

The Mad Scramble to Claim the World's Most Coveted Meteorite

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On the morning of September 15, 2007, station I08BO—an infrasound monitoring post for the Nuclear Test Ban Treaty near La Paz, Bolivia—picked up a series of atmospheric vibrations. It was an explosion at very high altitude, and there was something streaking across the sky, heading southwest at 27,000 mph.

A few minutes later, at about 11:45 am, a brilliant fireball flashed over Carancas, a tiny village at 12,000 feet in Peru's remote altiplano, a high plain bounded by the Andes. For those on the ground, this celestial visitor was the brightest thing anyone had ever seen in the sky.

A local radio host witnessed the blaze descend behind a hilltop statue of Jesus and rushed to his station to announce the arrival of a UFO. One villager saw the smoky trail and figured it must be Superman. Someone else saw a scorpion falling; he thought it was an *antahualla*, a mythical creature in local lore that soars from mountaintop to mountaintop at night, cloaked in light, menacing those below.

This article is a collaboration between WIRED and Epic Magazine. Joshua Davis contributed to the story.

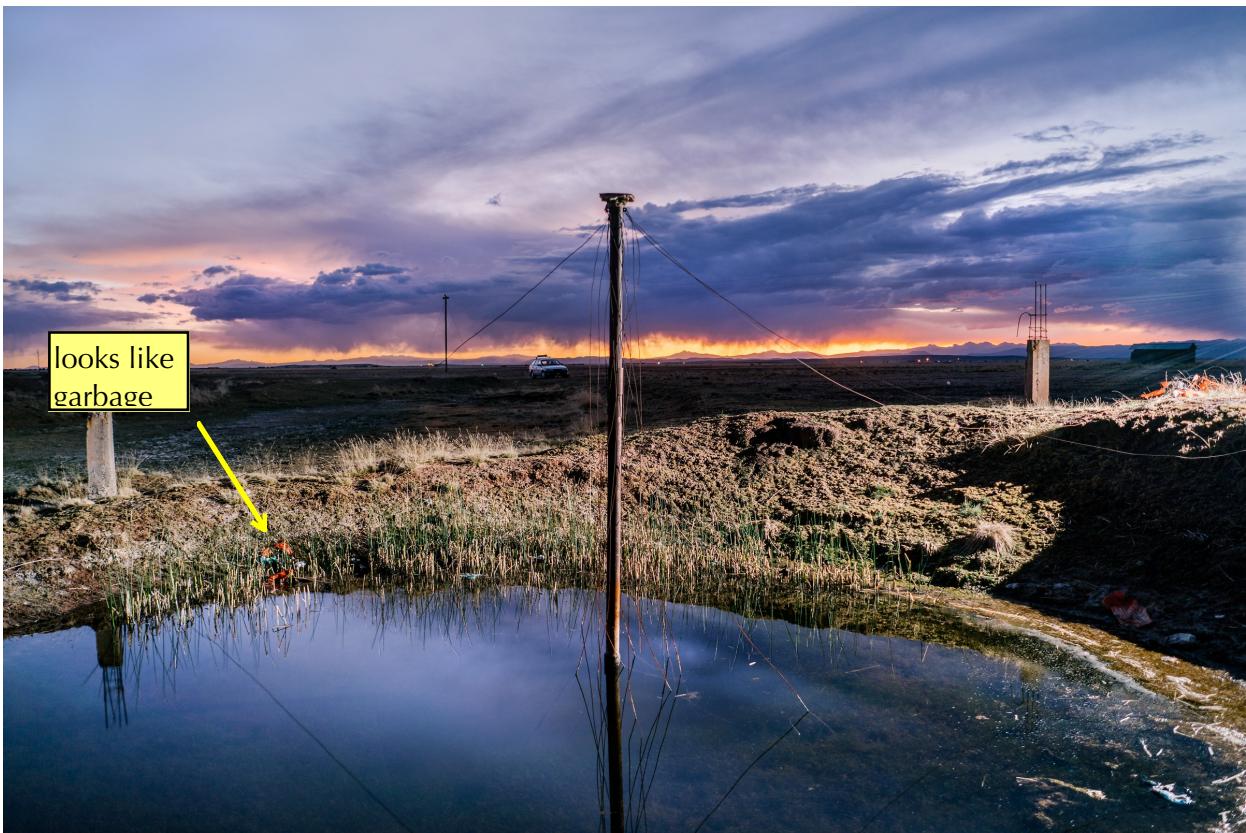
What they all saw was a rock, somewhere between 7 and 12 tons of chondrite studded with pyroxene, olivine, and feldspar, burning at 3,000 degrees Fahrenheit. It had begun its journey in the asteroid belt, more than 110 million miles away, floating between Mars and Jupiter, and it was among the largest meteorite arrivals in living memory. The rock was probably not much bigger than a dinette set, but that was large enough to generate an exospheric detonation with the energy of a low-yield nuclear weapon. Then it struck Earth.

Gregorio Urury, a farmer in Carancas, was sitting outside his small adobe house, taking a break from tending his sheep, when he felt the impact. He listened, paralyzed, as the sound passed over him—a low hum that quickly rose into a scream—until the ground shook. He couldn't stand up at first. His dogs barked wildly. When he gathered himself and searched the plain, he saw a column of dense smoke rising in the distance.

It was the end of the dry season and the land was parched. The spring storms were about to roll in, and farmers would take cover indoors for fear of being found by a lightning bolt in the flat expanse. Urury, like most residents of Carancas, is part of the indigenous Aymara nation, a group that has lived here for centuries. Their land is hard to farm, contains few minerals, and has almost no features but for sod brick houses, shepherds, and their flocks, along with wild herds of vicuña, a more graceful relative of the llama. There are no fences, and a single dirt road bisects the plain. Urury's farm is a modest holding that he had meant to leave to his children, until they, like so many others, left their father's village for the cities.

Urury got on his bicycle and raced toward the smoke. He discovered a crater nearly 50 feet wide. The ground was dusted red, and a sulphuric smell stung his nose as he peered over the edge of the pit. The water table in this area is very shallow, only about 5 feet below the surface, and the hole had immediately filled with dark green water, which was bubbling from the heat. Around him he saw debris: clay and jagged rock, scattered like shrapnel. It looked like a bomb had gone off.

Urury borrowed a motorcycle and rode the 7 miles to Desaguadero, a town of about 20,000 people, to alert the local police. By the time they arrived, dozens of people had gathered and were picking up rock fragments around the crater. Urury and the police started collecting debris as well. The police chief went to find Maximiliano Trujillo, the mayor of Carancas, who was at a celebration for Santa María at a nearby church. He saw the object in the sky but didn't know what to make of it when the police arrived and presented him with a handful of smoking black rocks. "What do you think it is?" the police chief asked.



The meteorite left a crater in the Peruvian altiplano that was 50 feet wide and 20 feet deep.

Jake Naughton

By now, panic and confusion had taken hold in some places around the altiplano. Some thought the plain had combusted and were waiting for the fire that would engulf them. Others were certain that the end of days had arrived. People retreated to their houses to pray with their children. A local barfly named Vincente paused at the sound of the crash and then ordered another round of Paceña.

Around the world, experts were also confounded. Peter Schultz, a professor at the Department of Earth, Environmental, and Planetary Sciences at Brown University, first heard of the Carancas event while attending an impact-crater conference in Montreal. News reports showed images of the scene, and by midday Schultz's voicemail was full of inquiries for comment on what had happened. Good question. It was unclear. Craters like this are extremely rare.

Even more unusual were reports of a mysterious illness. Within hours of the impact, it seemed, people were getting sick in Carancas. Urury had already collected several dozen small rocks when his son called from the city of Tacna and said not to touch them because they were dangerous. "*iContaminado!*" his son said. The fear spread. The rocks were somehow toxic, people thought, or radioactive or just plain cursed. Locals had packed themselves 10 to a truck to see the crater and were now complaining of headaches and vomiting. News reports said that livestock were bleeding from their noses, and hospitals and health clinics in the area were full of patients.

On the popular meteorite-list listserv, scientists and amateur enthusiasts alike debated the nature of the Carancas event. People were skeptical about both the illness and the crater itself. The only way to make a proper determination was to see it in person, collect

samples, or retrieve the impact mass. The rock itself would be enormously valuable, both for scientific inquiry and also to collectors in the brisk, high-end market for meteorites, in which a rare, crater-producing landfall could command especially steep prices. But this crater was in a remote area, difficult and expensive to reach. And there were only so many people in the world willing to head to the highlands of Peru at a moment's notice to look for things that fell out of the sky.

Across the Atlantic on that same day, Mike Farmer walked through an olive grove in central Spain. He scanned the ground in front of his feet as if he'd lost something. Among the fallen olives he spotted a small stone, dark and rough. "Oh, my," Farmer said, picking it up to look at the black, pitted surface. It was part of a rare achondrite meteorite that had exploded over Spain four months earlier, lighting up the evening for the tourists staying in the surrounding villas. This olive grove sat square in the area Farmer had calculated was the likely debris field. Robert Ward, Farmer's meteorite hunting partner of late, took the rock and held it up. "Look at that fusion crust," he said. He could tell immediately that it was a eucrite, similar to a meteorite that landed in Brazil in 1923, and likely very valuable.

Ward and Farmer could identify the rock because they were professional meteorite hunters, members of a small clan of adventurers, most of whom make their livings retrieving specimens for the rarified trade in extraterrestrial mineralogy. They trawl exposed terrain for weeks or longer looking for long-fallen space rocks, and snap into action to travel across the planet whenever a fireball appears over some far-flung place. Ward always keeps a packed duffel that includes kits for desert or jungle or whatever terrain might await him. (Meteorites are not often kind enough to land in the pleasant orchards of Iberian hill country.)

Between them, Farmer and Ward have found thousands of meteorites all over the world: in Argentina, India, Kenya, Morocco. Deserts are good for meteorite hunting; flat, dry, and unchanging, the sandy surfaces can yield ancient finds. At the time of this trip, Farmer and Ward had been working together for about a year, having first teamed up in 2006 on an expedition to the Arabian Peninsula, where they discovered, among other things, a beautifully feldspathic piece of the moon in a desolate stretch of the Dhofar desert, deep in southern Oman.



Mike Farmer fell in love with space rocks when he came across them at a gem show.

Jake Naughton

Meteorite hunting attracts a type. It requires study, dedication, and a tolerance for dirt and disappointment. It can be monotonous. You spend a lot of time looking at the ground and you never know when something might catch your eye, so you are always looking. (Farmer says he once found two meteorites while pooping.) But the drudgery can pay off dramatically. In Oman, Farmer and Ward drove in circles. They argued. And they were coming up empty in every sense, running low on gas more than 100 miles from the nearest

outpost, when Ward wandered away from the truck, eyes on the ground, and returned through a cloud of dust with a big smile and a lunar meteorite that had formed 3.9 billion years ago sitting in the palm of his hand. Ward reckoned it was the 40th moon rock ever found on Earth.

Ward and Farmer make an odd pair. Farmer is liberal and talks incessantly, while Ward is politically conservative and stoic, having grown up tending cattle on his father's ranch in Bullhead City, Arizona. Farmer is a big guy, 6'2" and 250 pounds and sort of shambling in his field dress of cargo shorts and floppy hat. Ward wears pricey expedition gear, and what you might call his "civvies" are full-on cowboy regalia, with pearl-buttoned flannel shirts and jeans accessorized by a handsomely brimmed hat and matching belt, holster, and boots, all custom fashioned from stingray leather.

Ward's stories open with lines like "I was down in the bunkhouse with an old cow-puncher named Strawberry ..." and end with him skinning a mountain lion and eating it. He is handsome in that all-American mode and likes a good night of two-stepping down at Matt's Saloon in Prescott, Arizona, where he typically had no trouble attracting women. The problem was keeping them once he started talking about meteorites—until, that is, Ward met his wife, Anne Marie, who doesn't mind his love of rocks. Ward is an experienced outdoorsman, having spent weeks in the Arizona desert alone with just a bedroll growing up. He was fine with not showering for a week at a time in the Omani desert, while Farmer did his best to dry bathe three times a day with baby powder out of the back of their off-road vehicle. Farmer thought Ward smelled too "rugged," while Ward thought Farmer looked insane carrying his oversized rolling luggage through Arabia's Empty Quarter.

But they had complementary skills. Farmer would go sleuthing in the archives of Arizona State University's Center for Meteorite Studies to find evidence of an undiscovered landfall in Canada, and Ward could build a rig that trailed an 11-foot metal detector behind a combine, which is how they unearthed \$1 million in pallasite fragments from several square miles of Alberta farmland. Farmer is known for being relentless. Ward considers himself lucky or even fated; he once found some ancient space rocks not more than 100 yards from where the California gold rush began at Sutter's Mill. At heart, they are aligned in their mutual thrill of the hunt. "This is what I live for," Farmer says. "Not just the meteorite, but also the acquisition. I mean it's treasure hunting."

They were accompanied in Spain by Moritz Karl, a fellow space rock enthusiast from Germany. Karl was quiet, a chain-smoking bookworm born into what counts as a Brahmin family in the mineralogical world. His father is a rare-rock dealer in Frankfurt, and used to bring his teenage son to Libya to search for meteorites. In college, Karl studied engineering, but he later returned to the family business and discovered a deeper love for the field.



Moritz Karl grew up in the world of meteorites. His father is a rare-rock dealer.

Kevin Faingnaert

After a day of poking around olive groves, the group retreated to their hotel. They'd said their goodnights when Farmer first saw the reports from Carancas. He called Ward. "Did you see what happened in Peru?" he asked. "Come down to the lobby." It was midnight by then, but Ward hurried downstairs to huddle over Farmer's computer and look at the images showing up on the meteorite forums. A crater in the middle of an empty plain. Photos of villagers posing with black rocks in their palms. And reports of witnesses falling ill, struck by some invisible ailment.

Farmer was skeptical; he thought it might be a hoax. The forums were full of theories: It was a spy satellite, it was volcanic, it was just a sinkhole. There were images of fragments, but they looked like chondrite, and that made no sense. Chondrites are among the most fragile of space rocks. They usually burn up or explode in the atmosphere. They also don't make craters. Karl smoked and looked at the screen, uncertain. Ward was undaunted; he wanted to see it firsthand.

They knew they had to move fast. Speed is vital in the case of a witness fall—when a meteor is seen hitting the Earth—because rival groups will be vying for the same otherworldly prize. At times the competition includes a French father-son duo, a Russian team known for long hunts in places accessible only by helicopter, and a pair from Oregon who hunt with what they claim is a team of meteorite-sniffing dogs. It can be a shifty business, and distrust is common. Once, before they teamed up and were both hunting the same landfall in Kenya, Ward thought Farmer was having him followed—until he realized the tail was hired by someone else altogether.

Roaming the same olive groves in Spain, in fact, was another rival hunter: Robert Haag, a flamboyant self-described “space cowboy” who had made appearances on both the cover of *Sky & Telescope* and David Letterman’s TV show. Ten years earlier, Haag had been Farmer’s mentor. The veteran hunter had beaten his former protégé to Spain, and Farmer knew he’d see the news of the new landfall. They’d have to mobilize. “Guys,” Farmer said, “let’s start packing for Peru.”

Both the mystery and the money were irresistible, although not equally between them. Farmer is the more mercantile hunter; finding meteorites provides his main income, and he sees the rocks as a rare commodity, often worth more than their weight in gold. Ward is independently wealthy and keeps a lot of what he finds for his impressive collection, which is housed in a biometrically locked display room at his ranch outside Prescott. His business card says “Robert Ward, Planetary Science Field Research,” and he likes contributing to the scholarship of meteorites, often donating pieces of his finds to the Chicago Field Museum, where he is a volunteer field researcher.

He is also flat-out awed by space rocks as pieces of the tangible cosmos. “Here you are,” he says, “holding in your hand a piece of some planet that didn’t make it.” Sometimes Ward will stand in his collection room and let his mind wander to the eons compressed in those rocks, relics of a primordial time, the oldest of which predate the solar system itself. “Meteorite obsession,” he says, “is like a spiritual calling.” He was 13 when he saw his first fireball cross the Arizona sunset. He remembers the cherry-red highlights, the dark center, the plasma dissipating around it, and ever since that moment he has felt compelled to hunt them. “It’s a much deeper calling than a career,” he says. “It’s a God-given directive.”

“Meteorite obsession is like a spiritual calling. It’s much deeper than a career. It’s a God-given directive.”

Robert Ward

Early civilizations understood that meteorites had an extra-terrestrial origin. The Hittites, Greeks, and Chinese all recorded observations of “falling stones.” But this was mostly forgotten in the West under the strict dogma of Medieval theology. The Christian

conception of an invariable, geocentric universe composed of perfect forms excluded any notion of cosmic flaws, much less untethered rocks crisscrossing the ether. For the Church, to suggest that something fell from the sky was blasphemy. For centuries, in fact, the word *meteor* meant any atmospheric phenomenon, because that's how fireballs were understood, akin to fog or wind or wind.

In 1794, a German physicist named Ernst F. F. Chladni collected historical reports and data into a 63-page book that made the first proposal in scientific literature that meteorites originated in space. A few years later, in 1803, a French naturalist named Jean-Baptiste Biot used direct eyewitness accounts (along with anticlerical fervor after the French Revolution) to directly challenge the Church in a book that, he declared, would “remov[e] beyond the reach of all doubt one of the most astonishing phenomena that men have ever observed.”

More than a century later, one of the first people to make space rocks into a life’s work and living was a man named Harvey H. Nininger, a biology professor at McPherson College, in Kansas, who in 1923 read an article about meteorites in *The Scientific Monthly* and became an instant convert. A few years later, Nininger left the stability of his tenured post, bought a Ford Model T, and set out on a string of international journeys looking for landfalls. Nininger traveled with his wife, Addie, an equal enthusiast, and together they collected samples and recorded the “memories of startled laymen” who had observed “blazing streams of fire lighting the landscape.”

Nininger’s many books about his travels helped create popular interest in finding meteorites. It was one of these books—*Find a Falling Star*—that the 13-year-old Ward discovered in the science stacks at the Prescott library the day after he saw that fireball in the western sky. Nininger’s journeys are exciting in their hardships and discoveries: wayfaring through Mexico in 1929, tracking down the “long lost” Huizopa specimen, sleuthing eyewitness accounts across continents. Ward was hooked; he borrowed the book a dozen times, worrying the pages. When he wasn’t roping cattle or gunsmithing with his father, Ward spent his free time searching for rocks among the sagebrush and saguaros.

Ward’s father started taking him to gem and mineral shows, and one day young Ward made his way into the booth of Debra Heidelar, a prominent meteorite dealer, who heard a voice saying “Excuse me, ma’am” but couldn’t figure out where it was coming from until she looked down, below her counter, and saw a tiny cowboy asking very politely if he could please buy a piece of the Canyon Diablo iron. Heidelar handed Ward a nice, sculpted piece as big as his hand and has been selling to (and occasionally buying from) Ward ever since.

Farmer was an adult when he became captivated by the allure of meteorites during his own trip to a rock fair. This was the celebrated Tucson Gem and Mineral show, one of the world’s most important international event for rock collectors of all stripes. Every year, merchants and fanatics of fossils, gems, and minerals converge on Tucson, Arizona, and occupy every available hotel room in the city. Fifty thousand people wander through the show venues, where you might see a cardboard box full of \$10 geodes or an entire *T. rex* skull or a multi-ton marble monolith brought in by trailer. In 1996 Farmer was living in Tucson, and on a whim one day he walked to the Holiday Inn Express near his apartment and happened into the room where Robert Haag had a makeshift shop.

Farmer was fascinated. He'd grown up in Show Low, a tiny town in the Arizona mountains, with just his mom and sister, a tough upbringing he brightened by looking for Anasazi pottery shards in the wilds behind the house. Farmer would collect them in a cigar box with other finds, like his lucky wheat penny, rabbit's foot, and rocks he liked. Farmer surveyed Haag's display at the gem show and looked at all the little pieces of the galaxy that had somehow wound up in plastic bins, labeled with prices. Farmer was hooked. These finds were like his pottery shards, elevated to cosmic grandeur.

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Farmer had been aimless for years, ever since he'd left the Army. That's where he had met his wife, Melody. She was a radio operator on the ships where Farmer worked as a Spanish translator, eavesdropping on drug flights coming from Colombia. Farmer would make excuses to come out of the secure facility and flirt with her, and their romance unfolded from there.

After the Army, he tried being a hotshot firefighter but thought it too grueling. He worked retail jobs and then went back to school. He and Melody were living in an apartment that cost \$400 a month when Farmer happened across Haag's hotel showroom. Farmer thought about how, when he was a kid, his mother had looked in the cigar box of treasures he carried around and said, "I hope you make some money off those one day." He pulled out his checkbook and bought a fragment of pallasite for \$70.

The check bounced.

Farmer spent the next few weeks dodging phone calls from Haag's wife while he came up with the money to pay them. Eventually he did, and Haag took Farmer under his wing. Farmer announced to Melody that he was dropping out of school, but not before he could redirect his student loans toward meteoritic investment. "This is the silliest thing I've heard in a long time," she told him. Melody picked up odd jobs while Farmer followed the news for any hint of a meteorite sighting. Money was slow to materialize.

Farmer remembers a lot of yelling during those years; Melody recalls just being concerned about the whole enterprise and worried about spending the little money they had on "rocks." Then Farmer bought a ticket to Morocco and came back with a lunar stone in the shape of an orange slice that sold for \$79,000. He bought a car and used the rest as a down payment on a house. "I didn't say a word after that," Melody recalls.

Prices for meteorites vary by size, abundance, and origin. Individual pieces are named for their falls. "Do you have any Tibet?" collectors will ask. Or "I'm looking for a small piece of Gujba." Allende is a rare classification, important to science. Sikhote-Alin is the premiere iron. Provenance is identified by certificate, but many dealers and collectors can identify the origin of a specimen by sight. "Is that a Glorietta?" someone will inquire, pointing to a display case across the room. They can tell by color or crust features or the form of the interior, where the true beauty of meteorites lies.

"It is not obvious at first," Moritz Karl says, "but it is there, waiting for you." When his father first started collecting what looked like weathered pebbles, Karl thought he was crazy. But then Karl watched his father, one of the world's foremost gem cutters, split them open to

reveal their hidden grandeur. "Meteorites are traumatized by their journey to Earth," Karl says. "But inside, they are wonderful."

The face of an iron meteorite, washed with nitric acid, reveals a tight mosaic of metallic etchings. Open up a chondrite, the most common form of stony meteorite, and you see spangled stardust. A well-cut pallasite can be polished to look like royal silver studded with jewels.

"You look at the matrix," he says, "the color of the crystals, the sheen of the metal." Glorieta is a high-end specimen—"top notch," Ward says—but he has a special place in his heart for the matrix of Tibet, which is full of unbroken crystals and polishes up to a special luster. Some say Esquel is the king of the pallasites because it has such a unique alloy composition that never tarnishes.

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There are pieces of the Fukang meteorite, found in northwest China in 2000, that when held up to light shine like the stained-glass windows in Tours Cathedral—if the stained glass had been forged in volcanoes on planets that disintegrated 4 billion years ago. In 2008 a piece of Fukang was valued at \$2 million.

But such finds don't happen every day. Meteorite hunting has always relied on an unkind ratio of perseverance to providence, going back to H. H. and Addie Nininger. After devoting their lives to traveling and lecturing about the importance of meteorites, the Ningers were mired in debt. When they offered their collection of thousands of specimens to the Smithsonian, the museum declined.

The Ningers needed a miracle—and then one plummeted through the roof of a house in eastern Alabama and struck a woman named Ann Hodges. She survived, the press swarmed, meteorites captured the public's imagination, and prices soared. Nininger paid off his debts by selling part of his collection to the British Museum for \$140,000. A bidding war erupted for the rest, and meteorite hunting suddenly became a business.

Ann Hodges herself got caught up in meteorite mania and became embroiled in a battle with her landlord as to who owned the meteorite that hit her. It was worth money, she realized. Money that fate wanted her to have. She told the newspapers: "God intended it to hit me."

In his early years, Farmer found meteorites to be a tough business. There were times when Farmer had to borrow money to make it through a few lean seasons. (It can be a tricky trade when sometimes all your assets are as illiquid as they come, in the form of rocks.) Farmer and Melody were also trying to start a family but were having trouble. At one point, Farmer tried the stock market, but he lost most of what he'd earned. Melody suggested that he turn his focus back to meteorites. Something was bound to fall from the sky.

People have always looked to the stars for meaning and destiny. And can you blame them? There was danger in the darkness, while the constellations provided security, marking time and guiding voyages. Ever since the first astronomers chronicled the traffic of the

firmament, the historical record is full of those who appealed to the heavens for signs and found them in stars and supernovae, orbital ice, and errant rocks.

The Aztecs identified the god Quetzalcoatl with the planet Venus and believed that it forecast the future. The Romans venerated a meteorite they referred to as the Needle of Cybele and attributed a surprise victory over Hannibal to their possession of this interplanetary amulet. The Bayeux Tapestry shows the providential appearance of Halley's Comet just before William the Conqueror's victory at the Battle of Hastings.

~~Of course, arbitrary suffering was also attributed to celestial phenomena.~~ "Wandering stars" have been blamed for the fall of Jerusalem (66 AD, advance warning), the eruption of Vesuvius (79 AD), and a London plague (1665). The Middle Ages took a characteristically fearful view of heavenly signs, often interpreting them as angry salvos aimed at sinners by a vengeful God. Or evil works themselves: Pope Callixtus III is said to have excommunicated Halley's Comet itself as an "instrument of the devil."

One man who saw it fall thought he'd seen a UFO. A boy took a photo. Villagers figured it must be Superman. Someone else said it was a mythical creature.

In 1178, some men visited a monk in Canterbury and told him about the "flaming torch" they saw on the face of the moon, which "writhed, as it were, in anxiety." What they likely saw was a rare event: an asteroid of significant size colliding with the moon. That explosion created the moon's youngest known crater of its size (later named for forward-thinking heretic Giordano Bruno) with a 120,000 megaton-blast. Hiroshima, by comparison, was 15 kilotons. Had that asteroid's course diverged by a few degrees, it would have struck Earth, creating an "extinction event" rivalling the Chicxulub impact that is believed to have killed off the dinosaurs 66 million years ago. Presumably, this would have been a really bad omen.

In the days after the Carancas meteorite struck the altiplano, some people chose to see the visitation as a sign that there would be a good year, but more said the opposite. People asked Maximiliano Trujillo, the mayor, for guidance. Trujillo had been elected only recently and was the type of leader who respected tradition. He heard grievances, marched in local parades, and presided over ancient rituals in the fields. He was popular, a politician people believed in. Yet now he felt unprepared.

It didn't help that people were getting sick. The hospital in Desaguadero was treating people for nausea, vomiting, and headaches. A health director from Puno, the nearest city, came to visit the site and thought he was developing symptoms himself. Rumors started to spread. Trujillo knew some of this arose from superstition, but he took the matter seriously. He did think it was strange that even the police who had visited the site became sick.

News reports said authorities were considering declaring a state of emergency. The altiplano is normally a forgotten place, a distant province with little importance in the capital, Lima, but now the national government was paying attention. Scientists came. The Red Cross arrived, took blood samples, and sent them to Lima for analysis. Some experts offered an explanation for the sickness: Arsenic in the water table had been heated and

vaporized by the impact energy and sent into the air as a gas. Luisa Macedo, a geological engineer from Arequipa, visited the site and sought to put the community's fears to rest. There were no spirits, she said. The crater was not dangerous.

Trujillo tried to calm his citizens. He convened a meeting at *la casa comunal*, a bare compound with stone walls—a rarity in the village. Nearly 800 people, almost all the people of Carancas, arrived. Around Trujillo were about a dozen village elders. The mayor said that he'd met with scientists, and they'd explained that a meteorite had fallen. Some people accepted this. Others were unconvinced.

Life has always been hard in this valley, where survival depends on the elements, and in the indigenous religion, the mountains, rivers, and lakes are manifestations of deities who must be kept happy. For those who still lived by tradition, there is the world above, *A/lax Pacha*, where celestial spirits and supernatural beings dwell. And this was where the "luminous object" came from.

Trujillo understood the collective psychology at work, and in front of the assembly he asked Marcial Laura Aruquipa, the local shaman, to prepare a sacrifice. Aruquipa was one of two shamans left in Carancas. When he'd started 30 years ago, he'd been busy. But his ancient practice had been neglected, and he had far fewer visitors now.

People had shifted their faith to the health clinic, to social services, to Father Santos Pari, who sat nearby. And Aruquipa felt gratified to be needed again. His assessment was that whatever had arrived had turned the land malignant, and that to restore equilibrium among the deities the thing to do was to offer a sacrifice and pray.

As a practical measure, the community also decided to build a fence around the crater, to protect it and the people. Trujillo told everyone to sign up for 12-hour guard shifts, night and day, changing hands on the sixes. Shirking duty would cost you a sheep. We need to be vigilant, Trujillo said. He wasn't sure about what exactly. The watch shifts were big, a couple dozen villagers each, camping under an open sky.

After the meteorite landed, the local shaman, Marcial Laura Aruquipa, was called in to assess the situation and to make a sacrifice to the gods.

Jake Naughton

On Saturday, September 29, Farmer, Ward, and Karl arrived in Desaguadero. The town is split by a river, marking the border between Bolivia and Peru. The team had flown into La Paz and taken a taxi to the altiplano. They walked the river's concrete bridge, which was lined with Aymaran women in bowler hats and braids selling dried corn, peanuts, and coca leaves. It was midmorning, and they could see the Ancohuma, or Janq'u Uma, the densely glaciated 21,082-foot crown of the Cordillera Real, the eastern ridge of the Andes.

Ward loves the romance of antiquity, and now they were venturing into the realm of the Inca. He'd reflected at times about how much of human history is fleeting, how civilizations rise and fall from war, weather, and the flaws of human nature. The Inca had the largest empire in the world at the turn of the 16th century; three decades later they were gone. Even the Andes began their tectonic rise only 25 million years ago, but Ward knew the rock

he and his colleagues were looking for was once illuminated by the infant sun—a smaller, brighter memory of the mature star we see today. Ward bought some coca leaves, filled his pockets, and stuck a pinch in his cheek.

On the far side of the bridge, they came to a battered border control outpost. Inside, Peruvian police were surprised. Farmer's Spanish was still pretty good from his Army days, so he did the talking. He had a high-pitched American accent, but when Farmer said they came to find a meteorite, the police quickly understood and agreed to take them to the spot. They hustled the group into two SUVs and sped off for the crater. The police were friendly, which Farmer took to mean they knew there was money to be gleaned from the gringos. He made sure not to reveal that they were carrying \$30,000 in cash. Having that kind of money could be dangerous in remote places.

As they drove they got a sense of just how remote this area was. There was a reason Carancas could not be seen on Google Maps. The altiplano was a lawless frontier, the police said. "Watch out for the village people," they added, warning of occasional instances of frontier justice. When the Aymara didn't want to wait for the police, they'd been known to burn suspected criminals alive in the fields. "You need protection," one of the cops said.

Farmer took all that with a grain of salt. He suspected the "protection" would be offered at an inflated rate. What he didn't know was that his onetime mentor and current rival, Robert Haag, had just fled this very place. The veteran hunter had arrived a day earlier, rented a car, attached a portable PA system to the roof, and driven around broadcasting an offer to buy meteorite fragments.

It was a somewhat inelegant technique that attracted a lot of attention. Haag was essentially advertising what Farmer wanted to hide: that he was a rich *yanqui* with a wad of cash. At the end of his first day, Haag felt that he had put himself in what he called a "seriously dangerous" situation, and when he tried to leave he found his car surrounded by locals with crowbars. Somehow Haag evaded the angry throng and hurried back to Bolivia. On the road back to La Paz, he probably passed Farmer, Ward, and Karl heading the opposite direction.

None of that would have been a likely deterrent anyhow. Meteorite hunting is an obsession, and that sometimes means making ill-advised decisions and putting oneself at risk. In their storied careers, Farmer and/or Ward have been harrassed by authorities in Argentina; nearly abducted by FARC gunmen outside Kali, Colombia; and robbed in Kenya, where Farmer, in search of a new ejecta field, was captured, hooded, and later told by his driver that his Swahili-speaking robbers were deliberating whether they should kill him. (They decided it was too much trouble.)

Ward, as a man of deep cowboy capability, is unafraid of the hazards of the hunt; no light, no supplies, no map, no problem! Farmer's fearlessness is more surprising. If you saw him on the streets of Tucson, a regular old suburban-looking American dude, you wouldn't necessarily peg him as the type of guy who was once in the mountains of Morocco and without hesitation asked that some Tuaregs sneak him into Algeria, where, hidden in the back of a vegetable truck, he was chased by soldiers for hours through minefields. But this is what happened. Some nomads emerged from the desert with small pieces of a rare

pallasite, and over the objections of his local contacts, he said: "Take me there." Farmer never got to those rocks. The Algerian junta chased him back to Morocco. But it is the risk one must take. "Mike and I will go anywhere on the planet," Ward says.

When the trio arrived at the crater, they saw a makeshift fence of wire mesh on wooden stakes, with a single guard in his bowler and brown shawl. Farmer approached the guard while Ward hung back. Karl hung farther back, smoked, and said little.

"That's a big hole," Farmer said in Spanish. "We came a long way to look at that."

"Why?" the guard asked.

"To understand what this is."

Farmer could see that the guard was wary of both him and the authorities. "They just drove us here," Farmer said, waving at the police. "We're not with them."

The guard motioned for Farmer to go inside the fence. He waved Ward and Karl over, and they all walked up the incline and stood at the edge of a fresh meteorite crater for the first time in their lives. Ward looked at the ejecta layer, a spread of clay and mud and pulverized asteroid that fanned out for 400 yards, mostly on one side, showing the angle of impact, and thought: "Oh my God, this thing is for real."

Karl and Farmer were equally excited. They found a few fragments and recognized the veins streaking the surface that memorialized the rock's fiery journey. The samples were shot through with little bubbles of preplanetary dust, identifying this landfall definitively as a chondrite. They knew that what they were seeing was scientifically shocking. Planetary geologists had been saying that a chondrite crater was impossible, and yet here they were, looking at it—the only known impact of its kind in recorded history.

"No amount of money can replace the feeling of finding a rock that was in space two days ago," Ward says. "It's indescribable."

Ward started wandering the edges of the crater with a metal detector, while Karl searched the debris field. As usual, Ward was the first to find a small fragment, but as soon as he held it up a grandmotherly local woman who had appeared nearby pointed at it, as if she wanted a closer look, and when he handed it over she slid it into her skirt and ran away. But most of the Aymara were happy to sell the gringos fragments they'd collected. Each piece was worth a little money, but the real prize was at the bottom of that crater. Or so the hunters hoped: The meteorite must have been many metric tons, but they couldn't see it because of the water. Ward climbed down the crater for a better look. Because of the altitude—the plain stands 12,550 feet above sea level—he was having trouble breathing and chewed coca leaves, as the locals did, to acclimate. Even at the water line he saw nothing; the surface was an opaque green murk. This crater was 20 feet deep in places, and Ward quickly guesstimated the volume of water. "We're going to need some real equipment to pump this dry," he said.

Farmer led the group back to Desaguadero—Carancas had no proper accommodations—and booked the nicest place they could find; it was \$4 a night. At a restaurant with an inviting display of rotisserie chickens, they sat down to a giddy dinner. The food was

excellent and kept coming— and trout from Lake Titicaca—and talked about what they'd seen. If they could get that thing, they knew, it would be a career-defining recovery, a glorious entry in the great ledger of meteorite hunting.

But they had to move fast. Chondrite is porous, and depending on the composition it's liable to disintegrate in water. They needed to pump out the pit as soon as possible. Luckily, Mayor Trujillo had approached them earlier in the day. He didn't seem worried that the crater posed any danger, but he still had questions. The government hadn't reassured the locals. "We can help dispel the fears," Farmer said, "and share whatever the rock is worth." Trujillo said that he was open to this idea, but his responsibility was to present their offer to the town. There would have to be transparency. "Come to the *casa comunal* tomorrow morning," Trujillo said. They would have to convince the Aymara.

The courtyard filled up quickly. Farmer, Ward, and Karl arrived by taxi around noon and found more than 100 people waiting for them. The women were on one side, men on the other, with elders between. The *casa comunal*'s adobe bricks were red from the local soil. The Aymara skirts and shawls were full of color. Trujillo was there, presiding. Farmer had no idea how they would be received and had an anxious thought: I hope the pitchforks don't appear. He told the taxi to wait for them.

Farmer rose to talk, while Ward and Karl hung back. Ward didn't like being so visible and worried that Farmer's approach could backfire. Karl sat on a low wall and smoked.

Farmer began by explaining the unbelievable odds that had led to this moment. "This rock traveled through all of space and somehow wound up exactly here," he said. "That makes this place special." Farmer spoke in Spanish, which was then translated into Aymara. He said that something important might be hidden beneath the water, that he and his friends wanted to preserve what remained of the rock for science and the community. But they needed to drain the crater now, before it was too late.

|| "This rock traveled through space and wound up here. That makes this place special."

Mike Farmer

"If we lift it, will it stir up the poison?" one Aymara man asked.

"No," Farmer said. "It's not poisonous."

There were more comments along these lines. Cows were sick. Chickens had stopped laying eggs. Many villagers were still convinced this was a sinister arrival.

Farmer wasn't the best candidate for soothing superstitious fears. He considered religion a weakness and had hated church since childhood. Farmer's father committed suicide when Farmer was 5, leaving his mother in tough straits, and he remembers growing up poor and being furious every Sunday when he saw his mother put 10 or 20 dollars in the collection basket. If god provides, as the pastor said, it seemed to Farmer the money should be going the other way.

Still, he was respectful toward the Aymara and tried to be reassuring. People talked about their sick friends and family members. Farmer said he understood why people were afraid but tried to explain that the rock was not dangerous. This thing, he said, is an opportunity.

Trujillo had come to agree. He'd started thinking that maybe Carancas had been visited by good fortune. If this crater was so unusual, he thought, maybe it could be an attraction. He was thinking big. They could build a museum. And pave the road to a new tourist destination in a place that had none. Maybe they could even create a sightseeing zone with some Inca sites. And, of course, they'd get some money from the meteorite itself. When the conversation turned transactional, the Aymara complained that Peruvian officials had a way of stealing their money. They wanted the hunters to deal only with the Aymara elders and pay with cash. In other words, don't cut deals with the authorities or police. Farmer agreed.

An elder stepped into the center of the circle and said to Farmer: "You can go now."

"OK," Farmer said, confused.

"What's going on?" Ward asked as they walked out of the main square.

"I think they're going to vote," Farmer said.

They waited outside, beside their taxi. Eventually the Aymara all filed out of the *casa comunal*.

"What happened?" Farmer asked.

It was the taxi driver who figured it out first. "They agreed to lift the rock," the driver said. "But only if the spirits agree."

The next day, their taxi joined a long caravan of motorcycles, cars, and bicycles heading for the crater. Several hundred people turned out to see Aruquipa, the shaman, set up a small altar of reeds at the edge of the impact zone. He added bundles of dried flowers and spices and chanted while the villagers placed candy, coins, and coca leaves on the makeshift altar.

We do not know what has just arrived , the shaman sang in Aymaran. Don't punish me.

The shaman set fire to the coca leaves, which caught quickly and ignited the rest of the altar. To ensure a plentiful harvest, the shaman might normally offer a llama heart as sacrifice. Now he needed something more powerful to ward off evil. He pulled a llama fetus from a bag. The animal's downy fur was matted and dried. The wind whipped ash and sparks from the altar as Aruquipa held up the sacrifice for the spirits to see, threw it on the fire, and made a plea: *Pachamama, forgive me.*

As Farmer watched the ritual, he felt his old complaint about religion—that it preys on fear—rise in him. But if it's going to get the rock out of the ground, he thought, let's offer a llama to the gods.

Ward took a different view, being both a God-fearing man and a believer in science. His was an ecclesiastic cosmos, spirited by the sheer wonder of creation—and destruction. Some meteorites are full of organic compounds, like amino acids and sugars, and astrobiologists think this might be how the chemical building blocks of life arrived on Earth.

Asteroids may or may not giveth, but we do know that they taketh away, via cataclysmic cosmic bombardment. In Ward's line of work, he can't help but think that Armageddon will arrive in the lithic form from space. "In the ongoing game of cosmic pool," he says, "the white ball hasn't knocked us into the corner pocket yet, but it'll happen." Maybe in our lifetime, he says, or maybe not. "Or maybe it will all be over two minutes from now."

As Ward is quick to note, there are plenty of "near Earth asteroids" with uncomfortably close orbits that could end human civilization. Just last April, a massive asteroid called 2018 GE3 was discovered only hours before it passed so close to Earth that it was nearer to us than the moon. "Statistically," Ward says, we're "about 20,000 years overdue" for a decent-sized cosmic knock. At times, Ward sees his work as helping to protect the planet. And part of his hope in recovering this rock was to learn more about chondrite impacts.

The village of Carancas sits on the high altiplano of Peru at an altitude of about 12,000 feet.

Jake Naughton

Aruquipa fanned the flames. The smoke kept rising. After a few minutes the small altar had burnt away. The shaman stood up and looked around. He knew the spirits could be selfish and were easily disturbed. But after a moment of silence, the spirits had no anger.

Pachamama had spoken: They were free to move the water and take the rock.

A heavy-duty pump roared to life. It had been brought in by flatbed truck from Desaguadero. The machinery was massive, loud, and smelled like diesel, but within a few minutes it was already lowering the water line in the crater. Farmer and Ward were watching from just outside the fence and could barely contain their excitement: If there was a main mass still intact down there, they were about to set eyes on an incredible find.

As the pump chugged along, more cars arrived. The area was now thick with people: residents, local politicians, and even officials from Puno, the regional capital, 235 miles away. A contingent of police from Desaguadero also arrived. Farmer noticed one guy, apparently a politician, standing on a truck with a loudspeaker, like a traveling firebrand on campaign. Some of the police were not the same ones he'd seen before. The politician was gesturing and shouting through the loudspeaker. Farmer couldn't make out what was being said, but dark murmurs spread through the crowd. Then the pump stopped.

Commotion ensued, and without the din of the pump, Farmer could now hear the factions arguing. Regional officials told the locals that everything in the ground belonged to them. Local officials protested. Paperwork was displayed. Paperwork was swatted away. Trujillo was exasperated. Police declared, "No one may touch the area." An Aymaran villager yelled back: "This is not yours!" At the *comunal*, the Aymara had decided among themselves that they would share whatever wealth might come from the crater evenly. Now there were outsiders here. The Aymara felt betrayed. The yelling spread. It wasn't clear anymore who was in charge, if anyone.

The crater was almost empty. The prize was almost in reach. Ward decided he would turn the machine back on himself. "That's a bad idea," Farmer told him. The crowd was riled up and the police were on edge, but Ward started climbing the fence to get at the pump anyhow.

This did turn out to be a bad idea. People in the crowd turned their shouting toward Ward. Now the focus was on the three strangers, and Farmer could tell they were not wanted. The orator with the bullhorn started denouncing "the foreigners." Just like that, the scene had turned. "We gotta go," Farmer said. The rock had gone from spiritual totem to apple of discord. No one was afraid of the rock anymore; everyone wanted it for themselves. If it was even still there. As the crowd argued, the crater slowly refilled with water.

When Farmer, Ward, and Karl got back to Desaguadero, the police were waiting. "We need you to come to the station," an officer said. Ward couldn't understand what the police said to Farmer in Spanish, but they looked serious, and he could tell from Farmer's expression that it wasn't good. They were escorted to police headquarters, where they were ordered into a room and greeted by a man in uniform waiting behind his desk. Someone shut the door behind them.

"Are you enjoying your time in Peru?" he asked.

"Uh, sure," Farmer answered in Spanish. "It's beautiful here."

"You're very far from the United States," the officer pointed out. "It's not good to cause problems when you are far from home."

"We're not trying to cause problems," Farmer said. "We're just collecting rocks for scientific research."

"What authorization do you have to operate here?" the officer asked abruptly.

"What kind of authorization do I need?" Farmer asked gamely.

Farmer was pretty certain Peru did not forbid their activity, but the legality of taking meteorites out of a country is often a question, and hunters are easily accused of smuggling. Ward sees meteorites as gifts to humankind, a scientific treasure for all, and yet the moment you pick them up they are converted into commerce. So it is a semi-illicit or semi-illicit field, depending on your perspective. Antiquities laws don't always apply to meteorites, but sometimes they are applied anyhow, and some countries have specific rules for space material while others don't.

It's usually better if there are laws on the books, because if not, new "laws" can be invented on the spot, by a capricious authority, in a tiny police station on some distant desert plain. This happened on one of Ward and Farmer's later trips to Oman: They were arrested, tried, and sentenced for illegal mining, and spent 54 days in jail, the first month in isolation but for interrogations, eating (as they described it) "rat bone soup" while listening to people being tortured through the walls.

As far as Farmer could tell, they were being accused of attempting to steal the cultural patrimony of Peru. It was even more worrying when their passports were confiscated. The interrogation continued for more than an hour, and the questions became more aggressive. Karl was concerned about their safety. He'd never been in trouble before. "You don't know what you've done," the officer said, darkly. "You've stirred up the people."

He told them the indigenous people were angry because of the gringos and their money and the conflict that followed them here. Rumors were already spreading among the Aymara that the gringos were going to take the rock, or that Trujillo had sold it to them, or that they had already stolen it. "What right do you have?" the officer asked. "This is not your country."

It was a fair point. They were, in fact, strangers abroad. Their entire practice entails showing up in a foreign land, hoping to find some extraterrestrial arbitrage. It's not like making off with the Elgin Marbles or ancestral bones—what they came for wasn't there a week ago—but they were outsiders and they were middlemen, which creates its own ethical issue. They pay less than the rocks are worth, of course. But if someone didn't show up and identify the value, the rocks would be worth nothing to anyone.

Ward has a display case in his home where he keeps fragments of the meteorite that fell in Carancas.

Jake Naughton

"We're watching you," the officer said, eventually declaring the questioning over. He returned the men's passports and had them escorted back to their hotel. Farmer wanted to leave immediately. By that time, it was night, and the concrete border bridge they crossed from Bolivia just a hundred yards away was closed. "We need to get to that border tomorrow as soon as it opens," Farmer said. (The police chief declined to comment on the meteorite hunters; however, in an interview with a South American newspaper, he rejected accusations of impropriety.)

At first, Ward was bewildered. "We didn't do anything wrong," he said. He had gotten close to unearthing a rock that shouldn't be here. He wanted to own a piece of that impossibility. But things started to look even worse when, defying the police's warning, the group left the hotel and scoped out the border checkpoint. They noticed one of the officers, now in plain clothes, following them. "Nice night out," the man said to Farmer. "So where do you think you are headed?" Farmer thought he saw more police in plain clothes. "Just going for a stroll," Farmer said. Back in their rooms, they started packing. Now they knew they were being watched. Even Ward was alarmed. They were biding their time and hoping there wouldn't be a knock at the door.

That knock came at 4 am. Farmer opened his hotel room door to find two officers with a new message. "Give us \$2,000," one of them said. Farmer argued with them, and one of the officers smiled and said, "That's fine. We'll get it all." The officers wondered aloud how the gringos thought they were going to get past the police at the border. And they said the national police were already coming from Lima to arrest them. Farmer knew the situation was getting dangerous. There were conflicting authorities, maybe working together, maybe not. Some corrupt, maybe some not.

Farmer was worried they could get fleeced and thrown in prison. From his room, Ward could hear that something was going on and started hiding his money and the few specimens they'd collected.

Farmer and Ward woke up Karl, who had slept through the whole thing. "Dawn is an hour from now," Farmer said. "Be ready to make a run for it."

The streets were still dark when Farmer, Ward, and Karl tiptoed through the halls of the hotel and out the door. As usual, Farmer was traveling heavy, and although they'd had to pack fast and had left things behind, he was nevertheless rolling three giant suitcases toward the border bridge. It was a market day, and the roads were filling with Aymaran merchants and their livestock. At the end of the main street, they turned toward the bridge and saw the border lined with a phalanx of police. The sky was brightening over the Andes. Farmer could see the police watching them, and thought he saw them grinning.

Between them was the public square, packed with vendors setting up produce stalls and donkey carts full of chickens. Farmer had been studying a map for the past hour and knew there was another border crossing 50 miles north. He walked to the nearest taxi, waved several hundred dollars, and said, "We have some problems, and we need to leave quickly."

Farmer had no idea if the driver would be sympathetic, but the guy nodded, asked no questions, and opened the trunk. Farmer casually walked back over to Ward and Karl. "Don't say anything," he instructed. "Head for that taxi, throw your stuff in the back, and get in as fast as you can."

Rumors were already spreading among the Aymara that the gringos were going to take the rock for themselves. They were growing angry.

As soon as the taxi doors closed, the police saw them. The driver peeled out, and there was shouting behind them. Ward turned to see one of the officers running behind them while the taxi gunned it, swerving up onto the sidewalk to get around the market stalls. The border police were caught off guard, away from their vehicles. Ward looked back and saw the officer in full sprint, catapulting over a chicken cart. But the driver got into the open road, and the cop fell behind into the market crowd.

On the highway the car was quiet. Farmer realized he hadn't talked to Melody in days. When he's in the field, he usually checks in, but communications were spotty in the altiplano. Melody didn't know how dangerous this place would turn out to be, and Farmer was glad about that. But he knew she'd be waiting for his call, and there would be no way to reach her until they got out of Peru.

Before they reached the crossing, though, their taxi was flagged by a cop in the middle of the road, next to a man in a business suit. He was holding a radio. "Oh, shit," Farmer thought, figuring the border police had sent word up the road. He put his head down. All Ward could make out were heated words between the taxi driver and the stranger. "What's going on?" he asked. "Shut up," Farmer said, "I'm trying to listen." Karl was completely still in the back seat, wondering how he'd gotten himself into this situation. The yelling stopped and the car started moving again. "Turned out that was a politician trying to commandeer this taxi," Farmer explained to Ward and Karl. "He had no idea who we were."

They carried on along the road and eventually reached a border crossing on the shore of Lake Titicaca, where they stepped onto a ferry that would take them to Bolivia. By now the sun was rising over the Andes, bringing up the blue of the lake. Below, the water was visible through the warped deck boards of the ancient barge. The crossing takes more than an hour, and by the time they stopped at Isla del Sol, an island just inside of Bolivia, they started to feel safe.

Seventeen days earlier, a massive stone had careened over this lake, a fittingly Empyrean setting for such a grand celestial appearance. Farmer, Ward, and Karl had come all this way to find a visitor from the stars, only to be confronted by a small but swift maelstrom of very terrestrial habits: fear and anger, hope and disappointment, opportunism and greed. Farmer had been at such pains to reassure everyone else that the rock was not dangerous, but in the end it had summoned enough danger to force him and his partners to flee.

The Aymara pray to their gods at this lake. In the distance was Amantani, an island where *Pachamama* receives offerings for a bountiful harvest. The meteorite hunters might not talk about it this way, but they too were here to find fortune from the sky. And for a brief moment they thought they'd found it. Feast or famine from above, the enduring human tradition.

In a way, the hunters' obsession is almost mystical itself, imbuing their rocks with an aura built on belief. Both science and superstition attributed something special to the meteorite, and therein resided its spiritual or material worth. Its value was an expression of faith. Even at their deepest rationalist moments, the meteorite hunters are hoping for life to be changed by celestial intervention.

They were here to find fortune falling from the sky. Feast or famine from above, the enduring human tradition.

The group arrived on the Bolivian shore in a small town that they were surprised to discover was called Copacabana. "Quite unlike the one in Rio," Farmer said. His joke was greeted with silence. They headed for La Paz, where they checked into their hotel and found an email from the vice consul to the US embassy in Lima. It turned out the US authorities thought the trio had been arrested, and Peruvian news was claiming that they were already in custody there. Farmer assured the consul they were not, in fact, in jail; they had evaded capture and were heading back to the United States.

It wasn't until Farmer got to Miami that he reached Melody, who was glad to hear from him, even if they were coming home practically empty-handed. After all, they had not made the career-defining recovery they imagined. They lamented what was lost. But if the desire for divine intervention is eternal, so is the wait. Everyone, in some way, is hoping that their own rock will fall from the sky—that thing which brings riches and fame or transforms failures into successes and sorrows into joy, the existential alembic that makes ordinary life extraordinary. And for all their smarts and pluck, Farmer, Ward, and Karl had just learned what we already know deep in our hearts: Destiny is not determined by the stars. The odds of that stone landing where it did were calculated at 1 in 182 trillion. They didn't get the rock—and typically we don't get ours either.

None of that will stop these guys from continuing the search. "I will do this forever," Ward

says. Back home, Ward sent one of his few samples of the Carancas meteorite to the Field Museum for analysis, and placed the others on a glass plinth in his biometrically sealed room, where he admired it while drinking fine wine from his own cellared collection. ("Even cowboys can have a wine phase," he says.) Just having a small specimen of this unique stone was inspiring. "I was already thinking about the next hunt," Ward says.

Farmer never even unpacked his bags entirely. Melody started trying to intervene, telling her husband she wished he wouldn't go on expeditions that were dangerous, but she knew it was futile. Eventually, Melody did get pregnant. Ward thought that might slow Farmer down, but he remained ready to go wherever the landfalls took him.

In Carancas, the crater was never drained. It remained full of water, its contents unexplored. The rainy season wore down some of the impact furrows, softened its shape. The locals stopped feeling sick, and *la contaminación* prompted health officials to do tests that confirmed the presence of arsenic in the water table, potentially saving lives. Peter Schultz, the planetary astrogeologist, visited the site to properly study the impact. The chondrite, he theorized, could have slipped through the atmosphere by coming apart and reshaping itself into a narrow projectile. He cowrote papers, updated models. If indeed chondrites can arrive intact, what fell in Carancas portended a higher danger of deadly cosmic collisions, since most meteorites are chondrites and they were previously thought to carry less risk. Maybe everyone was right to be afraid of it.

The Aymara went back to tending sheep, although bitterness remained. Some locals blame outsiders for bringing the authorities around. Some thought the gringos stole the rock. Some still believed it was just an *antahualla*, the scorpion spirit from the mountains. The police showed up to guard the crater after the gringos left, but what remained of the rock had almost certainly dissolved in the water. It may have already been gone when the meteorite hunters arrived in the town. Trujillo never got his museum. Nearby were concrete pilings, the beginnings of a structure never built. Trujillo had hoped the crater would invigorate the area, but now it's just a strange feature of the landscape. And soon that too will be gone. A few more seasons of rain and the land will be flat again.

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