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INHABITANTS OF THE "LOST VILLAGE" OF LARI PARADE AROUND THE PLANE

To clear a safe landing field among the high mountains that surrounded this remote settlement was a difficult task. The first work was insufficient, and the natives were disappointed almost to the point of violence when the *Washington,* flying over the new airport, signaled that it was impossible to alight. Later, successful landings were made (see text, pages 127 and 132, and illustration, page 126).

A FORGOTTEN VALLEY OF PERU

Conquered by Incas, Scourged by Famine, Plagues, and Earthquakes, Colca Valley Shelters the Last Fragment of an Ancient Andean Tribe

By Robert Shippee

Author of "Air Adventures in Peru," in the National Geographic Magazine

With Illustrations from Photographs by Lieut. George R. Johnson

INDIANS crowded the plazas and threw their hats into the air as we zoomed half-forgotten towns in the Colca Valley of Peru. One old woman groveled in the dirt as our strange "birds" roared overhead.

Some towns were completely deserted. On the zigzag trails that lined the steep valley sides, we could see stampeding herds of llamas. Over short stretches of pampa we flew so low that blasts from the propeller stirred the dust into little whirling cones. But nowhere in the valley had we found a safe place to land. At sea level we could have landed in several of the flatter stretches, but the floor of this valley was two miles above sea level, and we needed plenty of room.

In a previous article* we told how we lost our other plane, the *Lima*. Had it not been cracked up, we might have attempted a landing; but with only one plane, the *Washington*, now in commission, we finally thought it best to explore the valley first on land, and thus find a spot where the plane might alight.

So it came to pass that late in June we left the plane at Arequipa and set out for Chivay, a town at the head of the Colca Valley, some 70 air miles north. Valentine Van Keuren, topographer; W. O. Runcie, motion-picture cameraman; Max Distel, mechanic, and I, pilot and historian, went on this trip. Lieut. George R. Johnson, our chief photographer and field leader, and Irving G. Hay, pilot and mechanic, remained at Arequipa to complete an aërial survey of the Colca.

Over a circuitous and difficult route, by train, truck, and muleback, we reached Chivay in two and a half days. Our path had taken us along trails cut into sheer mountain sides, through icy streams, and across sun-blazed pampas. Yet we were more than repaid by our first sight of this strange little town (see map, page 113).

A LUKEWARM RECEPTION AT CHIVAY

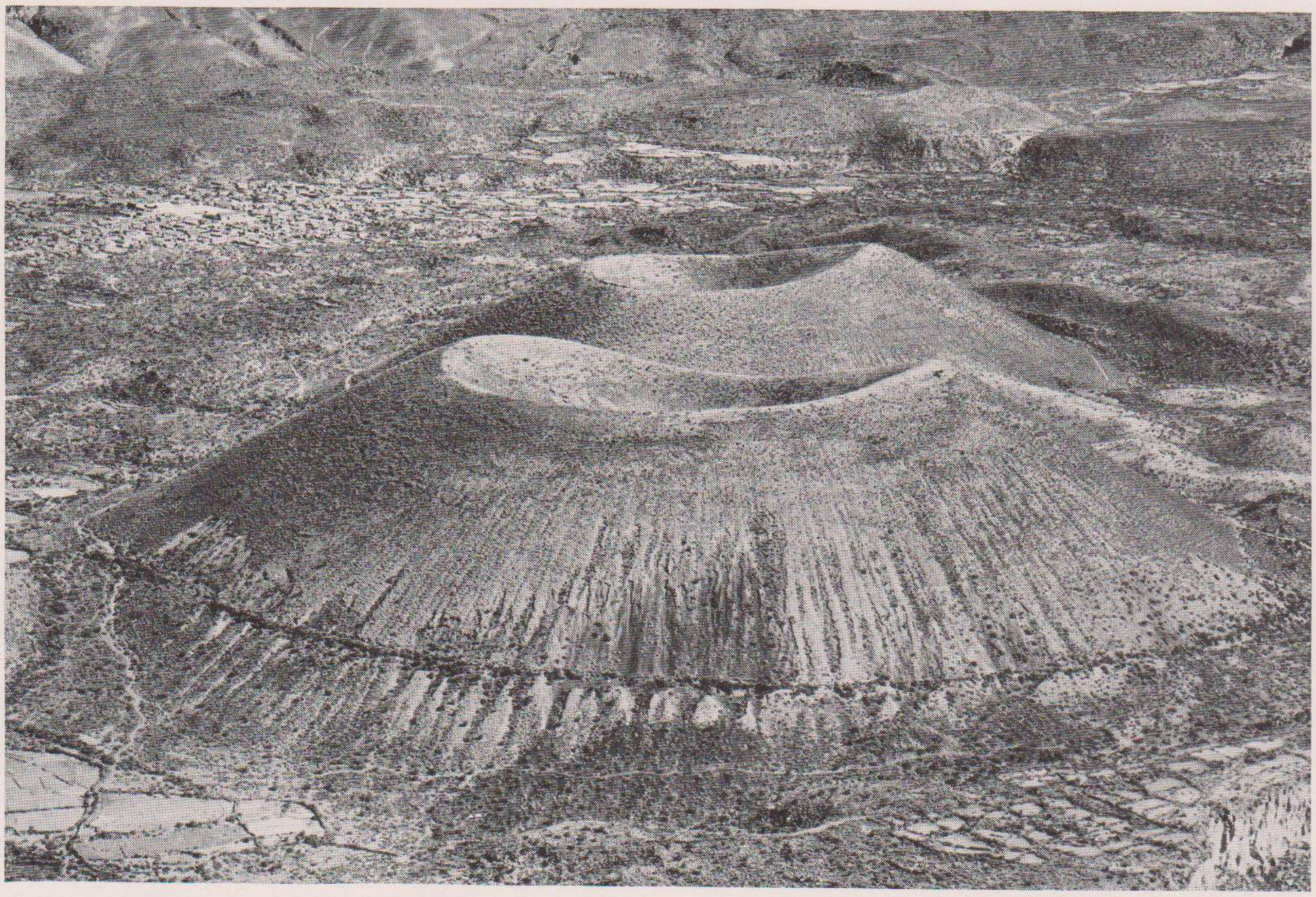
Over brown-thatched roofs loomed two white church towers, their spires in sharp relief against dark, scarred cliffs until they lost themselves in the whiteness of distant snow peaks. The deep gorge of the Colca swung wide of the town; hundreds of feet below our trail we heard the voice of the river as it poured over hidden falls. Curls of blue-tinged smoke, at first the only signs of life, dissipated as they formed, when afternoon winds began to freshen. When our mules came plodding through unpaved streets, natives eyed us unconcernedly.

Whatever warmth was lacking in our reception by the general public was, however, soon forgotten in the hospitality afforded at the town's combined hostelry and *bodega* (wine shop). There Señor Salinas, owner of the bodega, and his manager met us with open arms, as we rode through a whitewashed archway into a tiny paved courtyard.

Soon we were being shown all the wonders of this Colca Valley outpost of civilization—tin roofing, a miniature gasoline-electric plant, an ancient phonograph, a typewriter, and bottled beer—all brought from Arequipa on muleback. Chivay, we learned, was the valley's link with the outside world. The natives sold their llama and alpaca wool at this trading post, from whence it was sent on by llama train to the railroad or direct to Arequipa (115-116).

Both Salinas and his manager seemed well acquainted with the history of the valley. In 48 hours we had acquired the answers to more than half the questions later asked by New York historians when they saw our photographs of the Colca

* See "Air Adventures in Peru," by Robert Shippee, in the National Geographic Magazine for January, 1933.



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WIND AND RAIN ERODED THESE CRADLELIKE CONES

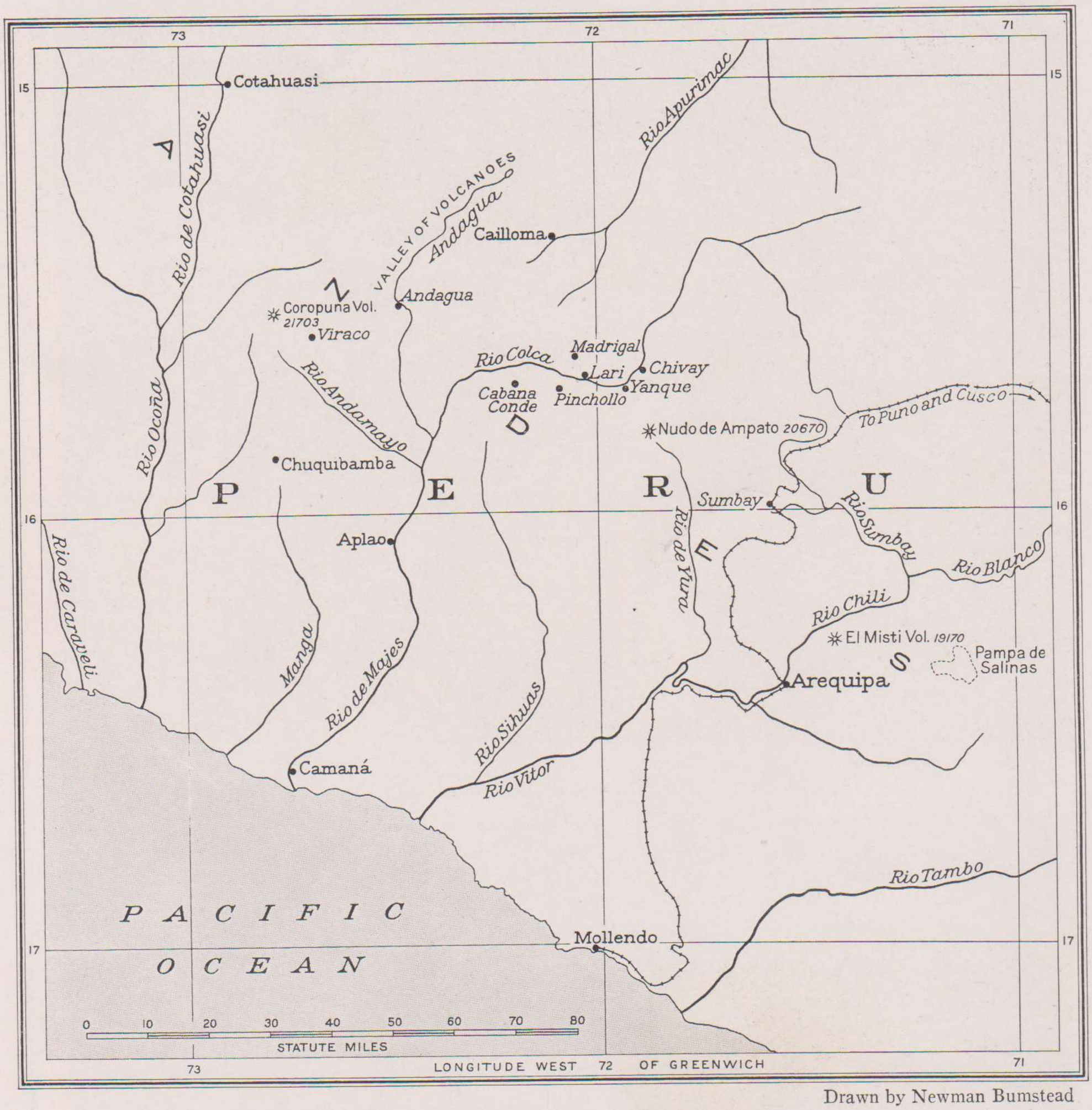
The streamline effect at the top is carried out around the base by a man-made trail. In the left background is Andagua, one-time valley metropolis of some 10,000 people, now dwindled to an Indian village of not more than 1,200. The rock cliff in the right foreground marks the edge of the Andagua River Canyon, several hundred feet deep at this point.



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THE AUTHOR, THE PHOTOGRAPHER, AND THEIR MASCOT ENJOY A TRIUMPH

It was a gala occasion when the *Washington* came to rest safely on the improvised field at Lari. Natives of the village gathered to see the "magic bird." El Pibe, the dog, was an important part of the picture (see text, page 132).



Drawn by Newman Bumstead

IN THE HEART OF PERU LIES A VOLCANIC AREA OF FORGOTTEN TOWNS AND DESERTED VILLAGES

Valley. That information, combined with what we have learned since completion of the expedition (mainly through the diligent research work of Mr. Philip Ainsworth Means, author of "Ancient Civilizations of the Andes"), gives us an interesting history of the valley.

COLCA VALLEY PEOPLE ORIGINATED IN A VOLCANO

The ancient inhabitants of the Colca Valley, whose descendants still occupy it, were the Collahuas, or Collaguas. According to their own legends, they had their origin in a snow-covered conical volcano named Collaguata, in a neighboring province. They came out of the mountain and down into the valley of the Colca, drove out some scattered tribes already there, and established themselves. Their name they took from the holy mountain, Collaguata, whence they came.

From a document written in the valley before the visit of inspection made by the Viceroy Don Francisco de Toledo (about 1570-1575), it appears the Collahuas were wont to bind the heads of their children very tightly in such a way as to make them tall and conical, like the sacred volcano Collaguata. On these artificially shaped heads they wore very tall conical hats without brims.

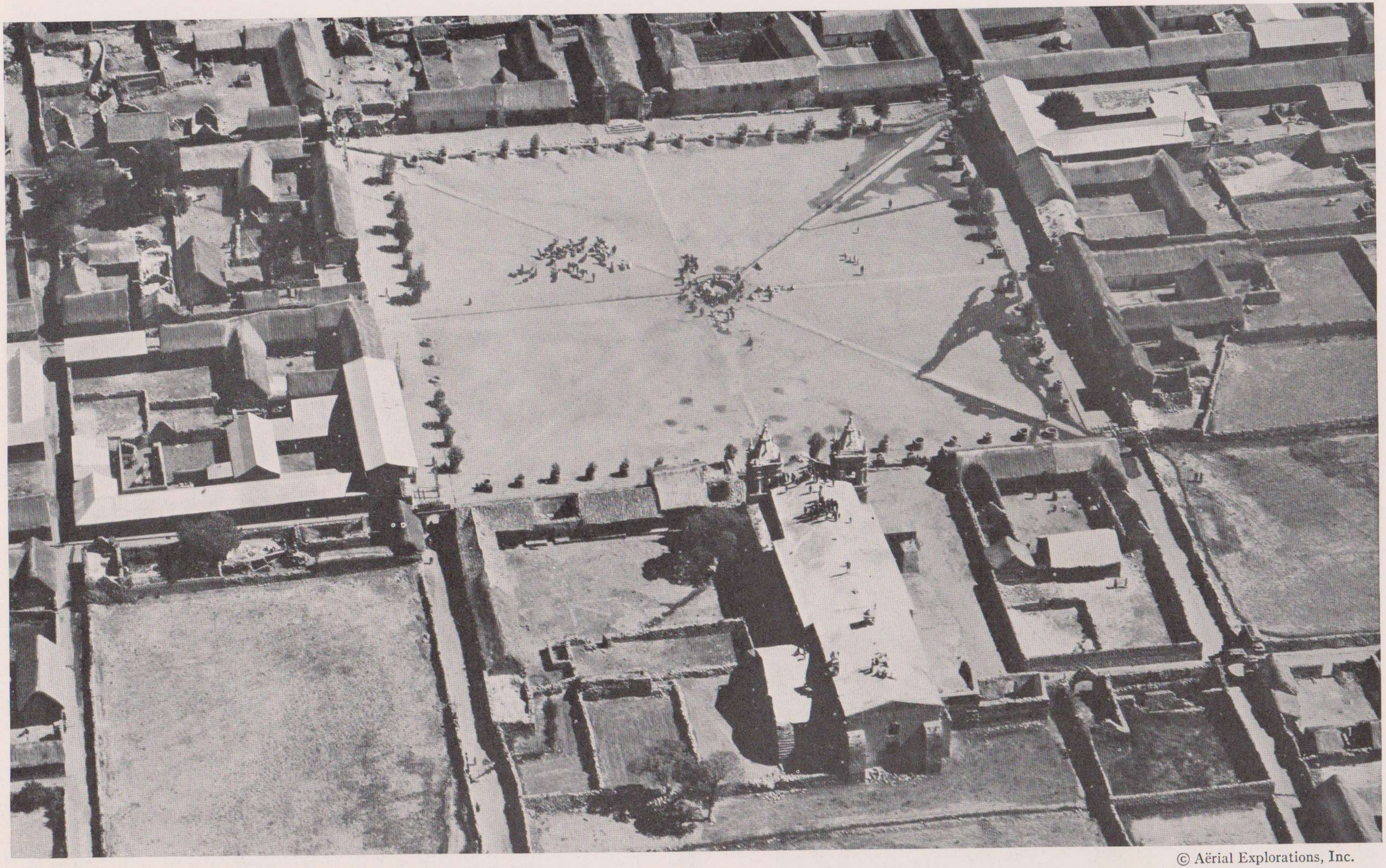
These usages were subsequently stopped by Toledo.



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THIS REMARKABLE PHOTOGRAPH LED TO THE ORGANIZATION OF THE EXPEDITION

Lieutenant Johnson took the picture while on a reconnoitering flight over the Colca Valley in 1928. It aroused the interest of New York historians and became a prime factor in the subsequent survey. Four villages show distinctly: Ichupampa, in the left foreground; Yanque, right center; Coporaque, left top center; Chivay, top center. The village of Lari, where the landing field was made, is just out of the picture, below Ichupampa.



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CHIVAY CHURCH ROOF DREW A CROWD FOR THE MESSAGE PICK-UPS

The *Washington* swooped low over the ancient village and snared with draglines the ropes to which mail bags were attached (see text, page 117). The town, like others in the region, is built around a central plaza—a style traceable to Spanish influence (see illustration, page 116).



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THE ANCIENT CHURCH IN CHIVAY SERVED AN UNEXPECTED PURPOSE

From its roof (see illustration, page 115) messages were picked up by the *Washington*. Transit sights from the top of the highest peak in the background (16,500 feet) made it possible to tie in the ground control for the aërial maps.

One gathers from the chronicles that the Collahuas were incorporated into the Inca Empire by the Emperor Mayta Capac, who ruled about 1195-1230. This end he achieved by marriage with the daughter of the chief of the Collahuas, backed up by a war against that tribe.

It is clearly indicated, not only in the chronicles, but also by ruins in the valley to-day, that the population was considerable at the time of the Spanish Conquest. Then there must have been good crops of maize, potatoes, and of the cereal known as quinoa. Melting snows of the higher mountains watered the fields.

Colonization of the valley by the Spaniards was apparently not difficult. "The Indians of this province are settled in permanent villages already formed; but anciently, before the general visitation of Don Francisco de Toledo, they had many hamlets. Toledo put them in the larger and more commodious villages where they now are. Their understanding is, for Indians, good; and they display reason in the affairs with which they concern themselves. There are among them good scriveners, singers, and musicians upon the flutes and flageolets, and they have aptitude for even more difficult things. Their inclination is toward feasts and banquets and pastimes, and their manners are affable and but little marked by covetousness. . . ."

In early days the valley belonged to the Diocese of Cusco, 45 leagues distant by a reasonably good road. Each of the 14 towns had a church and a priest appointed by the Viceroy on behalf of the Crown. The churches, however, had been built and adorned by the Friars of San Francisco, who won the people away from their pagan cults.

In several churches of the Colca Valley are statues of Philip II of Spain. That fact, together with the testimony of several 17th-century documents, indicates that the King was, at any rate indirectly, the founder of the towns in question. In 1573 Philip II set forth in minute detail the outward characteristics which new towns were to have. The Colca towns conform in almost every detail—in the arrangement of the plazas, with the churches slightly raised and blocked off; in the rectangular



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THE LLAMA IS THE YAK OF PERU

Loads are tied to the backs of the willing beasts in the courtyard of the hostelry in Chivay. The train will march to Arequipa. The trail leads through desolate stretches, and often the native helpers, mounted on the backs of mules, have rough going.

disposition of the streets, and in other respects.

The Colca Valley has been in a decadent condition ever since the early Republican Period. The population was cut down by famines, plagues, and earthquakes. Apparently a change of season caused lack of water and abandonment of many of the terraces. Adventurous spirits left the valley for new lands and either failed to return or brought back fevers and other diseases contracted in the lowlands. Others succumbed to the hard labor they were put to in the mines at Cailloma. The whole story, in later times at least, seems one of discouragement; yet the inhabitants of the valley are still a cheerful, hard-working lot.

THE EXPLORERS GIVE THE VALLEY AN AIR-MAIL SERVICE

While we were photographing the people, excitement was aroused by the appearance overhead of the *Washington*. We cautioned the natives to stay clear as the plane zoomed over the little plaza. Johnson leaned from a cabin window and dropped a message bag attached to a miniature parachute. Along with the rest of the bystanders, we all rushed for that bag. As the *Washington* waggled its wings in the distance and climbed for altitude, we drew forth not only a message, but a chocolate cake!

Next day, when the plane came again, we experimented with a pick-up device of two poles and a cross-line which we set up on the roof of the church. After several attempts the right arrangement was found. Thereafter, during our stay in Chivay, we had quick communication with the rest of our outfit. Swooping low over the church roof and dragging a weighted line that tangled with ours, the *Washington* easily picked up messages to be cabled to New York; also numerous requests for extra socks and cigarettes. Especially valuable was this transport system when we needed medicine for Runcie, who had contracted a serious chest cold in the high altitudes.

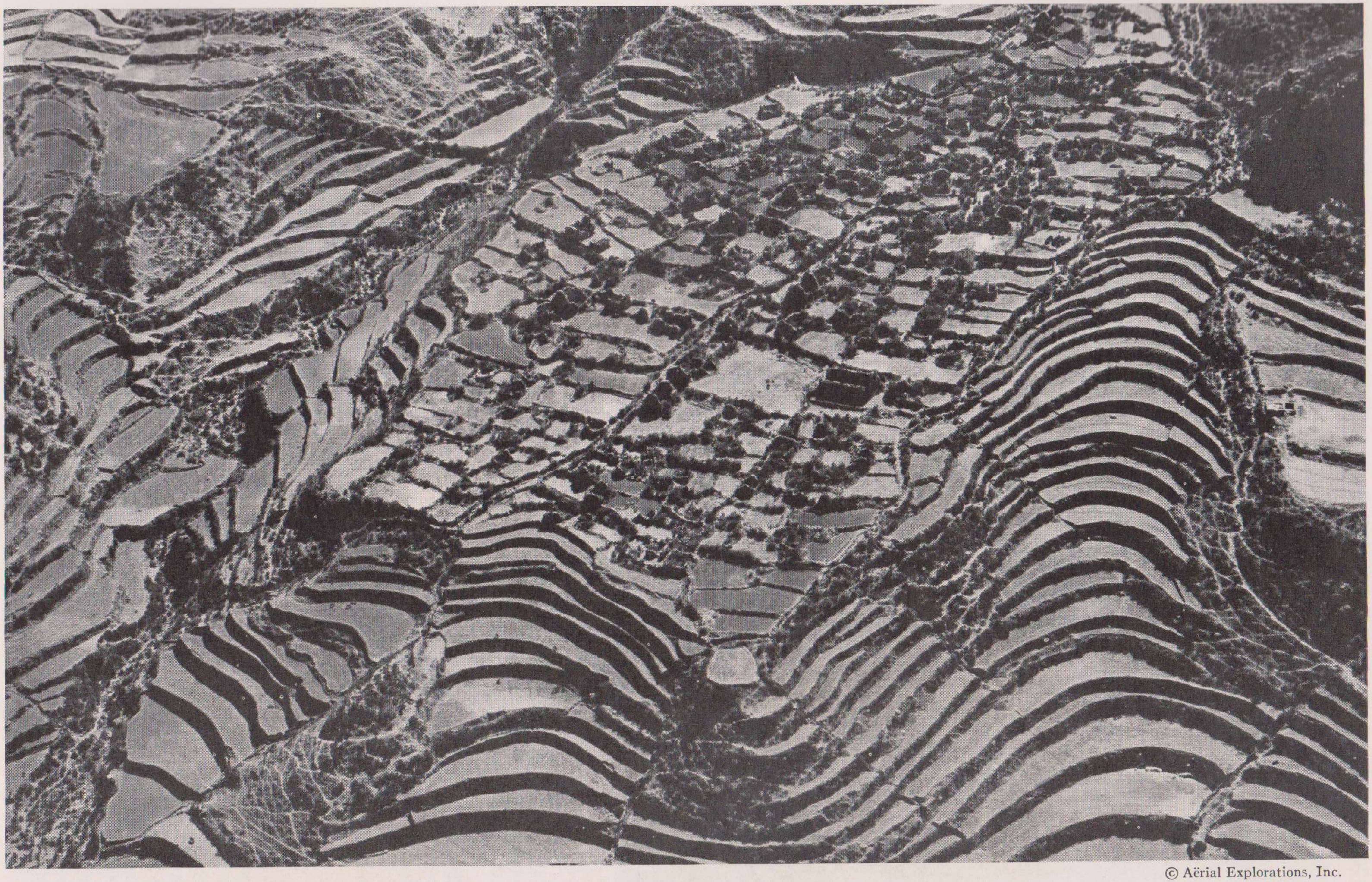
From one falling message we learned that a revolution was getting under way in the Cusco and Puno regions. Rumors also percolated into Chivay as pack trains came in from Arequipa. Rebels were attacking



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ONCE THE GOD OF FIRE ROARED MIGHTILY AMONG THE PEAKS NEAR ANDAGUA

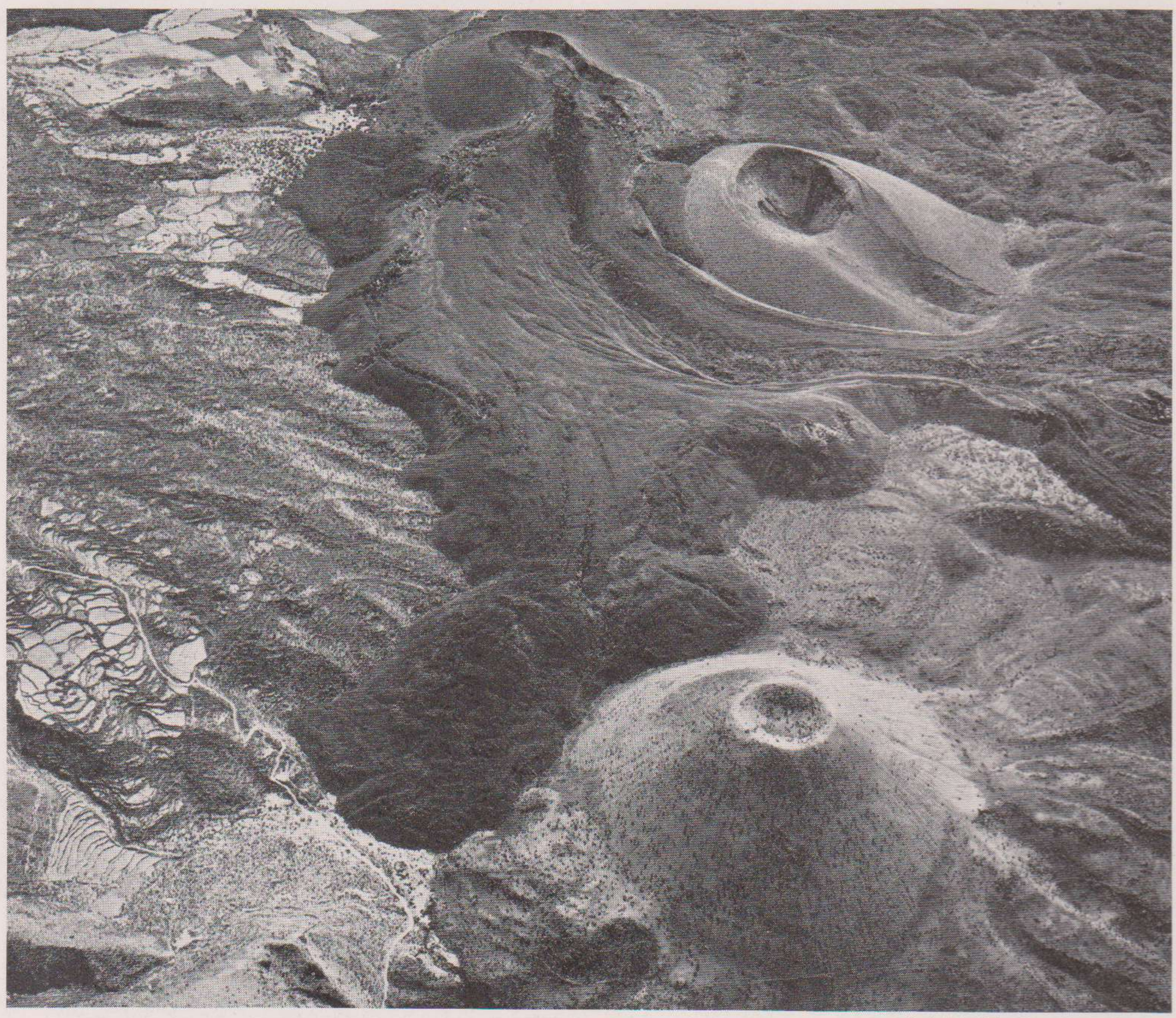
Silent now, the huge cones gape in the clear mountain air. The town lies at the extreme left—a gateway to the Valley of Volcanoes (see map, page 113, and illustration, page 112).



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NO SPANISH ARCHITECT LAID OUT THIS VILLAGE

Ruins of an Indian community in the Colca Valley show the jumbled arrangement made by untutored natives. Where the white conquerors exerted their influence, the houses are set in order about a central plaza (see illustration, page 115). The terraces once were gardens that supplied food for the inhabitants.



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THE EXPLORERS CAMPED IN THE CRATER OF THE LOWER CONE

Dense cactus growth has crawled up the sides of the cinder cone and carpeted the interior. The yawning bowl of the crater is approximately the height of a five-story building, 350 feet in diameter at the rim and 90 feet across the bottom. These volcanoes in this central section of Colca Valley are younger, as indicated by lesser erosion, than those of the upper valley.

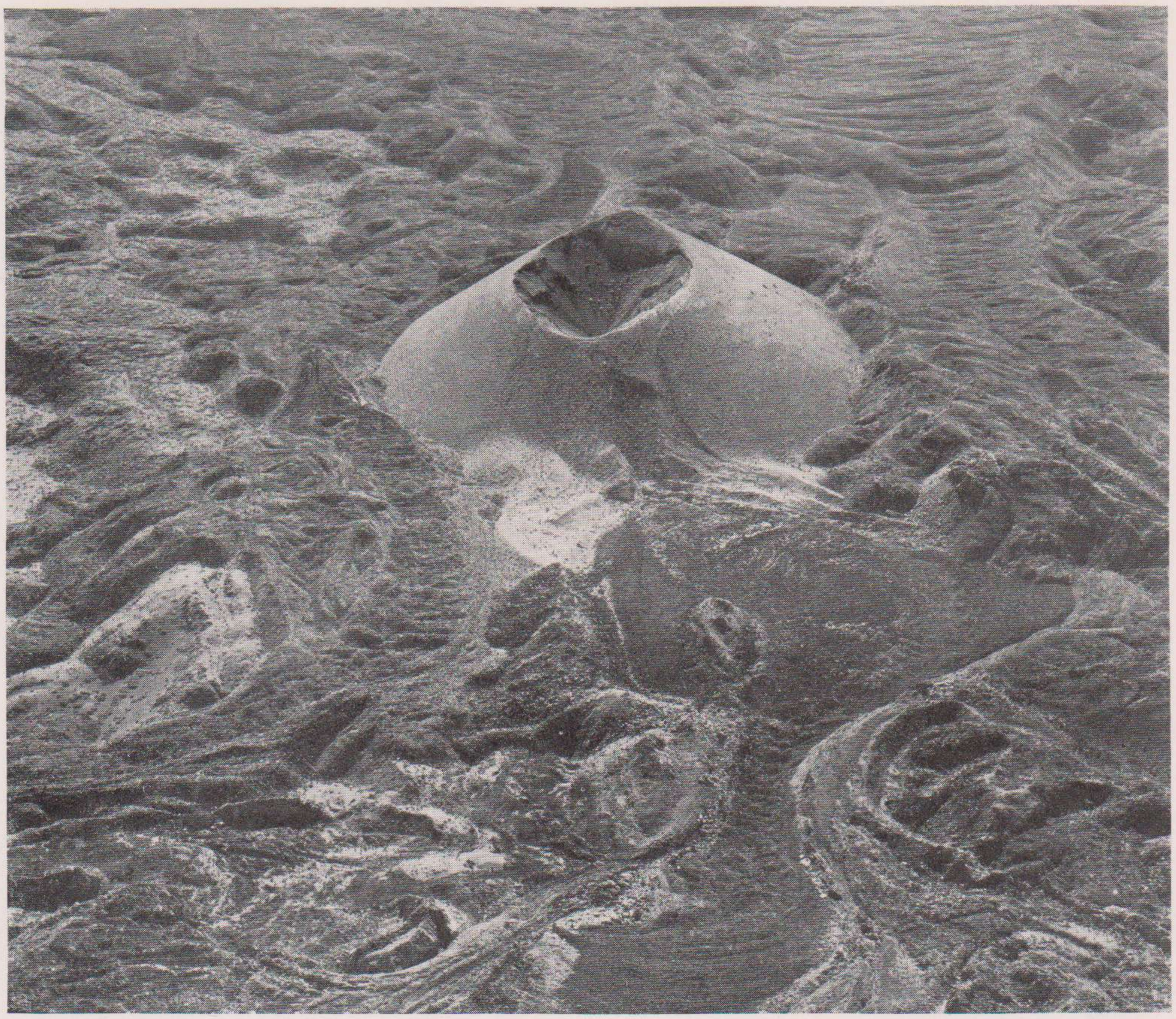
railroad trains, had laid siege to Cusco, and were heading for Arequipa by a detour that would take them just south of the Colca Valley. Yet the Colca seemed so secluded that we did not worry much.

ECHOES OF A REVOLUTION

Truth lurked behind the rumors, however. Wrapped in ponchos against extreme cold, a dozen of us—members of the Expedition, Salinas and his manager, and the leading citizens of Chivay—huddled around the rough, planked table. Bowls of llama stew steamed in front of us, dogs scrambled and fought among our boots, crude candles guttered in the draft from the doorless doorway of the adobe house. Conversation was a muddle of Spanish, Quichua, and English.

But when a ponchoed, barefooted native burst through the doorway and exploded into unintelligible Quichua, we fell silent. Salinas calmed the newcomer, listened to his message carefully; then, without any warning, blew out the candles on the table. He explained in rapid Spanish: A detachment of regular Army soldiers are encamped at Sumbay, nearest railroad station to Chivay. They have sent a patrol in search of mules and horses, so that they can push on toward Cusco by a route north of the railway.

That patrol is approaching Chivay. The natives here are hiding their animals farther down the valley; all lights have been extinguished; it is hoped that the soldiers will not linger in the valley, for if they do so "there will be much plundering. Por



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THE CRATER SEEMS A SENTINEL IN A COAL-BLACK SEA OF EBONY WAVES

The overlay of lava, "frozen" in its swirling tracks, is from 20 to 50 feet deep. The surf effect is enhanced by occasional crests of gray. The maze of flows makes travel tortuous in this part of Colca Valley, and a day's journey of ten miles over the few trails that skirt the edges is good going on muleback. Faintly discernible is cactus growth.

Dios! They would drink all my liquor, steal all my trade goods!"

Groaning and creaking, the massive wooden gates at the entrance to the patio were swung shut. Apparently we were in for a siege.

We sat there in the dark for several hours. Rifle shots sounded in the distance. Then some one from beyond the gate yelled that the patrol had left and headed back toward the railway. As far as Chivay was concerned, the revolution was over. The candles were relit; then we had a laugh. Under cover of darkness the native messenger, who had remained in the room, had finished all but two of the bowls of stew!

Much of our time in Chivay was spent in running down "landing fields." The natives, who could not understand that we required a stretch of level ground at least a half mile in length, insisted on showing us many impossible locations. After four or five hours' riding we would come upon some little patch of pampa, crowded in between high alluvial fans, where one could not have landed even an autogiro! When we inquired about the lower valley, which from the air had seemed the most likely section, violent jealousy of the other villages would throw the people of Chivay into speech almost apoplectic.

THE ROCKY ROAD TO LARI

We should have pushed directly down the valley, had not the mules we had come in with been sent back to Arequipa. The few local mules were inferior beasts, small and skinny, incapable of a long trip.



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WORKING IN A CRATER THAT ONCE SEETHED WITH FIRE

The extinct cone was the site for pitching the tents in this part of the Valley of Volcanoes. The shelter is the light-proof photographic laboratory.

We had expected Johnson to bring mules from Arequipa when he had finished the aërial work; but he dropped from his plane a note saying the disturbance in Arequipa would delay him for several weeks. There was raiding all along the railroad, and the rebels would be sure to seize any passing pack train. In the meantime he would fly the *Washington* to Lima to undergo an overhaul and to pick up more film. To save time, we might as well start down the valley with such mules as we could procure.

And what sorry-looking beasts they were! The riding mules had sore backs. So many wool pads had to be put under the saddles that we were perched in the air like flagpole-sitters. The pack animals were in even worse condition. A stout man could have carried a heavier load than the best of those four-legged scarecrows.

The first day on the trail took us to the town of Yanque, only five air miles from Chivay. Yet even with hardier mules we could not have gone much more rapidly, since every few minutes we had to dismount and edge our way along yard-wide, slippery trails that seemed hung in mid-air hundreds of feet above the river. The rough topography made it necessary to zigzag back and forth along the south side of the valley. Travel on the floor was impossible, since the deep gorge of the river ribboned from side to side. It was easy to see why there was little intervillage travel in the Colca Valley.

At one particularly dangerous spot on the trail, where broken shale gave precarious footing on a narrow ledge, we noticed the cliff wall spattered with little dark-green lumps. The native muleteers would give no explanation. Days later, however,



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A NATIVE DRINK CHEERED THE WORKERS AT LARI FIELD

Women were ever present with jugs and pitchers of *chicha,* a beer made from maize, to serve their men (see text, page 127).

we learned that those lumps were cuds of coca, thrown against the cliff by native travelers to insure safe passage for themselves and their beasts. That superstition, similar to many in the sierra, has been handed down from Inca times.

In Yanque we were put up by the *gobernador* (governor), a cheerful old chap who spoke a curious mixture of Quichua and Spanish. Fortunately, several members of the governor's family were absent. As it was, the four of us were housed in an adobe-walled, thatch-roofed, windowless room, with seven gubernatorial representatives. The dirt floor was our mattress. Fleas assured enough involuntary movement during the night to keep us from freezing.

Aside from hotel facilities, there was a striking difference between Yanque and Chivay. The feeling of contact with the outside world was gone. The church, once far ahead of that of Chivay in both interior and exterior ornamentation, was more tumbled down; the houses were more fallen in, if possible, than those of Chivay; fewer natives understood Spanish; and geographically, situated as it is in a depression in the valley side, Yanque seemed more isolated from even the remainder of the valley.

Yet its atmosphere was restful. Eucalyptus trees shaded the little plaza. There was no sound but the gurgling of water in the tiny channels that split the deserted streets. And when the distant, snow-covered humps of the Nudo de Ampato were gilded by the rising sun—well, that scene across the plaza was like a classic painting come to life.

ADOPTING A TRAMP DOG

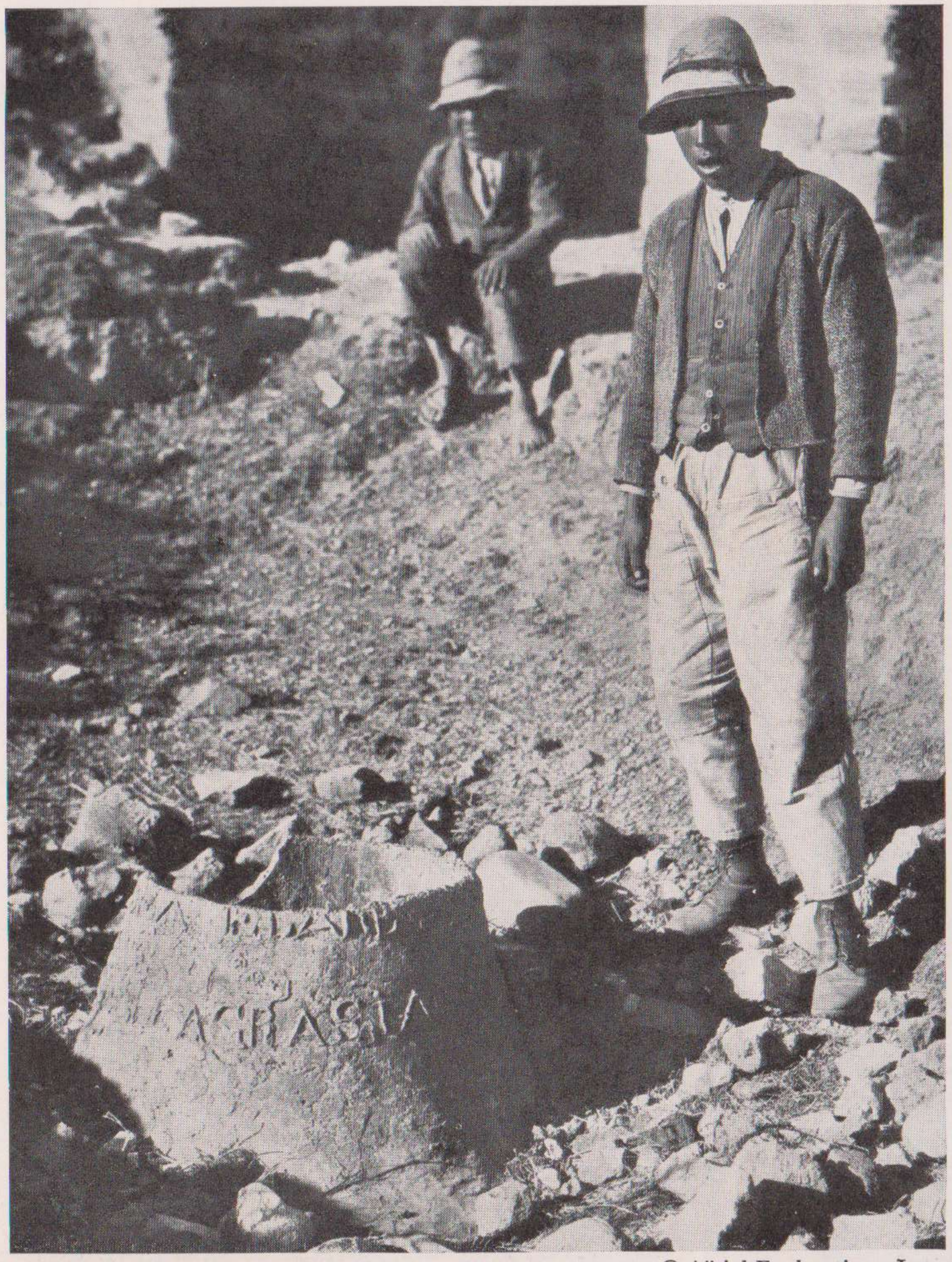
Besides the beauty of its ancient plaza, Yanque has another significance that will



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FROM A DISTANCE THE CHURCH AT LARI DWARFS THE TOWN

The markings of the landing field are faintly discernible at the right. In the foreground and on the slopes in the left background lie the ancient garden terraces, now entirely arid (see text, page 127).



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AN EARTHQUAKE RANG THE VILLAGE TOCSIN FOR THE LAST TIME

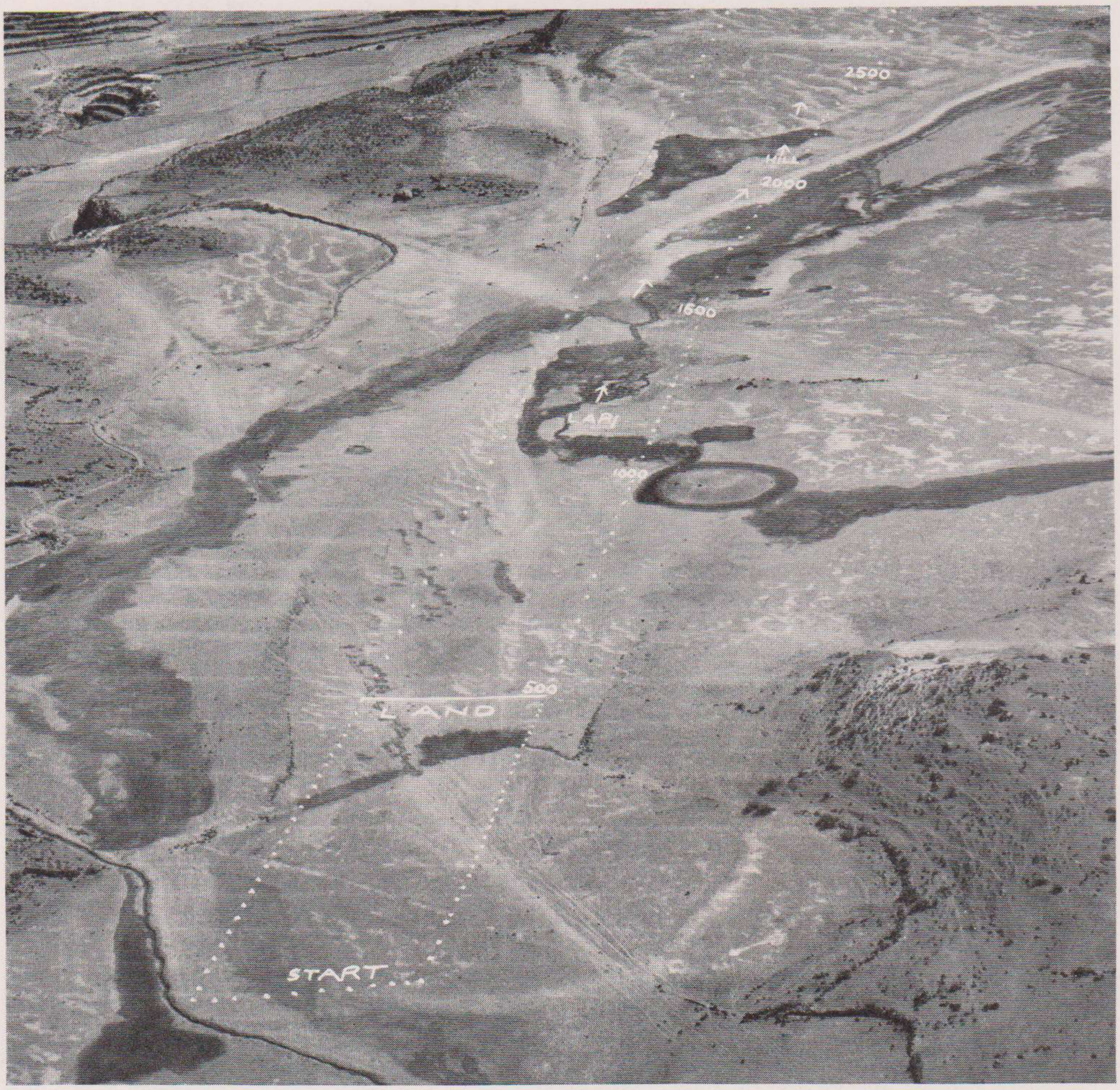
In the shadow of the huge church at Lari the explorers uncovered a bell that had been hurled from the towers by a *temblor*. It was originally cast by the Spanish settlers. The skill of the present-day inhabitants of the valley was not equal to the task of recasting it.



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THE MADRIGAL CHURCH HOUSED A MYSTERIOUS STATUE OF ST. JAMES

Just how this elaborate equestrian figure of Santiago found its way over the mountain passes into the forgotten valley of the Colca is a problem. The bridle, spurs, and sword are of solid silver, and the cloak is heavily ornamented with gold and silver spangles.



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THE MOST APPROVED METHODS WERE OBSERVED IN MARKING THE FIELD

From a level area strewn with bowlders the ground party created a usable airport at Lari (see text, opposite page, and illustrations, pages 110 and 124).

never be forgotten by the Expedition. It was here that Pibe officially joined forces with us.

El Pibe (The Kid) was a little "yaller dog" of the sierra. His mother, a fox terrier, had been brought to Chivay by Salinas. Pibe was born in the Colca Valley and had never been out of the valley, had never been below 11,000 feet above sea level, and had never seen a cat. He had been just one of the dozen dogs accustomed to fight under the dining table in Chivay.

But, somehow, Pibe conceived a liking for us, probably because we used to give him scraps of food at mealtime. When we left Chivay he tried to follow us. We sent him back twice, and, since he had not appeared again on the trail, we thought that was the last of him.

Yet scarcely had we unsaddled the mules in Yanque when Pibe was sighted, limping toward us down the street.

From then on Pibe tagged along. On the trail he ran at the heels of the mules, stopping now and then and running back to make sure every one was in line. Occasionally we would lift him up into a saddle; on the high passes we wrapped him in ponchos against the bitter cold. But always Pibe was dead game. He would tackle anything that seemed in our way, from drunken Indians to mongrel dogs and stray burros (see illustration, page 112, and text, page 131).

Sometimes, at night, he was too tired to raise his head to eat, but at daybreak he would be on the job again helping round up the mules. He used to sleep in our blankets, showing no particular preference, but going from person to person and snuggling down without waking the sleeper. But there was no rest for the sleeper when Pibe heard some unusual sound outside. Then he would shoot out past one's head like a rifle bullet, leaving a snapping streak of static electricity in his wake!

AT LARI A LANDING FIELD WAS FOUND

Lari, once one of the largest towns in the valley, is a short day's ride from Yanque. To-day its houses are nearly all deserted, and the church, the largest in the valley, shows the ravages of time. But Lari now boasts of one thing that none of the other towns has or is likely to have—an airport. On the very outskirts of the town we found a long, hard, level, ideal stretch of pampa (see pages 110, 124, 125).

There was a man in Lari much out of his element. Once he had been a high official in the district of Cailloma. After one of the major revolutions he had fled into the Colca Valley, where, by reason of his superior education, he had made himself governor of Lari. His quarters were more than ample, and he and his family made us welcome during our stay. He was enthusiastic over the idea of a flying field at Lari, and at once obtained the coöperation of the natives.

We got the work of 165 natives—men, women, and children for eight days—at a cost to us of about six dollars American, which they spent for *chicha* (maize beer) and coca (page 123). Watercourses were diverted, holes filled in, and heavy bowlders rolled to one side (see opposite page).

When the field was finished we marked all boundaries with a chalky substance found in large quantities near the river. This field was at an elevation of 10,300 feet, but was nearly 4,000 feet long. Even the natives were pleased with the results of their labor, though they were not quite sure just what it was all about.

While the field was being prepared we had gone on with exploration of that district. Just as we were beginning to worry about not having heard again from the *Washington,* Johnson suddenly arrived by mule with a train of 20 animals. He had returned to Arequipa in another plane before his was ready, and had brought photographic and other supplies on the mules, not knowing that we had found a good landing place. As things turned out later, it was fortunate he had done exactly that.

FOOL'S GOLD AND BURIAL CAVES

In making photographs of the terraces on the slopes above Lari, Johnson noticed a glitter in the bed of a small mountain stream that supplied most of the water to the town. He brought back a few samples. Although we suspected the myriad yellow specks in that sand to be pyrites, we thought we might as well explore the upper reaches of that stream. For thousands of feet we climbed above the level of the town.

Though we soon proved our "gold" to be valueless, the climb was worth while. In the shadow of a towering rocky spur we noticed several bleached skulls. Further investigation showed a half dozen caves in the cliff itself, and in the caves were numerous skeletons. Apparently the caves had been broken into not many years before. We found nothing but bleached bones, a few cracked fragments of pottery, and decayed wisps of cloth. Inquiries in Lari brought no further information.

The exact history of those burial caves may never be known; but, in reconstructing the general history of the Colca Valley, it appears that some of the Indians must have fled to the high sides of the valley to escape persecution by the Spaniards. The fact that the skulls are of normal shape and not deformed seems to date them at least a generation after the Spanish Conquest, when head-binding had been abolished.

A little farther down the valley, though on the opposite side, we found ruins of small villages far above the valley floor and, even higher, in the very cliffs, a few cave dwellings.

INTO THE VALLEY OF VOLCANOES

At last the field was finished. The *Washington,* now repaired in Lima, arrived on the scene. Then came the great disappointment; apparently the field did not look so good from the air. Even after various pick-up messages, it was clear that the plane would not land on our new Lari airport. The natives could not understand the situation. For a time it looked as if they were going to take their disappointment out on us. Finally, however, we persuaded them that we should eventually land the plane



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THE PLOW USED BY THE NATIVES IS CRUDE BUT SERVICEABLE

At Yanque Messrs. Runcie, Shippee, and Distel had an opportunity to examine closely one of these queer-looking implements. At high altitudes there is a chill in the air that makes a poncho, or blanket shawl, a well-nigh indispensable part of the wardrobe.



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NATIVES SET HIGH VALUES ON COCA LEAVES

They weigh out the narcotic with as much care as a tobacconist observes with his finest blends. On the trail, packers cast chewed bits of the product against rock walls to propitiate their gods of fortune (see text, page 122).



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YOUNGSTERS BROUGHT UP THE REAR IN THE PARADE AT LARI

The landing of the *Washington* was the occasion for a celebration by the natives, who marched to the rhythm of drums around the airplane (see illustration, page 110, and text, page 132).

on their field. But first we had to proceed on our way by muleback.

Months before, while on a reconnaissance flight, we had noticed a valley some 40 miles long, just beyond the Colca, in which stood dozens of small extinct volcanoes. Since that valley was not on our maps we had marked it out for ground exploration. Consequently we now proceeded down the Colca Valley, looking for a pass over the mountains to the north. Natives could give us no direction, though we knew the name of the town, Andagua, that stands at the head of the Valley of Volcanoes. And as for "little volcanoes," they thought we were crazy.

Finally, in the town of Cabana Conde, perched high on the valley side, we were told there was a pass directly across the river. It was a full day's work to zigzag our way down to that river, to cross on a suspension bridge (page 131) made of small sticks and twisted fibers, and then to zigzag up the steep northern slope. After 11 hours of riding we were still within plain sight of Cabana Conde!

The pass out of the Colca Valley was at an elevation of 17,000 feet. Several times it was necessary to hold bottles of ammonia under the mules' nostrils; they would sniff, shake their heads, then plod calmly onward. Pibe was nauseated with an attack of mountain sickness, but, refusing to be lifted upon a saddle, trotted gamely along at the head of the column.

After four days on the trail from Lari, we seemed to be nearing our goal. We passed one small extinct volcano on a barren table-land that we remembered having noticed from the air. A native herdsman gave positive directions for reaching Andagua. But even when we reached the Valley of Volcanoes we were not immediately sure of our location, for we attained the valley rim at 10 o'clock in the evening, when the sky was overcast and the darkness far denser than that inside the proverbial hat.

The trail seemed fairly good, so we decided to make the descent without delay, hoping to find water and forage for the mules somewhere at the bottom of that black void. Perhaps we should have waited for daybreak if we had known how far it was to the valley floor. It took exactly four hours to make that descent.



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SUSTAINED BY NATIVE ENTHUSIASM, THE MUSICIANS PLAYED ALL NIGHT

These traveling harpists lent their art to the fiesta which was given at Lari to honor the author and his companions (see text, page 132).

Though the Andagua River gorge is hundreds of feet deep, in the still night we could plainly hear the water. Its burbling warned us in advance; yet I nearly met disaster in the gorge.

A timber bridge afforded safe crossing, but just before reaching the bridge, as my mule jumped down from a 4-foot ledge, the crupper strap on my saddle gave way. I took a dive in the dark, landing over the mule's head with an unusually hard bowlder supporting my back. For a moment I was paralyzed and could not move—luckily, as it turned out, since I was sprawled on the very edge of the gorge. I could not straighten up and could not have endured a saddle; so we pitched camp there.

Andagua, very similar to many of the Colca Valley towns, was only an hour's ride away. The trail led past two hills, twin volcanoes. Now we remembered landmarks picked out from the air; we had reached our destination.

According to inscriptions on the walls of the church, Andagua was founded in the latter part of the 16th century. Yet there is only vague mention of this district in the *Diccionario Geográfico Peruano y Almanaque de "La Crónica,"* published at Lima. It is stated, however, that there are 10 per cent more women than men!

CAMPING IN A VOLCANO'S CRATER

The upper part of the valley, especially around Andagua, is thickly terraced and provides forage for a fairly large number of cattle. Occasionally cattle are driven to the coast. That is the only commercial contact with the outside world.

The central and lower sections of the valley are dotted with small volcanoes, which stick out like sore thumbs from the lava beds. Quite likely there are towns buried beneath that lava; along its edges there still remain terraces, now abandoned, which are only partly covered. Geologically, the volcanoes are young. They may have been in action not long before the conquest. What an inferno this region must have been then!



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THE GRASS BRIDGE OVER THE TUMULTUOUS COLCA LOOKS DANGEROUS

When the rainy season is at its height, the stream becomes a wild torrent that reaches within a few feet of this fragile span just below Cabana Conde.

We went by muleback about halfway down the valley, checking control points for the aërial map. Once we pitched camp in the crater of one of the larger cones. The view from the rim was amazing; as far as the eye could see, there were volcanoes and volcanoes. Some had burst, and fans of lava spread from the breaches. Some, older than the rest, resembled huge pincushions where giant cacti bristled from their flanks. Far in the distance, where the lava had dammed a mountain stream, a lake sparkled greenly; and the high scarred sides of the valley merged their snow peaks with equally white clouds.

Yet we could leave the Andagua Valley without regret. Several of us were suffering from bad colds, what with extreme changes of temperature in the high altitudes. All had visions of a hot bath waiting at the Quinta Bates (estate), in Arequipa.

THE RETURN TO AREQUIPA

Then came the question of what route to take. Either we could follow down the valley until the river joined with the lower Colca, which the natives assured us it did, or we could climb out of Andagua Valley and take a better trail down the Andamayo River, a day's ride to the northwest. We decided on the latter course, since there was a town on that river where we could hire a truck, and thus save time to Arequipa.

After crossing a 17,000-foot pass at the base of Coropuna Volcano, we struck the Andamayo Valley near the town of Viraco. We remember that town because of a fight Pibe had with a large pig. Pibe grabbed the pig by its tail, and then and there, in the little plaza of Viraco, ensued a vigorous tug of war. The porker grunted and squealed, legs churning frantically. Pibe, half blinded by the dust thrown in his face by the struggling swine, hung on. At last, much to our elation and the disgust of the villagers, Pibe got the decision.

We followed the lower course of the Andamayo, and at Aplao we transferred to an automobile. After much embracing,

we said good-bye to our muleteers, who were to follow along with the more bulky equipment. What a happy moment it was when I bade farewell to Cleopatra, my mule; she was, without doubt, the joggiest, balkiest, hardest-riding mule in all Peru!

That automobile trip, however, was no Sunday afternoon ride over macadam roads. Eight times we halted to change and patch tires cut to pieces by sharp rocks. We held our breath when the edge of the trail disappeared beneath the off mudguard. Twice we had to dry spark plugs and ignition wires after fording streams. It had been so long since any of us had ridden in an automobile that the constant motion made us seasick.

After seven hours we neared our goal. El Misti, towering over the city, was a welcome sight in the distance. Four hours more and we steamed to a halt in front of the Quinta Bates. I still remember the dismay on the faces of recently arrived guests at the Quinta when we walked in, unshaven, our clothing torn and covered with dust, and began clamoring for "agua caliente, bastante, y muy rápido!" (Hot water, lots of it, and be quick about it!)

A DOG AND A GOAT TAKE AN AIRPLANE RIDE

The day after our return to Arequipa, Johnson and I flew back to Lari. In 40 minutes we covered a distance that had taken us days on the ground. As the *Washington* spiraled down over the landing field, on which our markings stood out quite plainly: "Lari—S. J. P. E.," and the distances and boundaries, natives began streaming from the village. It was not without apprehension that we came in for a landing; but the *Washington* sat down smoothly and rolled to a stop in the very center of the field (see page 110).

Then we could hardly get out of the cabin, so excited were the natives. But the climax was reached when Pibe hopped out; he had enjoyed the flight immensely, sitting on the rear seat and looking calmly out of the window. Now he was a full-fledged aviator, or so his attitude seemed to say, as he strutted with nose in air past his Lari mongrel friends.

Leaving Johnson to the mercy of the jubilant natives, who, incidentally, seemed to have no fear of the airplane, I took off for Arequipa. There I picked up Runcie and his motion-picture equipment, and then headed back to Lari.

That evening there was a celebration. Before dark the fiesta was in full swing, and it was still in progress the following afternoon when, after making motion and still pictures we had missed on our former visit to Lari, we got ready to leave.

Yet before we started the motor we had to go through an official presentation ceremony. We were presented with a young goat! As we zoomed the field in farewell and then climbed out of the valley, the dog was looking out of one window, the goat was peering out of the other.

Before returning to Arequipa, we played Santa Claus to the other villages we had visited. In the plaza of Andagua we dropped miniature parachutes carrying bars of chocolate. At Viraco we dropped bundles of newspapers, giving the governor news that he would not ordinarily have received for another week. The natives waved madly and, as we turned back, motioned for us to come down and land, just where no one knows.

The exploration of the Colca and Andagua valleys terminated our work in southern Peru. From Arequipa we moved north to Lima, where we at once began packing up for the return to the United States.

On that return trip, probably the proudest member of the party was "El Pibe," who had adopted the Expedition in the Colca Valley and who had stuck with us through hundreds of miles of travel by mule, automobile, and airplane.

The one tragedy of the Expedition is that Pibe disappeared the very day we docked in New York. Whether he was stolen or simply jumped overboard after something floating in the water, we never saw him again.

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