the end is shaped with wet newspaper.

L. My file is inserted in the end to make sure that the holes are uniform from piece to piece and that they are the proper shape to later accept a stopper.

M. The piece is cracked off at the punty and then placed in an oven to be annealed.

PROCEDURE TO MAKE OPAQUE PERFUME BOTTLES (See Slide #3)

A-C. Follow above steps using chosen opaque color.

D1. I roll the molten glass into threads and chips of Kugler that have been previously laid out on the marver. The threads that adhere to the mass of the piece must be heated, but rather quickly or I lose the crispness of the lines.

D2. I then gather clear molten glass over the entire surface.

E-N. Follow above procedure.

PROCEDURE TO MAKE VASES AND BOWLS

I first preheat at least 2 different colors of Kugler, and then gather clear glass on my blowpipe. I block this glass and wait until it is somewhat cool and then clip this to my bench upside down. I then pick up the first color on my punty rod. I heat it and then flash the

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12Marver - Piece of polished flat stainless steel used as a table for forming a glass piece. Originally it was made of marble, hence the name marver.
glass on the pipe, and again invert it on the bench. I allow the molten color to drop on to the clear glass. I heat it and then overlay the color. I repeat this process with a different color but I don't cover it as far. The piece is again heated to pick up the glass threads, and made molten again. This is allowed to cool and then I gather more clear glass over this and block. This procedure is repeated until there is enough glass. The mass of glass is then jacked down at the neck and blocked into a longer shape using gravity and a wet newspaper pad. It is then blown and blocked until the proper shape is achieved. I try to touch the piece as little as possible for the purest form, and I avoid using the marver as it leaves chill marks on the glass that are very difficult to remove. I then punty-up and work on the lip. I make sure that the lip is level before I open it up. The piece is cracked off at the punty and annealed.

The only difference between blowing bowls and vases is that the glass is kept round rather than long. I let the glass open itself up by using the wet newspaper pad to form the lip rim. After a few reheats, centrifugal force will open the piece up from the base to the lip.

**ONE OF A KIND PIECES**

These pieces are made differently and there is much labor involved in making them. First, I make sure that the glass I am using is clear and bubble free. Then I make the blanks the same way as transparent perfume bottles, but on a larger scale using more glass.

The forms look clumsy and without grace when I put them away in the annealer, but it's necessary for them to have extra glass which will be cut away later.
When the pieces are cool, I take them to the rough grit lap wheel and grind away at the sides to form flat planes. I grind until the rough shape I am searching for emerges. The piece is cleaned well, then ground on a 400 grit (silicon carbide) lap wheel. Using compressed air, I keep blowing off the surface to look for scratches. All the scratches must be removed with 400 grit, because they won't come out with the cork belt. The next step is to polish by hand with 600 grit. Final polishing is done with cork belts on a wet sander, followed by cerium oxide on a synthetic pad polisher which adds a beautiful brilliance to the glass. The next procedure is to design and fit a stopper and add "wings." I have been cutting "wings" of plate glass to add to the stoppers and the bottles. These "wings" are glued on with an ultra-violet sensitive cement. It is cured by ultra-violet light, pre-curing in 3 minutes and curing totally in 10 minutes. It is also optically clear.

There are problems in executing these pieces. One is that so many hours are required to complete each piece that it is highly unlikely to see any profit from them. Although making a living from the one-of-a-kind pieces is improbable, there are reasons other than monetary for continuing this work. I make these pieces to satisfy my own need for creative expression and to challenge my technical skills. These pieces take time to construct. I enjoy being spontaneous and changing my ideas for improving each piece. I delight in the process of cold-working as a diversion from the hot process. Cold working affords me time to think and make decisions about the work and its ultimate outcome.
2(A). CRAFT SHOWS

Craft Shows became popular in the 1970s. They were sponsored for profit by individuals and organizations who recognized the need for craftspeople to "go public" with their work.

At craft shows the artists were finally able to meet the buyers, and learn first hand what the buyers wanted. Artists were expected to explain their work, educate and demystify their admired art. The public eventually developed understanding. Sales and advanced orders increased. Craft show sales accounted for a major part of an artist's earnings. Buyers had begun collecting for both pleasure and profit. The American Crafts Council sponsored shows that were open to the public on certain days and to the trade only on other days. Small crafts shops and large department stores had hand-crafted items for sale for the first time. The world of business for the craftsperson had begun to open up. According my survey, (Chapter 3, Question 37, I have found that virtually everyone wholesales their work and only one person of 24 does not retail their work. The major wholesale craft show is an excellent way for craftspeople to get the exposure necessary for marketing their work. Most artists participate in an average of 4.50 shows per year (see Question 45). Eleven people out of 20 said they did national shows and 9 people answered local and national (see Question 46).
2(B). RESEARCH

I participated in the Winter Market\textsuperscript{13} so that I could learn personally about the various aspects of crafts fairs. The experience was also to provide information which would aid me in the establishment of my business. It was a good show for me. A friend assisted me in writing a continuous stream of wholesale orders.

Retail days were not at all involved in my success. A freak winter blizzard closed the Convention Center along with the city.

Because of the storm I didn't have an accurate picture of what it would be like to deal directly with the public. I did benefit from doing this first wholesale show. I gained confidence that I could actually make a go of a business. It was also wonderful to meet other artists and exchange ideas and dreams.

\textsuperscript{13}American Craft Enterprises Winter Market - Baltimore, Maryland - February, 1983.
3. SURVEY

A part of this thesis proposal contains "Interviews with glass artists". These artists are all successfully operating their own studios. I felt that it would be beneficial to try to gather information and gain some insight into what it takes to build and maintain a hot glass studio on a day to day basis. It has been said that one cannot learn from others' mistakes, but in this specialized case I don't agree.

If I could prevent someone from making my mistakes, I would. I was also interested in knowing if people felt negative or positive about their work and future success.

I sent 30 glass artists the survey. The answers are compiled from the 24 Artists who responded. I sent the survey to friends, acquaintances, and people whom I felt would be serious and take the time to answer the 76 questions. These people represent a cross-section of our country. The studios are basically small production type studios similar to the one that I was interested in building. They are a small slice of a larger pie. A few artists who were asked to participate were non-production artists. There is also one large studio which employs 40 people. The participants were asked to keep their answers anonymous for a variety of reasons. I didn't want to pry into personal lives, and I felt that if the survey were anonymous I would get more truthful answers.
Summary of Glass Studio Survey

1. What is the approximate square footage of your studio?
The average square footage for a studio is 2,024 square feet. The average may not be accurate because there are a few studios which employ many blowers that have over 5,000 square feet. These studios cannot be compared to one or two person studios.

2. Do you own or rent your studio?
14 people out of 24 people rent their studio; 10 people of 24 own their studio space.

3. What is your average ceiling height?
The average ceiling height is 14.9 feet high. High ceilings give the studio a large feeling and it is necessary to have the space for spinning the glass on the blowpipe.

4. How many partners do you have?
The average number of partners is .95. 16 people out of 24 have no partners; 8 people have one or more partners.

5. How many employees?
The average number of employees per artist is 3.39. (Again the average is thrown off by one large studio that employs 40 people. The more accurate average without the large studio stands at 1.5 employees per glass artist. Only 3 of 24 artists asked do not have any employees.

6. Are employees paid or do they trade for furnace time?
14 of 22 artists who answered are paid. 6 of 22 both are paid and trade and 2 of 22 artists trade only.

7. Do you have an apprenticeship program?
20 people of 24 have no apprenticeship program. 4 of 24 have a program with a minimum of one year commitment.

8. Do you have a forced air system?
19 people have a forced air system; 5 have no forced air.

9. What type of fuel do you use?
16 people use natural gas, and 8 people use propane.

10. How many months a year do you run?
The average amount of months per year that artists operate is 9.74.

11. How many furnaces do you operate?
15 people of 24 only operate one furnace.

12. How many glory holes?
14 people of 24 operate only one glory hole.
13. Do you have a pot furnace?
   10 people out of 24 do not have a pot furnace.

14. Do you melt your own colors?
   13 people of 24 melt their own colors.

15. Do you use Kugler and Zimmerman? Only one person of 24 do not use any color rods.

16. What kind of venting system do you have?
   There were basically 3 types of systems that people use for venting. 5 of 24 people use fresh air (open doors and windows). 7 of 24 people used forced air systems (standing fans). 10 of 24 people use an enclosed hood system with some kind of fan for exhaust.

17. Do you pre-heat your air?
   Only 3 people pre-heat their air. The answers of savings were diverse. One person said 10-15% per month. Another said 30-40% and another said $300 per month.

18. Do you have a heat exchanger?
   Only 5 people out of 24 have a heat exchanger. 19 of 24 people do not. Many people answered that they do not have a heat exchanger as yet but were planning on it.

19. What is the capacity of your furnace?
   161.25 lbs. is the average amount of glass in one furnace.

20. How many benches can operate concurrently?
   The average number of benches that can work concurrently is 1.92.

21. How often do you charge?
   5 people out of 24 charge daily, 9 of 24 charge every other day, and 10 of 24 charge once a week.

22. What is the basic construction of your furnace?
   The tank furnace won the most popular vote with 11 of 24 people using this method. 9 of 24 used a free standing crucible, 3 people used an invested pot and one person used a round furnace with a flat top.

23. Do you use crucibles?
   17 of 24 people use crucibles in at least one aspect of their work. 7 of 24 don't use crucibles at all.

24. Do you have a safety system?
   16 of 24 people have a safety system, 7 people do not and one person answered "sort of".

25. How often do you re-build your furnace?
   Furnaces are rebuilt on the average every 2.73 years.
26. What piece of equipment needs constant attention or repair?
The doors and the glory hole need repairing most often according to the survey. There were three votes for everything, 3 votes for the furnace, 1 burner tips, 1 controller (digitry), 1 fumer, 1 self (body), 1 sandblaster, 1 office, and 1 floor (sweeping).

27. How many annealing ovens do you have?
The average amount of annealing ovens per artist are 2.17.

28. How are they controlled?
5 people use digitry, 4 people use vandiver, 2 use Love controlling pyrometers, and the assorted . . . time controllers, percentage timers, rheostat, Barber-Coleman controllers and homemade turndown systems, sequential timers, oven infinite controllers, controlling pyrometers, cress controller.

29. Number of ovens used exclusively for slumping?
Most people do not have ovens exclusively for slumping. 5 of 24 people do have slumping ovens.

30. Do you batch or use cullet?
11 batch, 13 use cullet.

31. Source for cullet?
Of the people that use cullet 11 of 13 use O.J. Gabbert. 1 uses a local source, and another used Owens-Corning fiberglass.

32. Please list coldworking equipment.
22 grinding wheels, 16 belt sanders, 14 diamond saws, 14 sandblasters, 10 cork and felt polishing lathes, 5 felt wheels, 5 vibrolops (reciprolaps), 4 smoothing stones, 3 punty grinders, 2 drill presses, 2 pad polishers, 1 bandsaw, 1 beveling machine, 1 dental engraver.

33. What miscellaneous tool or equipment is absolutely essential for building a glass studio?
13 people said a welder was an invaluable tool, 2 said pipe wrenches, 2 said hand tools, 2 said screwdrivers, 3 said metal cutoff saws and money, brains, bandages, gatorade (gallons), big balls and sympathetic bankers.

34. Do you sandblast?
19 people of 24 sandblast.

35. Do you acid-etch?
15 of 24 do not acid etch.

36. What location concerns did you have in locating your studio?
There were many answers for this one. They list as follows . . . appealing, large windows, hip landlord, good food, good movies, peace and quiet, 10 acres, no neighbors, under $50,000, retail traffic, gas availability, electric, zoning, concrete floors, high ceilings, quiet, safe, affordable, view, nice place to live, low rent, at home proximity to downtown, price, zoning, industrial area for manufacturing, right gas at right price, same building where I live, fresh air, view.
37. Do you wholesale your work? Retail your work?
Virtually everyone wholesales their work and 1 of 24 do not retail their work.

38. How do you determine the price of your work?
The answers varied on this question. They ranged from humorous to serious. They listed as follows...
I try to price my work so that it sells on the retail level thus promoting re-orders; Time materials and competitive pricing; time; market value and time; look at the market price range for similar kinds of work; compare; try to be reasonable given an absurd market situation, yet not be a fool either; reputation; what others sell at; guessing; what the market will bear; Tarot cards, lambs entrails, cost analysis and whatever the going rate is; how long it takes to make; how strong a design is, how well it sells; guesswork; going market prices; aim for necessary annual income, establish expense per hour, add necessary hourly income = wholesale price; market economics, filling the gaps in the market; market price; my time is worth $80 per hour/ magic; time and design operating expenses and competitive prices, whatever the market will handle; how well I like it, time; time and skill; the ambitiousness of the ideas, their success relative to my intentions, cost of development; sheer bucks.

39. Do you have a production line?
20 of 24 have a production line.

40. Do you make one-of-a-kind pieces?
22 of 24 do.

41. What is the retail price range of your work?
Again the answers were varied, and an average would be deceiving.
Here are the answers: $1-500; 80-500; 220-1,000; 8-700; 1,000-5,000; 60-600; 125-15,000; 150 and up; 20-4,200; 14-700; 30-500; 22-400; 45-700; 16-175; 45-250; 110-500; 150-1,000; 80-2,000; 50-400; 60-1,000; 200-20,000; 88-1,500; 2,000-6,000; 70-1,000.

43. If you wholesale, what are your terms?
13 people's terms are C.O.D. first order, then Net 30; some have C.O.D., Proforma, then Net 30 with proper references.

44. What is your minimum order?
Leaving out the high and the low answers the average minimum order is $333.93. 6 artists of 21 use amount of pieces. The average number of pieces is 3.85. Artists that make one-of-a-kind work tend to use these terms.

45. Do you do craft shows?
The average number of craft shows that artists participate in is 4.50 per year.

46. If yes... local or national?
11 of 20 answered national; 9 of 20 answered local and national.
47. What percent of your work is wholesaled? 
The average shows that 82.04% of work is wholesaled.

48. What percent of your work is retailed? 
The average shows that 20.88% of work is retailed.

50. Do you have sales representatives? 
8 people of 24 use sales representatives.

51. If so . . . How many? What commission? 
18% is the average commission.

52. Other outlets for your work. 
6 people said galleries; 5 people answered studio sales; one person said studio showroom; one person said art and craft co-op.

53. Do you participate in gallery shows? 
19 people of 24 do participate; 4 participate sometimes; and one never does shows.

54. Do you have any special requirements of galleries that show your work? 
Shows are for publicity, not money, therefore promotion required; that they pay, and our own perception of their quality; no more than usual; work insured; must have their own or sign my contract that protects my work; keep in touch regularly, be professional; for one person shows there are special advertising and some display requirements; they pay on time, no conflict with other outlets; we won't "consign", closest thing is a net 90; varies; they must carry my work on a regular basis; yes for shows; no consignment on production works; not to keep pieces over 3 months; honesty; that they appreciate my work.

55. Do you pay shipping? One way? Two ways? 
This question was not worded well. Some thought I meant for shows and some thought I meant in general. 6 of 24 answered that they pay one way for shows, 11 of 24 answered that they pay one way. No one pays two ways.

56. Do you have a retail shop or sell out of your studio? 
Half the people sell out of their studios or from their shops.

57. What are your gross annual sales? This is a tricky question to ask because it is personal. 
From the answers I received, I didn't have enough categories. 15 of 22 people gross annual sales are above $40,000. 3 of 22 are $30-$40,000. 3 are $10-$20,000, and one is below $10,000. I should have gone above $40,000 to get a more accurate report.

58. How many years have you been blowing glass? 
10.83 are the average amount of years that these artists have been blowing.
59. How many years have you operated a private studio?
7.65 are the average number of years that these artists have operated their own studios.

60. How much is your average monthly rent? And your fuel bill?
$351.33 is the average monthly rent. With the exception of one studio with fuel bill of $8,000 per month the average fuel bill for gas and electric comes to $720.23 per month.

61. Do you have your work photographed professionally?
22 of 24 people have their work professionally photographed.

62. Have you published a brochure?
15 of 24 have had a brochure published. 9 have not.

63. How many hours daily do you blow glass?
6.09 hours per day.

64. Do you do office work yourself?
19 people of 24 do their own office work. 3 people have their spouses do it. 2 people have part-time secretaries.

65. Do you ever get bored with production? If so what do you do to get through it? Here are the answers. All creative individuals compromise themselves in one way or another. Perhaps not totally true, but it is the rare, rare artist who does not experience this. Chances are that the last time you had dinner in New York you were waited on by not a waiter or waitress, but an actor or actress. Between jobs. What should I do as an aspiring glass artist? Wait tables? Tend bar? I choose to blow glass on a production basis. Production blowing sharpens the skills and focuses the mind on reality. It affords me the opportunity to blow glass with total freedom, without any consideration whatsoever about the marketability of the finished work. O.K. so I only get to do this at night and on the weekends. But I get to do it.

I have had an extremely close working relationship with an individual who is regarded by the establishment as an "artist". He hit on a good thing. For years and years this person repeated this basic design idea over and over and over again working 9 to 5 Monday to Friday for years. Each piece was called "art". I ask you, what "art" is there in this? For my money, C-balls (christmas ornaments) are infinitely less pretentious. I mean, let's get honest.

Yes, sweat it out; take a vacation - take time to experiment, concentrate on craftsmanship; rest; yes - travel; sometimes, try to be more aware of glass and process - boredom is a characteristic of mind and spirit more so than a production problem; I make art; yes - I have just quit in fact; sometimes production isn't all that bad, but lately we have been listening to books on tape, a service for the blind - good music always; yes, good stereo! try and make the work as good as I can. Try to be as efficient as possible; of
course; no; sing - music listening; try to challenge my skill level and speed or harass the hell out of my co-workers or go out and have a beer, smoke something, etc.; varies; no; no; I have a variety of production items and colors so it's not too boring; I do drugs, he works out, ha ha; yoga; don't do production; yes, change to something else; money.

66. How much money would you say it would take to build and equip a basic glass studio?
$14,400 is the average.

67. When furnaces are on, do you work everyday?
14 of 24 people work everyday. 9 people work 5.4 days per week, and 2 don't work everyday.

68. How many hours per week are spent on designing new work?
Easily the most personal of all - I am a dreamer - I am ALWAYS making art; 720 hours; many; 10; constantly; 20; 10; always; unknown; 10-20; 0; 10-15; 0-40; not estimateable; constant - never; always; 10 hours; 0; lots; 0; 60+; 0;

69. Do you have any major frustrations with glassblowing: If yes what are they?
Only one the educational establishment; it's tedious coming up with viable new designs for production studio; I'm not good enough to do all the things I want to do; bubbles, market restrictions (can I sell it?); fatigue, glassblowing is tiring; the bills; remembering the things I have learned; hot in summer, too physical sometimes stinky feet; too tired a lot of the time recently due to the necessity of blowing everyday, not enough time devoted to thinking; it's too hot to touch or make love to; no; no; noise, dust, macho would-be rock star egos, dilettante rhetoric with limited skill and compassion; inconsistent response to certain products nationally; not enough personal time when in full production; too hot; the occasional bad melts; no just with help; the physical part - not being able to make certain shapes or sizes, not having enough time to work on new pieces; production's boring; I can't touch the glass with my bare hands; no; none, I don't blow glass, I pour; that they (all pieces) don't make it, oh well.

70. Is your studio noisy?
9 of 24 say their studios are noisy.

71. Do you work with music?
23 of 24 people work with music.

72. Do you have problems collecting debts?
10 people answered they sometimes have problems; 8 people have no problems and 6 people always have problems.

73. If yes . . . what do you do about it?
Call Big Arney from Chicago; letterbombs; Louis the legbreaker; phone; Dun and Bradstreet; commercial collection as last resort; yell and scream; call everyday; Louis the legbreaker; "talk to
74. What has been the largest hurdle for you to overcome as an artist? Verbalizing my work for non-artists or art aficionados who essentially do not understand the art experience; our heights; recognition as an artist; designer; craftsman; maintaining the love and enthusiasm for the creative process that is easily smothered by business and techniques; cash flow; I consider myself a craftsman rather than an artist! Risking commitment to unconventional style of work, trying new types of work, loosening up and remembering to stay that way; Political bullshit - and gallery connections that last, getting burned out; find the time and courage to move from production to one-of-a-kind and still support myself; to gain any sort of recognition from the bullshit American Crafts Council, they are one factor in holding people back; I'm not an artist, I'd like to be but I'm not. I spent almost all my time thinking of glass-blowing and design as a business; lack of capital; to decide to go the art or craft route. Like it or not, the real world makes the distinction and both avenues require different approaches; selling my work, dealing with business and marketing aspects; doing production and doing expressive individual pieces - leaving business, balance; being an employer/dealing with gallery owners/ no moolah; staying in business; keeping and maintaining my studio alone making a living and still trying to have time to create new work; trying to make a profit; not selling enough work; being straight all day; learning the materials, techniques and processes. I don't make art, I make objects; the demand for my work.

75. What is your main advice to someone just beginning in glassblowing and thinking of it as a career possibility. Do not go to school, buy an aloe vera plant and get a job working in a real studio, learning plumbing, electrical wiring, carpentry, basic business skills, get the scratch together and go for it; be of average height! - work hard and have good ideas; get a real job; enjoy, keep the excitement that gets you into glass alive, don't put money before passion, buy a good quality screwdriver; Don't; Forget it; Don't expect instant success - pay your dues - don't overprice because others may get big bucks - it's all a myth; Don't go it alone, partner or employee is a necessity. Choose wisely; Try to go slowly, decide who you are and what sort of work you want to make. It is difficult to change once your name is associated with a certain kind of work or style; If you're going to be an artist don't start your own studio! Stay in school as a TA or something. If you want to look at it in terms of a business then go right ahead. A studio is money and money really drags creativity down. However if you feel good about making the same thing over and over making it better all the time then it can be fun. The business part of it can also be fun; Know objectively how good you are, don't let ego get in your way, realize there's more to life than glassblowing (like money). At best, it's not easy making a lot of it (money) creativity may give the most satisfac-
tion, but requires the smallest amount of time and the realization of an idea usually takes a certain amount of mundane and boring work but it will seem worth it in the end; Try to become assistant at a successful glassblower before starting your own business; learn the basics, drawing, painting, find the best craftsman in the world to apprentice, don't depend on it as a livelihood for at least 3 years; think of it as a life style; don't; marry someone either wealthy or with low financial expectations; go to medical school; You must be very dedicated and committed, there is a lot of hard work and rejection involved. You just have to keep going to make it work; Go to business school first; It's dangerous, expensive, addicting, and just plain foolish; Change to something else; Do the best work possible and make it unique. Be prepared to work long and hard - glass is not a cooperative medium. Be safety (chemical in particular) conscious; Think of law or medicine, you won't have to work as hard.

76. What are your future plans? (How do you see yourself in the next 25 years?)
To sell my present studio - to open a one man studio, eventually to teach with the goal of destroying mercilessly without any compromise whatsoever the beliefs for centuries rooted in man about glass, to destroy the present academic establishment and replace their prejudiced gospel with a love for creativity, freedom, and a healthy respect for technique; 1. Shorter and taller, 2) to be less sweaty and not smell as bad, 3) to have more animals, 4) open a zoo, 5) to breed the perfect employee; Rich, famous, old and grey, happy; To continue to grow, try to stay open to change, love life. Will I always blow glass? Who knows. I hope I will always enjoy the glassblowing process and be able to let my work grow; Lucky to be alive at all given the current political scene. If I am still doing glass it would be engraving but I will be 62 years old in 25 years, I hope to be able not to have to work for a living; Making art - less production; Now doing some decorating on inexpensive blanks. Hope it will carry me while I begin to do more casting. I see myself being an artist always, learning to use new techniques, media etc. (maybe not always glass); Aside from getting older, I want to experiment with larger cold worked pieces and spend time building a studio where I have enough materials and equipment to turn even outlandish ideas into reality; I would like to build a bigger studio 2,500 square feet. Have a strong business with enough employees so that it can run itself. To travel and take courses and learn to be a better glassblower. To learn to make things not for fame or money but because I feel like it; Who knows; I hope not to be blowing glass in 25 years, but probably will be. I've enlarged my studio about as much as I care to do. I only have to decide whether to expand my business (more employees) or remain at my current level of production; Keep on growing; To travel to Czechoslovakia, study with S. Libensky at school of applied art. To continue commercial work with studio. Continually expanding my knowledge of glass and raise hell here on earth/ Getting older, blowing glass until I don't want to anymore; Can't look that far ahead; Grey and crotchety; Factoryman; Still making art - glass or otherwise; Tupperware salesman; Older; Making the big bucks -
having some children, raising little glassblowers, acting like an animal; I'd like to make fewer, more special pieces but don't know if the market will afford that. I plan to retire in 20 (or so) years and write poetry on a beach somewhere/ To design for architectural environments; Death.
4. MARKETING

Marketability concerns the simple question of whether or not a given product can be sold to a customer. Market research has developed into a big business in recent years. Many companies seek out specialists to help determine if a particular product will be successful. Psychology is involved with the way that objects are presented, what they are called, and how they are packaged. Need for a given product is an important concern in marketing. For example, if a person doesn't use perfume, price does not matter; chances are he or she will never ask the price of a bottle (unless of course they need a gift). Desire plays an important role in dealing with the marketability of functional and non-functional luxury items.

By doing craft fairs I have gained an insight into the motive for purchases. Very often people buy luxury items to fill an emotional need.

A major part of my marketing strategy is to appeal to a person's emotions. I found a need and I have begun to fill it. Another important question is, "Does the design, style, and color meet current tastes of people who may be inclined to purchase your work?" Paying close attention to current fashions and trends is important.

I use the color khaki in some of my work. This is not a big seller as compared with pinks, purples, and blues.

The market in New York City seems to be trendier, more receptive to newer fashions. At the 1984 Washington Smithsonian Show I found that my conservative work was appreciated.
Celeste Cooper\textsuperscript{14} questions the marketability of fads. She says of Memphis style, "It's too fashion oriented to be taken seriously, but unless that sort of exaggeration is out there, we're never going to loosen up. Post-modernism did the same thing Memphis is doing now. It shocked us into a new sensibility."

No matter how attractive a product is, it will never appeal to everyone's tastes. The main question to ask is "Will the product appeal to a sufficient number of people to make it economically feasible to produce and profit from?"

My survey indicated that 68\% of the respondents had gross sales over $40,000 (see survey question 57). This confirms the fact that people are buying glass.

The markets for my line are numerous: shops, galleries, craft fairs, design showrooms, custom work, private collectors, and commissions. Employing the services of an artists representative is another way to get work seen. In my survey I found that 1/3 of the artists use representatives (see survey question 50).

When thinking about marketing my work at a craft event, it is important to consider where I will be, and show the products that will work best for the particular show. I also learned to display my work differently within the booth than I originally had.

My displays improved, as I learned not to highlight the expensive cut and polished pieces. They attracted a great deal of attention, but put the lay person off because of the price. Potential buyers were frightened away before they could discover other beautiful pieces. I

\footnote{\textsuperscript{14}Celeste Cooper - Boston Magazine, April, 1985.}
now alternate different pieces throughout the display. I use color groupings (pink vase, pink bowl, and pink bottles). The color family now looks like a "line", as it stands together in a homogeneous and deliberate style.

Quality professional photography is a must. Without it I never would have made it through rigorous juries and been accepted into the wholesale shows. Slides are important, and they can be duplicated easily and inexpensively. Prints can be used for press releases and advertisements. A photo idea that I had for a mailing, before my first Baltimore show proved to be successful. I made 50 color prints of my work, and fastened each one to a card with my name, address and telephone number. A short statement invited them to see my new work at the Baltimore Winter Market. The cards folded in half and were mailed in attractive colored envelopes. These cards (see card in Appendix) created just the image I was looking for. The response was wonderful. Gallery owners who were unable to attend the show requested slides and price schedules. A short time later I took two orders which more than covered the printing and mailing expenses.

I invested in a quantity of quality business cards (see business card in Appendix). At shows I always write the number of my booth on the cards so that people can locate me easily. The business card is a very important piece of advertising. They should have character, personality and be memorable. I am often contacted by people who remembered my work and because of the card were able to reach me.

My survey indicated that 22 people out of 24 have their work photographed professionally (see Survey questions 61, 62). 15 out of 24 have published a brochure. Brochures are helpful sales tools. Very
often they include personal histories in a resume form, photographs of
the work and price lists. Brochures give the artist greater exposure.

The display booth is one of the most important marketing tools at a
craft event. It is a show-case for the work and a vital factor in
influencing traffic and sales. The booth should be built to withstand
the strain of crowds and young and curious visitors. It should provide
an attractive and advantageous environment in which potential customers
can view your work. A properly designed booth has to be water and
weather proof, have built in lighting, be manageable by one person if
necessary, be versatile for different spaces, be fairly simply and time
efficient to set up and break down, have an uncluttered look to it, have
storage space behind it and be flame retardant. It should fit easily
into a car or van and at times it must be so compact that it can be
shipped across the country. The booth that I designed and built satis-
fied most of my criteria. The only problem is its weight.

For my next booth I will look for some other kind of material,
perhaps a hollow honeycomb plastic to laminate onto the formica. I used
3/4 inch plywood which tends to warp in different weather conditions,
making the hinges difficult to fit. The fluorescent lighting in the
booth has a stark cool look at first, but it is clean and a little
refreshing. Most people use incandescent lighting for their display.
This lighting is more expensive when paying for electricity at fairs.

I have also invested in Abstracta. This is a tubular display
system that has the ability to be shipped easily across the country, if

necessary. Although it takes time to assemble it is extremely compact and attractive.

Finally, there are 3 questions about marketing that I ask myself.

1. Is the product practical and will it fit a vital human need? Yes, my work is functional and there is an emotional need that is filled by purchasing or receiving it.

2. Is the work done beautifully? Yes, I produce a quality product, taking extra time and keeping my standards High.

3. Can the product be better than anything else on the market? Yes, I go to the trouble of grinding and polishing the bases of the pieces so that the punty mark is removed and there is no possibility of scratching furniture. My standards are high and inferior pieces never leave my studio.
5. BUSINESS PLANS AND DECISIONS

Pearl Glassworks was begun in 1982 to manufacture and sell my handblown art glass. The studio venture demanded a clear understanding of sound business practices. In an effort to establish a growing, profitable business it was necessary to develop an operating plan for Pearl Glassworks. I read books on small businesses, consulted professionals and utilized my own journal.

My business plan serves as an outline for daily operations, a calendar for production planning and upcoming exhibitions. The production guide was developed after reviewing records of my past performance. It is an aid in preparing budgets, making pricing decisions, scheduling purchases of supplies and equipment and projecting expansion. The business plan can also be instrumental in obtaining further financing.

ACCOUNTING AND BOOKKEEPING

It is essential to have accurate records. Statistics indicate that an accurate record keeping system increases chances of survival and reduces the probability of early failure. I consulted a certified public accountant while setting up the books. The accountant provided information on basic accounting and record-keeping, as well as important advice on trade terms and taxes.

We set up a "double entry" system. The system has two components. One is for cash receipts which I consider my income from sales or loans.
The second component is for cash disbursements which are either business expenses or loan repayments.

I have established categories for expenses which are unique to my business. They include studio rent, telephone, utilities, postage, freight, raw glass, production supplies, capital equipment, small tools, exhibition, travel, outside labor, and the Margery Pearl draw/loan fund.

Each month income and expenses are entered in the books. All books are reconciled. Checking statements and accounts are balanced. All receipts for business activities are retained as records.

BUSINESS AND TAX RECORDS

Pearl Glassworks is a resale business. To conduct a resale operation certificates and licenses are necessary. I filed a DBA (Doing Business As) form which established the existence of my business and I received a resale number which provides for the collection of state and county sales tax on retail transactions. It also provides a tax exempt or resale number used in wholesale transactions. I must collect, record, and pay the appropriate sales tax from my retail sales. No tax is charged in wholesale transactions but I must hold copies of resale certificates from the wholesale transaction. This is another function of record-keeping for tax purposes. Records would be needed in the event of a tax audit. Awareness of tax regulations is necessary. Supplies used in the creation of glass are considered for resale. I do not pay sales tax on raw glass or the fuel used to make the finished product.  

\[\begin{align*}
\text{16} & \text{ Phone conversation with Tom Buechner and Barbara Landon on January 1983 proved that fuel is a raw material. Tom and Barbara received a refund from the local utility company.}
\end{align*}\]
The studio ledgers are important not only for sales tax records, but also to provide records for business income, profit/loss.

**INSURANCE**

Insurance is another important consideration in a small business. After much investigation I found that the best liability insurance for the need of my business is offered through the American Crafts Council. This policy is group insurance and is available to crafts people who belong to the council. Coverage includes fire, theft, protection of the work while in transit or exhibition, as well as liability. Business insurance is also available through private brokers.

**PRICING**

After all the physical work of making the pieces is finished I determine the price of each item. Proper pricing is very important in order to make a profit. I examined 4 major elements to arrive at a pricing structure.

1. How much does it cost to produce the product?
2. How much does it cost to operate the business which creates the product?
3. How much profit do I want to make?
4. Will the customer buy it at the determined price?

The cost of materials and the overhead in running the business are easy to determine. Each bottle has approximately $2.00 of materials. Each perfume bottle also consumes approximately $13.00 of energy and overhead. Finally Labor is valued at $10 per hour.
<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>$2.00</td>
</tr>
<tr>
<td>Energy and Overhead</td>
<td>13.00</td>
</tr>
<tr>
<td>Salary per hr. (each bottle takes approximately 1 hr. to finish)</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$25.00</strong></td>
</tr>
<tr>
<td>The bottles wholesale for $35 each</td>
<td>35.00</td>
</tr>
<tr>
<td></td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td><strong>$10.00</strong></td>
</tr>
</tbody>
</table>

There is $10 clear on each bottle.

Profits are put back into the business in order to purchase additional equipment.

I have found that my pricing is comparable with other craftspeople.

**MASTER CARD AND VISA**

In order to encourage retail sales I arranged to become a merchant who can accept Master Card and Visa. A deposit is made and a percentage is paid to the bank. The percentage never exceeds 2.5%. I have found this to be worthwhile and many large purchases have been made by customers who do not carry cash. If the dollar amount exceeds $75 a call must be made to check the card. If the account is in order an authorization code number is verbally given. This assures payment. One serious problem is trying to find a telephone at a busy Fair. The time wasted could be spent in creative selling. I have found it to be essential to have a good assistant with you at craft shows.
6. STUDIO DESIGN AND CONSTRUCTION

Question #60 in my survey asked, "How much money could it take to build and equip a basic glass studio". $14,400 was the average answer (see survey).

I consulted the survey question #32 and decided upon the equipment that was necessary for my studio (see survey).

The following is a list of that equipment and estimated prices so that I can begin basic production.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furnace</td>
<td>$ 800</td>
</tr>
<tr>
<td>Burners and Safety System</td>
<td>1,600</td>
</tr>
<tr>
<td>Glory Hole</td>
<td>200</td>
</tr>
<tr>
<td>2 annealers</td>
<td>1,000</td>
</tr>
<tr>
<td>2 vandiver controllers</td>
<td>600</td>
</tr>
<tr>
<td>2 used lapping wheels</td>
<td>1,300</td>
</tr>
<tr>
<td>Used Belt Sander</td>
<td>900</td>
</tr>
<tr>
<td>Assorted Grit and Belts</td>
<td>500</td>
</tr>
<tr>
<td>Electrical and Plumbing</td>
<td>1,500</td>
</tr>
<tr>
<td>Compressor</td>
<td>250</td>
</tr>
<tr>
<td>Bench</td>
<td>250</td>
</tr>
<tr>
<td>Marver</td>
<td>75</td>
</tr>
<tr>
<td>Assorted Tools</td>
<td>500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>500</td>
</tr>
<tr>
<td>Glass Cullet</td>
<td>1,000</td>
</tr>
</tbody>
</table>

**Total Start Up Cost for Equipment** $10,975

My estimation for the basic start up was lower than averages in the survey. My actual expenses for studio start up were $14,000.
AVERAGE MONTHLY OVERHEAD EXPENSES

I have decided that it would be profitable for me to run the hot shop for 6 months each year. The other 6 months will be spent on coldworking and experimentation.

<table>
<thead>
<tr>
<th></th>
<th>Per Month Hot Shop</th>
<th>Per Month Cold Shop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Salary</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Salary Part Time</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Rent</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Telephone</td>
<td>170</td>
<td>170</td>
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<tr>
<td>Gas</td>
<td>435</td>
<td>0</td>
</tr>
<tr>
<td>Electricity</td>
<td>175</td>
<td>20</td>
</tr>
<tr>
<td>UPS</td>
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<td>45</td>
</tr>
<tr>
<td>Printing and Photography</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Tools and equipment rental</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Production Material - Glass</td>
<td>100</td>
<td>75</td>
</tr>
<tr>
<td>Kugler Color Bars and Enamels</td>
<td>75</td>
<td>40</td>
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<td>Office</td>
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<td>Miscellaneous</td>
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<tr>
<td>Insurance</td>
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</tr>
</tbody>
</table>

Monthly Total            $2,037.00  $1,387.00
6 Month Total            $12,222.00  $8,322.00
Yearly Total            $20,544.00

CONSTRUCTION OF MY STUDIO

Earned savings and participation in the Baltimore Winter Market gave me the funds that allowed me to begin to build a studio after graduation.
After a successful Rhinebeck Show in 1983, I began 2 solid months of work. I hired a friend and we worked together through the summer to complete the studio. (See Slide 13 in Appendix)

The space that I rented is 978 square feet on the 4th floor of an industrial concrete building. There are freight elevators and loading docks available.

There were no electrical outlets or gas lines. They were my responsibility to install. I pulled in 100 amps of 220 Volt electricity, and a 1" Natural Gas Line with 6-8 oz of pressure. I also had hot and cold running water installed. Efficiency played a major part in building the studio with ease. I had to be creative in deciding what material I would be needing, in what amount, and how long it would take to receive them. I had to plan the studio layout (see ground plan in Appendix). I wanted to keep the areas self-contained. The office is in a small separate room. The shipping and packing area is along the left wall. The blowing space is in the middle of the room and the cold working area is on the opposite wall. The air compressor is located in the middle of the space and air extends to the cold working area. My only major complaint is that the studio is quite noisy because of the forced-air turbo blower.

Many glassblowers have solved this problem by locating their blowers in the basement or outside the studio which reduces the noise considerably. My advice to a new glassblower would be to get a space a bit larger than mine. I work comfortably in my studio, but there is not much space for any more equipment, and I desperately need some closed storage space.
FURNACE

I built my furnace patterned after one designed by Andy Magdanz. (See Slide 12 in Appendix) It is cast of Mizzou\(^{17}\) and Kastolite-30\(^{18}\) with a free standing crucible. I chose this type of furnace because glass quality is very important to me, and the crucibles can be changed as often as necessary. The basic design of the furnace is good, but after becoming very familiar with it I have decided that on the next furnace I build I will raise the burner off the ground. After one year of operation glass has accumulated in the bottom of the furnace and has attacked the burner block. If I hadn't caught it as early as I did or had a crucible broken, I would have had problems removing the glass from the floor of the furnace and I would have ruined the burner block. The front facing of the furnace is insulated with Duraboard,\(^{19}\) which warps badly when exposed to the heat. I would suggest a metal frame of some kind to prevent warpage. The glory hole and furnace are enclosed in a sheet metal hood, with a fan that draws the heat from the enclosure. It is an efficient system which proved itself one summer day when the motor on the exhaust fan gave out. The temperature on the ceiling in the Studio rose to 150\(^{\circ}\)F. I luckily had the sprinkler system heads changed beforehand to prevent an accidental start-up.

A safety system\(^{20}\) on the furnace is essential for any glass studio. I have the flame monitored constantly by a UV sensor. In case of a gas

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\(^{17}\) Mizzou - High alumina refractory castable - non-insulating - use where possible contact with molten glass. Carborundum, New York.

\(^{18}\) Kastolite-30 - 3000\(^{\circ}\)F. Castable insulating refractory. Carborundum, New York.

\(^{19}\) Duraboard - Insulating material available from Carborundum. Niagara, New York.

pressure rise or drop, the sensor signals the monitor and shuts down the system. Also in case of electrical power surge or failure it again shuts the system down.

I also wired a relay from my turbo blower to the monitor. I took precautions for the possibility of a temporary power failure. The furnace would be off, but still very hot. If in winter the blower came back on automatically when the power was restored, I would have freezing air thermally shocking the inside of the furnace. I have wired it so that it must be reset manually eliminating this problem.

My annealing ovens are electric. Stove elements provide the source of heat. They operate on rolling bearing doors and are insulated with Duraboard. They are controlled by Vandiver Annealing Controllers\textsuperscript{21} which are very easy to operate. I have no complaints at all about these ovens.

All things considered I have designed a well thought out, functioning efficient Studio. I have done the best with the space that I had to work with.

\textsuperscript{21}Vandiver Annealing Controllers - Massachusetts
7. BIBLIOGRAPHY


\[ A = v_0^T \]

\[ e_{ \text{out} } = v_0 + \sum_{i=1}^{\infty} \frac{C_i}{j-\omega} \]
Margery Pearl - Resume
Personal Information: Born February 15, 1954 New York, N.Y.

Education:
M.F.A. Glass
Rochester Institute of Technology, Rochester, N.Y. Pending Thesis Approval
Pilchuck School of Glass
August 1984 - Ann Warff
Haystack Mountain School of Crafts
Deer Isle, Maine Salt session 1978, Glassblowing 1979, Glass monitor 1980,
Glassblowing 1982, with Nyberg, Mulcahey, Ben Tre, Peiser
Penland School of Crafts
Penland, North Carolina Glass concentration with Jim Harmon 1982
B.F.A. Ceramics
Carnegie-Mellon University Pittsburgh, Pennsylvania May 1977
Instituto Allende
San Miguel de Allende, Guanajuato, Mexico 1973
Aegina Arts Center
Arts workshop Aegina, Greece 1973

Selected Honors and Exhibitions:
Endelman-Kraus Galleries
Glass invitational 1984
Elaine Potter Gallery
San Francisco, Ca Glass Show 1984
San Francisco Airport American Crafts Invitational 1984
Jackie Chalkley Gallery
Washington D.C. group show 1984
Smithsonian Institution
exhibition 1984 Washington D.C.
Langman Gallery
one person show Philadelphia, PA
Elizabeth Fortner gallery
Santa Barbara, Ca Perfume vial & Paperweights 1984
Swan Gallery
Philadelphia, Pennsylvania "Little Luxuries" 1983
Rhinebeck- American Craft Enterprises
Rhinebeck, N.Y. June 1983
Germarow Gallery
Rochester, N.Y. two Person show May 1983
Baltimore- American Craft Enterprises Winter Market
Baltimore, Md February 1983, 1984
Bevier Gallery
Rochester Institute of Technology 1983
Del Mano Gallery
Perfumes and paperweights Los Angeles, Ca 1983
Pyramid Arts Center
School for American Craftsmen- Glass group 1983
Don Muller Contemporary Craft Gallery
Northampton, Mass 1982
Glassmasters Guild
New York, N.Y. 1981
Forbes St. Gallery
Pittsburgh, PA 1976
League of New Hampshire Craftsmen  
Rindge, N.H. Juried Show 1973  
St Gaudens Medal for Fine Draftsmanship  
Metropolitan Museum of Art, New York, N.Y. 1971  
North Shore Community Arts Center  
First Prize in Graphics 1970

Experience:  
Currently Sole proprietor of PEARL GLASSWORKS  
Rochester, N.Y.  
Technical Graduate Assistant  
Rochester Institute of Technology March 1981- June 1982  
Production Assistant  
Andrew Magdanz and Susan Shapiro  
Avon Place Studios, Rochester, N.Y. June 1981,1982  
Secretary and Treasurer  
New York Experimental Glass Workshop  
September 1978- September 1979

My references and portfolio are available on request.
PEARL GLASSWORKS
1237 E. MAIN ST. ROCHESTER, NY 14609
716-654-7551
ACC CRAFTFAIR WEST SPRINGFIELD #701
Appendix D - Mailer Sample

Pearl Glassworks

1237 East Main St. Rochester, NY 14609
A New Exhibition of Blown Glass Artistry by Margery Pearl.

Baltimore Buyers Market
Baltimore Civic Center
Booth 1044

February 12, 10AM-6PM
February 13, 10AM-8PM
February 14, 10AM-8PM
February 15, 10AM-2PM

New York Gift Show
American and International Crafts
Pier 90 Booth C644

February 24, 10AM-7PM
February 25, 9AM-6PM
February 26, 9AM-6PM
February 27, 9AM-6PM
February 28, 9AM-12PM
This is your invitation to experience...
Appendix D - Mailer Sample

BLOWN GLASS, CUT & POLISHED

PHOTO BY JAMEY STILLINGS
MARGERY PEARL

NEW WORKS IN GLASS

MARGERY PEARL    GLASS ARTIST
109 VASSAR ST. • ROCHESTER, NY • 14607
(716)-275-9726
Dedication

This thesis is dedicated to my parents, Arlene and Paul Pearl, who taught me to reach high, and always stood by me with love and acceptance. Also, to my friend and mentor, Andy Magdanz, who gave me the skills to implement my dreams.