The Mines at Potosí, Bolivia

MARCH 16, 2009

In the division of labour, on a world scale, the trade of miner was the lot of the most wretched and deprived of men.
—Braudel

Cerro Rico is a bare, red-brown shoulder of earth that stands over the chilly southern Bolivian city of Potosí. At twelve thousand feet above sea level, the mountain is home to a warren of world-infamous silver, tin, and zinc mines. It is also, improbably, a tourist attraction. For a hundred bolivianos, about fourteen dollars, a guide will lead you into the mountain that made Spain the richest country in Europe and gave Potosí a special place in the history of human oppression.

To get to Potosí my girlfriend and I flew to Sucre, Bolivia's whitewashed judicial capital. We spent a long afternoon under shade umbrellas at an expensive restaurant on the edge of town, drinking pitchers of sangria, until a private taxi picked us up shortly before dusk. (Most Bolivians make the trip by bus or shared taxi, but even in the midst of an American financial crisis the boliviano was no match for the dollar.) A few hours later our driver dropped us off in Potosí, where we discovered that the hotel we'd hoped to stay at was locked shut with three padlocks. With our driver paid and gone, we dragged our bags up the dark street and eventually found a room at a converted convent.

The next morning, after a breakfast of bread and jam, coca tea, and coffee reconstituted from liquid concentrate, we joined the mining tour. Our first stop was a walled yard near the center of town, where we and fifty other tourists donned rubber overclothes so loose and ill-fitting they made even the sturdiest among us look like children playing dress-up. We pulled on muck boots and hard hats, strapped ourselves into headlamps and battery packs, and bought bright paisley handkerchiefs that, when damp, would serve as DIY respirators.

Out of fifty or so tourists, all in their thirties or younger, we were two of six Americans—the rest were European or Australian. The guides divvied us by language, offering tours in English, German, French, and Spanish. At first, naturally, we joined the English group, but when I saw that the guide for the Spanish tour had been left by himself I suggested we join him. "Think of it this way," I said to my girlfriend, only half kidding, "a small group will make it that much easier to escape a cave-in." A blond British couple who'd come to Potosí by the southern route, up from Chile through Uyuni, had a similar idea.

The next stop was the miners' market, a line of identical storefronts that sold dynamite, detonators, pickaxes, safety lamps, batteries, and variously flavored high-calorie sodas.

Rolando, our guide, passed around samples of Ceibo, the 96-proof liquor preferred by the miners. It cost a dollar twenty a liter and tasted like it. He handed us sticks of green dynamite, which came plasticized and rolled in wax paper like taffy, and then detonators, coiled white cords that burn wet or dry at a rate of six minutes a meter. Typically a miner will use half a stick of dynamite or less per blast, but he can double the size of his explosion by packing the hole with small pebbles of ammonium nitrate, which the store sells by the bag.

At Potosí the miners technically work for themselves, which means they must purchase their own supplies. For this reason Rolando encouraged us to buy small kits to bring to the mountain to atone for our intrusions: each kit included one stick of dynamite, one detonator, a baggie of ammonium nitrate, and a two-liter bottle of fruit soda. Outside, at a shaded stand, we bought coca leaves to add to the bounty. I took a moment to admire the liberality of the Bolivian government: within a fifty-foot radius we'd purchased explosives, drugs, and high-octane alcohol. As the bus pulled out of the market, we joked nervously with our new British friends about the dynamite we'd brought on board. I kept mine out of my lap, just in case.

On the lower flanks of Cerro Rico is an ore-processing area. The workers there didn't speak to us, but every so often one would approach with his chest pocket held open, a signal for us to stuff it with coca leaves. Walking beneath safety signs illustrated by yellow Simpsons-like figures, we followed the path the ore took once it arrived from the mine. Large crushers pulverized the rock and sent ore aggregate to reaction vats, where an alchemists' bounty of chemicals converted the ore into foam. Scraped and collected, the foam ended up as a grayish mud composed of 70 percent silver. This is as pure as it got in Potosí: from there the silver mud would be shipped abroad for final refinement and working. Bolivians consider this arrangement—which sees them exporting raw materials and importing finished products—a classic "thirdworldism."

The bus carried us up the mountain switchbacks to a small compound on the side of the mountain. We got off in the middle of a cluster of concrete and adobe huts that flanked a road leading into the mine. Under a bright sun we tied our bandannas and adjusted our battery packs. Our headlamps painted faint spots on the ground.

The mine was cold before it was hot. The cold air was blown in from outside through pressurized lines, while the heat belonged to the mountain itself, an old volcano. Not far in we found a statue with horns and a large cock representing Tío, or Uncle, the miners' affectionate name for the devil. Once a month they make offerings of Ceibo and coca, in the hopes that Tío will keep them safe.

To go down into the mine was to experience mammalian evolution in reverse: from walking upright, to ducking wires and pipes, to crouching forward, to crawling through low tunnels. Rolando led us through the well-traveled, well-ventilated areas of

the mine to avoid pockets of deadly gas, but much of the real work took place deeper and further in, where risk was not so optional.

We met one miner, Basilio, who was drilling a pilot hole for dynamite. “Drilling” here means hammering a long chisel into the rock overhead, rotating the chisel, and hammering again. When the hole was deep enough, Basilio would pack it with dynamite and ammonium nitrate, light the detonator, and blow a small pocket of rock into portable pieces. It seemed like impossible work, and sounded like it too: Basilio was a thin man, and the grunt that accompanied each hammer strike sounded like his last.

Rolando told us that the life expectancy of a miner at Cerro Rico is two to ten years from the day he begins working in the mine. (A few women work the mines, but they are vastly outnumbered by men.) Cave-ins, misdirected explosions, and atmospheric poisoning are common dangers, but the major threat is silicosis, which can only be prevented by respirators the miners can’t afford. The mine offered no shortage of discomforts for the casual visitor, but it was the ambient dust that made it most grueling. Despite the best efforts of my dampened bandanna, after two hours my lungs felt as strained and wheezy as after a day installing pink insulation.

Some miners at Potosí work alone, but most work as part of a cooperative. The cooperatives offer the advantage of division of labor: some miners can blast rocks, while others carry them out with carts or winches. By contrast, the miners who work alone must carry thirty to forty kilograms of rock out of the mine on their backs. Another benefit of the cooperatives shows just how ghastly the work conditions can be: a miner who loses 50 percent of his lung capacity is allowed to retire with a small pension and basic medical care.

Of course, as bad as they are, the conditions at Cerro Rico have improved significantly since the colonial era. Modern miners use hard hats and respirators, and they carry acetylene lamps in place of canaries to warn of dangerous gases. Most important, today’s miners are legally (if not economically) free to work elsewhere, while miners in the past—mostly Indian—were slaves. Sixteenth-century Spanish kings Charles I and his son Phillip II had originally prohibited forced labor in the mines of the New World. But in 1573 Viceroy Francisco de Toledo implemented the *mita*, a draft Indian labor force that lasted in various forms until 1825. In addition, some thirty thousand African slaves were brought to Potosí after the Indian population began to die off. Historians estimate that eight million people died from exposure, brutal labor, mining accidents, and mercury poisoning in the four hundred years that the mines have been in operation.

At the time of our visit to Cerro Rico, about four thousand people were working the mines, down from fifteen thousand two years earlier. The economic crisis likely made the difference, since lower global production levels caused demand for metals to drop. Involuntary unemployment isn’t a phenomenon to salute,

but the conditions at Cerro Rico were so bad that one has to wonder whether the loss of mining jobs wasn't for the better. It's not at all comforting to know that an anthropologist studying the miners a few years ago found that 90 percent of the miners worked at Cerro Rico because they had no other options for employment.

Standing again outside the mine, with the bright sun reflecting off the windows of the concrete huts, my first thought was whether silver, whether any *thing*, could be worth the kind of suffering that the miners at Potosí experience every day. The obvious moral answer is no, just as the obvious economic answer is yes, since the market dictates that a worker's work is worth exactly what he's paid for it.

And what about the tours? The company that brought us to Cerro Rico surely thought it was doing its part by paying a token amount to the cooperative we visited and by encouraging us to purchase goodie bags for the miners we met. And in a certain light, that's a good thing: what the tourists give is indisputably more than what the miners had before. But seen in another light, the tours seem uncomfortably similar to the coca we gave the workers: a superficial anesthetic that dulls the pain just enough to make working possible, when what's needed is something to stop the suffering at its root. I recognize that the world is possibly a worse place for our having made the trip to Cerro Rico, yet I can't bring myself to regret the tour. I hope I'll never forget it.

–Robert P. Baird