Disciple of a Dying Art

few know of the glassblower's role in research

By CAROL J. BURR

In any other setting Norman Alexandre would be a first-rate tourist attraction. At the University of Oklahoma, however, he has been casually stashed away on the ground floor of the physics building where only a select group of people know of his existence. Here he is regarded with less fascination for his mastery of the unique, vanishing art of glassblowing but with more respect as a vital working part of the research teams of the departments of chemistry and physics. As one physicist expressed it: "We take good care of Norman; without him we'd have to close up shop." Alexandre keeps the scientists in business by supplying them with laboratory equipment that is not commercially available – the special problem equipment that must be custom designed and blown to order. Some of the intricate scientific apparatus he makes is without a prototype, designed for scientists seeking to achieve results never before achieved. By combining a background knowledge of laboratory processes with his mastery of glass, Alexandre is able to help the researchers design their equipment to make the most of the capabilities of glass. The craftsman will admit that adequate performance of his job does not necessitate such detailed knowledge of the scientific principles involved in the project he is equipping. But after 18 years as a glassblower, the basic techniques of his art come to him almost automatically; only the challenge of the difficult and unusual task make the job interesting. To Alexandre, who as a boy in Leicestershire, England, aspired to be a research chemist, the science is the fascinating part of his work. Alexandre first became interested in glassblowing at 15 during his first year of college in England. During vacations he worked in a research laboratory and there became acquainted with the company's glassblower. "I was very clumsy," he explains, "and spent much of my time taking the apparatus I had broken to the glassblower (*continued*)

DISCIPLE OF A DYING ART

yet today's glassblower is never likely to go the way of the village blacksmith

to be repaired. I finally became so embarrassed to take him so much repair work that I tried to repair some of it myself. Out of my frustration at this attempt, I determined to learn glassblowing."

In rapid succession Alexandre made two discoveries that turned him from a research career. First he learned that his new-found friend, the glassblower, was drawing a larger salary than the chief chemist of his particular company. Then he was told that the company would pay his college tuition if he would stretch his studies over seven years and combine them with an apprenticeship as a glassblower.

After mastering the techniques of blowing scientific glassware, Alexandre took up ornamental glassblowing and for a time had his own ornamental glass shop in London while teaching college classes in scientific and ornamental glassblowing. He still works with ornamental glass for his own enjoyment and would like to teach a University course in art glass. He is already teaching several sections of scientific glassblowing for chemistry and physics majors, usually at the graduate level. This elective course is considered valuable for researchers in familiarizing them with the equipment they will be using and enabling them to make their own equipment when a Norman Alexandre is not around to do it for them.

Alexandre has always enjoyed teaching glassblowing. Here one of his students works on a piece of technical pipe under his supervision. Members of his classes are chemistry and physics graduate students.

The stocky, ruddy-faced young Englishman came to O.U. by way of Canada and Texas. Six years ago he decided to see some of the world outside Europe, to travel through Canada, the United States and Australia until he found just the right place for a home. One winter in the Canadian snows convinced him that Canada was not the place. Answering an ad for a glassblower took him as far south as Houston, Texas, where he worked for a commercial glassblowing firm. He soon gave up all thoughts of Australia and recently became a U. S. citizen.

Alexandre heard about the University of Oklahoma job last year and called Dr. Colin Plint, chairman of the physics department, to apply. When he heard Dr. Plint's British accent, he felt he had the inside track for the job.

Working in a university environment gives Alexandre greater latitude in his work than he had in the commercial field where glassblowing is highly specialized and on a strict production basis. A glassblower in industry who specialized in making apparatus for chemists, for instance, would be familiar only with the laboratory requirements and techniques of chemistry and would never work with equipment for physicists. Within the University, however, Alexandre works with many types of scientists and schools himself in the processes and problems of them all.

The University, on the other hand, finds it much more economical to have its own full-time glassblower on the staff then to farm out the custom laboratory equipment work to commercial firms, where the cost of the equipment would be prohibitive. The Houston firm where Alexandre was employed charged $12 to $15 per hour for such work and the jobs sometimes took several days. Alexandre also repairs broken glass apparatus for the scientific departments.

Alexandre will admit that his profession is generally considered a dying art—and for good reason. The way in which glassblowers are trained is not the "American way." People have accepted the idea that working with your hands is inferior to

Alexandre places a flask in a lathe while blowing a hole in the bottom (left), then sealing an internal angle tube inside the larger bulb.

working with your mind, no matter how much skill and training the manual work may require. The young man of today can see no purpose in spending seven years becoming a glassblower when in the same seven years he could complete medical school, law school or a Ph.D—especially when the physician, attorney or professor can command professional standing that the glassblower cannot.

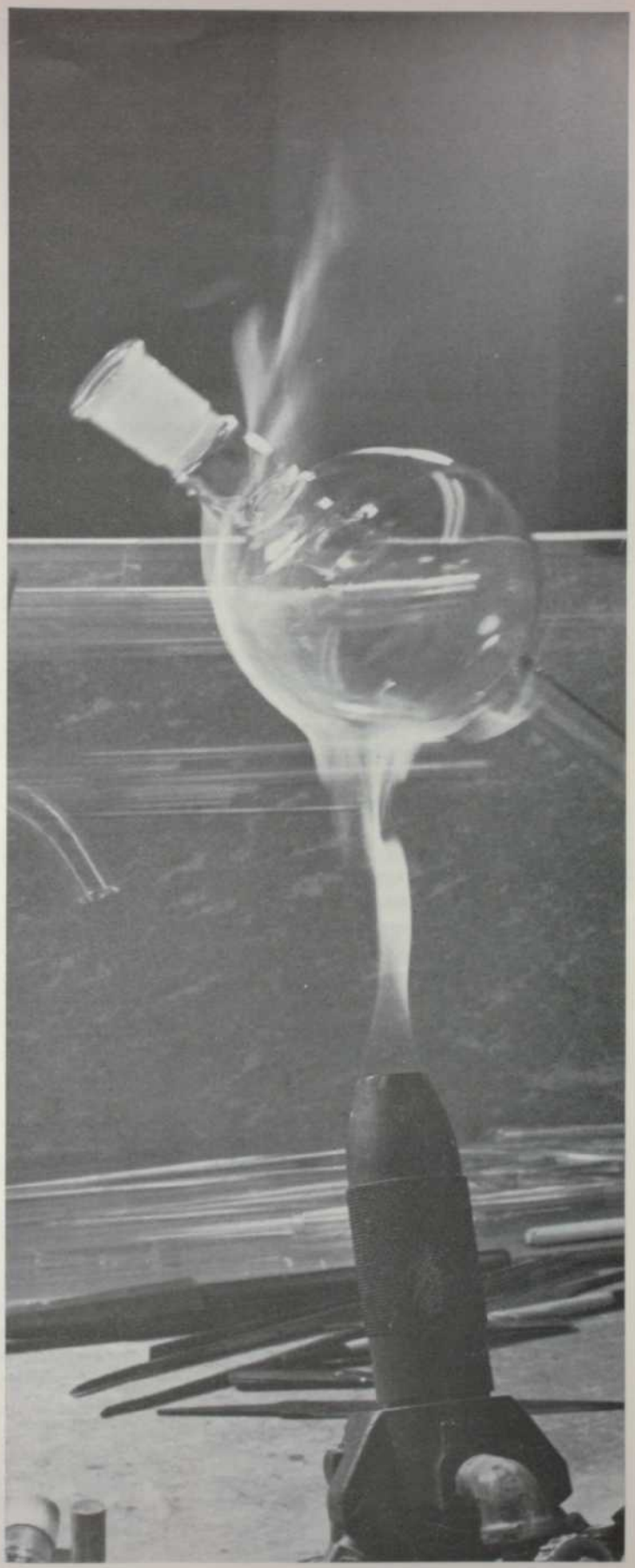
The Sooner glassblower sees the logic of such reasoning but he will also point out that for him at least this ancient trade provides the challenge and the creative outlet that he has not found in other lines of work. Alexandre is also convinced that, although glassblowing may be dying, it is far from dead and is never likely to go the way of the blacksmith and the harness maker.

"A machine can be designed to make any type of glass that a glassblower can make," he admits. "But if you need only eight or ten of a particular apparatus, why spend a million dollars for a machine to make them?"

Alexandre also contends the old saying "glassblowers die young" was true not because they blew glass but because they worked under near-primitive conditions where safety measures were completely ignored. The glass dust would be allowed to accumulate on the glass shop floors; the glassblower, who had entered the shop as a boy, would inhale the dust for 20 years or so and die of silicosis. In some areas of the world, such conditions have not been greatly improved.

The O.U. glass shop is not one of these areas. Room 116 of the physics building is as well-kept and modern as most of the scientific labs and its proprietor as well-treated as any scientist. However, one aspect of the glass shop has not changed a bit over the years. The fascination of watching the glassblower at his trade remains intact. The select group of students who know of the existence and location of the O.U. glass shop drop by often to watch Alexandre at work. Many of them, marveling at the things they would "love to be able to make," have asked to take a course in glassblowing. Alexandre contends that on a full-day basis he can teach a novice enough of the principles of the art in two months to make small glass animals. But for most of his fascinated visitors the skill would be completely foreign to their field of study, and it is doubtful that many of them would stick with the work long enough to gain any satisfaction from it.

And it would take a lot of training, concentration and devotion to achieve the level of proficiency that gives satisfaction to Norman Alexandre—a man whom glassblowing is a science, an art and a way of life.



After sealing the internal tube in the flask, Alexandre finishes the job by using a flame to temper the glass to render it less brittle.