



Fired Up In Faraway Places: A Glass Artist Goes to Ghana

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Photos courtesy of www.beadbugle.com, Dave Hires,

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In retrospect, I think it was the furnace.

I couldn't tell you the specific moment that most captured my imagination at the powder-glass bead factory in Ghana's Volta Region; I'm guessing it was the furnace. Even ordinary things can mesmerize in an unfamiliar environment like West Africa. Here, lizards dart among the palm trees like the squirrels play at home. So there I was, an American lamp worker and bead maker, missing my torch-and these guys were making beads out of ground-up Coke bottles in what amounted to a funky, old-fashioned, wood-fired pizza oven. I couldn't stop staring at the heat waves pouring out the face of the furnace, as they loaded small clay bead molds in and out with a long paddle.

Fiery simplicity. I'd been considering some new equipment for my shop, but this had me rethinking the tools I already have.

A week or so later, I lay on my hotel bed in Accra, reading J.E.J.M van Landewijk's research on what he calls Ghana's pre-colonial "accidental" glass. Van Landewijk concludes that a hard slag glass was formed as

a byproduct of local iron ore smelting. His alchemical sleuthing on what's generally called "aggrey" glass prompted yet another techno-rethink for me.

Long before the Europeans came, Africans made beads from shells, minerals, bone, teeth, seeds-and, according to van Landewijk, the most precious of all was this mysterious aggrey glass. He concludes the slag was formed when iron smelters boiled a combination of black river sand and iron-rich laterite (or brick stone), the predominant red clay soil around coastal West Africa. When the iron came together, the molten mass was quenched in cold water; the waste glass was then cracked off and discarded. Van Landewijk writes that minerals in Ghana's laterite soils produced a distinctive, dichroic glass: opaque blue in reflected light, but typically translucent green when held to the sun. It's a subtle, two-tone dichroism, not like the metallic coating of modern dichro glass.

Van Landewijk believes this hard slag glass was used to make the most rare and mysterious trade beads ever. They have different names in different areas, or even at different times - like "koli", "kori", "accori", "agry", or "aggrey". The National Bead Society nominated the blue kori bead as "Bead of the Millennium" in 2000, because of its near-continuous use in the last thousand years. But the names "aggrey" and "kori" (or "koli") have

come to be used for many types of blue beads over the centuries. I'm only interested in the ones with dichroic properties, passing green and reflecting blue.

The source of aggrey was apparently kept secret, but local legends gave clues as van Landewijk pursued the science behind the story. For example, some thought aggrey beads were made from blue river coral, since divers brought up ropey, porous chunks of aggrey; but several iron smelters were along riverbanks so the hot iron could be quickly quenched in cold, flowing water. The fast quench trapped hot gasses in the glass and made it porous, thus easy to shape or grind into beads with wet quartz sand. However, if the iron was quenched in a bucket, the water heated quickly and the aggrey would not get such a cold shock. It was harder and not so porous, but it could still be drilled with a quartz tip on a bow drill. Legends say this glass was produced by thunder; presumably because driving rains exposed chunks of the harder aggrey long buried at abandoned, inland smelter sites. For generations, these two forms of slag glass were thought to be different materials because of their different texture.

One of van Landewijk's more convincing arguments concerns a sudden end to aggrey bead production in the 15th century. Van Landewijk concludes that the aggrey must have been slag, because sources dried up when the Europeans began to ship higher-quality pig iron to their Colonial African



ports. When the locals quit producing iron, they stopped producing chunks of aggrey. Since the slag beads were still valuable, the Europeans imported cheap copies of aggrey beads, made in Bohemia and Murano. But the slag glass is harder than soda-lime glass, and the fakes distorted in a coal fire. That became the trader's test of aggrey: toss them in a fire, and if they survive, you have real aggrey. If they don't, they're imitation. Some recent imitations are intentionally "cooked" to become more opaque, and better mimic real aggrey beads. These are often called "kori" or "koli" beads, too, further confusing the identification of the genuine, dichroic aggrey.

I was so curious to see this 14th-to-15th century aggrey that I headed for the University of Ghana's Archaeology Museum. But my aggrey quest was thwarted by the summer break-the museum was opened for me, but the guy with the key to the special drawer of aggrey was still on vacation. Later, anthropologist and author Alexandra Wilson sent me her picture of the beads at the UG museum (figure A) but even experts like Wilson cannot be 100% certain these are the beads described by the Portuguese explorers. For a better illustration of the translucent nature of aggrey, I found these images of aggrey beads, or kori, on the web site www.BeadBugle.com (figure B).

Even though I didn't see the "aggrey" beads, I did cruise the rest of the museum's bead display. Amid the manufacturing exhibit, and the old Italian and Bohemian trade beads, were some hollow, blown canes, drawn from the furnace and cut for beads. They do this still, with furnace glass, but canes suddenly had me thinking again about those relatively primitive furnaces in Krobo. Could I build and run a small wood-burning furnace in my Portland backyard? Could I make one with a hole in the top for an "updraft" furnace, like they used centuries ago to reheat and hot-work the surface of large powder-

glass beads?

Then I went one more step simple: what can I do differently in my fifteen-year-old torch?

Back home, after seven weeks in Ghana, I cranked up the old low-tech Minor burner and started to wind and blow soft-glass tubing. The cane beads I am making are thinner than those in the museum, with a larger hole. But I am not dipping into a crucible; I'm coiling the glass on the end of stainless tube. I'm not yet sure why this makes me so happy. Before, flowers and dots rang my chimes. Now all I want to do is blow soft cane in the torch. My incidental side-trips to the bead factory and Archaeology Museum have me rethinking both my glasswork and how I'm using my technology. Maybe I can do more with less?

I was warned a trip to Africa would change my life. I hoped it would inspire some new colors or patterns. I didn't expect it to change my approach to my tools, or to the glass itself.

References:

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About the Author:

Jenny Newton became a journalist in the mid-1980s, at public radio station KLCC-FM in Eugene, Oregon. In addition to reporting, field recording and sub-hosting the *World Music* show, she served as KLCC's local voice for NPR's *Morning Edition* from 1988 to 2003. Jenny has returned to school to study world music, cultural communication, and documentary film.

Jenny Newton is also a glass artist and teacher. After metalwork in college, she learned soft glass lampworking at Seattle's Pratt Center in 1991. Her jewelry line, *Firebrand Beads*, is sold at galleries and shows; images have been featured in publications such as *1000 Glass Beads* and *The Flow*. Jenny also teaches bead making at the non-profit Eugene Glass School. She lives in Portland.

