Dancing With Death at Unzen Volcano

One weekend in 1980, volcanologist-in-training Harry Glicken was taught a sobering lesson about his chosen field of science. He had expected to spend the weekend at the volcano-monitoring post some 8 kilometers north of a simmering Mount St. Helens. Instead, on Saturday, U.S. Geological Survey (USGS) volcanologist David Johnston relieved him. The next morning, 17 May, the north side of Mount St. Helens collapsed, engulfing Johnston in a searing blast and an avalanche of volcanic rock. Glicken was spared by a stroke of fortune—only to die on 3 June of this year in another volcanic eruption, when he and two other volcanologists were caught in a hurricane of heat and ash at the foot of Mount Unzen in Japan.

How did a volcanologist knowing all Glicken did, and a near victim to boot, end up in harm's way again? The same question might seem easier to answer in the case of Glicken's French companions. The Kraffts—Maurice and Katia—were the daredevils of volcanology. If there was a major eruption anywhere around the world, they would be there—often dangerously close to the action—filming the spewing lavas and searing ash flows so that the public might appreciate volcanic hazards and their less adventurous colleagues might better understand volcanoes. But like Glicken, the Kraffts knew far better than Unzen's 38 other victims—most of them journalists and policemen—the danger they faced from Unzen's flash floods of 700°C, ash-laden gas and boulders, called pyroclastic flows.

No one who survived can say exactly why the three got caught that day, but their fellow volcanologists have an idea. "There is a fatal attraction to pyroclastic flows," says Richard Fiske of the Smithsonian's National Museum of Natural History. "They're so deadly, so fast, and so important in volcanic hazard evaluation." And volcanologists are eager to study volcanoes in action, rather than just long-cold geologic deposits. Adds Tom Simkin of the Smithsonian: "Most volcanologists like to see with their own eyes. It's an important part of the science."

That was surely the Kraffts' obsession, so for them Unzen was a not-to-be-missed opportunity. Even after 20 years of field work, 17 books, and four full-length films, the husband-and-wife team was still in pursuit of the ultimate footage of pyroclastic flows. In late May they left their Center for Volcanology in Cernay, France, for Tokyo and then Unzen, where flows were surging down the east flank's Mizunashi River as many as 35 times a day. Each time a chunk of the growing tongue of lava near the summit broke away and began tumbling down, gases pent up within the chunks of lava would shatter them, transforming the rock slide into an ash-shrouded debris stream that cascaded down the mountain at up to 100 kilometers per hour.

Frightening as that might seem, to the Kraffts it was a dream come true. They hoped that by educating public officials to the threat of pyroclastic flows, their daring cinematography would help forestall disasters such as the one in Martinique in 1902, when a large pyroclastic flow swept down from Mont Pelée, killing 28,000 people. And indeed they had just completed a video for policy makers that illustrated the whole range of volcanic hazards, including a sequence of pyroclastic flows at Alaska's Augustine volcano in 1986.

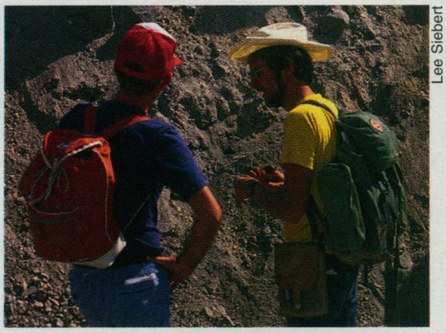
Their Alaska filming formed a memorable experience for volcanologist Juergen Kienle of the University of Alaska. "They convinced me to come along," Kienle recalls. "They paid for the helicopter, and I was the Augustine expert guide. We were probably 50 to 100 meters from the edge" of smallish flows that passed by in stunning silence enforced by a shroud of ash. "I probably will never be that close again," says Kienle.

Neither will the Kraffts. "They came home with spectacular footage of things no one else has because they got closer than anyone else," Kienle says. "Maurice took higher risks than others would. In his life, he had already seen a great deal, he said; the risk of death was perfectly acceptable to him. But I don't think he was a thrill-seeker; he had a deep drive to understand the phenomenon."

Glicken may not have shared the Kraffts' sangfroid, but he did share their scientific curiosity. Lacking a permanent position after completing a highly regarded dissertation in 1986, he had taken temporary posts and studied sites of past volcanic avalanches around the world. But active eruptions were not an irresistible lure for him. Even on 22 May, Glicken, then at Tokyo Metropolitan University, showed no desire to dare the fates. In a fax to Simkin, he said he had no plans to go down to the reawakening Unzen. It was a long way, and he had too much to do. Besides, the coverage of the eruption on Japanese TV was superb.

Then the Kraffts arrived and Glicken changed his plans. The Kraffts enlisted him as their local guide and translator, but it was not just their persuasiveness that drew Glicken to Unzen. By then, according to Lee Siebert of the Smithsonian, Harry Glicken had decided to see pyroclastic flows in action.

It was quite a show the three volcanologists must have witnessed on 3 June as they looked up the mountain into the oncoming flows. As had happened at Augustine, the mountain was sending down repeated, moderate flows. But when a huge chunk of the lava tongue began plunging toward them, their fate was sealed. "It was my choice [at Augustine]," says Kienle, "and it was Harry's choice. You want to see it for yourself." ■ **RICHARD A. KERR**



Lee Siebert

Wide World

A victim and his killer. *Harry Glicken* (in yellow) *knew the risks, but he could not escape Unzen's ashy torrents.*