the Art of SCIENTIFIC GLASSBLOWING

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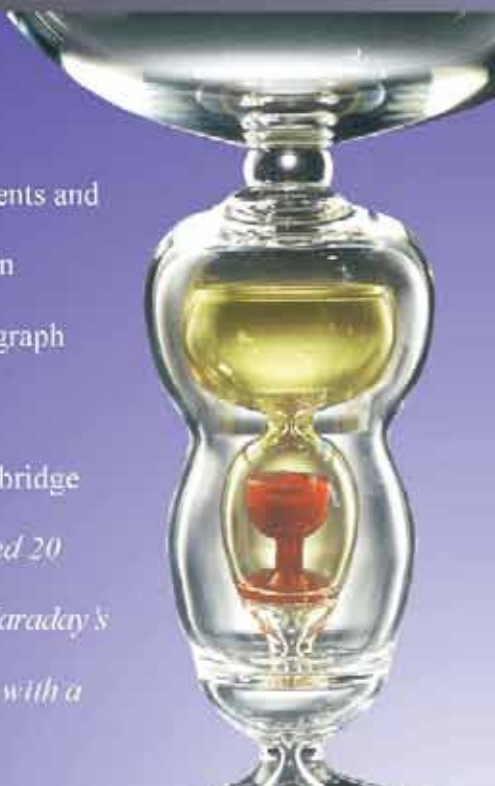
It usually comes up as you're introduced to someone. Names and pleasantries are exchanged and the conversation shifts to, "So what do you do for a living…?" When you tell this person, "I'm a scientific glassblower" there's a pause and they look like they've been interrupted mid-stream. They're expecting a simple answer and instead this unusual response comes back to them. Curiosity follows and details must be provided for a subject about which no one has the foggiest idea. What's really surprising is that glass as a material and a craft should be so mysterious to people in general, it is after all a substance that is so common and so essential to everyday life. In a world where wood only comes from trees and where sand covers most of the planet, the people who have whittled or fashioned wood with saws, or pounded nails in woodshop classes, vastly outnumber those who have worked glass. Yet glass is utilized in every home. In the morning the sun shines through the bedroom window to alert us to a new day. We grab coffee from the glass urn or drink our juice from a glass tumbler. We get in our cars protected from sun and impact by tinted safety glass and check our mirrors for oncoming traffic during our commute. The reflective paint and the pavement on the roads use recycled glass. If we go to work, glass confronts us on our computer monitors. Or safety glasses protect our eyes. At home or at work glass lamps and bulbs illuminate our world. If we go shopping, neon lamps call our attention and display cases secure many of the goods we purchase. You simply cannot avoid this magical material.

Moreover, industries continuously call upon glass materials to advance their business or support our way of life. The Internet's highway runs through glass fibers. New drugs and materials are discovered in laboratories using glass instruments and apparatus. Semi-conductors that run our computers and electronics are processed in pure glass materials. It is used in glass lenses to gaze upon the universe and photograph our dearest memories…

Dr. Alan MacFarlane, a noted Professor of Anthropology at Kings College in Cambridge published a recent article in *Science Magazine*. In it he wrote, *"We randomly picked 20 famous experiments that changed our world—Thomson's discovery of electrons, Faraday's work on electricity, and Newton's splitting of white light into its component colors with a*



When Sally is not traveling as a guest instructor throughout the world, she is busy running her own business near Amherst MA, as well as running the Glass Shop at Syracuse University

prism, for example—and found that 15 of them could not have been performed without glass tools." 1 Since the time of early Alchemy, scientific glassblowers have applied their skills. From their labors new sciences were born, the lamp became electric and light was amplified. Sound and vision were first transmitted into our homes from the vacuum tubes formed by the hands and in fires of a glassblower – a glassblower who applies his or her flameworking skills to science. Artistic flameworkers and scientific flameworkers call upon many of the same techniques and skills. Each has its own artistry.

Frequent readers of *The Flow* have seen the artistry of Doni Hatz, Barry Laffler, Sally Prasch and, on this issue's cover, Harold Eberhart. All of them are employed (respectively) as scientific glassblowers at places such as: Proctor & Gamble, Brookhaven National Labs, Syracuse University and the University of Michigan. Not coincidentally, all of them belong to the ASGS (American Scientific Glassblowers Society). As members, they support the Society's mission to share and disseminate information on the art of scientific glassblowing. And by sharing and exploring their artistic talents, they benefited professionally in various degrees, in their industry and their art.

Gary Farlow's company (*Farlow Scientific)* specializes in making these highly complex, intricate models of the human vascular system that are used by surgeons to plan and practice their art.

In joining the ASGS, members receive tools to excel and advance their craft by, among other things, sharing their experience at local Section meetings throughout the country and having access to a free lending library of over 130 instructional videos. The Society also provides a digital archive of articles from 50 years of publications. Membership includes a searchable database covering references and abstracts from books and periodicals over a wide variety of topics concerning glass. The CD is updated annually and it includes a network of glassblowers, businesses and suppliers who are listed in our digital roster. Our quarterly journal *Fusion* features classified ads, suppliers, job postings, lamp shop hints, in-depth articles and news of ongoing. Members participate in a Q&A bulletin board and an annual Symposium with four days of workshops, demonstrations, seminars, papers and posters.

Ultimately, the common thread we should all possess as scientific or artistic glassblowers is to take our crafts seriously and continue to learn. These disciplines and virtues are open to exploration for every glassblower. Conversely, if we limit our curiosity and challenges, we cut ourselves off from the resources that allow us to grow in whatever our professional endeavors may be. Finally, as we see in this issue and from pages in past editions of *The Flow*, scientific glassblowers often apply their skills to artistic projects with impressive results. Art continues to inspire many of us who call ourselves scientific glassblowers. We encourage the artistic community to do the same. Get connected, get serious about glass and check out the ASGS.

Doni Hatz employs a ring-seal to encase her intricate flowers inside small hollow sphere

Sally Prasch employs a series of jackets and neon discharge in this dramatic sculpture

Barry Lafler works at Brookhaven National Labs. He also teaches both artistic and scientific glass in his Island Glass Studio.

1 Author, "Allen MacFarlane (with Gerry Martin)", "A World of Glass," *Science*, 305, 5689, (3 September, 2004): 1407-1408.