

Mt. Etna: 24 September 1986

By Jacob. B. Lowenstern

Copyright 2000 by Jacob. B. Lowenstern, All rights reserved.

The following narrative was written during the first few days after the 24 September 1986 event, as a letter to friends and family.

There was an eruption on Mt. Etna. It happened on Wednesday, September 24, 1986. You probably never heard mention of it. Oh, maybe if you were traveling in Italy, you read a small article in some Roman daily. Or perhaps you called up the Smithsonian Earth and Space Phenomenon Report. Otherwise, nobody would have let you know. After all, no one was killed and no one was injured.

I woke up on this celebrated day in the home of a typical Italian family. Why do I condescend in calling this husband and wife typical? In fact, I do them a favor. The Sicilians seem to take pride in their typicalness. In my month here, I have seen establishments entitled TYPICAL SICILIAN BAR, TYPICAL CATANIAN ICE CREAM SHOP and TYPICAL AGENCY. So you see, I give this middle-aged couple a very high compliment, though perhaps not as high as typical Sicilian or typical Catanian family.

Like any other family, this one has its idiosyncrasies; glow in the dark Jesuses, green cellophane over their B&W TV (living color, no?) and a dog named "Dick." On the other hand, they offer me their friendship, a room and two delicious meals every day. On our fateful Wednesday, I planned to eat one of these meals before my trip up Mt. Etna. Breakfast was English pancakes, a concoction Mamma claimed to have learned on a trip to the British Isles. They contained flour, water and eggs;

mixed and then fried. I floundered with an attempt to translate baking soda - but gave up. I ate my Olympic-sized discus and headed off for the Institute.

L'Istituto di Scienze della Terra rests inside an old and rather cavernous science building of the University of Catania. The Institute is known to traveling American geologists for its lack of computers (it has 2 PCs without software), beautiful women and an absence of toilet paper in the bathrooms. I checked in with my advisor who then gave me a large rock hammer and asked me to get a sample of the new lava flow. He also told me to be careful.

The new flow, to which I so carefully alluded, took place the previous week. It started from the Northeast Crater and moved two kilometers down the mountain. The guilty crater had been active for the last two months - daily coughing up blocks of basalt from its vent, as well as bombs of fresh lava. The constant activity, also known as Strombolian, is not considered dangerous. If one keeps at a safe distance, the pyrotechnic show can be most educational and pleasing to the eye. The new flow, despite being reasonably unexpected, proved no hazard, and in fact, moved a relatively short distance. Since the previous week, the "Northeast" had calmed significantly and little explosive activity had occurred.

After talking with my advisor, I read for a while and awaited the arrival of Giovanni, my guide and companion for the day. Giovanni is what Americans would call a research assistant: Italians call him "crazy." He studies igneous petrology for a living - analyzing Etnean lavas and determining their compositional makeup. This information helps to

understand the origin of the lava and the processes that occur in the Earth's upper mantle and lower crust. Giovanni likes to observe volcanic phenomena first hand and has been known to take risks that more prudent men would consider out of the range of their best interest. Today, though, Giovanni insisted on precaution. He wanted to get a view of the Northeast Crater and he wanted to show me his work, but he did not relish the responsibility over my well being. Risks were not on the itinerary.

Giovanni arrived at 10:45 AM. After lending me part of his private stock of toilet paper (not the kind of lending you expect to see returned), we left Catania. We planned to stay on the mountain until dark, take photographs of the activity at night, and walk down to our car on a jeep road (with flashlights). During the rather uneventful ride, we talked (as we would most of the day) in each other's language; he in English and I in Italian. At Nicolosi, the last town before the mountain starts climbing steeply, we bought lunch; bread, cheese and pears.

The mountain rises slowly at first and consequently, many farms and towns crowd the lower slopes. As one ascends, the cultivated crops change from prickly-pear cactus, to oranges and lemons, to almonds, to apples and cherries, to figs, to grapes, and finally to softwood for lumber. At the point where the forest begins, the mountain's profile steepens. At the Rifugio Sapienza, the last major building on the southern side of the mountain, new and barren lava fields predominate. The landscape, with little vegetation, becomes desolate and brown.

The eye is attracted to the shapes of the lava flows, the levees between which the liquid flows, and to the summit.

At Rifugio Sapienza, we left our car and took the tourist "jeep" to 3000 m (the summit rises to 3340 m). I sat in the front seat of a vehicle that resembles jeep, tractor and bus all at once. The ride carried us past a ski lift buried by lava and a house buried by lava. In fact, the 1983 flow came within five meters of the Rifugio Sapienza before stopping.

The vehicle deposited us at a parking area and we began to walk toward the saddle between the Northeast Crater and Bocca Nuova (other craters include the Southeast, East and Chasm). A group of passing guides told Giovanni that they were not taking tourists as far as the saddle, due to the fact that the Northeast Crater appeared blocked and could constitute a danger. No Strombolian activity had been reported in the last several days, and the lava lake within the crater had completely congealed.

We ate lunch at the guide shack located near the saddle. Sheltered from the 30 kph wind, we took off our jackets and relaxed in the balmy alpine air. Giovanni, concerned that the guides would disapprove of our leaving the tourist group, felt that we had eaten in too obvious of an area.

I watched the smoke. The volcano provided a spectacular display of varicolored clouds. The plume billowed forth silently, almost cautiously, wrapping around itself as if tying a complicated knot. Giovanni whispered, "It looks like cream!" Indeed, the plume seemed soft and liquid and sweet. Two kinds of smoke rose - perhaps from different vents. The first, a very white cloud, probably represented steam and other volatile

gases. Giovanni related that the other, a deep red-brown, usually means that the magma is at a very low level - deep within the volcano. The color is that of oxidized wall rock, churned up and expelled from the vent. As the lava rises to a higher level, this color becomes masked by the dark gray-black of fresh ash and lapilli. The plume drifted to the south, pushed along by the north wind. It spread over the Rifugio, Nicolosi and Catania.

On we marched to the Northeast Crater, our home until after dark. To get there, we would have to cross the previous week's flow. Giovanni had already crossed several days before and insisted that there would be no problem. The colata (as it is known in Italian) was perhaps 250 m across at the point we approached it. Looking towards the crater, we could see the heat rising off of the still-hot rock. Because the top of the flow is very irregular in topography and consists solely of unstable blocks of sharp lava, crossing would take a while - at least half an hour. As this was my first time in crossing a steaming lava flow (that had stopped moving but four days previously), I proceeded rather tentatively. We moved cautiously, the blocks moving underneath our feet with each step. Giovanni slipped and caught himself by placing his hand on a boulder. He yelped in pain and pulled his hand back from the smouldering rock. We were in a main flow channel, one of the last places where the lava had ceased moving. Resting proved uncomfortable as the heat from the underlying rock made me feel both hot and rather nervous. Finally, we reached the other side. I breathed a sigh of relief, as did the volcano.

Its sigh changed color toward a dark gray - perhaps signifying that the magma was rising - perhaps not.

Because the colata had breached one of its flanks, the crater was horseshoe shaped. Thus, as we climbed the crater wall, we could see in the vent area without actually standing in the crater. In fact, we stood perhaps 200 m from the crater edge. Giovanni walked as far as the rim and reported that the Strombolian cinder cone had disappeared completely during the lava eruption and had collapsed back into the vent.

The slope which we climbed consisted of deposits of bright yellow sulfur and steaming fumaroles. I sat near a vent to counteract the cooling effect of the steady wind. Giovanni pointed out fractures in the slope. Every 3-4 m was a small (5 cm) crack in the ash-covered slope. They were neither wide nor dangerous, but I felt almost as unhappy here as on the flow below. Giovanni insisted that there was no danger of landslides and that we were at a safe distance from which to view the Strombolian activity, should any develop...

I sat down to rest and wait the several hours until sunset. It took a while to figure out whether the movement I felt was from my heart beating or from volcanic tremor. I finally decided that tremor was the culprit (which of course made my heart beat faster). Giovanni insisted that tremor is a perfectly normal activity for Etna, though perhaps less persistent. Nevertheless, I found the shaking rather unsettling and decided to stand. I told Giovanni that if we stayed until dark, I'd prefer to stay on the other side of the colata, as I figured that crossing at night would be rather hazardous. I had no interest in sleeping 5 meters above semi-molten rock. Giovanni

agreed, though per usual he proclaimed: "I assure you that there is no danger whatsoever." I tried vigorously to believe him.

At 4:00 PM, the amount of smoke emanating from the crater began to increase. We cautiously moved down the hill and slightly away from the crater. Our Strombolian activity had arrived fashionably late for the party. The explosions, rather quiet, occurred every ten seconds or so, and reminded me of waves breaking on a beach. Each belch would carry gas and scoria (lava that froths and cools in the air) in a swoosh of dark gray that rose far above the crater and moved to the south. Blocks of hardened lava from the vent were thrown up and over the rim. We began to move rather hastily - parallel to the colata and away from "the Northeast." I stopped to take a photograph. A block landed twenty meters to our right.

Unexpected situations that carry possible or probable danger have varied effects on those that confront them. Giovanni and I had different problems in dealing with our growing eruption. My basic mistake sprung from the fact that I did not take the situation seriously. Whereas I had been cautious and timid on the sulfurous and fractured crater flank, I found this eruption stuff to be a heck of a lot of fun. I'd seen Strombolian activity the week before and did not see how the situation could worsen. We were not 500 m from the vent and I stopped for another picture.

Giovanni's reaction to our dilemma resembled the more classical "panic approach." He wanted to get out of the area and fast. Several times as we moved downslope he would proclaim: "This looks good enough to protect us." Then he would look up at the constantly rising plume and say: "Let's get out

of here!" By this time, he talked in Italian and I spoke in English. This neither boosted nor severed the already tenuous communications link between us. Giovanni had no plan and appeared uninterested in making one. I stopped for one last photo. He ordered me to drop my pack and he would drop his. He insisted that this would hasten our escape. I found this idea absolutely ridiculous as I did not feel that the packs slowed us down significantly and I felt that we ought to keep our supplies in case one of us did get hurt. He jumped up and down and insisted I leave it.

The next 15 minutes consisted of moving from rock to rock; trying to find a safe protector from falling missiles. None would satisfy Giovanni. All of them seemed fine to me. Giovanni told me to cross the flow. He would wait until the eruption subsided and would then return for the packs. I screamed that splitting up was a ludicrous idea. We would be more vulnerable if injured and would have no knowledge of the other's safety or location. I asked him to stop so that we could discuss a logical plan of escape. He refused. By then I realized that for us to reach a consensus, I would have to refuse each of his suggestions until he came up with one that I considered reasonable. Inertia, though, proved a better solution. We merely kept walking away from the crater until we came into a valley that was crossed by a road that led down the north side of the mountain to the town of Linguaglossa. Our descent over the 1986 and 1981 flows had taken over an hour.

At the road stood 40 tourists - all gawking at Giovanni and me, as well as at the spectacular display above. The guides from Linguaglossa had brought tourists up to view at a safe

distance. It turns out that we two were the only people at the summit when the action started. Due to the wind, the area to the south had become littered with ash and scoria. All spectators had left the area several hours earlier.

By this time, the volcano was emitting a fountain of lava as well as older blocks. Intermittent Strombolian activity had ended, and a very atypical (for Etna) Hawaiian lava fountain had begun. I watched a block climb and fall for a total of 40 seconds - meaning that it had climbed to 2 kms in height. The lava fountain rose to about half of that height and the plume reached over 5 kms into the air. Though no gases or fine-grained ash moved to the north, the larger bombs and blocks shot in all directions. I looked for my pack through a pair of binoculars lent by a tourist. It was still there: a vision of green nylon in a sea of black silicates. Bombs landed all around it. Our initial vantage point, the sulfurous hill, became a playground for sliding boulders. Landslides raced off the slopes to the crater below. The lava fountain lit the sky as a giant orange torch. I watched the spectacle from a safe distance, giggling every now and then. I listened to the tourists and their unknown exclamations in languages that I could not understand.

At 6:30 PM, the activity seemed to be decreasing, or at least not increasing. Giovanni and I would now skirt the mountain and hike down to the Rifugio Sapienza and our car. I asked for a drink of water from a Sicilian who had come up to see the show. I wanted to get some liquid in me, as I had neither water nor extra clothes for the two-hour walk (all in my pack, of course), and I wanted to prevent dehydration. We took

a last look at the lava fountain and walked around and slightly up the western slope. Giovanni and I talked of both our fortune and our misfortune. "I can assure you, Jake, we were never in any real danger." Our spirits soared and we talked of how we would return in the morning to look for our packs.

At 6:45 PM, the mountain let loose. The lava fountain grew to twice its previous size and blocks and bombs scattered in a chaotic spree. What had previously sounded like waves breaking on a beach now roared like a full-fledged hurricane. We ran back down the road to the tourists. My lungs had difficulty grasping enough of the thin air and we slowed to a terrified walk. Arriving at the valley, we saw that the tourist vans had left. No one was in sight. Bombs screamed off the summit, landed, and began to roll, red hot, down the valley toward us. Though we stood 2 kms from the vent, the heat of the erupting magma penetrated our clothes. The gray fume started moving to the north.

Whereas before I had enjoyed my little surge of adrenaline and our flight off of the summit, I was now petrified. My mind was a swirl of exaggerations. I envisioned National Geographic Specials, textbooks on Pompeii and fourth-grade science projects. Giovanni looked like a case of walking shock (indeed, the next day he remembered little of the sequence of events). We started moving down the 1981 flow to the west. By moving downslope and then onto a hill, we hoped to avoid both bombs and flows. After 15 minutes, though, the eruption had again quieted, this time rather decidedly. Such information gave little comfort. We were tired, scared and lacked extra clothes, food, water and flashlights. What was somewhat obvious before

had now become perfectly obvious. We should have taken a ride with the tourists even though it would have meant a night in Linguaglossa and a 2-to-3-hour ride to our car.

Giovanni forced out another, "We are perfectly safe." I wondered if he knew any other English vocabulary. In insisted that we get to the road as quickly as possible. The chances of falling and hurting ourselves was growing exponentially as the light waned. Giovanni knew the quickest way, but had lost his energy and moved slowly. A motorcycle appeared. We screamed to attract its attention but the driver continued on. I moved towards its nearest approach. As I reached the road, the cycle returned and I waved it down. Another cycle soon arrived.

The second was Dieter Keller, a German who left his job as an engineer at BMW to live in Nicolosi and keep a watch on Mt. Etna. He acts as a research assistant to a German geophysicist and is known for his acts of stupidity on the mountain. Though originally further from the crater than ourselves, Keller and his wife Ilsa stayed close to the summit to welcome the first of the volcanic bombs to Earth. Ilsa nearly missed (by half a meter) catching a basketball-sized missile in the face.

When Giovanni arrived, we each got on a cycle and cruised down the road to waiting jeeps (how fortunate!). Actually, this was the most frightening part of the day. My motorcycle "pilot," named Mario or Paolo or something, thought that he was in the Motocross trials. We screamed along from bump to bump at 50 kph. Keller then arranged for the jeeps to carry us to Linguaglossa where we could stay the night at "Franco the guide's" house. On the way, I thought of beautiful things such as English pancakes and restrooms without toilet paper. Upon

arrival, Franco served us a much-appreciated dinner. I talked with a group of French journalists who had stayed with Franco for the past week. They had just written a story about the first man to jump off Mt. Etna with a parachute. They ate freeze-dried chocolate oatmeal.

The next morning, we woke up at 4:30 AM to cruise up Etna for the sunrise. I'm still not sure why. I looked around on the west slope for signs of the eruption. There was an impact crater every 5 m: some measured up to 4 m across and 2 m deep. The terrain looked like the surface of a giant golf ball. Though the eruption had been 12 hours earlier, the ground was still smoking at the center of each crater. I say the ground because the bombs had often disintegrated upon impact and were no longer visible. Giovanni returned from looking for our packs. They were buried beneath at least 2 meters of scoria and blocks.

We hitched a ride to the Rifugio. Giovanni's car was pockmarked by a hundred 1-cm lapilli that had arrived without invitation on his hood and roof. All the roads were covered with ash and scoria. Even Catania, 40 km away, had an even cover of 1-mm-sized particles. I examined them as I walked home from the corner. When I arrived home, I found out that my family had gone out for the day. My keys were safely snuggled in my pack, now a gift to future archaeologists. I was locked out. I took a bus into town, bought a copy of the Herald Tribune, and found a park bench. I read about an alleged spy conspiracy between Amelia Earhart and FDR. The man on the bench across from me picked at invisible zits on his arm. He continued for over an hour. I was amazed.