

## The eruption. Phase 1

Di Tom Gidwitz

Vesuvius became more active through the spring of 1906, and the volcanologists waited in suspense for the inevitable denouement. In February, flowing lava cut the Vesuvian Railway in three places, ponded in hot lakes and shot skyward in dazzling jets. Vesuvius fountained again in late March, this time launching lava almost horizontally. Perret, standing on the crater rim during the next momentary lull, found that the lava's surface stood nearly level with the crater rim.

Perret was back at the Eremo on March twenty-fifth. That night as he lay in bed, he thought he heard a buzzing sound rising from beneath the floor. When he stood up, the sound ceased. When he lay down, it returned. It



was continuous but so faint it was almost beyond hearing, and he wondered if he had imagined it. He borrowed a trick from Thomas Edison, which the deafened master had used when he auditioned piano players for his first recordings and to test early phonographs: He sat up and pressed his upper teeth against the iron bedstead. The vibrations buzzed in his skull. There was no doubt - the sound was real.

Perret was unsure what to make of it. The next morning he mentioned the incident to Matteucci, who laughed and said he was probably hearing the inn's cook grinding the breakfast coffee. But something more was afoot. Nine days later, on April 4, the view of Vesuvius from his apartment brought Perret up short. "From Naples the usual white vapor was seen issuing from the crater with a subtly but decidedly unusual aspect impossible to describe," he later wrote. "As the skilled physician sees in the patient a significant change which to other eyes is not revealed, so the volcanologist, observing the crater on this day, saw there the signature of a new power. There could be no further doubt that the long pre-eruptive period had reached its culmination."

He watched it through his telescope, scanning from time to time down to the Observatory. He was certain those inside saw what he saw, that a new page had turned in the volcano's story. No doubt the seismometers were busy, their arms bobbing, their mercury shaking, their needles scratching a new chapter on the powdered glass. Certainly, he wrote, "interesting developments were at hand."



Through the morning the cloud darkened as the uprushing gases gained strength and tore chunks of rock from the volcano's upper throat and cone. The steamy white cloud was thicker and more cohesive than he had ever seen before,

standing like a dense tower against the wind. By noon the plume grew denser still, and that afternoon the mountain's side cracked anew, spilling a small amount of lava to the southeast, smothering the zigzag path that led tourists up from Pompeii. By evening the wind had spun the plume into a threatening black scythe that hung over the city, with tendrils snaking toward the sea. A rain of coarse sand began to fall. The

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Neapolitans went uneasily about their business, wheezing, choking, sneezing in the thickening haze.

"Caps with long visors were a positive necessity," wrote New York Times correspondent Arthur Stanley Riggs, "and many peaceful, inoffensive citizens who had never ridden in automobiles appeared begoggled as the veriest scorcher. Locomotive engineers, motormen, cab drivers, porters, and newsboys made paper visors for their caps, and street gamins offered halves of newspapers folded and creased for the same purpose."



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Perret watched the volcano all that night as it fractured and bled more lava. The next morning the ash swirled from Vesuvius in a great smear across the sky; it sifted down over the royal palace, coated gutters and window ledges, and floated in a thin scum upon the sea. Perret packed, and, "prepared for a long siege, ascended the mountain by what was the last train to run over the Vesuvian railway for many a day."



Steaming lava streams over a mile long and five hundred feet wide flowed down the mountainside, igniting trees and grape vines and rolling over meadows. High above, a thick, dark, roiling ash column shot up from the crater. The volcano's explosions echoed for

twenty miles. Ash collected on the roofs and streets of the towns that ringed the mountain's base - San

Giuseppe, Ottaviano, Bosco Reale, Bosco Trecase, Torre Del Greco - and some villagers began evacuating, while others paraded images of the Madonna and San Gennaro. Members of Il Carabinieri Nazionale, Italy's military police force, fanned out across the region to maintain order and aid in evacuation and rescue.

As Perret made his ascent, the mountain trembled like a high-pressure boiler ready to burst. He found Matteucci and half a dozen carabinieri at the Observatory, watching the churning cloud and the glowing lava bombs and black rocks that rocketed hundreds of yards into the sky.



In hot volcanic clouds, the friction between the volcanic gas and bits of ash charges the ash with static electricity. Now, in the densest ash clouds, lightning began to flash, snapping and sparking, cracking like pistols, popping up and down in arcs of all sizes or in starburst flashes when seen end-on. As the hours passed the lightning bolts lengthened, sparking from the plume to the ground and blasting long deep peals of thunder.

Vesuvius had already coughed up enough ash to drift across the continent. In Paris, a strange, dry, yellow fog infused the skies, so dense that boats had trouble navigating the Seine. But the Neapolitans remained calm, comforting themselves with Matteucci's prediction, telegraphed from the peak, that the ash fall was unlikely to last more than a day and that the lava would stop short of the mountain villages. Many said the eruption was fitting preparation for the arrival of Britain's King Edward and Queen Alexandra, due any day on their royal yacht.

At eight o'clock on April 6, a new vent burst open on the cone's southeast side, near the settlement of Casa

Fiorenza. Perret, Matteucci, and three of the carabinieri set off to investigate and warn the inhabitants to leave.

They found an arched chamber gushing a river of bright, hissing lava that sped downhill at ten miles an hour. "The lava seemed to be as fluid as water," Perret later wrote. "There were whirls and eddies and waves upon its surface, from which clouds of steam rose in curious shapes, illumined by an intolerable glare. The heat here was terrific - radiant heat from the incandescent mass of this beautiful river of death, heat that caused a pine tree to burst into flame before the lava touched it - and a nearer approach than fifteen feet from the brink was impossible."

Then, with a crack and a roar, a 60-foot fissure ripped open directly in front of them, and a fifteen-foot high curtain of lava shot skyward. Perret snapped away with his camera, cranking rapidly through a roll of film. But when he turned to reload he found that Matteucci and the two carabinieri were sprinting down the mountain, already far away.

Only then did the danger sink in. "With the exception of the experience of dodging some two-ton boulders on the cone a few days earlier," he later wrote, "this was the only time I had run away - and how we did run!" Soon Perret was back, taking more pictures. They followed the lava as it crept through vineyards toward Bosco Trecase, home to ten thousand people.

Elsewhere on the mountain villagers packed every church, praying for escape from certain destruction. In Portici peasants leveled vineyards and trees in hopes of forestalling fire. To the east, in the small town Bosco Reale, weeping women futilely confronted the advancing lava with a statue of St. Anne.

By night, with lava once more jetting high into the sky, rain began to fall. At midnight, when the scientists finally made it back to the observatory, they were drenched to the skin and covered with wet ash.

The volcano shook with ever more powerful explosions and jets of lava. The ash in the cloud became finer and finer, the lightning arcs grew longer, the thunder louder, the pendulums of the Observatory's seismometers danced with greater fervor. "No earthly power could now prevent the catastrophe," Perret wrote.

The following day, April 7, the carabinieri sent artillery carts to help peasants flee. Evacuations began on the mountain's northeast flank in Ottaviano, a town of 20,000.

The Duke Emmanuel Philbert Aosta, the son of King Amadeus of Spain and cousin to Italian king Emanuele III, joined Cardinal Joseph Prisco on a mission to Bosco Reale, the cardinal's home town. The cardinal gave away food, clothing, and even his own rings to the peasants. The Duke ordered soldiers and engineers to erect parapets and dig trenches to divert the lava, and he grabbed a shovel himself to help from time to time.

Perret, Matteucci, and the carabinieri set out for the lava streams flowing southwest toward the hamlet of Casa Bianca. Huge two-ton boulders soared out of the crater, arcing high, shattering on impact, the fragments flying. The men retreated far down slope to circle the cone in safety.

The crater cloud was growing ever higher and wider, and the volcano thundered with staccato explosions two or three times per second. Perret, taking pictures under an umbrella held by one of the carabinieri, noticed that in the instant before the sound reached them, "a thin luminous arc would flash upward and outward from the crater and disappear into space."

Perret realized he was watching sound - the arcs were the explosion's shockwaves, speeding outward from the crater in all directions. These ballooning spheres of energy stretched and compressed the air through which they passed, reflecting and refracting the sunlight in an inflating, glistening ball. To the men on the slope the expanding shell of light was densest, and thus

brightest, at the portion they could see edge-on, a slice of speeding circle, a flying arc. It was a graceful, stunning movement, a delicate flash of gossamer against the roiling black ash column and the hulking, sluggish lava. In the midst of the eruption's violence, the arcs struck Perret, the volcano connoisseur, as "one of the most beautiful of all volcanic manifestations." And it happened hundreds of times, again and again.

April 7th 10:40 PM The team descended toward Bosco Trecase, the highest town on Vesuvius's southern slope, built on a ridge thought tall enough to stand above any lava flood. But above the town they met soldiers furiously digging a wide trench, piling up the ash and rock into a thick dam. The panicked townspeople had packed their belongings the day before, only to delay departure when the lava slowed at nightfall. But now lookouts reported the lava was creeping toward the town at 200 feet an hour. It soon engulfed a house not far above the town.

New York Times correspondent Arthur Stanley Riggs watched as a priest and sexton unlocked the doors of an old, whitewashed chapel for a crowd of faithful eager to confront the lava with a statue of Saint Ann. A dozen vineyard workers hoisted the statue onto their shoulders, and set off behind two more who carried a huge cross.

Out through the long, winding street of the town went the float and cross, climbing slowly upward to the little valley where the lava had dared intrude, accompanied by an ever-increasing horde of swart townsfolk, grave and earnest, and irresponsible tourists, armed to the teeth with repeating cameras and long distance binoculars.

It was a beautiful sight. The town, old and gray and soft in its minor coloring, lent itself picturesquely to the scene. There seemed no incongruity, no mediaeval superstition in the faith of these simple wine growers in their clouted breeks and

gay neckerchiefs, hob-nailed shoes, and their woolen stockings.

They climbed through town, and in ten minutes stood before the lava. The bearers set the statue down and set the cross before the lava. By now the crowd, ringed by soldiers, had grown to thousands.

Long and earnestly they prayed, and through the murmur of the petition the clank and rasp of the crawling lava made the grimmest of musical obligatos. Here and there some silly tourist laughed, but the fierce eyes of the worried townspeople checked the senseless brutality, and it died away in mutterings... An hour passed, the moments dragging interminably, and the stream coming steadily nearer. A cry rose from the watchers, a bitter, deep throated wail, and the great float and cross moved back out of the blistering heat and the pungent reek of the crumbling pile. The lava looked a live thing, sentient, portentous, evil. Its long brownish-red and gray and black mottled body rippled like the sea, scaled like an armadillo, gnarled like an oak, wound among the curves of the sloping mountain side and crept steadily downward, inch by inch. Steam and smoke and sulphur fumes hissed and rippled upward from it in thin bluish clouds, and heat waves rippled out from it in circles, scorching the faces and hands of the multitude. It looked like a vast moraine of coke and mud covering a live and palpitating body. Clinking and rasping the cooler outside bits of stone chipped off and clamored down to either side and in front as the monster edged its way along. Each scale peeled off, each flake dislodged showed the giant's red tissue beneath... Another hour passed, and again the cry of dismay went up, sullen and heartrending, as the float retreated again. Four o'clock came in turn, and the smudged sun looked for the last time upon the blistered, cracking face of Sant' Anna as her bearers placed her sternly for a last stand.

Desperate now that all their homes were threatened and the saint seemed powerless to avert the impending catastrophe, the simple suppliants redoubled their efforts and the little valley sobbed with prayer.

Slower and slower moved the oncoming stream. Little by little the heavy rumblings of Vesuvius quieted down. Bit by bit, instead of by small avalanches, ran the cooler lava, at last ceasing to approach. The image stood firm in the smoke and the cross wavered unsteadily not a yard away from the great mound. The victory was won - Sant' Anna had performed the miracle; the town was safe!

The statue was returned to the chapel to the sound of thankful prayers and firecrackers. But after midnight the lava lumbered over the carabinieri's ditch, crushed their dam, and pushed down the streets in two fuming rivers. Houses blazed, the town's citizens fled, and carabinieri went through the deserted streets door-to-door, rescuing bed-ridden old people who had been left behind by their hapless families.

Novelist F. Marion Crawford was there:

I saw men, women and children and infants, whose mothers carried them at the breast or in their aprons, fleeing in an endless procession. Dogs, too, and cats were on the carts, and sometimes even chickens, tied together by the legs, and piles of mattresses and pillows and shapeless bundles of clothes. All were white with dust. Under the lurid glare I saw one old woman lying on her back across a cart, ghastly white and, if not dead already of fear and heat and suffocation, certainly almost gone. We ourselves could hardly breathe.

The lava ate through the town until it touched Bosco Trecase's cemetery walls. Here, at the edge of consecrated ground, it stopped.

Perret, Matteucci, and their band of carabinieri watched the mountain from Bosco Trecase's railway station. As night fell the lava was a more brilliant orange than it ever had been before, and they could feel the crater's cannonading blasts. Jets of fire shot from the mountaintop, crowning the mountain with spiking rays of lava, lighting up the Gulf of Naples so intensely that observers twenty miles away on the Isle

of Capri could read by its glow. Lava torrents oozed over houses and trees and across the railway that circled the mountain's base. More lava poured over the northern rim of the crater, and Perret was certain the heavy liquid core which supported the mountain from within was gone. Vesuvius's throat was empty, open to the magma which lay waiting below, a superheated mass saturated with carbon dioxide and water, now open to the sky and charged to explode.

Chart-April-8-330am-pgAt midnight they headed back over the quaking mountain to the Observatory. For hours the mountain vibrated in a continuous earthquake. Walking was near impossible. The scientists could only cross a room by leaning against the walls. At precisely 12:37 AM on the morning of April 8, an especially strong shock jolted the building. Three of the Observatory's four seismometers were thrown completely out of gear and danced spasmodically; the fifteen-inch pendulum on the smallest instrument swung in harmony with the heaving, shuddering building, but slammed repeatedly into the wall.

Perret made his way outside. Since the seismometers were out of whack, he used his own body to measure Vesuvius's tremors. He put his back against a stone wall and felt it swaying back and forth in synchrony with the undulating ground, pulsing in one-second cycles. The mountain was humming. He headed back inside just as cracks shot through the walls above the arched doors and through the floor across the building's entire east-west length.

The scientists ran outside. A mile and a half away a thousand-foot wide, two mile high pillar of fire was soaring into the inky night. As it punched its way skyward, the volcanic column sucked up air from around the mountain, drawing in a ferocious wind from the sea below, a gale so cold that the scientists sought shelter behind a small wooden chalet at the Hotel Eremo where they built a fire and huddled close to keep warm.

Perret described the scene in his book *The Vesuvius Eruption of 1906*. "The most alarming feature at this

time was the continuous increase - each earth-shock felt above the regular pulsation was stronger than its predecessor; each wave-crest on the sea of sound was louder than the one before; the jets of the great fiery geyser shot ever higher into the dark, overhanging pall of blackness that extended over our heads and fell westward in a thick veil, through which, from Naples, could be seen only fitful gleams. But between the Observatory and the crater all was clear, and it becomes increasingly difficult to describe the events of the great culmination in words befitting a scientific book."

At 2:30 AM another jolt nearly knocked them off their feet, and the chalet's timbers shrieked. The soaring column thickened with ash and gobs of lava, and suddenly lightning was everywhere, crackling in long arcs from the ash cloud, zipping down the electric railway's overhead wires to the nearby station, sparking in the station's lightning rods, and zapping from the wires directly to the earth.

As they watched, the column of gas, lava, and rock slowly split. One half tilted sideways in a huge, blistering, arching stream like water from a hose. It soared over the Monte Somma, cooled in the air and fell in a titanic bombardment of hot rock and gravel onto the towns on Vesuvius's northwest flanks. It buried the countryside three feet deep, collapsed roofs, leveled buildings, shattered windows, and crushed a church.

Blobs of lava as big as houses showered from the column and splatted down slope in avalanches of fire. By 3 AM the lower funicular station was alight, burning with a clear yellow flame in a landscape that glowed almost everywhere red.

April 9-2 PM The red hot roaring column was coring out the inside of Vesuvius like a blowtorch. At 3:30 AM, another earthquake wrenched the mountain, and the upper cone, cracked and eroded from within, began to cave in, only to be pushed out by the jetting column. It peeled back from the mountaintop Perret said, like the falling petals of a flower.

The volcano roared on. As the sun rose, the rain of nut-sized rocks grew into a hail of seven-pound lumps, pummeling the party until Matteucci and the head of the carabinieri ordered a retreat. Holding their rolled up coats atop their heads to cushion the impact of the plummeting hot stones, they fled downhill to safety.

Across the world a New York Times editorial mused about why Matteucci and his unnamed "American assistant" stayed at their post, when they could see so much more from another, safer vantage point. "It is from something more than idle, or even from scientific, curiosity that they are staking their lives on the outcome of successive minutes, any one of which may be their last. If they escape they will have the material for a 'paper' such as has never appeared in the 'transactions' of any society, and he is pessimistic indeed who does not hope that what they learn by braving the mountain's rage will prove to be worth the frightful risk involved in getting it."

But their tenacity did have immediate benefits. The top of the mountain was invisible to those below, "but," Perret wrote, "on the mountain the visibility was perfect." And he could clearly see that the eruption had entered a new phase, a state never described before, visible only to the intrepid party high up on the slopes.

The Giant Plume Vesuvius had cleared its throat - the earthquakes had virtually ceased - and the mountain was an open pipe for a titanic jet of gas that roared up from the bowels of the earth. It vented freely in a continuous, eight-mile high pillar of vapor, a pressurized stream that, six miles in the air, was still violently expanding, bursting into densely textured pure-white clouds.

The noise was unimaginably loud, a Niagara that rose and fell with a regularity that seemed all of a piece with the cycles Perret had witnessed for months - the ebb and surge of the cone's volcanic fire, the rolling earthquake waves, the flash of curving

lightning, and slow cadence of the sun and moon's tugging tides that, he was convinced, initiated volcanic action. "The great eruption," he said, "was a sublime manifestation of rhythm."

But what struck Perret most of all was the spectacle's magnificence. Alone with his companions, isolated high above the city in crystalline air, he was a speck face to face with immensity.

Strongest of all impressions received in the course of these remarkable events, greatest of all surprises, and most gratifying of all features to record was, for the writer, that of an infinite dignity in every manifestation of this stupendous releasing of energy. No words can describe the majesty of its unfolding, the utter absence of anything resembling effort, and the all-sufficient power to perform the allotted task and to do it majestically. Each rapid impulse was the crest of something deep and powerful and uniform which bore it, and the unhurried modulation of its rhythmic beats set this eruption in the rank of things which are mighty, grave, and great.

There was present also the element of awe, in all its fullness. The phenomena entered, through their intensity, that sphere where the normal conditions of Nature are overpassed, and one stands in the presence of greater and more elemental forces than any he has known hitherto. This tends to induce a state of mind which hardly recognizes as entirely natural this transformation of the visible universe, and with difficulty one accepts the dictum of reason, that all will pass and the normal return as before; and so, for the many, the events of this and the succeeding days of ashy darkness seemed to show that --- even as the younger Pliny wrote of similar conditions in this same region nearly two thousand years ago - "the last eternal night of story has settled on the world."

The party tried to return to the Observatory, but were turned back by the thick rain of falling stones. They decided to try again the following morning, and Perret

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climbed down from the sublime world on the giant's  
shoulders to the city.

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