

*Proceedings of the Desert Laboratory*

Desert Laboratory on Tumamoc Hill | Contribution No. 2

CAMPOS DE FUEGO

A Brief and Fantastic History of an Expedition into  
the Volcanic Regions of the Pinacate

A NOVEL BY  
GUMERSINDO ESQUER

# *Proceedings of the Desert Laboratory*

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Contribution No. 2, ENGLISH EDITION

# CAMPOS DE FUEGO

A Brief and Fantastic History of an Expedition into  
the Volcanic Region of the Pinacate

A Novel by  
Gumersindo Esquer

Hermosillo, Sonora, México

January, 1928

Translated by Irwin Hayden and Gayle Harrison Hartmann

Edited by: Benjamin T. Wilder  
Proceedings of the Desert Laboratory  
DESERT LABORATORY ON TUMAMOC HILL  
UNIVERSITY OF ARIZONA

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Editor: Benjamin T. Wilder

Contribution No. 2 ENGLISH EDITION

Campos de fuego

A brief and fantastic history of an expedition into the volcanic region of the Pinacate.

Author: Gumersindo Esquer

Translated from Spanish into English by Irwin Hayden and Gayle Harrison Hartmann

Images by William K. Hartmann; all images © the artist.

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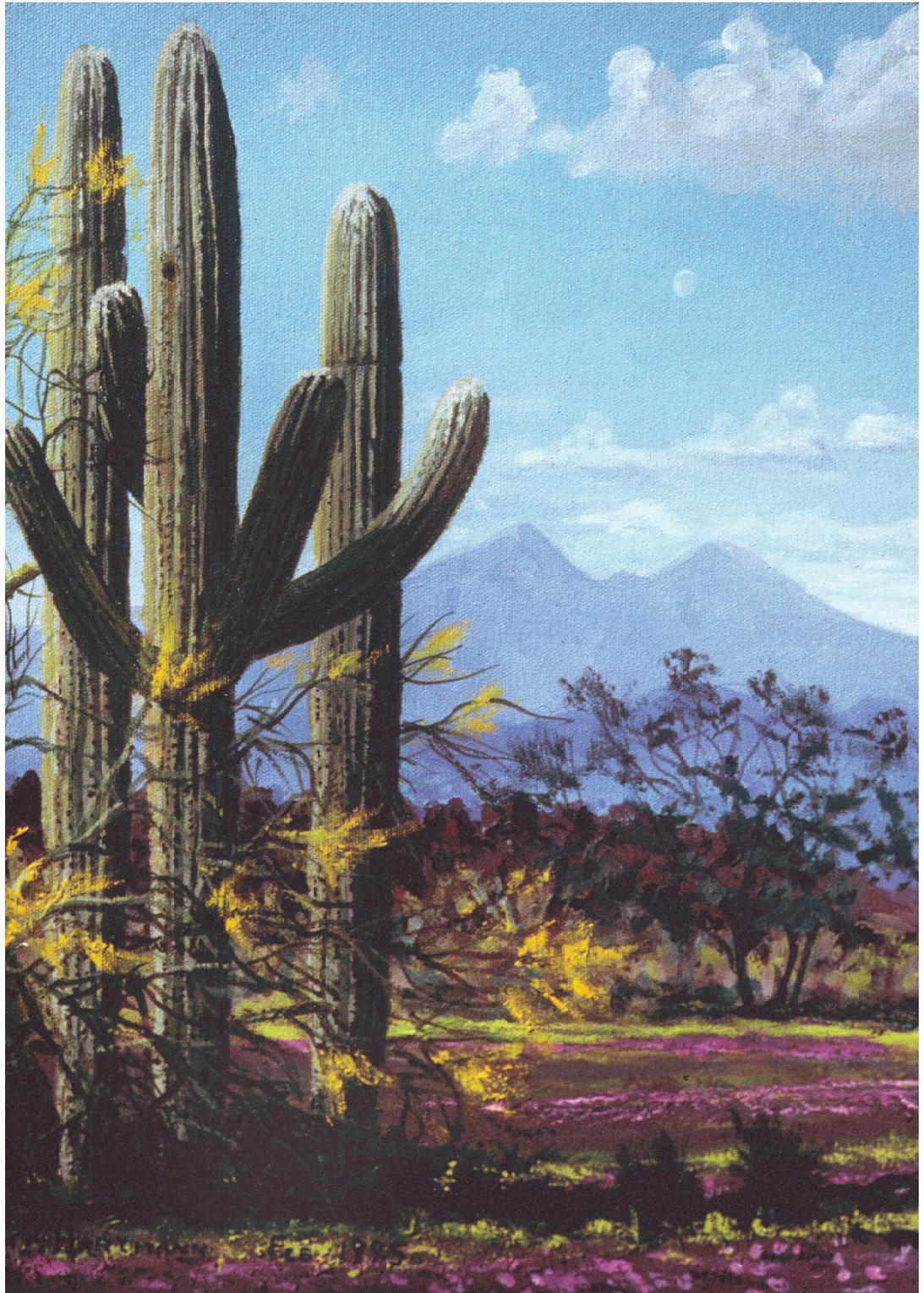
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Fondo Regional para la  
**Cultura y las Artes del Noroeste**



Dedicated to the lovers of the desert's heart



A view of the two cinder cones forming the summit of the Pinacate Mountains. The true summit cone, Pinacate Peak, rises to a reported 4060 feet (1238 meters) above sea level, and the companion "Carnegie Peak" is a close second. (On-site acrylic painting, William K. Hartmann).

# ACKNOWLEDGMENTS

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One of the Desert Laboratory buildings on Tumamoc Hill, with view of Tucson in the background. From here, the first director of the Desert Lab, Daniel T. MacDougal, urged on by naturalist and travel writer William Hornaday, organized a 1907 expedition to the Pinacate volcanic complex, which led to the present, grandly fantastic 1928 novel. The main building was built in 1906. The building shown here, a chemistry lab, was built in 1915 and was rebuilt in its original style in 1940, after a fire. (On-site acrylic painting, William K. Hartmann, 2014).

## PREFACE

Discovery—wonder, exhilaration, uncertainty. These feelings course through the veins of scientists and explorers on the precipice of unknown lands. This unbridled enthusiasm for discovery permeates every page of Gumersindo Esquer's *Campos de Fuego—Fields of Fire*—a fantastical exploration of the Pinacate Volcanic Field. Esquer's surreal tale reminds us that every corner of the Sonoran Desert presents opportunities for unlocking the buoyant joy of discovery along both sides of the U.S. – Mexico border.

The Pinacate region has repeatedly been referred to as this desert's heart, a concept easily seen in satellite images of the Sonoran Desert's rugged black topography at the head of the Gulf of California. The vast stretches of lava and sand teem with extraordinary plants and animals in an almost otherworldly scene that also has been home to people for perhaps fourteen millennia. Manos, metates, and gyratory crushers used to process wild food, ancient trails embedded into the black desert pavement, and enigmatic intaglios—rock sculptures the scale of which can be interpreted best from above—reveal a landscape traversed and inhabited by people long before written time. People of this land said their diety I'toi lived here on Pinacate Peak, and stories both mythic and historic abound in every corner of this cultural landscape.

The mysterious region was first described in written form in the 1690s by Jesuit missionary Eusebio Francisco Kino and his aide, Juan Mateo Manje. On a trip up the volcanic peak, Kino named it *Santa Clara*, and from its heights Kino could see far to the Upper Gulf of California and the Delta of the Colorado River, affirming that Baja California was not an island, but a peninsula. Since then, the lands and waters around the Pinacate area have been named, mapped, and studied by Native American, Spanish, Mexican, and Anglo explorers, settlers, cartographers, and scientists.

Well-known by natives of the desert, especially the Hia-Ced O'dham (the People of the Sand), the region was enshrined in literature in 1907 when botanist Daniel T. MacDougal, first director the Carnegie Institution's newly created Desert Laboratory on Tumamoc Hill overlooking Tucson, Arizona, convinced William T. Hornaday (a zoologist, conservationist, and well-known travel writer of the day) to help organize an expedition into the mysterious Pinacate.

Given a nearly blank map, MacDougal's invitation to Hornaday could not go unaccepted. Based from the Desert Lab, they assembled a team of colorful characters, including Englishman and jack-of-all-trades Godfrey Sykes (who had built the dome for Percival Lowell's famous observatory on Mars Hill in Flagstaff), one-time Texas Ranger and sometime Arizona lawman Jeff Milton, photographer John Phillips, and three others. On the morning of November 2, 1907, the team departed for the Pinacate where they explored for a month, collecting specimens and mapping geographic features for the first time, including kilometer-wide volcanic craters. They assigned names to many of them, such as MacDougal Crater, Sykes Crater, the Hornaday Mountains, Phillips Buttes, and Carnegie Peak. Their explorations and findings are detailed in jovial, entertaining fashion in Hornaday's 1908 book *Camp-Fires on Desert and Lava*.

Gumersindo Esquer, teacher, poet, writer and resident of Sonoyta, was a fascinating borderlands character, as portrayed in a biographical essay later in this volume. The Mexican border town of Sonoyta, along the once-perennial Río Sonoyta, has long been a confluence for adventurers and their stories as they embarked for or returned from the Pinacate and Gran Desierto. It is not hard to imagine many a tale—perilous, epic, and certainly some tall—being shared over beers and *bacanora*. The mystery and beauty of the Pinacate, his “backyard,” clearly captivated his imagination and sparked his yearning to write the book you now hold in your hands.

*Campos de Fuego* is a narrative of adventure and exploration staged on the remarkable landscape of the Pinacate. Only an area as grand as this could contain a half-real, half-imagined network of underground lava tube caves, tunnels with burials of native peoples and Spanish priests, fauna such as tigers and mammoth fossils, ruins of the lost Mission of the Four Evangelists, and a buried treasure of gold coins.

First published in 1928 with reprints in 1985 and 2013, Esquer's novel has remained a little-known gem in the Southwest literature. His manuscript has persisted with the help of his family and several generations of Sonoran Desert aficionados, but until now it was only available in Spanish. Irwin Hayden, father of renowned Pinacate archaeologist Julian Hayden, put Esquer's words into English. This manuscript, like Esquer's original, has followed a fascinating path, passing from Julian to Bill and Gayle Hartmann and then Bill Broyles, who approached Ben. For decades it has begged to be published.

Now, it is fitting that the Desert Laboratory and the Instituto Sonorense de Cultura present twin editions, English and Spanish, of *Campos de Fuego* for your enjoyment.

The Pinacates continue to loom large in the imaginary of the Sonoran Desert. One of the most successful Natural Protected Areas in Mexico and a UNESCO World

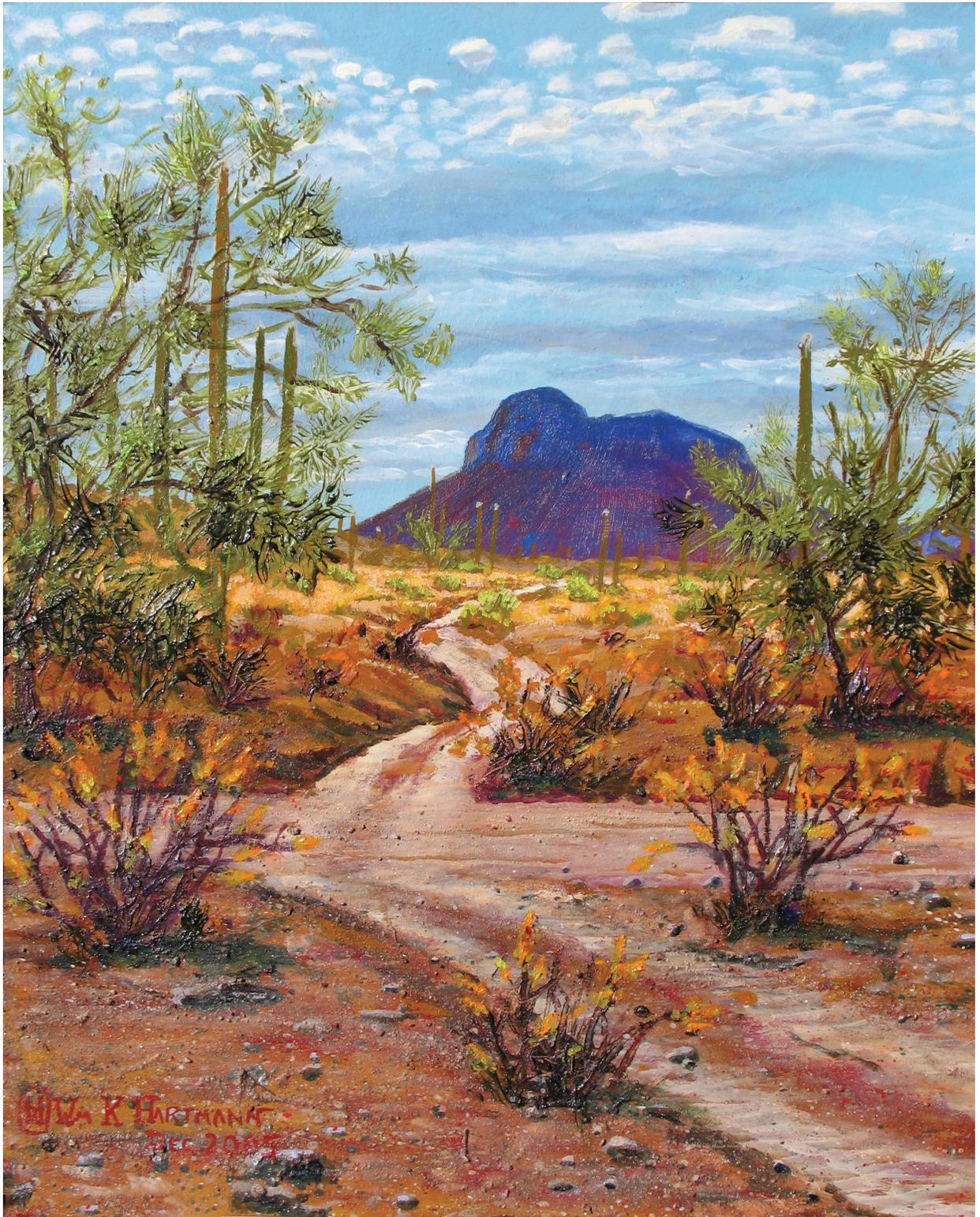
Heritage Site, this area has been recognized for the outstanding universal value that anyone who explores its interior will experience. It is a region that instantly opens the doors of discovery – the unanticipated wonders that fill the pages of Hornaday and Esquer’s works are palpable, the instant one sets foot in the land of sand and lava.

Perhaps more than anything, Esquer’s novel reminds us of the importance of daring to enter and explore the unknown. That kernel of curiosity that drives us to see what lies under the sand or on the other side of the mountain leads to more than a personal experience. It leads to understanding, moments otherwise unrealized, connecting with neighbors across metaphorical and physical borders, and a deeper appreciation of the world in which we live.

We hope this fantastical journey inspires exploration of your own, either in your mind or with your feet.

Benjamin T. Wilder, Josué Barrera Sarabia, Gayle H. Hartmann,  
William K. Hartmann, and Bill Broyles

Tumamoc Hill, Tucson, Arizona  
August 2018



Sonoran Desert highway. The Sonoran Desert, on both the Mexican and American sides of the border, is laced, even today, by many narrow desert trails. Such a trail could have been followed by the heroes of Esquer's novel, as they reportedly left Sonoyta along the present-day border in 1926. (On-site acrylic painting, William K. Hartmann, 2005).

## CHAPTER I

# RAFAELITO'S FRIGHT

I take my readers to the distant village of Sonoyta, part of the municipality of Caborca, district of Altar, state of Sonora.

Sonoyta is an oasis in the midst of the desert. It is worthy of being seen and admired because of the small but never-failing river which, like a beautiful silver ribbon, runs from east to west along the north side, until its waters are lost in the unexplored sand dunes that are in the eastern part of the steep mountain range of El Pinacate, many miles beyond La Salada, sloping always to the Gulf of California. Sonoyta is situated at 32°N 113°W, Greenwich Meridian. Its climate is, I know not why, extremely variable, very hot in summer, very cold in winter, and subject to abrupt changes in temperature in spring and fall.

When in flood, the "Little River," as the North Americans call the stream, fertilizes the floodplains on both banks, where small plantings of maize, wheat, beans, vines, fig-trees, pomegranates, etc. may be seen; these are pleasing to the eyes of the passersby, presenting as they do a most lovely panorama of verdure-clothed fields.

Sonoyta is just an oasis in the desert, for no name but "desert" can be given to the entire northwest portion of the endless district of Altar, which throughout its extent is covered by interminable sand dunes, interrupted here and there by sharp ridges of the Pinacate range, where lies the most important volcanic area in my country; it is unknown to men of science to this day.

Here I should like to give a full description of those mountains and of their great treasures of things of interest to observers and students of nature, relating as best I may the results of my visits; these matters, however, are tied in with the account of the expedition organized in Sonoyta for the exploration of these unknown regions.

At the time to which I refer, there was a bar on the main street, owned by Señor Reyes O. Carrasco. It was the night of October 10, 1926, and in the bar was a group of men, singing and joking. This bar was a place where idle men gather to talk and pass the time away with song and banter. As the evening was just begun, no one remembered to drink iced beer, tequila, fig-wine or pomegranate or any of the other poisons dispensed in this sort of place; everyone devoted himself to the telling of tall tales, in

which he hoped to top all others. In the group one could see the following personages: Señor Reyes O. Carrasco, Francisco Jáquez, nicknamed El Chileño; Rafael L. Vega, José Salazar, Manuel de Astorga, Domingo Quiróz, Regino Celaya, Manuel Parra, Arturo Quirós and the author. After a few moments of chatter, the brothers Abelardo and Antonio López joined the group.

The fun was at its height when three other personages arrived. They were Señor Luis Blásquez, Second Geological Engineer, Hydrological Commission, state of Sonora, and clerk of the Secretary of Industry, Commerce and Labor; Señor Manuel Lários, Agronomy Engineer from the National Agrarian Commission, and clerk of the Secretary of Agriculture and Development, with commission in Sonora; the third was Señor Ramón Gil Samaniego, attorney for the cities in the state of Sonora, and clerk of the same Secretary of Agriculture. The two first-named men were acquaintances of the writer; the third, a fellow-countryman. After formal introductions the fun and gaiety increased. Naturally, no one doubted that these men were engaged in some sort of official business in the locality, which they were conducting with prudence and discretion; presently it was made known that they were on business connected with lands belonging to the Papago Indians, who from time immemorial had peopled these faraway regions.

Later, after the fun had somewhat died down, Señor Lários, the engineer, took the floor and spoke as follows:

“Gentlemen, this is my first time here. We three are here on official business. We cannot start our work for a month, because of certain difficulties which have arisen, and we must lay over here with nothing to do in the meantime. Because of this, and in order that we may make the best possible use of our time, I have a proposition to make to all who are here. I have heard much talk here in Sonora about the great importance of the volcanic region of El Pinacate, and I would like very much to become familiar with it, since we are so near to it. My companions and I wish to do some hunting. In short, we want to spend the month in study and recreation. Therefore, in the name of my companions and myself, I invite you to come along with us, if you like. Let all of you who want to go step forward.” Because the proposal of Señor Lários enthused us all, we stepped forward, to a man.

“I am delighted that my proposal has merited general approval,” said Lários. “We welcome your company with great pleasure. Since I am experienced in these little journeys in arid lands and know what they cost, permit me to consult with you as to the means of conveyance and as to the distance to be covered.”

We shall go with you in whatever manner is agreed upon,” said Reyes Carrasco.

“Yes, we will go by automobile, on horseback, on mules, on foot!” cried Rafaelito Vega, jumping about with joy like a boy.

“Then let us determine the most comfortable and least expensive way to make the trip,” added Domingo Quiróz.

There was much discussion over this, which ended in unanimous agreement that the trip be made on horses; that three small carts be laden with provisions for one month, with twelve mules to carry a supply of water for use in the desert. Applause rang out in the bar when agreement was reached. As the affair involved nothing less than an expedition of a month’s duration, veritable miracles were performed in preparation for it; every detail was seen to in the most satisfactory manner to provide for the days to come, since everyone in Sonora possessed horses, carts, mules, etc., etc.

By dawn of October 13 all was ready for departure. Beneath the great cottonwood tree in the main street of Sonoyta was a group of saddled horses and three carts piled high with provisions, fire-arms, and all the impedimenta of a party of travelers. Reyes Carrasco had already gone ahead, on the road to Santo Domingo, driving the twelve burros laden with empty tins, to be filled with water; as they proceeded they made an infernal racket. Like grasshoppers hopping upon the tender ears on the corn-stalks, so everyone leaped to load the horses for pack animals. Twenty minutes later a long line of dust was seen to westward, indicating to all who remained in the little village that the travelers had now taken the road that would lead them to El Pinacate.

The party made a brief stop at the ruined hacienda of Santo Domingo, at the suggestion of Engineer Blásquez, who wished to make some studies there, along with some observations that he thought important. Engineer Blásquez read the barometer and found that the hacienda stood at an altitude of 328 meters above sea-level. Both engineers discussed the formation of terrain while collecting samples of granite, slate, onyx and other rocks which were there in abundance; these were destined to enrich the collection at the National Institute of Geology.

At noon they reached Quitovaquito, a point situated on the international border. It was decided to stop there in order to eat and rest the animals. The small lake did not escape the attention of the engineers. The lake cut the international line in two, leaving half of the pond in the United States and the other half in our country. [In actuality, the “lake” lies just north of the international border.] This pond was formed by a trickle of water which had its source in the nearby hills, and this fact indicated to Blásquez that there were artesian wells there. A very rare thing, artesian water in the midst of the desert!

After the brief halt, the party proceeded westward, with no incident worthy of note that afternoon, passing Agua Dulce and La Salada, and finally reached Los Pozitos, where, by unanimous consent, they spent the night. It was now the eighteenth hour of the day, because the march had been slow, due to the frequent stops by the engineers, who observed and studied the many rocks they found on the way.

Good-natured banter was at its height as the camp was made. A double row of tents was lined up on the right bank of the dry river, and all the travelers, wearied by so much laughter, lay down in their respective beds in order to induce sleep. Manuel D. Astorga was the only man who did not go to sleep right off. He had brought with him a bottle of wine made from dried figs, a sort of poison made in Sonoyta. From time to time he took a draught from his bottle and intoned a song which only he understood. The poor Astorga was enraptured by his little tune, and besides, as he listened to the *basso profundo* snoring that Reyes O. Carrasco was sounding to the four winds, he concluded that someone was singing with him. Finally, overcome by sleep, he was silent.

At the twentieth hour most of us were awakened by dreadful roarings, whose echoes resounded in the neighboring mountains. Darkness was complete, objects three paces distant could not be seen. Fires had been extinguished. The roars were repeated. Two asses that were staked very near the beds of Rafaelito and El Chileño broke their halters and ran noisily away.

"Lions! Lions, señores!" yelled Rafaelito. Panic-stricken, he leaped up into an ironwood tree, hiding himself in the spiny foliage, paying no heed to the sharp bent spines of that desert tree.

"Señores, lions!" cried Jáquez (El Chileño), leaping into the top of a mesquite, where he hung dangling like a buffoon of the circus.

The rest of us alerted ourselves, demanding weapons with all the speed the circumstances required. "My guns, hand me my guns!" shouted Rafaelito from the midst of the ironwood. From El Chileño came the same demand, again and again. But who was going to hand them weapons in that time of confusion, with the night so dark and the screams of the lions coming closer and closer? Did their extreme terror cause that pair to forget to take their weapons with them?

Regino Celaya and Reyes Carrasco, armed with U. S. Springfield rifles, managed to get close to the spot whence the roars came. Two luminous points in the blackness told Celaya of the presence of a wild beast. Aiming the Springfield, he fired in the direction he thought appropriate, wounding but not disabling the beast, which, making a great

leap, took refuge beneath the very ironwood occupied by Rafaelito, without ceasing its frightful screams. Carrasco, for his part, fired at random on the other beast, without effect save that the shot made the lion take shelter beneath the mesquite in which El Chileño was hiding.

“Ah, if only I had my .45 automatic!” said Vega.

“If only I had my Winchester .30-30,” said El Chileño.

Meanwhile Rafaelito felt the hot breath of the lion on the soles of his feet. His eyes nearly popped out of their sockets. Suddenly another blast was heard; Manuel Astorga had aimed at the beast, but the bullet buried itself in the hard trunk of a desert tree. The lion, now annoyed, sprang up into the ironwood, and Rafaelito, to avoid a caress from the feline, jumped to the sandy ground, leaving his refuge to the animal. Thereupon Vega’s terror turned to wrath. Running quickly to where the horses were tied, he grabbed a long riata. With the aid of a stick he got the noose about the lion’s neck and tied the other end of the rope to the tree trunk. Then he poked the beast’s flank with the stick. The lion sprang, and its body hung in the air, with the hind feet touching the ground. The two engineers, now somewhat recovered from their fright, burst into laughter at what they saw. The show, however, was not over. Rafaelito got a very stout stick and—who would believe it?—busied himself with cudgeling the suspended animal until its carcass was made into a bag of bones. While all this was going on, Carrasco, Celaya and Arturo Quiróz had given good account of the other lion, by firing an infinite number of volleys at it until its hide was a sieve. The first lion had paid dearly for Rafaelito’s moments of terror, inflicted on him while hidden in the ironwood.

Naturally, after all was over, no one could sleep. The campfires were stirred up in order to disperse the prevailing darkness and the carcasses of the lions were drawn close by Carrasco and Celaya. Then all could see what had been done to two fine specimens of puma, or American lion. One was larger than average. The other, in spite of its hide having been made a sieve, was used for meat, which was enjoyed by all. Like every good rancher, Rafaelito worked busily to recover the fat, because, he said, “the grease of a lion has a thousand healing virtues.”

At dawn some of the travelers brought in the fugitive mules, which had set off on the road to Sonoyta. Ramón Gil Samaniego, the two engineers and Pepe Salazar were unhappy, because they believed the expedition would be delayed for lack of pack animals, ammunition and saddles. After breakfast, the journey was renewed, at the eighth hour, in the direction of El Cerro Colorado.



View across the interior of Cerro Colorado (Red Hill) Crater, the first crater encountered by Esquer's expedition. The reddish cliffs give this crater its name. This afternoon view looks west from a secondary crater that interrupts the rim of the main caldera and reveals sloping beds of volcanic deposits in the foreground hillside. (On-site acrylic painting, William K. Hartmann, 1974).

## CHAPTER II

# EL CERRO COLORADO

Some sixteen kilometers from Los Pozitos, about West by 15° North, is a mountain peak of low elevation but very broad base. It has no doubt received its name, "Cerro Colorado," because red is the predominating color on its slopes. On its south and west side, the plain is completely covered with black cap rock, eruptive and very porous. From here on is nothing but lava. The cap rock, varying from ten to fifty meters in thickness, covers an area of many thousands of hectares. It is virtually impossible to walk over that cap rock, for it is like treading on the edges of knife blades. For some kilometers from El Cerro Colorado our horses' hooves trod volcanic sands. As we approached the mountain the spectacle was amazing. To the north lay a vast layer of volcanic sand of incalculable depth.

El Cerro Colorado, at whose foot we found ourselves, dominated the area, with its majestic combs of lava, like the crown of a volcanic crater. Hail! Hail! Three times hail, Watch Tower of the Desert! Hail, silent witness of dreadful cataclysms! As one contemplates the panorama before him, his wandering thoughts dwell on ages now past and on the dreadful earth movements that changed the shape of your colossal pile! Did you erupt before man came? No! Perhaps burials lie beneath your endless layers of lava and ashes, or settlements of unknown origin. It may be that in the not too distant future men who love knowledge will come to study you and extract from you the secrets that you conceal!

Although we reached El Cerro Colorado at a very early hour, the engineers, Lários and Blásquez, and Attorney Gil Samaniego did not wish to go on, but wanted to stay there long enough for them to make a multitude of observations. The packs were removed, tents were pitched where most suitable, and the engineers went to work, as they debated the order in which their observations should be made. Ramón Gil Samaniego was most happy, enjoying the panorama before him.

Allow me to say in parenthesis that I am acquainted with this man from his infancy. He was, like the author of these lines, a native of the city of Alamos, my hometown. We were friends from our tenderest years and were, besides, schoolmates, and I therefore had opportunity to know him intimately. He was the "imposter" in the school. My sincere friendship and affection for him prevent me from saying more about him, lest I offend

his modesty. After a long interval without my seeing him, we met in Sonoyta and I found him to be the same as always. Enthusiasm for everything is enough to give one a hundred thousand ways for using one's energies, especially when undertaking to develop the land and even to propagate little figs, for the occasion is very rare when he fails to fill his pockets with at least two kilograms of fig seeds.

It is also, I am sure, my duty to inform you that Engineer Lários, whom I have known since 1918, is a real gentleman and the personification of kindness. As for Engineer Blásquez, although I have seen him but a few times, having gone with him on two study tours, I must say that because of his courteous manners, his delightful conversation, his excellent education and his numerous other distinguishing qualities, he is beyond any doubt another real gentleman. Engaging in flattery has never been my custom. When I use such terms in referring to the three men just mentioned, I am simply doing justice to those who deserve it. At this point I close the parenthesis in order to continue the interrupted narration.

Although it was very early morning and we were all eager to get to the top of the volcano of El Cerro Colorado and to go to the bottom of the crater if possible, it was agreed without objection to rest there for the day and on the next day undertake the climb to the ridges of calcareous tufa and lava. The rest of the day passed without particular incident, except for the infernal music produced by the thousands of coyotes that live in those wastes. No one paid any attention to the howls of these wild dogs.

Early the next day the expedition, armed to a man and carrying sundry scientific equipment, set forth for the top of the volcano, which was reached about an hour and a half later. So low is its elevation that at its summit the barometer marked a height of 675 meters above sea level. Its immense base forms an irregular hexagon, and covers many thousands of hectares. It resembles a truncated hexagonal pyramid, coated on all sides with red pitch, or bitumen; it remains to be said that this perhaps is the reason for the name, El Cerro Colorado. The mountain is split everywhere, and presents its deep fissures to the observer as unmistakable evidence of tremendous earth movements. Its skirts to north and west are completely covered with volcanic sand; this is imposing, especially if the observer stands at the top of the great crater and experiences the attraction of the abyss. Never can I describe the sensation one has there. Engineers Lários and Blásquez estimated the circumference of the crater at about two kilometers; its depth varies. There is no doubt but that there are sand and soil at the bottom, because of the vegetation seen there, from the rim.

Even though one can go down to the bottom by the more accessible parts, no one tried because of the dangers they imagined, although actually there was none. From the summit the vast plain lying to north and west dominates all, covered entirely by lava, menacing anyone who dares to set foot on it. To all appearances El Cerro Colorado is a continuation of the Pinacate chain, which rises majestically to the south and is also covered in great part by lava. At a greater distance, and in diverse directions, are seen the sand dunes, terror of the travelers who venture to cross them on their way to San Luis and Rio Colorado, the last settlement in the northwest part of the immense district of Altar. Looking to the south and west, from the summit of El Cerro Colorado, we could just see a ribbon of blue, which was none other than the waters of the Gulf of California. Vegetation is extremely scarce. What plant life could survive on these sand dunes and lava beds? Only very close to the volcano may plants be seen, such as creosotebush, *chamizo* [white bursage], *galleta forajera* [possibly *Coursetia* sp.] etc., etc., not to mention cacti, such as sahuaro, cholla, *cina* [senita] and others.

Both our engineers, as it seemed, could read these fields of lava and obtain a full account of what had taken place there in past ages, but we travelers were not too well satisfied to remain uninformed and we naturally wished to receive some easy-to-understand explanation of what had gone on there. When he guessed what was in our minds, Engineer Blásquez, a specialist in geology, assumed from that day the role of instructor.

“Señor Vega,” he said, “Have you your little water-cooler?”

“Oh yes!” replied Rafael, showing him a small water-cooler.

“Has it enough water and is it well corked?”

“The container is a little more than half full and it is hermetically corked, as with a valve,” was the reply.

“That is enough water. Now, if your little water-cooler is lost in an experiment, will you be very sad?”

“Oh, no, by no means.”

“Good, then fetch it.”

Rafael handed it to him. The “professor” took some dry wood which he had placed nearby and made a fire, in the midst of which he placed the water-cooler. We watched this experiment from a respectful distance. As naturally would happen, in a few moments the water, partly converted to steam, blew out the cork, but there was an instant when the steam expanded so much that for want of a safety-valve, it burst the vessel and the boiling water was thrown to all sides. This was what we expected.

“Now,” said our instructor, “I should like Señor Vega, who has been all eyes, to explain what caused his water-cooler to explode. Take the floor, Rafael.”

“Oh,” said Rafael, slapping his breast, “the explanation asked for is very simple. All bodies tend to expand, to make themselves large, with heat; and water, which is a body also, sensitive to heat, is converted into vapor, or better said, passes from a liquid to a gaseous state, and unquestionably increases its volume, and, as the stopper of the jug fitted too tightly to give an outlet, that is what caused the explosion that destroyed my water-cooler. It reminds me that a like thing happened to me one time with a radiator of my automobile. El Chileno and I were on the road from Caborca to Sonoyta; the road was in very bad condition. The motor got very hot and the water boiled within the radiator. The tube for the escape of steam was no doubt plugged, and since the radiator cap fitted perfectly, there was nothing for it to do but explode, sprinkling us all with boiling water.”

We all laughed heartily when we heard of this adventure.

“Well then,” said the engineer, “imagine that the earth on which we live is a great vessel, inside which there is nothing but matter in a state of ignition. Now tell me: what would happen to our great “pot” if the gases, greatly expanded by high temperatures, lacked means for escape?”

“There would be frequent earthquakes,” said Astorga.

“It would burst, as happened with my poor water-cooler,” said Rafael.

“Just as the radiator of your Ford burst,” said El Chileno.

“Bravo!” shouted Arturo Quiróz, celebrating the occasion. “Can we say, Señor Engineer, that a volcano is a mountain that throws out lava, cinders, stones, ashes, etc., etc.?”

“Certainly, Señor Quiróz, and therefore these outpourings, these escaping gases, prevent earthquakes, which would be more frequent otherwise.”

“And why would not this shell or rind that we inhabit blow up?” interrupted Reyes Carrasco, in his turn.

“The reason is plain to see,” replied the engineer. “Volcanoes, terrestrial and submarine (because some of them are beneath the waters of the sea), are somewhat like the safety valve on a boiler. When the gases within the earth become superheated, they seek an outlet, and they find it at the weakest part of the earth’s crust, not without great commotions being felt previously, and strong subterranean rumblings being heard; commotions that are, in the majority of cases, fatal in their effect. Thousands of lives have been lost from these causes. As the gases escape, molten rock, sand and cinders form great craters like that which we see here, also very deep fissures such as those you can see on the flanks of the mountain. I shall have a great deal to tell you about these earthly phenomena, but I shall say it later on, when we come to the really important part of this region of volcanoes.” The engineer finished his talk and, for the present, this sort

of object lesson, which cost Rafael a water-cooler. The engineers then busied themselves with other more serious matters.

For two hours the scientific instruments were consulted: many photographs were taken of the most interesting places, and many notations were made in the notebooks. While this was going on, a group of our men, headed by Ramón Gil Samaniego, set out after a band of antelope they had spotted at the foot of El Cerro.

Gil Samaniego would not have swapped places even with Mr. Roosevelt in those moments. Salazar, El Chileno, the brothers López, Carrasco, Quiróz and Celaya also liked to hunt. Fourteen antelope were the victims of the expanding bullets of these skilled marksmen! It was strange that Rafaelito was not amongst the hunters; he had seen elsewhere some fifteen javelinas, and was running to take a shot at them. Vega was so hostile to the porcine tribe that he killed them all, but not until the animals had torn his North American boots to bits with their jaws. The entire product of the hunt was carried into camp, in the midst of general rejoicing. The supply of meat lasted for many days. He who has not tasted antelope meat does not know what is good and savory, in the way of food. While the work of “dressing out” was carried on, one carcass was used for dissection. Just the sight of the meat, a mixture of fat and lean, stimulated one’s appetite.

Just then Manuel Parra came into camp leading a mountain sheep that he had roped by its horns, which were twisted like a cork-screw. The animal was of extraordinary size.

“I am bringing this little lamb to you,” said Parra. “I roped it. It does not overburden me.”

Everybody burst into laughter at our “pal,” as we generally called him. The sharp knife of Regino Celaya cut the jugulars of the sheep and it became an addition to our meat supply. The head boasted enormous horns so it was taken by Ramón Gil Samaniego, for preparation as a gift to the Natural History Museum.

What with climbing the mountain and descending, and the bustling about of the men engaged in hunting and dressing out the meat, most of us were weary and retired early, expecting to sleep at our ease, in order that we might go forth next day to find things “for to see and for to admire.”

Tomorrow came, and the two engineers declared that they did not wish to leave that place yet, because of having to make a survey of the “Malpaisal,” or “badland,” as the lava field was commonly called. Since there was no need for haste, all consented to stay there as long as necessary to complete the survey.

Very early in the morning we started for the badlands, which are located very near El Cerro Colorado. This jaunt was made on foot, as we had to travel at least two kilometers to reach the formidable mantle of lava. We made it in less than an hour, and on arrival we learned that that bed of completely fused rock was more than fifteen meters thick at the place of observation. In other places the thickness was much greater. It took us about half an hour to climb only twenty meters, for we were walking on the knife-like edges of the lava. Many of us suffered slight cuts on hands and feet, but we finally got there. When we viewed the panorama before us, it proved more worthy of admiration than we could have imagined. That lava plain, if we may call it that, stretched endlessly southward; to the west a distant mountain range stood on the horizon, formed by other high peaks that displayed their craters cloaked with cinders and sand. That vast country looked as though it had been painted with black soot; there, black reigned supreme. The porous lava never failed to cut our feet in spite of our boots. The surface was broken and cracked in all directions; to keep walking over all those concavities and irregularities on that floor of black glass was an exceedingly dangerous undertaking. The engineers realized this and therefore ordered a return, and we went back with great satisfaction. Everyone was absolutely silent, as though in meditation, for who could move his lips or speak, in the face of a spectacle so imposing, presented by Nature? We all left that trail with boots in shreds.

Thus it was that the survey of that obscure area came to nothing, not for lack of will on the part of the engineers or the rest of us, but because of the danger. Indeed, for one to venture on this surface covered with ridges and furrowed by deep fissures is foolhardy. Some pictures of those places were taken and the engineers made some notes. Soon after that we were back in camp, in the midst of a great silence. Finally, Don Abelardo López spoke.

“Let’s rest a while here and then, if you wish, I’ll lead the way to that black land. I know several places where we can go into the cap rock for more than two kilometers. On that trail the surface is not badly fissured and the cap rock is not so rough. I believe we can travel a good stretch, and you will be able to traverse and examine as much as you please. If you like we can do that this afternoon.”

The engineers and others agreed to go along.

“You’ll be our guide, Señor López; we have confidence in your knowledge of the terrain,” said Ramón Gil Samaniego with a smile.

When López thought it was most appropriate, the group took up the march, on a course different from that of the morning. After walking about three kilometers

westward, Don Abelardo halted us in front of a thick layer of lava. At that spot it was twenty or more meters thick and the fused mass was so compact that it did not have the porosity to which we were accustomed. The way up was easily accessible, since the lava was not fractured. It resembled glass, and the sun's rays striking its surface were reflected back on our faces. A number of the men fell down as they went forward on this strange, slick surface, but none was injured. We trudged over that black surface for half an hour, towards the south, as on that side the way was easier. Vegetation was limited to single, separate plants; farther on it disappeared as if by magic. The travelers, enthused over the panorama, had not intended to halt, but nature decided otherwise. The march suddenly slowed down, having come to a deep fissure about fifteen meters wide, whose sides were very dark and compact. They resembled immense sheets of black, broken glass. Its depth was incalculable.

"Don't let yourselves be demoralized, Señores!" said Don Abelardo. "This fissure is not everywhere so wide as it is here and there is a place where we can cross it with one step. Follow me!" Don Abelardo went on with his retinue.

"I want to take you to some dark, big caverns," he said, addressing the engineers, "which are under the cap rock. We shall be there very soon, and you will have plenty of time to see them."

A little farther on and sooner than we expected, we saw that the level of the mantle dropped more and more in every direction, in a radius of about a kilometer, with the sloping planes converging at a point that we might appropriately call the center of this immense funnel. We soon reached the center and saw a hollow or sink nearly circular at the mouth, with a mean diameter of seven meters. This sort of well was not straight down, but had, as Engineer Blásquez showed us, an inclination of 45 degrees from the vertical.

"In here," said Don Abelardo, pointing to this large mouth, "I believe we shall find something that will astonish you. As my fondest wish was to bring you here, I have come with enough candles to enable us to explore the very bowels of this black glass. Let's go in, when you are ready." He handed everyone a candle.

Carrasco, Parra, Vega, Salazar and nearly all the others refused to go in, under the impression that there were wild beasts there. Finally the engineers and Gil Samaniego took courage, and they and the others began the descent into the depths. They went about two hundred meters; the floor, although sloping, was very solid and in places like a stairway. Suddenly the space, so constricted by the crystal walls, opened up, letting us look into an immense cavern. We were all struck with wonder before this marvel of Nature. The

engineers, in spite of their learning, were also amazed. Señor Blásquez consulted his barometer. It showed an altitude of 370 meters above sea level. Despite the depth at which we found ourselves, the temperature was agreeable, neither cold nor hot. The engineers, busy with their observations, were interrupted by a great din, which resembled the noise made by running animals, about to appear from the depths of the enormous cave.

“Lions! Wild beasts!” cried Rafael, looking for a way out of that dark den. “I was right that we should not have come in here.”

No one thought of defense, for there was no place for it. The racket was made by a large flock of mountain sheep bedded there. When they saw our lights and heard our voices, they stampeded, making a swift run for the only exit, which was where we had entered. We were nearly all thrown down and injured by the flight of the terrified creatures, but none seriously. When the big scare was over, all laughed heartily. We knew, rather late, how inoffensively wild sheep conducted themselves.

The idea that lions or other wild beasts were in the cave was plainly refuted, since it was just now abandoned by the sheep. A penetrating stench of bat excrement gave notice of great deposits of guano. Blásquez thought that the flames of the candles were highly dangerous inside the cavern because they could ignite gases and other substances generated there by natural causes, such as nitrogen and other things, but the danger proved imaginary, since nothing happened.

While the engineers carried on their surveys, the intrepid Gil Samaniego and others, as they reached the bottom of the cavern, discovered that at some distance beyond it was nearly closed. A small opening gave passage into another grotto of greater dimensions.

“Hey, engineers, this is only the ante-chamber. Come here,” said Ramón Gil Samaniego.

“Have you found something?” asked Lários.

“Yes, we have found a much larger cavern. The one you are in isn’t worth the trouble, come and see this one.”

To this enthusiastic invitation we could respond only with haste. Somewhat beyond the guano deposit, the cavern extended farther and farther, until the side walls came almost together and gave difficult passage for two men walking abreast. By the light of our candles we identified the group. It was Ramón Gil Samaniego and his companions. When we reached them we saw something that filled us with wonder. The side walls opened up at an angle of 90 degrees. The roof was many meters high, and the floor, up to now markedly sloped, was now nearly level, and its surface was like glass, and reflected the candlelight. That phenomenon was most evident in the arches of that new and immense cavern, because, due to the infinite number of small hollows in the “gallery,” as

the miners say, that “firmament” seemed to be covered with stars. Ramón Gil Samaniego thought he was dreaming. Not one of us failed to call to mind the “Thousand and One Nights.” The display was like nothing else. Astorga, Vega, El Chileño, Carrasco, Celaya, indeed, everyone, were all eyes.

All this did not seem to interest the engineers. They looked at everything as they went along and read the fused rocks as though they were the pages of a book. Observing everything closely and making frequent notes, they too had to admit their admiration, being infected by the general attitude. Indeed, who is the man, learned though he may be, who is not amazed, who does not marvel, when in the very bowels of a field of lava, he encounters a cavern more than a mile long, with very high arches, adorned as it were, with millions of diamonds whose facets reflect the light brilliantly? The spectacle was certainly superb. The work of nature seen there could never be duplicated, or even imitated, by man.

Gil Samaniego who, by the way, is the most inquisitive man under the stars, wanted to know all about it, to investigate everything, to see and feel as much as he could of what was before him. He and Astorga and Carrasco were seen prying into the rough and pathless parts of the cave. The engineers collected samples of the fused rocks to give to the National Geological Institute. All the rest of the company was “like fools at vespers,” as they gazed at the wonders of Nature. Rafaelito Vega was all eyes, so impressed that he was speechless.

“How goes it with you, Señor Vega?” asked Engineer Blásquez.

“Oh, so-so, Señor Engineer. I believe that you, as a man who is completing his study, ought to know how it is with me. Much as I try to comprehend even half of what is here, it is all impossible for me, it is a very difficult undertaking...and....”

“Not at all, Señor Vega. I have already made notes, to give you some easily digestible explanations a little later, when we reach a larger crater, which the brothers López, who are our guides, say is about a quarter of a kilometer from a tank bearing the name of “Papago Tank.” I want very much to see this crater, which, they say, is enormous.”

“Enormous and you can’t imagine how deep!” said Don Abelardo López.

We made the descent very quickly. The barometer showed an elevation of 170 meters above sea level. Suddenly we heard loud cries from Ramón Gil Samaniego.

“Engineers, engineers, come here, with the others. I have made a great discovery. It is most important. Come at once!”

What had he found, then to fill him with such enthusiasm? We shall see in the next chapter.



View from campsite at Cerro Colorado, looking southwest in the direction Esquer's party took as they set out toward the Pinacate lava flows. The view looks across a playa, which (in this particular spring), had been flooded by unusual rains and was lush with vegetation. The twin cinder-cone peaks of the Pinacate Mountains' summit are in the far distance. (On-site acrylic painting, William K. Hartmann, spring, 1992).

## CHAPTER III

# RAMÓN'S DISCOVERY

"Engineers, the two of you come here, and the rest of you also. I have made a great discovery. This is important!" cried Ramón Gil Samaniego from the floor of the cave. His enthusiasm was plain to be seen. Let us see what happened.

We have pointed out that Ramón Gil Samaniego is the most inquisitive and most persistent man under the stars. He is capable of going to the moon if that little journey could be made. On this occasion, together with Astorga, Regino Celaya, Pepe Salazar and Reyes Carrasco, he was exploring the floor of this apparently endless cavern. All carried candles. Suddenly Ramón, who was leading, gave a cry of surprise. He had stumbled on some artificial objects.

Scattered on the floor were many bows, arrows, shields made from skin, clay pots, stone mortars and other stone utensils, some of them nearly buried under guano, which at that place was less abundant. That was when Ramón, unable to contain himself, bade the engineers to come. When we arrived, we were amazed to see all this.

"Did you know about these caverns in the lava?" asked Engineer Lários of Don Abelardo López, our guide.

"Only about the first cave we visited; the other two, no," said López. "It is news to me as much as to you, about these objects which I see scattered here and there."

"Bones, human bones!" exclaimed Regino Celaya, fixing his attention on the hollows of the cavern, to our left.

Ramón's discovery and that of Celaya were very important. What we saw told us, plain as day, that these regions had been inhabited by man for many centuries. The engineers regretted that for lack of magnesium flares, no photographs could be taken. They then agreed to go on exploring the cave. To their great amazement, this time they found other objects that did not belong to men in his savage state.

Amongst the human debris were sacerdotal ornaments, other religious objects, almost destroyed by the years; bronze images of Christ; sandals like those worn by friars long ago; and many other curiosities, by way of art, such as oil paintings, candelabra, etc. etc., all of a religious nature.

Comrades!" cried Ramón Gil Samaniego, his eyes shining with enthusiasm, "The discovery we have made is of great importance to the ancient history of our country! Undoubtedly this region was inhabited by *indigenes* of unknown race and the utensils that we see here, such as bows, arrows, pottery and worked stone, and the perfectly preserved human remains lying on the fused rock tell us so, without the slightest doubt. The remains of the priests, for these relics are nothing else, are beyond question more recent, and it is probable that they have to do with Spanish friars who came to these faraway lands to propagate the Christian faith among the savage tribes, and to build missions in remote places."

"I am exceedingly well pleased by this discovery," said Blázquez, "and I applaud much that Señor Gil Samaniego has expressed in the terms we have just heard. I think as he does and I think the rest of us do, too. It is thus very clear that after the terrible eruption of these volcanoes, this vast region has been inhabited by some semi-savage tribe, and that Spanish priests came here to spread their religion amongst those who lived here. It is certain that they established missions, following the custom of that period, but—was this region inhabited previous to the great eruption?"

"Mystery, a mystery," murmured Reyes Carrasco.

"It is no mystery, my dear friend," said Engineer Blázquez, "as indeed you will see when we go to assure ourselves, on positive grounds. It is just a matter of a little observation and study. Let us look in yonder direction."

Exploration was continued, new objects being found that continued to claim the attention of the explorers. After some time spent on the "surprise after surprise," it was decided to go to the surface, but not until all had loaded themselves with all they could carry. Ramón Gil Samaniego took up the skeleton of a friar, perfectly preserved; Carrasco another, this one of an indigene; Celaya and Vega took all the bows and arrows they could handle; Salazar and Astorga carried some cooking pots and stone mortars, and so every one of us carried something to the surface. We had spent seven hours exploring and when we reached the surface of the lava field it was already night, since we had gone into the cave not long before noon. Everyone commented on Ramón's discovery, and it was proposed to return the next day, with more courage and better preparation. When all had dumped their loads on the ground, back at camp, we were ready to eat.

It was impossible for us to sleep that night. Every one of us pictured himself as making important discoveries the next day. Celaya, Carrasco, Quiróz, Parra and Salazar insisted that they would come back rich from the second day's visit. They assumed that there also could be hidden treasures, such as gold and silver money of different kinds and

values, which had been carried by the Spanish friars. The engineers, too, took part in the general good feeling; they also did not sleep, as they listened to the speculations about what might happen next.

At dawn the skeleton that Ramón Gil Samaniego had brought in was found on the ground, dismembered and its parts scattered. He had stood it against the trunk of a tree, and the strong northwest wind that blew all night had blown a branch against it, knocking the skeleton down, and scattering it in the fall. Reyes Carrasco had laid the one he brought on the ground, and nothing happened to it.

Everyone admired the various objects brought in by Vega, Quiróz, Parra, Salazar, Celaya and their companions. When they looked at the fleshless skulls of the skeletons and their long extremities, laughter stopped. They looked like the remains of giants. Gil Samaniego and the engineers decided to assemble the bones and pack them as best they could, in order to donate them to the Museum of Natural History. The other objects were sentenced to suffer the same penalty.

At the appointed hour of about six in the morning, the group, with the exception of Don Antonio López, who elected to stay and take care of the camp, set forth, more determined than ever to root out the secrets of the caverns. This time they were well prepared and were resolved to go to the heart of the area, if necessary. Food was carried, enough for two days.

The mouth of the cavern was reached at eight o'clock, at the best place for entering. Half an hour later we reached the human remains and the other objects found the night before. Everyone began looking for new things, and groups of three or four workers could be seen going in diverse directions, and their exclamations of surprise could be heard every time they found something. Some of the searchers were not mistaken in their estimates. Plenty of coins, of gold and silver, strange in form, were found near the remains of the bodies. Everybody agreed that they should go to the Museum of History.

Carrasco, Celaya and El Chileno, who had separated from the others, were searching in another direction. Vega and Astorga were shovelling guano hoping to find treasures of the friars. Salazar was piling the objects found in a place indicated by the engineers, who were classifying them while they made notes.

The group, made up of Carrasco, Celaya and El Chileno, as we said, were working apart from the others, at a little distance, and only dimly seen by the light of their candles. Let us follow this group. Celaya called the attention of his group to a vertical fissure

in the lava, about a meter and a half wide and of incalculable depth. It was indeed worthy of notice. The three turned to it.

“Shall we go further?” asked El Chileño.

“Certainly,” said Reyes Carrasco, who, taking the lead, invited his companions to follow him. The three men entered this aperture and walked for more than fifty meters between the black, glassy walls, which were perfectly parallel, with a floor sloping about 20 degrees from the horizontal; the floor was hard, since the lava was very compact. To the astonishment of the three men, those walls, parallel for more than fifty meters, opened up almost at a right angle into another spacious cavern, apparently much larger than the previous ones. The lava floor ended at the entrance to this cave and was replaced by another, sandy, with the sand of the dunes, or perhaps volcanic sand.

Suddenly, when they had advanced some meters on the sand, El Chileño cried out in surprise.

“Look here,” he said, pointing his finger at a nearby spot.

They saw there the outline of a gigantic animal, wholly carbonized, projecting slightly from the sand. Nearly that entire skeleton had been reduced to ashes. Celaya found another, similar skeleton, some distance from the first, whose calcined remains scarcely showed in the sand bed. They considered this a most important find and resolved to go back and tell the rest of the party about it. This they did.

The engineers Blázquez and Lários, followed by their retinue and guided by the gigantic Reyes Carrasco, made their way to the newly discovered grotto. From the interior of the arches the candle-lights were reflected as they were in the previous cave; the new one was much larger. The floor was only 130 meters above sea level.

“If we keep going down, very soon we’ll be below sea level,” said El Chileño.

“The lava floor ends now,” said Salazar, “and now we trample infinitely fine sand, the same as the sand of the dunes outside.”

“In fact,” added Engineer Lários, “this is none other than a sand dune, like the ones outside. Let’s investigate.”

“This is astonishing, marvelous!” interrupted Blázquez. “I know the caves of Caca-huamilpa, between Mexico and Guerrero; although they are worth seeing, what we are looking at is superior. Those caverns are due to other formations and are not of these dimensions.”

“How is it that this formidable lava bed flows, leaving these cavities, these enormous vaults and concavities, and the onyx mass does not join exactly....”

“I will tell you about that,” said Blázquez.

“Yes!” exclaimed Reyes Carrasco. “You, being a geologist, have the floor.”

Meanwhile other members of the expedition were busy, digging out the skeleton, nearly reduced to cinders, of the first gigantic animal found by El Chileno. The calcined bones, when touched, were reduced to powder. This skeleton was lying in a trench-like hole in the bed of sand. The other skeleton was also exhumed, as much as was possible. According to the opinion of the engineers, both were of megatheriums or mastodons, a kind of huge elephant no doubt common in those arid regions in very remote times.

“What you have not made clear to me,” said Arturo Quiróz, “is why the mass of lava did not entirely cover the subsoil of the region, but left these great caverns.”

This seemed inexplicable to Vega and Celaya, too. The geological engineer, Luis Blázquez, seeing that we were waiting breathlessly, hastened to give us a simple explanation.

“Come here, everyone,” he said, calling us to his side. When we were gathered about him, he invited us to seat ourselves on the sand.

“Which one of you is acquainted with the operation of an ore smelter?” he asked.

“I am,” said Rafael. “I have visited some ovens for the smelting of metals in the United States.

“Good! It is presumed that you know these things, from having seen them. As metals are separated from the molten ores, what is left, or, let us say, the slag, as the smelter operators call it, is thrown out in places more or less distant from the furnaces. True?”

“Precisely,” answered Regino Celaya, “and speaking of that, I know where there are four or five of those slag dumps in this district. One of them is near El Bánori.”

“I know three slag piles more, in the vicinity of El Plomo,” said El Chileno.

“Splendid. Now tell us, Señor Jáquez, have you handled a piece of this slag?”

“Oh, many times.”

“And what in particular did you notice? The slag that you held in your hands, was it compact, and without porosities of note?”

“The slag that I saw,” said El Chileno, “showed porosities on all sides and within it, because I broke some in order to examine it well. These holes were of very different shapes and sizes.”

“Now,” said Blázquez, “Señor Vega, according to what he has just told us, has seen how the smelters in the United States operate; let us go on to show what things the North Americans use in the mixtures of minerals, which provoke the prompt and most perfect fusion of the rocks.”

“Little, very little, have I seen of that,” answered Vega, “but I can say that the ores of silver, lead, gold, copper, etc., etc., where spread in layers of even thickness, are covered with other layers, consisting of limestone, sometimes silica, ferrous minerals, slag, and layers of coke or of charcoal. Sometimes the proportion of coke or of charcoal was reduced to a minimum, because the operators said there was a high content of sulfur in the ores.”

“That’s it, that’s it!” exclaimed Engineer Blázquez. “Sulfur in great quantities is present in our terrestrial globe. It facilitates, as it burns, the fusion of the rocks, which contain their own fluxes in most cases, and a very small quantity of carbon is used in order to induce good fusion. Well, then, imagine the globe we inhabit at the time when all of it, inside and out, was a fiery mass. Why? With the lapse of many hundreds of thousands of years, the first layers of igneous rocks were formed as the mass cooled, and other layers followed these, and many others, until the crust on which we walked was formed, but our globe had inside it fire, a lot of fire, because of the mineral substances in a state of ignition, owing to the inflammatory action of the vast amounts of sulfur and other natural products.”

“Caramba!” interjected Reyes Carrasco, “according to these theories, shall we perhaps end by being on the shell of an egg?”

“Yes, Señor Carrasco. I accept this comparison, which arises from the matter of which we are speaking, but of an egg whose yolk is boiling lava! The materials in a state of ignition often cause the fusion of the next layers, because, as I said, of the great amounts of sulfurous substances, of lime, quartz, iron ores, etc., etc., which are nothing less than great “helpers” in the great smelting, to which our friend Vega has already referred. Imagine our globe converted into a huge furnace, such as those seen by Rafael, from which the slag has issued; the outlets from this global furnace are called volcanoes, and what the smelter calls slag is, in this case, called lava. But, what a vast smelter! Its side wall alone has an outside circumference of forty million meters. This is astounding!”

“And what is the length of the great inside circumference?” enquired Carrasco.

“My friend,” answered Engineer Blázquez, “you have put me in a tight spot. I cannot give you an exact answer. Such an estimate would be simply guessing, as so much is based on mere supposition. It is enough to know, and we resign ourselves to it, that such circumference must be of colossal size, at present incalculable.”

“And the lava beds, such as we are exploring, why are they so porous?” asked Pepe Salazar.

“Undoubtedly that is due to air,” said the engineer, “which fills the holes. The slag from the smelters is also porous, but in the immense lava flows issuing from the volcanoes, these holes may be ‘bubbles’ of unheard of size, colossal, indeed, formed by the heated air trapped within. In my opinion these bubbles formed the caverns that so amaze us. In some places the hot air has expanded to a degree that has split the lava, making those deep fissures that cleave the surface everywhere. There is no other explanation.”

“Then do other caverns exist below this black mantle?” said Quiróz.

“Many, very many, with all certainty; some, like the three we have seen, have openings whereby one may enter, but I am sure there are others completely closed. Now, I have offered to give you some explanation of these terrestrial phenomena. Do not think that I have forgotten my promise. It will be given much later, when I think it more opportune, as I have already said. For the present, let’s continue our investigations, for I think you want to do that. True?”

“You are in command, Engineer,” said Manuel Parra, filled with enthusiasm.

“Let us try to get out some of the remains of that mastodon,” said Blázquez, pointing to the great skeleton found by El Chileno.

The task was difficult, and we all took part. Manuel Parra and Reyes Carrasco between them rooted out as best they could the two enormous tusks from the upper jaw. Despite some breakage, no great damage was done. Some other bones were also removed, which were laid carefully on the sandy floor by the engineers. The megatherium found by Celaya was also exhumed in part, and some of the bones least exposed were selected. The tusks of this skeleton were in worse condition than those of the other, but were also collected by the engineer. Another “infinity” of objects was taken from the second cave, judged by the workers to be of some importance.

“I hold the belief,” said Engineer Lários, “that this region has been inhabited by man since before these volcanoes erupted, and am looking for data on which to base my surmise.”

“I am of like opinion,” added Blázquez, “and like you, friend, I am making an investigation along these lines.”

“Well, I not only suspect it, but, rather, I am sure of it!” cried the astonished Reyes Carrasco, displaying a human skull in each hand, which he had taken out of the deep sand. These skulls were larger than average. They appeared to have belonged to members of a race of giants.

“Who was the Adam of our continent?” asked Blázquez, repeating the question of a learned historian. “There is not the slightest doubt. The lava is terminated, and the new

level is determined by the sandy layer. It would not be surprising to find some remains of vegetation also. Our latest discovery is of the utmost importance to our country's history. Before the eruption of these volcanoes, this region was inhabited by men, as shown by the presence of human remains buried under the mantle of lava in the sand."

"Would not these giants be the *quínames* about which history tells us?" asked Astorga.

"No one can be sure of it," said Lários, "but we now know for sure that this zone has been peopled in very remote epochs, prior to these terrible eruptions, by men of great stature."

Meanwhile Carrasco, in consequence of his discovery, helped now by El Chileño and Manuel Parra, was busily moving the sand and taking out more remains. He succeeded in getting out a complete skeleton, which had been covered by about five feet of sand. The femurs, the humeri, the tibias, and the rest of the bones were all more than average in size. None hesitated to declare that this was not the skeleton of a human being, but after close examination, it was seen that it was. There was no doubt then but that the land had been inhabited by giants.

"The *quínames*, the *quínames*!" shouted Astorga, jumping for joy. [*Quínames* are discussed in "The Native Races," vol. 5 of *The Works of Hubert Howe Bancroft* published in 1886. Bancroft (1886: 197,198) notes that according to Mexican tradition the *Quínames* are described as pre-Toltec giants and a powerful people. He goes on to say that traditionally, they have been "assigned as the first inhabitants of nearly every part of the country, [and] have been the subject of much discussion among the Spanish writers." Bancroft (1886:197) quotes Veytia, another Colonial writer, as saying, "The *Quínames* were more like brutes than rational beings; their food was raw meat of birds and beasts which they hunted indiscriminately, fruits and wild herbs, since they cultivated nothing; but they knew how to make pulque with which to make themselves drunk; going entirely naked with disheveled hair." ]

This skeleton measured exactly three meters in length. It was, besides, not an isolated case, since the two skulls found previously by Carrasco abolished any notion of isolation. From all of the evidence, the engineers deduced the following: This vast section of the district of Altar had, for thousands of years, been inhabited by huge animals; that vegetation had been luxuriant, and finally, that it also had been peopled by man before, much before, the eruption of the volcanoes; that many centuries after the eruption, savage races had come, and that after that, Spanish missionaries had arrived, trying to propagate the Christian religion amongst the barbarians. As we shall see later, the engineers were not in error in their appraisals.

The travelers, strongly impressed by what they saw, as well as by what they guessed, after many hours returned to the surface. Everyone carried as much as he could of the material found.

Classification of the objects was left to the engineers, who were looked upon as the scientific leaders of the expedition. Every object was thoroughly scrutinized. The whole expedition was in a state of extreme enthusiasm. How many of us had dreamed of hidden treasures, in those caves? Such enthusiasm! We were all amazed beyond words. What we had seen was not the end. The fun was at its peak. As we now found ourselves weary, and we had brought provisions enough to last us two days more, and since Don Antonio López had remained outside to guard the camp, we determined to spend the night in the cave. Before long the entire company was asleep on a bed of black glass.



View of rough lava flow (mid-distance beyond yellow flowering palo verde trees), seen from a hillside of dark lava boulders and cinders. This view, painted in spring, 1992, at what was then called Mayo Cone Campsite (now Tecolote Campsite) with the Pinacate summit peaks in the background, shows some of the lava-covered region reportedly crossed by the Esquer expedition after they left Cerro Colorado. The view includes another volcanic phenomenon: Ash blasted into the stratosphere by the Pinatubo volcano eruption in the Philippines, in 1991, created a faintly colored luminous halo around the sun, visible throughout much of the world. (On-site acrylic painting, William K. Hartmann).

## CHAPTER IV

### A BURIED CITY

On the next morning the good feeling of the members of the expedition knew no bounds. Ramón Gil Samaniego was the most enthusiastic. Without exception, all showed a desire to pitch into the day's work "really hard," following the plan outlined by the engineers for seeking new discoveries. All met in the interior of the third cave, the pavement of which, as said before, was a sand bed. The intense heat of the seething lava, although the roof of the cave was very high, had turned almost to cinders such organic matter as it met, as though in an immense furnace.

The workers undertook to dig in the soft floor in order to learn what it concealed, since Carrasco had found human bones the day before. These were in addition to the mastodon skeletons found by Regino Celaya and El Chileno Jáquez. With the improvised spades of hard wood that we had taken in, we started the first excavation. Everyone was silent as we earnestly applied ourselves to this voluntary labor. The engineers worked also, in spots they considered the most likely. Of course, Carrasco, Jáquez and Manuel Parra, who were working by themselves, in half an hour of earnest effort, produced a trench about a meter and a half wide, eight meters long and two meters deep. They turned out to be the best workers, according to the engineers.

Suddenly Manuel Parra's spade hit something hard, and the sound attracted the attention of those close by. This was something else. The three kept on digging with utmost caution, because they did not know what they had struck. Soon an enormous white flagstone came to light. It was one meter wide, two and a half meters long, and about twenty centimeters thick. It was evenly worked, with the surface grooved as though by a chisel, and it bore some marks resembling hieroglyphs. Carrasco, as much as Parra and El Chileno, was surprised.

"We have a fortune in here," said Jáquez.

"Yes," said Manuel Parra, "here is a fortune."

"No, it has no value," said Carrasco, "I think it has to do with a grave."

The three, amongst them, by herculean efforts, moved the great stone and saw that it was but the cover of a large-sized box, made from the same worked stone. This stone chest showed not the smallest opening in sides or bottom. In it was a mummified cadaver. The yellowed and desiccated skin was parchment-like and stuck to the bones. The

hair of the head was white. It was that of an aged man, buried there a very long time ago, and had laid there until Manuel Parra came upon it.

“Over there is the upper end of another stone chest,” cried El Chileno, pointing at a place that looked suspicious.

“No doubt it is another coffin,” said Carrasco. “Let’s dig over there.”

They found another box similar to the first, also bearing hieroglyphs. It held the remains of another aged man, of apparently the same age as the first. Both burials were of white men, much taller than today’s average. Meanwhile the other workers had unearthed human burials beneath a thick layer of sand. The area was like a cemetery. Vega, Salazar, Celaya, Carrasco and Astorga, working apart from the others, discovered some walls beneath the sand, which were perhaps the ruins of some building; inside them were bodies of different sizes, lying in different positions.

After three or four hours of digging, after studying the finds made up to this time, the engineers made notes to this effect: That the burials were of white men; that they were taller than modern man; that the people who occupied this region were completely destroyed, as evidenced by this day’s discoveries, by the terrible earthquakes and the eruption of the innumerable volcanoes, so that today not a single individual belongs to that race; that those men were civilized to some extent, and that they used hieroglyphics as a means of communication, as shown by their presence on the stone slabs; that they covered themselves with cloth, woven from the fibers of plants; that the entire area had been covered by the sea, before the coming of those white men, as shown by the vast extent of the sand dunes present beneath and outside the mantle of lava; that it was evident that prior to that, the present Gulf of California did not exist and Lower California was joined to Sonora; that, because of a cataclysm, the earth had been split by wide and deep fissures, into which the waters of the Pacific Ocean had poured, forming what are now the Gulf and the Peninsula; that elsewhere, by action of strong earth movements, the level of the sea was lowered, until those interminable beds of sand were left uncovered.

The engineers made other notes, all of highest importance. They had decided that the stone boxes and their respective lids bearing hieroglyphics, as well as the remains they contained, should be left undisturbed. Very shortly the high importance of such interesting discoveries would result in the naming of a commission made up of competent men to evaluate the evidence and draw its conclusions. This was agreed to by all; none-the-less it was decided to continue the search for new things. This was done with enthusiasm. Rafaelito and Domingo Quiróz, more impressed than others, kept up an

interesting conversation. Salazar, Celaya and Reyes Carrasco and the author heard the dialogue, which ran about as follows:

“Listen, Vega,” said Domingo, “I haven’t the slightest doubt but that this part of Sonora was inhabited by savages after the volcanoes erupted, and that Spanish or Portuguese priests came here, as we have seen in the second cave. The bows and arrows, as well as the cooking pots, show this, as do the religious ornaments and human bones.”

“No one doubts that this place was inhabited in those times,” said Rafael, “and the engineers are of the same opinion; but what I can’t yet understand is how it is that before the savages came, these very same places were inhabited by civilized white men, even before the terrible eruption.”

“That has to be considered, and I am sorry we cannot determine that at this time.”

“Also, in that great cave we found, buried in the sand, remains of huge animals, called megatheriums by the engineers. I like to think that these pachyderms lived here long before man....”

“But the facts are there to indicate that you are wrong. Already you have seen the bones of those animals mingled with the human remains.”

“Yes, I have seen that, but that does not mean that these and those were here at the same time....”

This dialogue was interrupted by loud cries from another part of the cave. Engineer Blázquez was shouting,

“Don’t kill it, don’t kill it!” he yelled in a loud voice.

Engineer Lários was at his side. Astorga and Manuel Parra had encountered an object which looked like a cone, whose circular base was about half a meter in diameter and whose height was the same. The cone was surrounded by black and red bands. Manuel thought it was some sort of baked clay vessel, painted in colors. Astorga was about to grasp this object that he also took for a vessel. He suffered great shock, because it was none other than a snake, one of those called *ilamacoa*, or *corúa* [The snake that is described here is a creature out of O’odham mythology. However, the name *corúa* also is Spanish for a rosy boa, a small boa found throughout Sonora that reaches a maximum of about 3.5 ft (1.1m) in length]. When Astorga touched his hand to it, it awoke from its torpor and stretched itself to about three meters and a half in length and about twenty centimeters in its thickest part. It was an inoffensive snake, which ate insects and rodents. Needless to say, Astorga jumped about ten meters away. Parra, when he realized what it was, grasped a stick, intending to kill it. The engineers who were nearby saw what Parra was about to do; that was when Blázquez cried out.

“We should kill it, Señor Engineer,” said Astorga.

“No, it is a harmless creature, and does us no harm. Do not kill it.”

Engineer Lários agreed with his colleague. Stepping forward, he picked up the snake, alive, and condemned it to enrich the Museum of Zoological History.

“Careful, Señor Engineer,” said Astorga, “that snake is able to kill you.”

“I do not fear it,” said Lários, and as he spoke, grasped the reptile without precaution, and watched the spirals form as it coiled around his arm.

To describe everything, in sequence, that was found in that cave would be well-nigh impossible. The engineers and with them the entire personnel agreed, on the basis of what they saw, that there was a pueblo buried in the sand beneath the great lava vault.

Engineer Blázquez gave the word to return to the surface. We all carried away as much as we could, on our backs. All of these objects would be given to the National Museum.

The digging went on for three days more. In many spots, always beneath the sand in the third cave, wall-like structures were uncovered, or rather what seemed to be ruins of walls, apparently of houses very like those of the present day. This removed all doubt held by the engineers.

What races of white men, quite civilized and of gigantic stature, had dwelt in this region in the long ago? Could these have been pre-diluvian? Could they have come from Asia, when that continent was, perhaps, united with ours? Why a white race? And in that case, if the two continents were one in ages past, how many cities were buried in the Pacific Ocean?

Who can affirm that the archipelago of Japan, the Philippines, and the islands of Hawaii are not the crowns of very high mountains which, due to monstrous earth movements or tremendous cataclysms, were sunk in great part, and that those vast portions of the earth appear today as covered by the waters of the largest oceans? The engineers pondered these matters. It behooved us to be silent. There was so much to ask about that we would be nuisances in the presence of those two professionals.





View across Elegante Crater on the east-central side of the Pinacate volcanic complex. This crater, not specifically described by Esquer, is very similar to Sykes, on the northwest side, which seems to be the one into which members of Esquer's party parachuted. Elegante is about 0.9 mile wide and about 820 ft deep (1.4 km wide and 250 m deep), and Sykes is about 0.6 mile wide and 680 ft deep (1.0 km wide and 210 m deep). Different sources give slightly different values. In this view, an imaginary eruption is shown at the Pinacate summit. Such an eruption is one of the few volcanic phenomena not claimed to have been seen by Esquer's party, but is based on an oral tradition of the O'odham people, that tells of their elder-brother god, I'toi, once building a giant fire on the Pinacate summit. In the spirit of Esquer, the painting was made during a University of Arizona class field trip, in a leg-pulling effort (unsuccessful) to convince the students that, while hiking in a different direction, they had failed to notice the eruption. (On-site acrylic painting, 1988, William K. Hartmann).

## CHAPTER V

### AN UNEXPECTED MEETING

Imbued with happiness, with unlimited enthusiasm, the expedition left this “camp of surprises” and set forth on the road to El Malpaisal. This was a narrow and endless trail that led off in a northwesterly direction. El Malpaisal is a terrain many leagues in extent, completely covered by lava and volcanic sand. The narrow path led us over that immense area, crossing it in a direction southeast by northwest. The lava was ridged and lightly broken, half buried by volcanic sand; the trail we followed was plainly seen. On both sides were sahuaros, ocotillos or *melenas de judío*, or *cabelleros del diablo*, as, pertinently, Engineer Blázquez named these semi-woody plants, which are a variety of the *torote* “*pitillo*” [elephant tree], as they are known in the southern part of the state of Sonora. We also noted the abundance of *gobernadora* or *hediondilla* [creosotebush] and the *galleta forrajera* [possibly *Coursetia* sp.]; also, some specimens of cholla of different varieties.

We halted at a point called El Galletal, at about ten o'clock, in order to eat and to allow a short rest for the animals. The engineers were sorry that they could not visit some enormous craters that they saw from a distance to the left, and proposed to go to them on the way back if there was an opportunity. When we reached El Galletal, which is about half way between El Cerro Colorado and Tinaja de los Papagos, our attention was alerted by the sight of eight horses tethered at the side of the trail.

“Someone, perhaps another expedition, is ahead of us,” said Domingo Quiróz.

“Let’s see who they are. I am told these sites are much visited by Americans and by wanted fugitives,” said Salazar.

We approached and Carrasco gave a cry of surprise. It was not a matter of strangers; a party of old Sonoytans had followed us. They were Don Isauro Quiróz, Don Francisco Bedoya, Don Ramón Parra, Don Arcadio Buelna, Don José Salazar, Sr., who had just arrived from Magdalena, Don Ramón Sotelo and the terrible “Nacho” Alegría.

“You didn’t want to include us,” said Don Ramón Parra, “since you did not condescend to invite us to go on this expedition, which we judge to be of some interest. We could not resist the desire to explore these places too and have formed another group in order to pursue you as soon as possible, which we have at last done.”

“Do you intend to travel with us, or by yourselves?” asked Carrasco.

“No, we are come to join with you. We thought you would be at this place and we decided to wait for you here. In short, we are now united.”

“Long live our new companions!” cried Rafaelito.

“Long may they live!” answered everyone.

It is needless to say that we were even happier because of the arrival of these reinforcements.

The short halt was lengthened, and made longer still, while the newcomers were briefed on the caves and their contents. Don José Salazar, Sr., was all ears. Every affirmation, every statement by the engineers, received his close attention. It might be said that he did not miss a single word said; all was of the greatest interest to him.

“You have visited these places before, Señor Salazar?” enquired Engineer Blázquez.

“Yes, three times I have visited them, and though I have not come upon anything that claimed my attention, I have not desisted from my efforts. I have heard much talk of old missions, particularly about that of the “Four Evangelists” said to be in these parts. I have obtained information about them, which I deem truthful. Three times have I come here for the express purpose of finding this mission, which I am sure is here. If I have not found it, it is because of difficulties encountered, such as lack of water, and the lack of good guides, and, lastly on account of my disorientation, which naturally results from not knowing the terrain; but I do not desist, and I firmly believe that such a mission is here, buried amongst the mounds of sand.”

“Yes! Yes, Señor Salazar!” replied Engineer Blázquez. “It exists and we have proof of it ourselves, by what we found in the caves; religious ornaments, and remains of Spanish friars, missionaries, who certainly came here to spread their religion amongst the savage tribes. You do well to affirm the existence of that mission, and I am sure that this time we shall find it.”

It could be seen from the above that Engineer Blázquez, far from discouraging Don José, was encouraging him, which made our good friend very happy. From then on, he could not stay away from the engineer, who was, indeed, a man of much learning, who possessed scientific equipment, and who could find it all. But Don José Salazar, Sr., was wrong again. Without abandoning belief in the existence of the mission of the Four Evangelists, which according to maps, was hidden in the mountains of El Pinacate, it must be said that there are many times when the finest projects, on which the best theories are based, fail grievously in the face of insuperable obstacles that Nature puts in the way.

Salazar, Sr., declared that the mission would be found a short distance from two small ridges, of about equal elevation and size, whose crests barely jutted from out of the massive banks of sand. These ridges were separate from all other mountains and could be seen on the horizon to the northwest.

We were all determined to go with Don José on his trip to those ridges, before visiting the most important part of the volcanic area. The time for conversation ended. Rafaelito, who had taken over the “kitchen” together with Miguel Ramírez, was calling us to eat, as the meal was served. This suited us, for we were nearly starved, having had a light breakfast. The tasty coffee, the *panela de apoyos* [aged cheese], very dry outside but juicy inside, the butter, the venison, all nicely served, had been laid out by Rafaelito in a way to excite our appetites. While we were most comfortably stowing away these victuals, a bunch of wild and fearless cattle swept towards our feast like a gust of wind. These desert cattle are very fierce at times, and the ones rushing at us were no exception. We were all frightened by this attack and Carrasco imagined himself impaled on the horns of one of those fighting bulls. We leaped as nimbly as possible into the nearest trees; only the cooks and El Chileno stayed on terra firma. I could see a bull, one of two colors and another with coloring like a young eagle, charging Rafaelito, while on the far side an enormous black cow with eyes of fire was trying to destroy Don Miguel Ramírez. Another, with pointy horns, reddish brown in color, wooed El Chileno. Don Miguel Ramírez ran around and around the dry trunk of a mesquite, trying to escape the attacks of the accursed black cow bent on his demise. There was no doubt but that this herd was very fierce. It did not want to leave the battlefield.

Rafaelito, in the manner of a bullfighter, made some turns at the bull we were calling “Little Eagle,” but as he started to make a pirouette, we saw him fly through the air as though launched by a parachute. The bull had put a horn between the thighs of Rafaelito and had given a quick strong shake of the head, which threw the man for a distance of fifteen meters.

This meant no more than a big scare to Rafael, because he came out of it unharmed. The black cow did not abandon Don Miguel Ramírez, and the “Little Eagle” continued to entertain El Chileno.

“Do not eat him, bull!” cried Manuel Parra from the branches of an ironwood.

The fierce creatures wearied at last, but none left the field. Finally Don Ramón Parra, who was wearing rawhide “chaps” that had not been tanned and were, thus, very noisy when bent, took them off and threw them over a *novillo* or young bull whose head was a different color from that of his body. The weight of the chaps almost made it fall down.

Blessed remedy! The *chaparreras* made a great clashing sound on the back of the bull. It panicked and ran, making a great racket. The rest of the herd became frightened, and they left the camp in a headlong flight. El Chileño was green and Rafaelito was yellow, with fear. The two engineers and Ramón Gil Samaniego, I am sure, would not have missed the show for all the gold in the world.

“How easy it is to spook wild cattle,” said Blázquez.

“Indeed,” said Don Isauro Quiróz, and quoted the proverb that says “Be wiser than the Devil in order to live longer than the Devil.”

“Everybody down from the trees, or are you still afraid?” said El Chileño.

“And you say that?” said Pepe Salazar. “Perhaps the yellow-green is already gone from your face?”

This “bullfight” in the middle of the desert was not even middling good, not because of the poor quality of the cattle, but due to the poor condition of the bullfighters. At last the feast, interrupted by the unexpected meeting with the wild herd, was resumed, but not without the preparation of some new dishes.

Two hours later, the reinforced expedition took up the march, moving always toward the northwest. At dusk it had reached an arroyo whose bed was formed of sand and great, rough pieces of black rock. About ten leagues were covered that day, and the mantle of lava was hardly beginning. We were in the arroyo where the Tinaja de los Papagos was. This was a great hollow or tank, several meters deep, in the bottom of the arroyo. It was filled with water.

As was said, we were not quite at the beginning of the lava, in spite of the distance travelled. To what extent, then, was the surface of the terrain covered by that layer of “jet”? Great volcanoes were visible to the north and west. Their elevation was slight, in comparison with their formidable bases and with the circumferences and magnitude of their dreadful craters, which were totally blackened. We agreed to spend the night there, and to remain there for four or five days, in search of new adventures.

The next morning we saw that there was not one tank there, but several. One of them, perhaps the largest, was the one called Tinaja de los Papagos. It is nothing but a deep hollow made by natural forces, in the lava, and filled with water from freshets, in the course of many months. No animal drinks there, because of the slippery nature of the lava rim. The other tanks mentioned are more accessible, and animals frequent them and very soon drink them dry.

Señor Salazar, Sr., and the author saw a group of our companions standing on the outer edge of the arroyo. We joined them and found the two engineers, Gil Samaniego, Carrasco, Jáquez, Celaya and Don Isauro Quiróz. In the distance, towards the north, we saw another large group, made up on the rest of the travellers.

“What an imposing spectacle,” said Engineer Lários, pointing to the crater of a certain distant volcano.

“Señores, let’s go!” said Engineer Blázquez. “Let’s climb to the top of that colossus and, if possible, go down into the crater. The others are going ahead. Forward, Señores!” He led the way.

The great volcano was four kilometers distant, and although we were afoot, we were soon on its skirt, on its south side. The skirt appeared to be wholly covered by volcanic sand. We climbed a slope of about 70 degrees from the horizontal. We became quite exhausted from walking on the sand. At times we sank to our knees. There were innumerable *tuceros* [rodent burrows] there. In spite of the difficulty of the ascent, our obstinacy conquered all. My humble pen cannot describe our feelings when we had reached the summit.

The rim of the crater measured only three meters in width. At our backs was the sandy, very steep slope of the skirt; before us, within two paces, was an abyss more than half a kilometer deep. The crater, whose rim was a perfect circle, as though traced by a compass, was more than 1500 meters in diameter, according to the calculations of the engineers; it had a depth, as was said, of half a kilometer. Here was where one experienced the sensation called the “attraction of the abyss.” Whoever took a false step was in extreme danger. Let the reader try to picture this immense cylindrical hole, with its perpendicular walls of glass. If the hell of which Padre Ripalda tells exists, that volcano can be nothing else than one of Satan’s hide-outs.

In the bottom of that crater we saw the giant cacti called sahuaro, looking from such a great distance like miniature *tachuelas* [tacks or small nails]. The vegetation seen there indicated the presence of soil. We could not tell what sort of plants were there, as we saw only the green foliage. We travelled about six kilometers; the narrow path did not widen, and since it made a perfect circle, we returned, after two hours, to our starting point. The thickness of the fused walls of the crater was the same everywhere and the walls looked vertical; at the four points of the compass the sandy brow seemed to be of equal slope. The volcano was in the shape of a great truncated cone or (what am I saying?) of a gigantic inverted funnel. How natural, such a fancy!

Let the reader picture to himself the quantity of molten material that had poured forth from that great mouth! It was more than a league in circumference. One's nervous system suffered a strange sensation there. I recall that many of us joined hands or held on to some rock as we went toward the edge. Engineer Blázquez spoke up.

"Señores," he said, "there on yonder flat to the south we are going to camp for a few days. We need some time in which to study and observe. We are close to water. I promise you that we shall make important finds here. Do you agree?"

The answer was yes. I say again that we looked upon the engineers as being the scientific guides for the expedition. We descended to the flat designated by the engineer and, abandoning the campsite at the tank, made one at a spot half a league farther to the north, toward the volcano. Four hours later all was ready. We ate in the new camp. Carrasco, Celaya, Don Ramón Sotelo, Vega, Jáquez and Salazar, all were trembling. It was the effect of the attraction of the abyss. Otherwise, we all had our minds fixed on intended projects.

We hunted, that afternoon. Game was abundant, with antelope and wild sheep in great numbers. That evening Rafaelito insisted on making great fires, in order to drive away the wild beasts, which were not unknown there, except the many wild burros that roamed the desert. Those burros, in fabulous numbers, made the area resound with their braying, and annoyed us.

Next morning, armed and provided with all that was needed, we set out for the crater's rim, reaching it an hour later. The mountain was not very high and was quite near. We noticed that Carrasco, Vega and Gil Samaniego were carrying an ax and a canvas tent. We thought they were going to erect the tent on the crater's rim and we did not approve. When we arrived, the engineers began their observations, with the help of a number of men.

Meanwhile Don Isauro Quiróz, Don José Salazar, Sr., Don Ramón Sotelo and Don Ramón Parra sat on a bench of black glass, chatting and marveling over the works of Nature, and commenting on the frightful eruption. Now and then José Salazar looked toward the northwest, at the two black peaks overlooking the sand dunes.

"There are the small mountains I am looking for!" he said. "Now I recognize them; they can be no other."

At a distance of some two hundred meters from the crater, on its outer edge, was seen a group of men and a white bundle. There were sixteen in the group, including Gil Samaniego, Carrasco, El Chileño, Vega and Regino Celaya. The white bundle was the tent they had carried from camp.

“Why would they do these reckless things?” asked Don Ramón Sotelo. “Shall we go and see?”

When we got there, we saw that Gil Samaniego was tying eight great ocotillo sticks together, forming an umbrella-like frame. Quiróz thought he was making a shelter. So did Parra. The canvas of the tent was pulled over the frame of ocotillo sticks tied together with wire. It looked for all the world like a great umbrella. Gil Samaniego turned to us and explained it.

“Señores, I am not one to draw back in the face of obstacles when I decide to follow an idea. I intend to explore the bottom of that crater in whatever way possible, and I am sure that two and three make five. I have made this great umbrella out of one of our tents. This supplies a very good parachute, which will take us to the bottom, two or three of us, I would say, if anyone cares to make this little journey with me. I shall pilot it.”

“No, you should not do this,” said Quiróz.

“It is suicide,” said Don Ramón Sotelo.

“We shall not permit it,” said Parra.

“Then try to prevent it,” said Gil Samaniego, grasping the staff of the enormous parasol and giving a great jump out over the abyss.

We all shut our eyes, so as not to see the lamentable catastrophe. The engineers and the rest of us thought this a reckless act, and turned away. When we looked again for an instant to see what had happened to our adventurous companion, he was still in the air. In fact, Ramón had made a magnificent parachute. At last he reached bottom, almost at the center. He looked about half an inch tall. Using binoculars, Engineer Lários saw that Gil Samaniego was inviting us to go down, signalling that there was nothing to fear and that the parachute was functioning well. There was no air current which might turn it over.

Right there we lost our fear of the abyss. The sensation was now very far from us, and we resolved to follow our companion.

Running to the tents, we struck them, loaded them and, with a sufficient quantity of provisions, we went back. We made ten parachutes, using the long stick of the ocotillos, which were plentiful, and pieces of wire. We made them like that of Gil Samaniego, on which Reyes O. Carrasco and Regino Celaya had worked as helpers.

It was a task, but we overcame all difficulties. After four hours, our ten parachutes were thought ready for descent. Carrasco and Celaya took one, set it up, grasped the frame with both hands and jumped off. There was no trouble, and we watched them go slowly down. They landed about ten meters from Gil Samaniego. Encouraged by this

example, we all took to the parachutes and jumped, in orderly fashion. We seemed to be floating in space; the descent was slow, because of the great mass of air that resisted our drop. One of the machines, that of Don Ramón Sotelo and Don Ramón Parra, took much time in reaching the bottom. That was because it was made from the largest tent and, naturally, there was greater air resistance. For a moment, gravity was cancelled, due to air pressure which nearly burst the tent. We estimated the rate of descent at about three meters a minute. At last we were all safely on the bottom, without a scratch. Engineer Lários warmly congratulated Gil Samaniego, improviser of the apparatus.

“The resources of a man of genius never fail him!” said Ramón Gil Samaniego, as he struck his breast with an air of satisfaction.

“Now it remains,” said the engineer, “for that same Gil Samaniego, that notable inventor, who made it possible for us to be down here, to get about a study of ways and means for constructing other machines for getting us out of here, since we did not think of that when we came down.”

“We’ll see about that later,” said Gil Samaniego. “What interests us now is to satisfy our curiosity about what lies before us.”

Engineer Blázquez, from the center of the sunken area, estimated its diameter at more than 1400 meters. The barometer read 80 meters above sea level. Calculating the distance up to the rim, the engineers said it was 500 meters. The bottom was flat, as though it had been levelled. Vegetation comprised sahuaro, cholla, prickly pear, creosotebush, mesquite and certain climbing plants. The bottom was covered with volcanic sand. Rough blocks of lava were everywhere around the borders. The wall was vertical, for the most part. This crater, then, was colossal in size.

In order that the reader may have some idea of it, let him imagine a hole, in the shape of a perfect cylinder, with bases parallel, with a circumference of more than 4500 meters at the top and 700 at the bottom, according to the rectified measurements of the engineers. One may be sure that we hesitate to state these figures positively, but we give them as the lowest estimate.

One can deduce, from what has been said, the unheard-of amount of lava that poured from out this “furnace” and from another, even larger, which was nearby, of which we shall write later. We thought we must be dreaming, in the midst of that marvel.

The engineers could not identify the rock about us. One said it was similar to porphyry or to diorite, the other thought it might be granite, or onyx, etc. etc. but no one could be certain. In truth, how could anyone be sure, since all had been reduced to glass. It was seen that the engineers set this down in their notes: "The rock of this volcano cannot be identified, owing to its complete fusion." The engineers had to resign themselves to gathering fragments of the boulders, to enrich the collections of the Geological Institute. There was not the slightest doubt but that these were primitive rocks; there were different kinds, and classification could not be made because of lack of laboratory facilities.



View from northwest edge of Pinacate lavas, looking westward into distant bright sand dunes of Sonora's Gran Desierto. Here, the Esquer party reportedly discussed crossing the sands to reach the Gulf of California. In the middle-left distance is a one of the dark (relatively fresh) outlying lava flows. Brittlebush with characteristic hemispheric clusters of yellow flowers, dot the landscape. (On-site acrylic painting, spring, 1977, William K. Hartmann).

## CHAPTER VI

### FROM SURPRISE TO SURPRISE

Large bands of mountain sheep were seen in the bottom of that crater, but we were not armed. We had left our guns at the top when we took to our “parachutes.” No one had thought of hunting until we saw the sheep running about. How did they get there? Where was their trail? For the time it remained a mystery. Rafaelito was in despair, fancying himself putting an end to those flocks, just as he had killed the javelinas on the slopes of El Cerro Colorado. Carrasco, Celaya and Quiróz were all eyes as they watched them. If they had had their guns, what was the use of killing sheep if they could not be taken from the crater? This was impossible, so they all went about inspecting the formidable circumference and consoling themselves with the thought that this crater “had no twin.”

After three hours, we gathered at the spot where we had left the improvised parachutes. It was then that we realized our fearful situation. There we were at the bottom, more than half a kilometer below the rim, with no means of getting out. Truly the situation was horrible.

Carrasco, Ramón Gil Samaniego, Manuel Parra and El Chileno and Don Jose Salazar, Sr., had not joined us. We waited for them for more than two hours. They were nowhere to be seen. We grew more and more alarmed as we wondered where they could have gone. The walls of the crater, vertical as they were, did not show any fissure into which they could have disappeared. Where were they?

After waiting for a long time, we set out to find them, going in different directions, agreeing to meet again at our starting point. Forming groups, we looked and looked, with unimaginable zeal. Three hours later we met again and all reported that there was no sign of the missing companions. This demoralized us completely. Since there was no rent in either the bottom or the sides, they must have been swallowed up by the earth. Our problem then became this: how to get out of this hole? The engineers and all the rest of us, faced with the loss of our comrades, the lack of water and no hope of being rescued, thought of suicide. That would be better than suffering the rigors of the dark hand of destiny, infinitely darker than the volcano's lava.

Engineer Blázquez remarked that that “this is what happens, always, when things are done in a rush, without figuring the consequences of a rash act, such as our coming down into this hell, without first making sure of a way out.”

“Now,” said Lários, “commentaries come a-plenty. We are trapped and there is no hope. I agree that, failing to get the help we shall need very soon, we should hang ourselves on the nearest mesquites, before dying an otherwise slow and horrible death; but before we die I ask you, where are our companions, and how did they get lost, where did they go?”

“That is what we all ask, but ask in vain,” said Don Isauro Quiróz.

“Last time I saw them was over there,” said Don Ramón Sotelo, pointing to a large rock.

“We should trail them; we might find their tracks,” said Rafaelito.

“No, that would be useless,” said Ramón Parra. No track is left on lava.”

“True,” said Rafaelito disconsolately.

“Let’s wait until morning before killing ourselves,” said Ramón Parra. “If they do not show up by tomorrow, the new day, then we will know what we must do.”

“Yes,” we all answered, “we already know....”

We were sad indeed over what had occurred. Since no one had brought water, but only food, the torment of thirst we began to feel was terrible. The night was far advanced, and we turned in. No one spoke. An infinite number of cigarettes were smoked to calm us a little, but it did not. Who could sleep?

At about ten o’clock that night we heard strange underground noises. Blázquez asked if we heard it. We said we did. He asked if we heard loud noises, many loud noises under the earth.

“Let’s not have a new eruption while we are here!” said Don Miguel Ramirez.

“Ah, no,” said Engineer Lários. “No heat is noticeable, and the temperature is agreeable; besides, the earth has not suffered any sharp shock. We need not expect any eruption right now, so let’s forget it.”

“Here is the treasure!” said a voice coming up from under the earth close by us.

The voice was clearly heard, and our astonishment was general. We faintly heard other voices and a strange clatter below our feet. Astorga asked what was going on down there, and said he was afraid. Ramirez said he was too, and Ramón Parra.

“And all of us!” exclaimed Don Isauro Quiróz. “Unheard of things are going on here. This volcano is certainly inhabited by demons.”

“Steady, gentlemen!” ordered an engineer. “There is no need for assuming the supernatural. We must look for a satisfactory explanation.”

“Well, what is it?” asked Don Ramón Sotelo.

“We shall soon know, certainly,” answered Lários. “We have forgotten our lost comrades, haven’t we? Who can be sure that they are not making that noise?”

“But supposing they are, where are they, since there is hardly an opening where a fly could pass,” said Rafaelito, who was leaning on a large rock.

To our great astonishment, we saw Rafael give a great leap, such as he perhaps never made in all his life, a distance of no less than ten meters. We all sprang up to see what was happening to cause this great jump. Rafaelito called for help.

“Look under that black rock; something grabbed me by my boots!”

We turned to the spot indicated by Rafaelito and saw, at the base of the rock, a small opening, from which a man was crawling, with difficulty, on his belly. There came Reyes Carrasco, coming out like a lizard. He had reached the opening, had seen a man standing there, and had grabbed his boots, which scared Rafaelito, who was his victim, making him jump ten meters. Rafaelito came back and Carrasco came out, like an iguana, followed by the others one after another, like puppies.

We who had thought ourselves forever lost, and had “decreed” mass suicide for us all, rather than die without hope, were seized with the greatest joy one can imagine when we saw our lost comrades.

“I am very pleased to see you again,” said Blázquez, “but happiness is never complete on this earth. Just now we have two problems to solve, which are, first water, and second, a way out from here.”

“The solution is ready for you, and a very satisfactory one it is,” said Manuel Parra, with utmost cheerfulness. “We have found water, and a way out, and there is no need for inventing new machines to take us to the top of the volcano.”

“Yes,” said Ramón Gil Samaniego, “everything is solved.”

“But how and where have you been all this time?” interrupted Engineer Blázquez. “How is it that you have come out here, at the exact spot where we find ourselves united?”

“You have a lot of questions,” said Carrasco. “We shall not answer just now, because if you come with us you will learn everything. We have seen wonders. We went in at the same place we came out. Had you followed our trail you would have found us.”

“We tracked you in many places,” said Quiróz, “but not here, for sure.”

“Now,” said Ramón Gil Samaniego, “the thing for us to do is to get to sleep. At day-break we shall enlarge that opening by a length of two meters, only, because from there

it is very wide. Just now we do not wish to tell you what we found. We'll just take you with us."

"I have suspected all this and much more!" said Engineer Blázquez, "since the wonders of Nature are amazing."

At dawn the next day we easily made out this opening, accessible only to iguanas. We were given no satisfactory explanation of how Carrasco, Manuel Parra, Gil Samaniego, El Chileno and Don Jose Salazar, Sr., had found it. They had disappeared into this hole the day before, while we were busy looking at the black glassy walls of the crater. With little effort the opening was enlarged enough to give free entrance to a man, standing. Beyond that point further work was not needed, because Nature had furnished us with an ample road, with a floor of polished black crystal. Going to the improvised parachutes, we dismantled them, loaded them up and set forth on that underground route, this time with Manuel Parra as our guide. The knowledge of the terrain, possessed by the engineers, was of no use then, for although they were familiar with the outside of these thousand marvels, they could not know anything at all about what was beneath, because it was unimaginable.

Our amazement knew no bounds as we went on through that wonderful gallery of opaque glass. The floor was almost level, with side walls about four meters apart; the roof was more or less high; all that was reflecting the light of a thousand marvels, for everywhere we looked, from above, from below, from the right, from the left, the reflection was perfect. It was like a great tunnel covered in every part with a black cloth encrusted with diamonds and clusters of many-colored jewels. Some of us were disappointed, when we tried to extract these "precious stones." As one changed his position on going nearer, the change in the angle of sight, due to one's nearness, was enough to cause them to darken surprisingly, and become in reality mere projecting fragments of lava, which, in certain directions, reflected light.

For more than four kilometers we travelled through this tunnel, noticing as we went along a current of air that almost extinguished the light of our candles. In the face of this air current, we felt that this dark gallery would take us to the surface. The entire distance of four kilometers was like walking on a floor of crystal. It was our fate to advance on this most gorgeous of pavements, such as was never seen in the palaces of potentates. After an hour's march, we reached, to our great surprise, the bottom of another, similar crater, larger than the previous one, but somewhat oval in shape.

“We come out of the flames into the red-hot coals!” said Rafaelito, filled with dismay.

“We have come a long way to find another devil’s lair!” said Don Abelardo López.

“No, gentlemen,” said Manuel Parra, our acting guide, “even a horse can get out of here. Besides, there is water in all the holes in the lava, which are like little tanks.”

Sure of what Manuel Parra affirmed, we were very happy, and there was no more trouble. All saw that there was plenty of water, and that we could go outside when we chose. The engineers decided that we should make camp at the very bottom of our new volcano, and it was done. Some of us climbed to the top, looked after the care of the horses left outside, and returned with the guns and other things we had left on the sandy slope of the first volcano. We were filled with enthusiasm, and did not expect to leave that crater for many days.

We had on hand a large supply of meat, but Celaya, Carrasco, Rafaelito, Salazar and Manuel proposed that a party be formed to hunt the mountain sheep seen on the first volcano. They made a veritable hecatomb of the poor wild sheep. In half an hour twelve of them were killed. Every man put two on his back, but Carrasco and Celaya each carried three! Bear in mind that these animals weigh about 125 pounds apiece. Who would think of walking with such a heavy load for more than four kilometers through that tunnel, to reach a camp in the bottom of a crater? These “roosters” certainly thought they had no equals. They, and only they, could have carried three sheep each.

We set to work dressing out the meat. Ramón Gil Samaniego appropriated the heads, for the enrichment of the collections of the Museum of Zoology. Poor Ramón! He wanted to give everything to the Museum. The author could see that Astorga and Don Abelardo López were hailing us from one of the rough and trackless places in our “hell,” if I may call it that.

“Come, come here!” they called.”

We went with all haste and saw that López and Astorga were standing at the edge of an “abyss inside another abyss,” like that volcano. It was a sort of well, which went straight down for about two meters. Lower down was a steep incline. The sides of this well were of black glass, entirely smooth. To go down into it was impossible except by means of ropes. It seemed to have no bottom, as we learned by dropping pieces of lava into it. They made a clear sound as they struck against the wall; the sound diminished as the stones fell until it died altogether. Not even the bold Ramón Gil Samaniego, who seemed to be the bravest of us, dared to enter that pit, so we gave up all thought of exploring it, because of the dangers presented. It was not necessary to take the risk, since there were many things to see and wonder at in this volcano.

Later, groups of three or four were made up, eager to look for new marvels. This time all went armed. One group included Carrasco, Gil Samaniego, Manuel Parra and El Chileno, who it seemed like to go about separated from the others. Another group comprised of Don Isaura Quiróz, Ramón Parra, Miguel Ramirez, José Salazar, Sr., Nacho Alegría and Domingo Quiróz was seen going off in another direction. Vega and the rest of us chose to go with the engineers. As we said, all were engaged in the work of exploration.

In the direction followed by Carrasco and his group, the ground was sandy and one could proceed with no difficulty; not so on the side chosen by Quiróz and his fellow adventurers. On that side the floor was very uneven, and was covered by volcanic sand; the path was strewn with obstacles. The engineers and their companions decided not to visit far-away spots, and went to two small knolls of lava at the edge of that formidable oval. Rafaelito spied a great opening between the two masses of rock and suddenly shouted,

“Engineers, engineers, this is Satan’s den! Come here!”

As we approached, we saw a very deep fissure, by which one could descend to a sort of salient formed of lava. Thereupon the engineers decided we should all come together and that we should all proceed to that abyss, which apparently would take us to the center of the earth. It took a long hour to get everybody there. Rafaelito seemed terrified. He declared that he had never dreamed that such things could be. Actually, all of us were afraid, but the engineers assured us that we would not run into trouble and that we would find very interesting things, so we determined to go with them into the bowels of the earth.

We were mistaken about the difficulties we should encounter, going down. There was no trouble until we reached the aforementioned salient, as we made our way over a firm pavement of black glass. When we reached the salient, which was deposited by lava from the volcano, at a height of only forty-five meters above sea level, we continued on in a southwesterly direction, with a bottomless abyss on our right; no one could estimate its breadth.

We travelled in this manner for about half an hour, in great danger. A current of air told us that there was another opening to the outside. Suddenly, while lost in admiration of that natural wonder, we came to an opening in the bottom of another crater, not so deep as the previous one. This was only 300 meters deep, at the most. On the other hand, its bottom had a circumference nearly twice the size of those already visited.

“The seventh hiding place of Judas!” said Rafaelito.

“El Caso Mocho!” said Regino Celaya.

We could easily go from here to the rim, since there were means of ascent on several sides. From the rim we could see the enormous quantities of lava that had issued from that volcano. The whole country had been inundated by lava, over an area of many square kilometers. It was even evident that the fiery torrent, in a fantastic succession of waves, had reached as far as the Gulf of California and was partially buried beneath awe-inspiring sand dunes.

“Now let’s have the explanation you promised us, Señor Blázquez,” said Celaya, enthused by the magnificent vista.

“Oh no, it is not time yet. Do you see the summit of that *cordillera*?” answered Blázquez, pointing to a long mountain ridge to the southeast.

“Yes,” said Regino, “it is the Cordillera El Pinacate, to which we shall go, as we agreed.”

“Well, then,” said the engineer, “I predict that yonder in those mountains there are endless fissures and dreadful cavities; that what we have seen has been repeated for an infinity of years, making radical changes in the earth’s crust. Therefore, when we have scaled that high sierra and are at the mouth of some abyss, one of the many I believe to be there, I will give you an object lesson.”

“Do not fool yourself, Señor Engineer,” said Don Antonio López. “There is a precipice of lava on that ridge that takes one, the hard way, to an abyss whose extent cannot be estimated. In that place air comes out of the inside of the earth.”

“I can well believe it,” Engineer Lários hastened to add, “and this leaves me not the slightest doubt but that a large number of these innumerable volcanoes are connected, in their interiors, by fissures or subterranean galleries, formed, perchance, by the terrible eruptions that have occurred.”

The travellers were beside themselves with wonder, in the presence of such wonderful marvels. We went on, from surprise to surprise. Engineer Blázquez, whom, as I believe we have said, we chose as the scientific mentor of the expedition, seemed impatient; we guessed that he wanted to order us to go forward in a southeasterly direction, away from the volcano, so that he could apply himself to the study of something there which had attracted his attention. We were, however, after a roll-call, short two men. They were Reyes O. Carrasco and Manuel Parra.

“Where can those men be?” asked the engineer impatiently. “Señor Parra, who has already caused us much anxiety, must be told not to separate himself from us in the future. Two men, venturing alone in these galleries, can meet with many dangers; they seem not to take this into account. What men, those! Although along the gallery of glass

on which we walked for a short distance I saw no other passageway joining or leaving it, surely the apparently lost men are walking along making observations and taking notes. At least I presume they are.”

“If you wish, three of us will look for them,” said Rafaelito.

“Why not? Go bring them to us, soon, because I want to look at some other points today and to make some entries in my field-book.”

Rafael, with Don Ramón Parra and El Chileno, set out to find the missing men; they did not come back. After an hour’s wait, another group made up of Arturo Quiróz and Abelardo and Antonio López, went to find the wanderers. The search failed and this group also did not return. The engineers were very much alarmed because no one came back.

“Could the volcano have swallowed our companions?” enquired Ramón Gil Samaniego.

“Señores!” said Blázquez, addressing himself to all present, “I am going myself to see what has happened. I can’t stand such uncertainty. I am sure that our comrades are lost within the accursed subterranean galleries that are everywhere and which we cannot see. That is all. I am taking scientific instruments with me, with whose help I cannot be lost, so that I shall return from where I go to look for them.”

“Let’s all go with you!” said Ramón Gil Samaniego. “To the counter march, señores.” Either we come back with all our comrades or we stay in the bottom of the volcano! Forward, señores!”

Everything was arranged and we had no room for further thought on the matter. Perhaps our poor comrades were running into danger right then and required our immediate help. We went back by the now familiar path, but did not come upon any fissure unknown to us. As we went along on the sandy bottom, we kept our eyes on the ground, to see if there are footprints in the sand, going in the opposite direction. All tracks seen were those we had made on the way in. There were none going out. This caused us great alarm. Our comrades had become lost in some unknown gallery whose passage we were unable to find.

“Could they have slipped?” said Lários, “and could they have fallen into the abyss from that slippery edge?”

“But could all of them have fallen into the abyss?” asked Blázquez. “No, that couldn’t be. Let’s go back, and as we go, let’s examine the wall of lava at the left to see if there is some opening, some fissure, into which they might have crept.”

This we did, paying attention to every small detail on our way. We had gone nearly out of the bottom of the crater of the last volcano when Don Isauro Quiróz uttered a cry of surprise. Turning to see what the matter was, we saw Quiróz pointing to a mound formed of the footwear of our lost companions. Near it we saw a hole, unnoticed by us previously, because of the darkness, which was now dispelled by the electric torch of Engineer Larios.

“Now it is all clear to me,” said Engineer Blázquez. “Our comrades are exploring the bowels of the earth; the floor is slippery and therefore highly dangerous, so they have left their boots here, which shows that they are in there and that this is the entrance. The two groups that came in search of Parra and Carrasco are with them and safe and they are exploring together. This is actually what has taken place. It now remains for us to go where they are, because danger has not disappeared, so, what...”

“Forward!” said engineer Lários, and we added our footgear to the mound already there. Fortunately, the floor was safe for bare feet, as it was a pavement of black glass, perfectly smooth and shiny. In ten minutes’ time we were all shoeless. What happened next we shall learn in the next chapter.



In a lava tube. Lava tubes form when a lava flow surface cools and forms a solid rock crust atop the flow. Then, if the flow breaks out of the rock crust at the downhill end, all the lava can flow across the landscape and leave the empty conduit behind, creating a tube-like cave. It is not uncommon for a parts of the tube roof to collapse, forming open “windows” in the ceiling. In this view we are standing under such a window, looking toward the open mouth of the tube. (Acrylic painting from memory of visits to I‘itoi’s Cave [a lava tube near the Pinacate summit] and lava tubes in Hawaii. William K. Hartmann, 2018).

## CHAPTER VII

# A CLASSROOM IN THE BOWELS OF THE EARTH

As we said in the previous chapter, after removing our footwear we went into that opening in pursuit of our missing comrades. Astonishing marvels! One had to see it, to admire more and more this work of Nature! We followed that most beautiful path, which sloped gently, leading us where, nobody knew. Occasionally the engineers stopped, to consult their instruments and orient themselves in those rough and trackless places, not even dreamed of by many men of science. We walked for perhaps more than five kilometers along this pathway of glass, which varied in width. We had hardly penetrated the hole by which we entered, when an ample path gave us passage. Aladdin and his wonderful lamp notwithstanding, and all those Arabian tales called “A Thousand and One Nights,” all those appeared very gloomy after a single glance at what every step put before us. Even the engineers were astonished.

We were already familiar with many things from our earlier discoveries, but this pathway of glass, so wide and so long, even endless, surpassed them all. The slope was very noticeable, going down and down. The barometer read 180 meters below sea level. The path seemed endless, and always led downwards. Meanwhile the lost ones had not shown up. We were certain they would be found farther on, although we could not hear their voices. There was no other road they could have taken.

“Forward, forward, everyone!” commanded Engineer Blázquez. “We shall follow this beautiful lava pathway and either find our companions or go with them to the center of the earth.”

We were treading lightly, taking every precaution, although the polished floor did not hurt our naked feet in the least; although the floor sloped, it did not slope enough to cause us to slip. Some of us remembered that the horses were being left a long way off, without feed or water, and that they had better be looked after. Engineer Blázquez opposed this, in view of the urgent need to find the lost men, even though the saddle and pack animals might die of hunger and thirst. There was nothing to do but go on. When we had travelled for about half a kilometer more along that enchanted path, to our surprise we suddenly came upon Carrasco and Rafaelito, resting on a bench of black glass, to our right; they were taking their ease below a marvelous crystal portal, with almost ogival

or pointed arches. Not even Haroun al Raschid, the Persian sultan of the Arabian tales, had such a palace as that of which Carrasco and Rafaelito were in possession.

“The other comrades, where are they?” asked Engineer Lários.

“They are all farther on,” replied Carrasco. “We are a little tired, and we stopped here to recover our strength.”

“But this is marvelous! This is astounding!” said Don Isauro Quiróz. Engineer Lários agreed, as he passed his hands over those pilasters of vivid, brilliant crystals.

“Don’t these Judas lairs frighten you, Señor Vega?” asked Blázquez.

“Señor Engineer, what do you think?” I am rather confused; I do not know what to say.” “We are all like that, Señor Vega,” said the engineer. “Very soon I am going to have the pleasure of talking to you about all this, and I only wait until we meet up with the other men. I shall not be calm until we are reunited.”

Acting on the decision of this same engineer, we walked about ten kilometers more, until we reached the place we found the missing men. They were standing together, contemplating another marvel which my humble pen cannot describe. The already wide path was even wider where our companions stood. Farther along an immense cavern appeared, or, better, a great crystal palace, formed of lava, which was lined on all sides with wide hollows, like rooms; this was more than 200 meters below sea level.

The reader can imagine the effect of light on this veritable “enchanted palace,” which was what we named it. Every conceivable color was reflected there. The beams from the electric torches of the engineers, whose brilliant light shone upon those marvelous walls, were returned to us in multi-colored form. It was unanimously agreed to spend the night there 200 meters below sea level, as we said, a rare circumstance! The temperature was comfortable, there was plenty of air, and there seemed to be no gas that could hurt us, as the engineers assured us. The restless Ramón Gil Samaniego, for the first time in his life, was calm and speechless, he who never stopped talking! As for Manuel Parra, Carrasco, Rafael and Astorga, their eyes were popping from their sockets. They wanted to know everything, undertake everything, enjoy to the full the contemplation of such wonders. Engineer Blázquez, who was himself no less infected by the general ailment, began to speak, and we listened with close attention and the utmost respect, more or less, to what he said.

“Come here, come, learned men, no matter your nationality, and look with wonder at these marvels which my Fatherland conceals here! Come, learned geologists, museum directors, university rectors, and contemplate this amazing panorama! Like us, you cannot but kneel in wonder before these sublime summits, so marvelous.” He spoke no

more at that time. We all turned in for the night, on beds of jewels.

We had not eaten for several hours, but no one felt hungry. We did not even remember how far behind we had left our provisions. We were the only living beings who had been there; there was not even an insect, not even the tiniest. Our feet, in spite of their nakedness, were not hurt at all, which is unmistakable evidence that the surface we were walking on was perfectly smooth. Somewhat rested, as we actually were after a period of silence, we lapsed into a most profound slumber.

At what time of night it was, I cannot be sure, when, upon awakening, Don Isauro Quiróz and Don Miguel Ramirez saw that Carrasco was still asleep. Reyes Carrasco was talking in his sleep. Don Ramón Parra, for fun or perhaps because of superstition, approached Carrasco and placed his hand on his chest.

“Now ask whatever you like, and be sure that you will hear the truth,” said Don Ramón Parra. Engineer Lários, to carry this joke further, asked,

“Señor Carrasco! Where does this gallery end?”

The sleeper replied, “We have yet to go more than 100 kilometers before we reach the end, without being separated by other paths.”

“Should we back-track in order to be able to go out where we came in?”

“That would not be necessary except for the shoes, and the horses and supplies that we left behind, since the road we are on soon takes an easterly slope, not down but up, and by following it we shall get to the surface at a point on the sea shore.”

“What, at the Gulf of California?”

“Precisely, at a place called La Cholla. I see plainly that this road goes there.”

“But before we get there, is there any other small opening or fissure in the path, which might lead us to another part?”

“Ah, there is,” answered the sleeping man, “and it is but three kilometers from where we are. It is a hole to the left of the path, and when we enter it we go far, very far, almost to the center of the earth.”

“And we can go on to the very end? Shall we not find obstacles in the way?”

Carrasco was surely about to answer again, but Don Ramón Parra was leaning too hard on his chest, forgetting what he was doing; poor Carrasco rose up, somewhat frightened, with staring eyes. We told him that in his sleep he had talked a lot, but he declared that we must have imagined it, because he never talked in his sleep. He recalled nothing he had said; an odd thing! What was even odder was that he had never taken a single step in these rough and roadless places. What he was soon to learn! Engineer Blázquez,

nevertheless, asked some questions of Carrasco, to keep the jest going. He was somewhat thoughtful after hearing these categorical answers from the “man-asleep-who-talks.”

“What mystery would there be in all this?” the engineer asked himself. “I ought to believe in it, but nevertheless—I do not know what to think—Go on! Nonsense, like so much else!”

How long we rested in that beautiful place I do not know. Perhaps it was more than six hours before we determined to go forward and set out again on that crystal path. We walked for two kilometers, more or less, encountering a quantity of big and little pieces of lava, which, we observed we could break from the vitreous walls. Then we made a brief stop at the edge of a precipice on the left. Because of the darkness, hardly diminished by electric torches, we had no warning that we had come upon great danger. The instruments had been consulted previously, so that we might not lose our direction. The path did not end, but we left it on our right, in order that we might make a cautious inspection of the abyss. Approaching its edge, we could not explain the horrible feeling we experienced. Perhaps that abyss reached the center of the earth.

The terrible Gil Samaniego at once proposed that before continuing onward by the corridor we were leaving, we should explore it as far down as was humanly possible; and as it was necessary, first of all, to find a way down, that we should look until we found one, taking all precautions against accident. He also proposed that a group of us, guided by Engineer Lários, should go to the camp where the food and water were left, and that a sufficient supply be brought in so that we might remain in that place indefinitely. This was acceptable to the engineers, who had calculated the depth of the abyss, because they were exceedingly great lovers of study and observation and were capable of this and of much more. The rest of us also took to the idea, because we believed that so long as we were with these professional men, nothing could harm us. Fifteen minutes after the matter was settled, eight of us, led by Engineer Lários, who oriented them, made a counter march through the known corridor until, about two and a half hours later, they reached the encampment that we had temporarily abandoned.

While they were going back, those of us who stayed inside busied ourselves by looking here and there, into all these surprising places. Whoever was sitting on a bench of lava, capriciously formed by the action of Nature, whoever had mounted a-straddle a salient of glass, etc., etc., was enjoying himself immensely.

“Señor Gil Samaniego?” said Blázquez.

“Present!” answered Ramón, standing at attention.

“Ah, I am reassured. I thought for a moment that you were inventing some new parachutes to go down in this abyss. Gracias!”

“If we had one of our canvas tents here, and some stout poles and wire, do you think it could be done, Señor Engineer?”

From that it could be seen that the rashness of Gil Samaniego was not unknown to Engineer Blázquez. Discreetly, without the knowledge of Gil Samaniego, he ordered those who were present to keep watch on him, because he felt, and with reason, that Ramón might commit some rash act, similar to the one at the first volcano visited. Fortunately for us, Ramón did not give us any trouble and we all watched him in silence, until at last we went to sleep, waiting for our companions to return from camp.

One of us sprang up suddenly and awakened the rest of us, being certain that he heard loud noises, like that of someone moving in the cave, not of our party. He tried to locate the direction from which the noise came, but could not locate it, until, all at once, it was repeated.

“Since when have other creatures been in these places?” said Ramón.

“What is making those noises?” said Celaya in his turn.

“Go on! Are we children?” said Engineer Blázquez, “who are so frightened that we have forgotten that we are waiting for our comrades who went for provisions? Why are we so sure that it is not they who are making the noise, on their way back? Don’t you hear the noise much closer?”

“Yes, we hear it,” said several.

“Let’s wait a moment longer, in silence, until we hear their voices. Surely they won’t be long. Let’s wait.”

After a short while we heard a clamorous noise, strong, long drawn out. The outcry was too loud to be made by human beings, and of course our terror increased by 100 per cent. Suddenly it stopped and left us waiting. About twenty minutes later, our fears were calmed, when we heard the voices and the laughter of our comrades as they approached. At last they arrived and found us waiting impatiently. All save Carrasco laughed with pleasurable relief. Carrasco was offended. This was because our comrades had brought three cans of water, in case we should stay in the cave for more time. Carrasco was carrying one of the cans, which contained fifteen gallons of water. The floor was very slippery, so he walked bare-footed. He lost his footing and fell to the ground at full length. As we have said, the floor was on a slant. The full can went rolling down, making a great racket, and came to a stop some distance away. This was the noise we had heard that scared us.

Carrasco's companions kept on laughing at his bad fall. He had patiently picked up the can filled with the precious fluid, so badly needed. Rejoicing at the sight of the food which was brought, we proceeded to eat with huge appetites. This was justified, for we had not eaten for many hours.

"Now that we are all crazy with happiness," exclaimed Ramón Gil Samaniego, "it is my intention to complete the sounding of this abyss."

"Then let's descend," said Reyes Carrasco, who had by now forgotten the fall which had hurt his pride.

"Just a moment, Señores!" cried Engineer Blázquez. "First thing we need is to find some way to get down, for if there is none, we must forget it."

"Then come on, let's do it, let's look for a way down!" exclaimed the intrepid Gil Samaniego.

"Yes, let's look for it!" said we all, filled with enthusiasm.

"I have already found the way down!" interrupted Manuel Parra. "We can go through a small opening. Follow me"

"Take it easy, Señores! Descend with great care," cried the engineers, following at a short distance, fearing, naturally that misfortunes would befall. That fear was groundless, because within a few feet the narrow fissure opened up to furnish us free passage, although quite steep, down a stair-like path, directed nearly to the earth's center. We all descended, filled with mirth, admiring our "ladder" of black crystal, another wonder of Nature which was now taking us to the center of the earth. We came to a point beyond which we could not go. The glass stairway ended when we were about 600 meters below sea level, deep, very deep. At the end of the stairway we found ourselves enclosed in a cavern with a low ceiling but of large radius. We made a thorough search for a passage leading out, but found none. We had left our provisions above, so that there was nothing for us to do but go back, which we did, to our sorrow, after a brief rest. What time we did spend there was used by Engineer Lários in giving us an object lesson.

"Señor Carrasco," said the professional man, "will you be so good as to bring me a piece of lava?"

"With great pleasure," replied the man called upon, who suiting his action to his word, took a chunk of lava weighing about a kilogram and handed it to Engineer Lários.

"Let us examine closely this piece of lava which Señor Carrasco has handed me," Lários, focusing his torch light upon the fragment of igneous rock that he held in his hand, "in order to learn whether or not we can identify it."

“We seem to see in it some very shiny bits or projections, Señor Engineer. Do you notice it?” asked Don Isauro Quiróz in his turn.

“Yes, I have observed it. Now let us see what it’s made of.”

Taking a small pen-knife from his pocket he lifted some delicate flakes from one of the shiny points.

“The luminous particles we see in this igneous rock, which I pried off with my knife, and which, as you have seen, are thin, super-posed flakes, are, doubtless, composed of some mineral that can stand very high temperatures, and remain unchanged. It is some refractory mineral that cannot be fused....”

“Undoubtedly” interrupted Ramón Sotelo; “I am familiar with some of these minerals, mica, for instance....”

“Go on, you have said it replied Engineer Lários. “There is no doubt but that the igneous rock that is before you must contain a considerable proportion of mica, which we see here in the form it always shows itself in nature, that is, in very thin flakes. It is so extremely thin that it takes ten thousand of these little leaves to make a thickness of about two centimeters. We have easily identified one of the components of our rock, as much by its form, as by its having resisted, without fusing, very high temperatures. But, let us keep on with this piece of lava. What else do you notice, particularly?”

Don José Salazar, Sr., took the stone from the hands of the engineer, and could see that in one very fused portion, which he knocked against other rocks of the same kind, there was a very marked lead color, some of it nearly black, like that made note of by the engineer. Manuel Parra, Carrasco, Vega, El Chileño and Regino Celaya, after looking at the rock, confirmed what Señor Salazar had said.

“But what substance could it be?” Rafael asked himself, as though trying to remember something. “I recall that in school I memorized the name of this substance, what is it? What is this thing?,” he kept saying over and over to himself.

“It is feldspar! It is feldspar!” interrupted Regino Celaya. “Now it comes to me. True, Señor Engineer?”

“No doubt about it,” replied the engineer, “but how did you identify it?”

“By its unique color and by its leaden or black crystallization, and also by its having resisted great heat, although not so great as the mica—according to what they told me.”

“What is this thing?” asked Carrasco, butting in, as he pointed to a bit of white as he broke a piece of lava. “I have found a diamond! See, Señor Engineer, how it sparkles!”

“No, my good friend, that light that it reflects comes from the facets of the fragment of quartz you have found, a pebble, as the miners call it.”

“But it is transparent!”

“Quartz takes this form at times, and crystallizes capriciously, in the shape of pentagons, hexagons, etc., etc.”

“But why has it not been fused in the fire of the volcano? Does it also resist high temperature?”

“Some of it, certainly, although not all, because metal foundries use quartz in their mixture of minerals for the smelters. It may be that in this case some portion of the fusion was not perfect.”

“Hold on!” interrupted Carrasco. “And you say that, Señor Engineer, after taking full account of the furnace on which we stand?”

“Nevertheless, my good friend, it is evident to you that in the third cavern that we visited near El Cerro Colorado, where you found the mastodon skeletons, as you well remember, the floor was sandy, like the surface outside, the formidable cap-rock forming the roof notwithstanding. Do you recall that?”

“Yes, I remember.”

“Now then, despite the terrible eruption and the extremely intense heat, melting was not complete. You will agree with me as to that.”

“Surely.”

The engineer continued, “Now I believe that we can quite positively identify the original rock which, in the zone of action, was affected by fire. A rock, moreover, composed of certain other substances, quartz, for the most part, feldspar and mica; it undoubtedly was granite. True?”

“So that’s it, granite,” answered Nacho Alegría, jumping about like a boy. “I am a prospector, I am an old miner, and am familiar with this rock in its natural state, but cannot recognize it when melted and fused. Outside, I know many places where it is abundant. There is nothing else in the district of Altar.”

“You are wrong, my friend. In the district of Altar there is a great variety of rocks. To name them all would take much time. I am familiar with some of the basic rocks, with some others which are sedimentary, others which are conglomerates, etc., etc.; but what we have here, granite, is the original rock of the earth’s crust.”

“Certainly very bad rock for veins of ore,” said Nacho Alegría, “as I know, and as I have been told by many miners. It is said that wherever this rock is abundant, there is no ore to speak of.”

“You judge wrongly, my good friend. Granite, being one of the original rocks, as I said, which has risen from the deepest depths to the surface of the earth, is one in which

the regular veins of ore, often found where there is much of this rock, are hard to follow, as they are constricted now and then and the sides of the veins expand, and then the abundance of metal is great.”

“Those are the pit mines, as we call them.”

“I accept the term ‘pit mines,’ but with regard to this I would say that they result from the compaction of the granite, and from the hardness of the solid rocks, in general. They are hard to break because they are filled with mineral substances or with valuable metals. Now my colleague, Señor Blázquez, who is a specialist in geology, a science which amongst other things has to do with the full knowledge of all these rocks, will give you some explanation, when he thinks it is convenient.”

“When I think it convenient, I shall do it with great pleasure,” said Blázquez.

As the cavern in which we stood was closed, and on account of that we could go no deeper, and besides, since we could not remain there, we decided to go back to the place where we first began to descend by this stairway of glass. We started up, laboriously now, one step at a time, with much distance between us; it was very different from the manner of our descent, when we were filled with enthusiasm. All obstacles were conquered at last. We reached our goal and halted, at the disposition of the engineers. What happened after, we shall see in the next chapter.



Mexico's northwestern state of Sonora is dotted with Spanish missions, some flourishing and some in ruins, as is the Cocospera Mission shown here, roughly 190 miles east-southeast of the Pinacates. Esquer's expedition reportedly excavated the remnants of such a mission (and found treasure) buried in the sands west of the Pinacates. The earliest missions were simple, adobe structures built in the late 1600s by the famed missionary-explorer of the Sonoran Desert, Eusebio Kino. The grander, Spanish Colonial churches, many of which survive today, were typically built in the late 1700s or in the 1800s. (On-site acrylic painting, 2005, William K. Hartmann).

## CHAPTER VIII

### MORE UNEXPECTED ENCOUNTERS

The halt made at the edge of the precipice was prolonged for more than an hour, which time was used by the engineers for making notes. Meanwhile there was a discussion as to whether or not we should return to our animals or continue to journey by that “enchanted road” to the sea, as described by Carrasco, “he who talks in his sleep.” The only thing that would prevent us was our knowledge that our animals would be without food or water, but Manuel Parra and Celaya declared that, being loose, they could graze freely in an area from which they could not escape, since the only accessible way out had been closed, and that water was available in several tanks, and that there was nothing for us to worry about.

“Then let’s go!” said Ramón Gil Samaniego, and so said all of us, with equal enthusiasm.

“Since you want it, so be it,” said Engineer Blázquez. “Up, everyone and let’s go!”

We picked up our provisions which we had left there, and began the journey by that endless, wonderful path. This time we wore our boots. We had not gone far before we saw that the path was beginning to rise. Carrasco, while sound asleep, had told the truth. It was one of two things: either he was acquainted with that pathway, or “sleep-talkers” speak truth. As for the first, we knew that Carrasco did not know a single foot of the path, and for the second, not even in theory did it deserve acceptance. Was it, then, a “fluke” on the part of Reyes? We began to climb, as he had said we should, and did not stop climbing for four hours, without reaching the end of that beautiful pathway, now in the direction of S 15° E.

“Maybe we shall discover some road to San Luis Río Colorado, underground?” said Don Ramón Sotelo.

“By no means,” said the engineer. “From our starting point, San Luis is N 80° W, and we went in a direction almost 90 degrees opposite, that is to say, at almost a right angle to what you indicate, and to the south. I rather think we are going to reach the Gulf of California.”

“As Carrasco told us when he was asleep?” asked Ramón Parra.

“Probably, and if we follow this direction, we shall surely go out at La Soda or La Cholla, perhaps at Adair Bay, or Rocky Point.”

“Then one must believe in what the sleepers tell us when one lays his hand on their chests...?”

“Away with these superstitions, they are not worthy of considerations!” said the engineer.

The engineers and Rafaelito led the way, going upward on the rising pathway, and towards the south.

“We can go out at the Gulf of California, perhaps this very day, by not taking any breaks,” said Don Abelardo López.

“I do not doubt it,” said Engineer Blázquez, “but I think it is impossible that this gallery should have no other outlets than this; but we shall see.”

We went on safely for about twenty kilometers more, and in a wide space we saw to the right, Engineer Lários decided we should make a short halt; we did so and made use of the occasion by partaking of food. No one seemed sorry. We were filled with unbounded enthusiasm. The rest period had lasted an hour, when Gil Samaniego and Manuel Parra, who pried into everything, reported that about forty meters from our position, in the middle of that path of dark glass, they had observed a luminous spot. We went to see what was making it.

“Come here, everybody!” someone cried. “Look up there!”

We looked where he pointed and observed a beam of light coming through an opening. This was what was making the bright spot. The road we were taking sloped upwards in a southerly direction, towards a point on the coast, but there was besides that another exit to the surface that Carrasco did not remember while he was talking in his sleep. Although Engineer Blázquez had told us that there were probably other exits to the surface, we were surprised to see what was before us. No wind came through the opening, a sign that the weather was calm outside. The exit, then, was right at that place, and we decided to go out in order to learn where we were. We had no trouble in getting out. It was four o'clock. We had examined the opening through which we passed. We found numerous great fragments of lava on the surface. Engineer Lários and Don José Salazar, Sr., went forward a little way, to the high mounds of sand that began there. Engineer Lários pointed out to Don José two almost identical hills, black, close together, which overtopped the great dunes.

“Those are the low hills I am looking for!” cried Don José, staring at them and pointing with his finger. “We shall certainly not leave here until we have examined them closely.”

“I promise that we shall explore them and look for the mission about which you have

told us. I am of your opinion, and believe that that mission does exist.”

The rest of the party, on hearing Don José’s cries of surprise, and the answer of Engineer Lários, drew near, and were likewise astonished when they saw the distinctive ridges, almost buried by sand dunes.

“Let’s go, everybody!” Engineer Blázquez enthusiastically gave the order.

“Yes, let’s all go,” added Don José.

We got out and headed W 25° N, toward the buried ridges. Now we marched with full determination at last to seek the Mission of the Four Evangelists, helping Don José Salazar, Sr. in the tasks he assigned us. Although the hills seemed very near, it was an optical illusion, for we travelled almost six kilometers before reaching the famous ridges. They were not so little as we had thought, since only their crests stood above the sand. The dunes had underground burrows, or *tuceros*, as they are called. They are inhabited by rodents, perhaps moles or *tuzas* [pocket gophers], and from *tuzas* comes the name *tucerales* —places where the animals abound. The low hills were close together, there being less than a kilometer between them. It was easy enough to reach their summits. Engineer Blázquez found that one was only 250 meters above sea level.

We formed two groups, as assigned by Don José Salazar; one group, captained by Gil Samaniego, decided to explore the more southerly ridge. Enthused almost to delirium, Gil Samaniego did not leave a stone unturned or a high dune unexplored, but all in vain. Nothing was found by his group. Now let us see what the other group found, the group assigned to explore the other ridge. Amongst the members of this group were Regino Celaya, Don Isauro Quiróz, Don Miguel Ramirez and Don Ramón Sotelo. Carrasco, the two engineers and the rest examined other areas of the same hill.

Regino Celaya went off by himself and on his own account explored the great sand dunes. From time to time we watched him, almost from the crest of the ridge, zealously at work. While we ourselves were most distracted by our work, we heard a shout that startled us beyond measure.

“I have found some bells, I have found some bells!” yelled Regino Celaya from the dunes.

The first group, which Gil Samaniego was leading, was some distance away when they heard Regino’s shout. Soon we were all gathered around Regino Celaya. Everybody, especially the engineers, congratulated Regino on his discovery. Don José Salazar wept for joy! The mission had been found and his golden dream was converted into reality. Carrasco, thinking he was dreaming, rubbed his eyes. Those old bells, of bronze, oxidized now by the action of the centuries, were “exhumed” most carefully, an operation made

difficult by their weight. One of them bore an inscription on its rim, which we copied, even to the spelling:

“Constructed in the Town of Magdalena in the Year 1674 of Our Lord, for the Mission of The Four Evangelists.” The inscription on the other bell said, “Constructed in the Town of Magdalena in the Year 1672 by the Most Reverend Father Kino of the Society of Jesus for this Mission.”

Here was proof positive that those bronze bells dated from the middle of the colonial period. That is what the two inscriptions proved. Now, surely, we had not the slightest doubt of the existence of the mission that Don José had so zealously sought.

“Let’s hunt for the ruined temple! Let’s look for the walls of the convent!” said Nacho Alegría, jumping with joy.

“Yes,” said Blázquez, “let us all hunt for that, but first we must look to the lay of the land, that we may find a way out of here.”

“Come on!” said Don Miguel Ramirez, “perhaps Regino Celaya wants that job.”

After much work by the engineers and the rest, with nothing new turned up save those bells, we turned in at nightfall, very weary but most eager to renew our investigations on the next day.

“The discovery of the bells, which by the way, we have agreed to give to the National Museum, is very significant,” said Engineer Lários, “and there is not the slightest doubt but that the temple is very near here, and also the attached convent, as was usual in those times. They must be buried in the sand.”

As it was certain that we should remain here for some days, and I had observed that in those places the forage was plentiful, as was water, which I had seen in the hollows of the rocks, I proposed to go back to camp and get our animals, and bring them to this location, and to centralize our tents and gear here. Once that was done, we could ride wherever we chose. What should we do? All agreed, and Rafaelito and four others were commissioned to get the horses and burros for carrying water, etc., etc., and Gil Samaniego and four other men were sent to carry the tents; meanwhile the others would carry on the work of exploration. If any treasure were found, it would be divided equally amongst the four groups. The engineers laughed with pleasure at the completion of that “contract.” We intended to get some sleep, but did not succeed, because everyone had something to say about the finding of those old bells.

Don Ramón Parra and Don Ramón Sotelo, as well as Don Isauro Quiróz, who slept very close to one another, laughed with amusement as they listened to the vociferations

and lamentations of Nacho Alegría, who said that some stones that he had left under his bed roll were hurting his ribs, and he could not get comfortable. We tried to remove those rocks but could not, perhaps because they were too big to be moved, so, because of his laziness, he did not change his sleeping-place, but stayed where he was.

When we awoke, a dozen of our companions were missing. They had left us at dawn, some to get the horses and burros, others to get the tents. When we had rolled up our beds, and after a light breakfast, we went to work. Alegría concentrated his energies on the rocks that had bruised his ribs; he soon learned why they were not readily removed.

“Tell the engineers to come here,” he said.

Upon their arrival, Nacho showed them that the stones that protruded from the sand had been daubed with mortar. The engineers agreed. We hurriedly ate breakfast and started to dig there. Moments later, a fallen wall of stone and mortar was exposed to view. Our feelings cannot be described. We worked for two days, as best we could, using dry sahuaro ribs for digging-sticks. By the time our twelve comrades were back with the horses, burros and tents, a large portion of the wall had been uncovered. We tied our horses in the bunch-grass, and also the burros, and then, all united, we set to work again, everyone doing his best, and after ten days of hard labor an entire ruined temple was laid bare.

“This is not a false thing, but a truth which I see. My dream is come true, to the letter,” exclaimed Don José Salazar, filled with contentment.

“I congratulate you very heartily, Señor Salazar, on this discovery, you especially, who have made many journeys for this express purpose, from the city of Magdalena,” said Engineer Blázquez. “Perhaps this lucky find will be a portent of new and most important discoveries which are in store for us. It is possible that here we shall find some buried treasure, although I doubt it. And why more treasure than we have already found? This certainly constitutes a real treasure for our Fatherland.”

“Yes, surely it is a treasure for the history of our Fatherland, because we are going to give it all to the National Museum.”

“Yes, to the National Museum!” exclaimed all.

“After all this digging, my good friends, weariness is overcoming all of us. Let us rest a while,” Lários said, “and then we shall continue our search, which is certainly going to be interesting. We must remove the dune from the interior of the temple; we should find some fine objects.”

All agreed with that statement, for we believed Engineer Lários had spoken truth. We were, then, strongly impressed and more determined than ever to carry on the

exploration which up to now had turned out so well for us. On the next day, when it was time to go to work, everybody pitched in. Groups were to be seen here and there, eagerly hunting new things within those walls filed with dune sand. One group included Astorga, Vega, Nacho Alegría and Domingo Quiróz; they worked inside the walls; exactly where they supposed they would find the great altar of the temple. So occupied and diverted were the rest of us, as we worked in other parts of the temple, that we paid no attention to what the four comrades just named were doing. When about four hours of hard labor had passed, and a large part of the sand had been removed, we went to see what results they were getting. We had a big surprise. Our four colleagues had uncovered in their excavation the very identical image of Christ nailed to the cross. All four, Astorga, Vega, Nacho and Domingo, fell to their knees before the image of the Redeemer. Nacho fervently kissed the feet of the crucifix. We made no sound as we watched, in order not to disturb the beatific attitude of our four comrades. One of them turned and saw us standing there, at a distance. It was Astorga. Astorga is swarthy, but he turned red, perhaps with embarrassment. Don Ramón Parra, an extremely devout man, who had faith in the doctrine of the Savior of mankind, turned to Astorga and said,

“Do not be ashamed. A man never looks nobler than when kneeling before his Creator.” Then Don Ramón also knelt, and in a deep voice recited the Lord’s Prayer. Some of the others imitated his example.

The engineers for their part, without denying or affirming the creed, limited themselves to keeping a reverent silence, since they had respect for the ideas of others. When it was all over, Nacho Alegría claimed the image for his own, because, he said, he was the first to uncover the upper end of the cross.

“It is mine! It is mine!” he said over and over, in a state of rare emotion. “I would die first, and then it would be yours. Do you hear?” And he dug deeper and deeper into the sandy soil with his sahuaro stick.

As was natural, all wanted to have their share, but after a brief discussion, we all agreed that Nacho Alegría should be the sole owner of the image of the Redeemer. This image seemed to reflect the great suffering on Calvary, interpreted in a masterly fashion by the artist. Nacho, now owner of what he had so much desired, and without objection from any of us, with some effort drew the heavy, life-sized image from the sand; then the new Cyrenian burdened with the heavy cross, almost crawling, put it, still coated with sand, in one of the tents. Later the effigy was cleaned with the utmost care, until it looked like new. We could then see that the statue was a masterpiece. Its sculptor? His name is unknown, but his work will endure for many years in the home of Nacho

Alegría, and will tell the present generation and its posterity that several centuries ago there were true geniuses in the art of sculpture, who attained such a degree of perfection that they brought their art to the level of the sublime.

Nacho wept with joy over his find, which he considered the greatest treasure of all. Indeed, for him that image was a treasure, if we take into consideration his blind faith and his fixed creed. If we turn to its material value, that crucifix, because of its age and the correctness of its lines, into which the sculptor put into play all the rules of his craft, could certainly be appraised at some hundreds of thousands of pesos. As we have already said, it was the voluntary decision of all present that the image was to be the property of Nacho Alegría. He showed his gratitude with tears in his eyes. Poor Nacho!

When we went back to work, we undertook it with greater zeal than ever. This was natural, since our enthusiasm knew no bounds, in view of what we were finding. After some hours of labor by all, three large murals were uncovered. They were done in oils; the figures were life-size. Besides, those pictures deserved our attention because they looked like fresh paintings. One of them pictured the scene of the Conception, while another a scene on the road to Calvary, and the last the Virgin of Pilar.

“Does no one want to claim ownership of these pictures?” said Blázquez. “Because they should go to the National Museum, to which they will be given, as we have agreed.”

For his part, the indefatigable Ramón Gil Samaniego, who was searching for other parts of the ruined temple, came upon innumerable objects made by the Catholic sect, which he showed to everybody. Yonder were processional candlesticks, candelabra, thuribles, wine vessels for the Mass, etc., etc., all of gold and silver. The decision to give all of those to the Museum was known to all of us. To that we all said: Amen!

“Let’s look yonder,” ordered Engineer Lários, pointing to places where we had not yet dug.

“Yes, let’s look over there!”

In this new operation we discovered a large area of the floor of the temple, made of fire-hardened mortar, so hard that it had the firmness of Roman cement.

As for Ramón Gil Samaniego, who worked by himself, as though he were doing it on his own account, we saw him digging in a corner of the temple; doubtless something there had attracted his attention, judging from the interest he showed. Suddenly part of that floor collapsed, and Gil Samaniego fell into a large pit, as though into a trap. He called for help; fearing that he was in danger, we rushed to help him. We drew him out of the hole, from which his head and torso protruded. He had suffered minor abrasions of his skin. His cries for help were groundless, because had he dropped one foot farther,

he would have reached bottom. When he had recovered from his fright, for Ramón thought there was an abyss beneath him, we proceeded to examine that pit, whose nature drew our close attention. It certainly seemed irregular in shape, and the collapsed part was made of wood, in spite of the fact that the rest of the floor was made of hard mortar. By order of Lários and Blázquez, we set to work to remove the debris from the hole, which, when emptied, measured two and one-half meters long and one meter wide. It was shallow, being only one meter and twenty centimeters deep. When the bottom was struck with something hard, it sounded hollow.

“The money! Here is the money!” cried Manuel Parra jubilantly.

“Yes, here is the money!” shouted Celaya in his turn.

“There are ounces of gold!” said Arturo Quiróz.

“Yes, there are Spanish doubloons! There are chests of silver money hidden there!” said other voices.

“The treasure! Take out the treasure!” said everyone, very happily.

The engineers directed the necessary work and a few moments afterwards, El Chileño, Carrasco and Manuel Parra lifted what appeared to be a heavy black stone. This was the lid of an iron chest, very badly constructed, colossal in size, and now completely rusted. Indeed, that chest held a most valuable treasure, comprising sacks of Spanish doubloons of silver and jewels of an unclassified sort. We all felt as though we were dreaming. What we beheld seemed a delirium. Taking out the sacks one by one, those sacks filled with such wealth, we took them to our tents. There were ancient coins, polygonal in shape, as many of gold as of silver, with the Spanish marks and busts of Spanish kings of those times.

“Before allotting this treasure, as we have agreed,” said Gil Samaniego, “we should make a further search, for I am sure we shall make more new discoveries in this area.”

“That is not to be doubted,” said Lários, “and I believe that tomorrow we shall come upon more riches hidden under these dunes.”

“Not tomorrow, but this very minute we are going to find something new. Right where I am, I see a suspicious looking spot,” said Nacho Alegría.

Don Abelardo López approached the spot indicated by Nacho and saw something sticking up out of the sand, like the mouth of an enormous olla, made, apparently, of baked clay. When the engineers and everybody were gathered around, we could do no less than declare it something real. We cleared the mud away from this giant olla with utmost care, and when that was done, El Chileño and Carrasco stepped forward to lift the vessel from its resting place. Those mighty men suffered a great disappointment. The olla and its contents weighed more than sixteen arrobas. [An “arroba” is about

twenty-five pounds.] It took the help of four more men to wrest it from that place and to carry it to our tents, which were nearby. Next, we spread a canvas over the floor and emptied the contents of the olla upon it. That receptacle, as we can certify, contained not a half-drachma less than eighteen arrobas of gold dust. We were greatly astonished, and more so when, as we sifted that precious dust with our hands, one of the engineers, Lários, found a roll of paper, well preserved. The document was unrolled by Engineer Blázquez; there was writing on it. This was clearly legible, though the spelling was very bad. This is what it said:

“Being near death, I have placed the gold that I obtained in California in this olla. It is my will that the person who finds it shall be its owner. I am dying of the wound given me by the gringos near Yuma, and I have come to take refuge in the desert, as I am fleeing from their persecution. Three men, also wounded, came with me; five more died on the road. My treasure stays here for him who finds it, and my corpse is about two varas north from the olla. [A ‘vara’ is about one yard.] Signed, Three Fingers, of the party of Joaquin Murrieta, in the Mission of the Pinacate, 10<sup>th</sup> November, 1848.”

Such was the inscription that Engineer Blázquez read to us in a loud voice that we all heard.

“It’s mine! The treasure is mine!” said Nacho Alegría. “Three Fingers has left it to me, that is, he has left it to him who finds it.”

“And what do you know about Three Fingers?” inquired El Chileno, laughing.

“Why shouldn’t I have known about him?” You and almost all of us know that Three Fingers was from Pitiquito or from Trincheras, and that he joined the gang of Joaquín Murrieta and gave the gringos a lot of trouble. That is known even to suckling babies.”

“Surely, Senior Alegría,” said Lários, “the treasure is yours simply because he who left it buried here so directed. Only, I want you to give me some of that dust, as a memento of this day. Do you agree?”

“I certainly do,” said Alegría, and very carefully calculated one ounce of that dust, that he then handed over to Engineer Lários.

Rafaelito rubbed his eyes. Nacho Alegría, master of that fortune which was only possible in the fable! In Sonoyta he had only raised wheat and pinto beans! How capricious is fortune! Why, when she chooses, does she favor some men unusually well?

Drawn by curiosity, we then dug in the spot indicated by the document. The body of the notorious Three Fingers was soon found. It was well preserved and showed the skin dried and stuck to the bones. It could not decompose, buried as it was in that fine and very hot sand. There we learned why he was called Three Fingers, and we were of the opinion that he came by that nickname because two fingers of his left hand were missing, the index finger and the thumb. A belt was preserved around his waist still holding the ammunition for his pistol; this ammunition instead of consisting of metal shells, was made of paper. There were also a pair of pistols, called revolvers, "ten-shot," of the sort used in the bonanza days in California. Both weapons were sentenced by Ramón Gil Samaniego, who found them, to be confined in the National Museum, forever and ever. The body of Three Fingers was buried anew, after being disarmed. After that was done, we were making ready to return to our tents to eat; meanwhile Fate had made ready for us another enormously agreeable surprise. Don José Salazar, who had gone off by himself without telling us, was calling to us from a nearby mound; he was shouting enthusiastically.

"Come! Come over here!" he called. "Now it is my turn; we are going to see who made me an heir, this time."

We hurried to him and on arrival we learned that he had found a chest filled with Spanish doubloons. This chest was not less than six feet long, about two feet wide and about two feet deep. As we have said, it was filled with precious doubloons, an ounce in weight, bearing the Spanish imprint. Who had buried that fabulous fortune there? Could it have been some Spanish potentates, lords of the manors, those so-called masters of lives and property, who left it hidden as they fled the libertarian revolution headed by the ancient Curate of Dolores [Father Miguel Hidalgo y Castillo]? Could it, perhaps, have been hidden there by the Jesuit fathers when they abandoned this mission? A mystery!

The treasure consisted of 82,884 Spanish doubloons, which, appraised at forty national pesos, gold, for every doubloon, gave us a total of three million, three hundred and fifty thousand, three hundred and sixty Mexican pesos. That which was found by Don José was of little importance! Nacho Alegría, filled with joy, set up this problem: if a Spanish doubloon is worth forty pesos, what is the present value of the eighteen arrobas which he found? The esteemed reader, with the aid of a pencil, should be able to solve the problem which perplexed Nacho Alegría.

The engineers rubbed their hands with satisfaction, over what had been found to date. Speaking frankly, our expedition had been fruitful in every sense and in diverse places we had found real accumulations of objects of value. Why should we not have a

sense of satisfaction? In order to fill our cup to the brim, capricious Fortune had favored us, in a thousand ways. Did not those heaps of gold, which exist only in fable, prove it?

Yonder, it went even better. We have said that Don Isauro Quiróz, Ramón Sotelo, Don Miguel Ramirez and Don Ramón Parra were not with us. We were so concerned with the objects found by us, which we did not weary of looking at, that we took no notice of the when and the why of their leaving us. Rafaelito and Arturo Quiróz were assigned to follow their trail and soon found them, fortunately, not too far away. They were working very strenuously and hurriedly at the back of the ruined temple. We approached them and asked what they were doing. The elder Quiróz hastened to show us that they were searching for the walls of the convent; according to the custom of those times, it ought to be found behind the temple. We helped them dig. It was Don Isauro Quiróz who first struck the wall of the convent. We dug on, eagerly, and did not stop until two and a half days later, when the whole ruined building had been cleared of sand. On the north side, only a few arches remained standing; on the west side lay the ruins of a large house, which must have been of colossal dimensions; its architecture was in the style of José Churriguera, judging from the fragments of construction found in the ruins. Five very large monks' quarters were found. The walls had been painted white in the interior and on the outside were the bare lava rocks, extremely porous, very much like the stones of which the Metropolitan Cathedral was built.

Connected to the convent, to the east, was the cemetery, and a number of us succeeded in uncovering some slabs of white stone, perhaps a quarry, or from some sedimentary rock formation brought at some time from the mountains north of the International border.

"We must not leave this site without learning what is beneath these slabs!" exclaimed the precise Carrasco.

"What can be under them? Corpses of friars and nuns?" said Lários.

"I think so," said Rafaelito, "but some of those corpses were buried with their valuables.

"Come, all hands to work!" exclaimed Ramón Gil Samaniego. "Let's lift some five or six of those stones to see what they conceal."

"Work with pleasure," said Engineer Blázquez. "For my part, I do not like the idea, but I do not oppose it, either."

Someone quoted a poet: "I do not believe in the peace of the tomb." Ramón Gil Samaniego did not believe in such "pretty sayings," so he, with the aid of Carrasco and Manuel Parra, raised one of the slabs. The corpse of an old woman, lying in a coffin without any cover, was there for all to see. The body was dressed in black and was mummified. Very valuable jewels adorned it.

“Let’s take out this grandmother and the entire coffin, in order to see what is beneath,” said Astorga. It was done. Ramón Gil Samaniego took note that the body of the ancient one, besides some rosaries and scapularies, had some folded papers inside the robe. He quickly took possession of these papers. One of them, which happened to be the most legible, written in ancient characters, we copied; it read:

“Maria de Teresa de Jesús by the Grace of Our Lord, Mother Abbess of the Convent of the Mission of the Four Evangelists, by decree and appointment previously given by the Supreme and Illustrious Ecclesiastical Tribunal of the King of Spain, I make manifest and say of my own free will that I give my possessions, which are buried three ‘codos’ [a ‘codo’ is about one foot] underground in the southern corner of the third room of the Sacred Convent, to whomever finds them first, whomever that may be and from whatever station in life, and from whatever class, in order that a portion shall benefit the poor and the finder is to enjoy the remainder. My beloved and Most Reverend Sister, the Prioress, whose remains are in this same location among the others who lie here, also bequeaths her riches to whomever first finds them, from whatever station in life they may be. The papers on her breast say where the treasure can be found.

My benedictions,  
Maria de Teresa de Jesús.”

The reader can imagine how it impressed us, to hear the reading of this document that Ramón Gil Samaniego had recovered.

“It is your turn now, Don Isauro; you were the first man who discovered the walls of the convent. This little grandmother should have been rich, very rich.”

“Yes,” said Quiróz. “I found the walls of the convent, but I did not find the money; but I will go along with you as far as possible.”

“It is yours. The woman has bequeathed it to you! Let’s look for the place mentioned in the document, and let’s all help in the undertaking. Let’s go!”

The reader can imagine our activity when we heard the word: “*Vamos!*” With utmost persistence, always increased by the results obtained, we discovered grave after grave. Corpses of priests, nuns, children, etc., etc., were exhumed and reburied, perhaps to be taken up at another time. We could not find the burial referred to in the document read by Ramón Gil Samaniego, even though we made every effort. At last, after much time spent looking here, there and everywhere, Don Isauro Quiróz noticed that the ground

on which he stood sounded hollow; it was this that drew our attention. We did a perfect job of clearing the floor at that spot with brooms of chamizo [white bursage], until we discovered a great slab of what seemed to be quarried stone. This slab was not “anonymous” for it bore this inscription:

“Here are the mortal remains of the Most Reverend Sister Maria de la Cruz, prioress and rector of this convent of the Mission of the Four Evangelists. Pray for the eternal rest of her soul. MDCCLXXX.”

“According to the Roman numerals on the gravestone,” said Lários, “this corpse has spent a trifle of one hundred and forty-six years beneath the ground.”

“Neither more nor less,” said Blázquez, “and it is she who preserves the document that will take us to the spot where the other treasure is to be found. Let us remove the stone and look.”

This was done and another corpse was found. Like the first one we had uncovered, these remains were covered with scapularies, rosaries and medals, proof positive of the fanaticism of those remote times. Those objects were of solid gold, and the vestments of the deceased were of the richest of materials. There was room here for a question or two, if one wished to ask. Whence came the large quantity of gold in that place, the tons of it which had been found among the ruins? Is it possible that our predecessors, by their antiquated methods, without knowledge of the most rudimentary principles of chemistry, could find gold in such quantities, to the shame of today’s generation, amongst which are some gentlemen who boast that they are expert metallurgists? A mystery! It is nevertheless certain that this thing took place, because the completed discoveries told us so with the utmost clarity.

The exhumation of the coffin was done with the greatest care, and ended luckily, because the wood, of hard mesquite, was perfectly preserved, by another miracle of nature, despite its having been buried in the sand for almost a century and a half. The coffin containing the corpse was placed against the wall of the convent by the herculean Carrasco. Next, excavation was made at a lower level, in conformity with what another very ancient document said, which was in the clothing over the breast of that second corpse; within a few moments a veritable subterranean plethora of objects was found, of inestimable value, and thousands of gold and silver coins bearing the mark of old Spain.

After a few hours, Don Ramón Parra, Don Ramón Sotelo, Pepe Salazar and Manuel Parra discovered another rich treasure, and that was what the first document referred to,

signed by Maria Teresa de Jesús, the Mother Abbess. We became almost mad with enthusiasm. The rich treasures found did not interest the engineers to the slightest degree. Men of learning, they went into a state of profound meditation, observing everything in sight very closely, and making many notes in their field books, no doubt for publication later, or for turning in at the branch offices of the federal government, whose employees they were.

For the most part, they left us to work as we chose and for this reason we did what seemed best, except when the nature of the work required their intervention. We have said that the two lots of treasure were very large, surpassing in value those found earlier. Only the author of the "Thousand and One Nights" could imagine such fortunes.

"From what I can see," said one engineer in a joking way, "Those two *nanitas* [grandmothers] died very poor."

"And those little grandmothers died of hunger," added Carrasco. "Just look at those corpses. Their stomachs lie against their spines and their faces are emaciated. Look, Engineer," and Reyes pointed with his finger at the skin of the two mummies.

"But for all that, what shall we do with the treasures we have found?" said Rafaelito.

"Let every one of us carry as much as he can!" answered Nacho Alegría. "Already I have my share, and I don't want any more."

"But," added Don Isauro Quiróz, "if we divide equally amongst all present, and we find the value, the share of each will be much larger than what you have taken."

"That is not so! My Christ is worth more than all of it put together," said Nacho.

"That is true!" said Ramirez and Don Abelardo López.

"Take out the treasure!" exclaimed Ramón Gil Samaniego. "Out with it!"

It was done. All busied themselves for more than two hours, taking coins of gold and silver from under the ground, along with an infinite number of objects of the same metals. The tents were struck in order to use the canvas in packing all that gold in small bundles. The same was done with the silver and the objects, so far as was possible. When we started to rebury the corpses, Gil Samaniego forbade it, since he had sentenced them to end their days in the National Museum.

"How beautiful this prioress must have been in her girlhood," said Don Ramón Gil Samaniego. "Even after a century and a half of death, her corpse still retains the features characteristic of a beautiful woman."

"Behold the physiognomist!" exclaimed Engineer Blázquez with a laugh.

By arrangement with Ramón Gil Samaniego, as we said, the coffins were transferred to the canvas. This was soon done. It had been agreed by the two engineers that the

observations made up to that point had ended well. All work was suspended for the present, until the facts were made known to the federal executive, in order that that authority, in view of what he would be told, might determine what more should be done. As a result of the decision of the engineers, which met with unanimous approval, we decided to load up the horses and burros with the treasure, and hold them at a place near the road leading to Adair Bay or Punta Roca [Rocky Point]; when the expedition passed that place the loads could be picked up and taken to Sonoyta, which was our point of departure and to which we would return after a few days. We had to visit certain other places first. As it was agreed, so it was done.

Six of us loaded everything on the animals, including the treasure. We used about eighteen horses and more than fifteen burros. The canvas tents were converted into large bags. Two days later, early in the morning, Nacho Alegría took the lead, torturing his burro with the whip, with twenty-seven to thirty arrobas of yellow metal, some of it in gold dust, the rest in coins. The crucifix was entrusted especially to Rafaelito, who offered to carry it with the greatest possible care. As for the coffins containing the mummies, they were loaded on the gentlest horses, while Gil Samaniego took solemn oaths from the drivers that they would not be manhandled on the road.

The caravan took off, the laden beasts hurried on, carrying Rafaelito as chief, with express instructions to stop at El Batamote, a point on the Sonoyta River, about seventy-two kilometers from the site of our mission, in direction W 20° S, and about twelve kilometers away from one of the wells constructed by a railway company, on the road leading to Adair Bay. The rest of us, left on foot, journeyed on, exploring those unfamiliar regions, with fifteen days' supply of water and food. The remainder of the provisions we had given to the men on the pack train, along with enough water to last them until they reached their destination, where they could fill their cans, and, if they chose, stop over for five days.

We carried magnificent Winchester rifles. Game was more or less abundant, so that we did not have to go without meat. Our companions departed, and then we had no reason to linger in that place, inasmuch as by general agreement all operations were suspended until our findings had been brought to the attention of the federal executive, to which authority an account was to be given, along with a large proportion of the objects found. We decided to abandon camp immediately, in order to explore the steep Pinacate range, which could be seen very near, to the southwest.



Morning light on the summit of the Pinacate Mountains. Esquer's expedition climbed to the summit, 4060 feet (1238 meters) above sea level. A rough lava flow descends from the distant hills and spreads like a wall in the middle distance. The foreground, known as Red Cone Camp, is marked by blooming palo verde trees and brittlebush. (On-site acrylic painting, 1983, William K. Hartmann).

## CHAPTER IX

### LA SIERRA DE "EL PINACATE"

Looking from our position, about S 30° E, we saw the crest of a high mountain, black, covered up to its summit by lava. Both engineers observed that mountain and decided to explore it, as far as possible, and to reach its summit. We now rejected the idea of taking the underground path to the shore of the gulf.

We travelled all day towards the mountain range, and at twilight, now almost at the foothills of the Pinacate, we halted, in order to spend the night there, this time in the open air, because our tents had been made into bags and were now on their way to El Batamote. Winter, by now, was very near and cold was letting itself be felt, the more so because a northeaster was vexing us. Ironwood was plentiful and dry, and Ramón Gil Samaniego proposed after a while that large fires be made in order to alleviate the cold. We accepted his idea with pleasure, as it gave promise for a good sleep for all. Moments after, great piles of dry ironwood and other wood were to be seen in our vicinity. Ramón Gil Samaniego did not succeed in lighting a pile of wood which he had made; he wasted a box of matches, trying. The same thing happened to El Chileño and to Regino Celaya. A strange thing! Don Isauro Quiróz, Don Ramón Sotelo, Carrasco, Don Ramón Parra and Don Francisco Bedoya all fared the same. Another group, made up of Astorga, Salazar, Domingo and Arturo Quiróz and Don Salazar, Sr., found themselves in the same situation.

"What, is it possible that not one of you can light a fire?" exclaimed Engineer Blázquez. "At this rate, we shall very soon be left without a match!" Engineer Lários went to a pile of wood, took a quick look and gave a cry of surprise.

"It is petrified wood!" he exclaimed. "It can never be made to burn! Do not waste another match on it! It is better to change camp to another place, for here we shall suffer much cold if we cannot make fires."

Engineer Blázquez agreed, after looking at the petrified wood. It was bad, that situation. We had made up our minds to spend the night there and were plenty cold and in the midst of a petrified forest. Quickly, before darkness reigned supreme, we moved, having the clear necessity of going about two kilometers farther on, in order to find wood in a better state of combustibility. We did the best we could to make a better camp,

having first lighted immense fires. Extremely tired after the journey on foot, after a light conversation about what we had found, and about what we intended to do the next day, we lost no time in getting ourselves into a deep sleep.

Don José Salazar and Don Ramón Sotelo aroused us at three o'clock next morning, announcing that coffee was ready, and scalding hot. No one who has never slept in a camp in cold weather can appreciate how good a cup of coffee can be, at the hour of three o'clock in the morning. That drink seemed heaven-sent. Almost all gave it the honor of a repetition. Don José Salazar, Sr., and Don Ramón Sotelo listened with complacency to our praise of its strength. Apparently that delicious potion caused prolonged insomnia, because not one of us wanted to retire again. Therefore, we were of a mind to remain together by the fire, which was renewed, until breakfast. We filled in the time by exchanging impressions about the many things we had found, and the projects we had for the future.

Our talk was soon interrupted by the approach of several coyotes which, without showing the slightest fear, circled about us until they came within a few paces. Their sharp, prolonged howls filled the air with noise. Some rifle shots put five of the animals out of the combat and the rest to flight, and the infernal music was ended. The coyote is one of the animals that abounds in the district of Altar, mostly in the northwest extremity of Sonora. There are distinct varieties. Among the most common are the *lomo ahumado* [with a smoky-colored back], the *mota blanca* [with white spots], and the *bayo lobo* [yellowish and wolf-like]. The Americans like to acquire the skins of these animals, at good prices, so that many persons every year are dedicated to the trapping of coyotes so they can be parted from their beautiful pelts; sometimes they collect fabulous quantities of fox and coyote skins, for which they obtain the highest prices, in the United States. It is sometimes noticed that the North American buyers organize expeditions for the sole purpose of trapping fur-bearing animals, which they skin with great care, in order not to injure the pelts.

As we said, the infernal music produced by the coyotes ceased, after a few rifle shots. The wounded animals were skinned by Señor Regino Celaya, who made it his business to collect all sorts of things, animal, mineral or vegetable, which he took to his domicile, a place in the Hacienda del Bánori, which is a veritable universal museum.

Don Ramón Parra and Bedoya, who had left us moments before, to return later, came back after a little while with a beautiful deer, shot through the shoulder. Our supply of meat was augmented by this, and we took up the march towards the mountain peak at seven in the morning. After a while we noticed that on that side of the mountain, the

ascent was tiring, but there was nothing to be done but go forward, because the places of easy access were far away and it was no simple matter to reach them. The ground sloped exceedingly, certainly at an angle of forty-five degrees; it was very rocky and loose where there was "dead ground," to use the common expression of the locals.

The five hours taken to climb that slope was enough to tire us completely. We decided to rest on a little mesa, or firm bench, which we had reached. Those of us who were more or less advanced in age suffered much fatigue and showed it at every step, although, to tell the truth, no one was dismayed by the idea of going to the summit, to explore at will in all directions, and to the southwest, to gaze at the waters of the Sea of Cortés, the Gulf of California.

Our rest lasted three hours, and then, very late, we began the ascent anew, climbing always with great toil, until sunset, when we were about half way to the mountain top. There we decided to spend the night. As on the previous night, fires were soon made because the cold was greatly felt; food was prepared and eaten with good appetites; we also looked to our weapons, in case anything showed up on that steep mountainside, where wild beasts were plentiful.

We seated ourselves around the fire to give accounts of what we had seen. Everyone told a little joke, to pass the time. Engineer Blázquez consulted his barometer. It gave an altitude of 710 meters above sea level, at our location. We were only halfway up that high ridge. It was eight o'clock or perhaps later when we retired and got to sleep. We intended to get some sleep, but we did not succeed. Let us see why not.

We had lapsed into a most profound silence, trying to woo sleep, when a frightful grunt, that seemed to have shaken the rocks, was heard close by. Another noise like the first was heard out to our right. The fire was not out, two or three logs were still burning, so that we could see its dying light flare up, revived by the slight breeze that was blowing from the northwest. Without doubt that noise had to do with a pair of wild beasts that were intending to give us a bad time. We seized our guns with great haste and put ourselves on guard, as we awaited developments. What sort of wild beasts were we dealing with? Lions? Bears? Tigers? Such felines and plantigrades are unknown in the Pinacate range. Nevertheless, there were wild animals, because their roars were repeated. No matter how hard we tried to see what sort of beasts were threatening us, we could distinguish nothing. Not one of us left his place. Our posture was defensive. About twenty minutes passed without any change in our situation; our general anxiety knew no bounds, and we all wanted a prompt disentanglement.

Another horrible roar was heard behind us and above the rocks of a lava cliff, which on that side shielded us from the wind. Suddenly Regino Celaya fired at a black bulk that he saw on the rocks, and then we saw an enormous striped tiger make a great leap and fall on the serape where but a moment before Carrasco was lying. The expanding bullet from Celaya's rifle struck the beast under the lower jaw, and came out in the forehead. After some convulsions, the beast was clearly dead. Carrasco, carbine in one hand, pistol in the other, was dumb with fright. His hair stood straight up. The wounded tiger had jumped over his head, barely missing him. I am sure he still remembers that mischance and lives over again some of those moments when he thought his life was in danger; but let us get on with our story.

At that very moment, another wild beast, even larger, launched itself at Ramón Gil Samaniego and Ramón Parra, whom El Chileño, Pepe Salazar and Manuel Parra were vainly trying to help. They were afraid that they might wound their comrades if they fired. Samaniego and Ramón Parra emptied their pistol clips as they fired at the body of the beast, which was ten paces from them. These shots had no effect. The two engineers tried in vain to give orders and to direct the battle; their voices of command were not heard. The wild beasts became more and more annoyed at every shot. Don Isauro Quiróz fired in his turn. The tiger tried to bite its back; the bullet had only creased its skin. It was Manuel Parra's turn to shoot. He lowered his sights and put a bullet through the tiger's paw. Another shot pierced its back. Giving a great leap, it fell, only fifty centimeters from Bedoya and Don Ramón Sotelo. The beast opened its great jaws and got ready to attack; Carrasco, at close range, fired, thrusting the muzzle of his rifle into the beast's bloody gullet. The tiger drew back one pace and fell to the ground, where its brains spilled out.

"Son...son of a devil!" exclaimed Carrasco, panting with terror, as if not sure he was safe, after our diabolical experience. The poor Bedoya, in spite of his ebony color, turned green. We had to give him several cups of cold water in order to calm him somewhat. The other beast (for there were three) chose to retire; from time to time it sent forth frightful roars. This was the reason, and a sound one, for our being unable to induce sleep. At daybreak the restless Gil Samaniego and Manuel Parra discerned the tiger that had disturbed us, in a cave about two hundred meters from us.

"Yonder we have him, dead to rights!" they cried, pointing to it.

"This is my turn," said Engineer Lários. No sooner said than done; he aimed in that direction and fired. The bullet struck one side of the cave without wounding the animal. Engineer Blázquez fired in his turn, without effect, for we could not see where his bullet hit. It was now the turn of El Chileño, who owned a magnificent Winchester. He fired

and the bullet hit the beast in its flank. Roaring frightfully and rushing from the cave, it made a swift run towards us. That was a veritable wild beast! Everyone one of us watched to see what direction the tiger would take, and when we learned it, at ten paces from us, it was received with a fusillade. So great was our surprise, or, better said, our terror, that the fifteen guns that went off together put only three bullets into the beast, which, staggering with its wounds, did not drop, but menaced us with its terrible claws. Two more shots were fired by Celaya and Engineer Lários, with such good aim that the animal fell at full length, to rise no more. Both bullets had smashed its head. Had it not been so, the wounded tiger, irritated beyond measure, would have given us a devil of a time.

“What a beautiful specimen!” exclaimed Ramón Gil Samaniego, stroking the back of the tiger. “I have seen animals of this species in some of the zoological museums, but none the size of this cat.”

“But, can what we see here be possible?” asked the wondering Don Isauro Quiróz. “I have lived in Sonoyta about fifty years, and I am well acquainted with all the surrounding country, and I have never even heard that there were tigers hereabouts.”

“There is nothing to be astonished about, Don Isauro,” replied Engineer Blázquez. “All the felines seek lairs in places least frequented by mankind, which they consider their enemy, and where there are caves and dens wherein they can hide themselves from the view of the hunters. Here there are not only caves which furnish secure lairs, but there is water in the tanks and there is no lack of prey, because of the antelope, the mountain sheep, and also burros in unbelievable numbers. Why your surprise, then, that there are in these places lions, pumas, leopards, lynxes, tigers and panthers? This mountain range, by virtue of the particular advantages it affords, and because of its isolation and solitude, certainly ought to serve as a refuge for a great variety of wild beasts of this kind, or even fiercer animals.”

Thus, then, there lay dead in our camp three beautiful specimens of tiger, two males and one female. Naturally, every one of us wanted these pelts, but Engineer Lários solved this problem when he put six of us to work skinning the beasts, in order to give the skins to the National Zoological Museum. In this manner did the party come to a peaceful end.

Don Ramón Parra proposed that we eat the meat, declaring that its flavor was exquisite, but no one wanted to try it, showing with various grimaces nausea or repugnance at the mere sight of the “cat” meat, inter-larded as it was with yellow, glutinous fat. Don Ramón’s proposal was flatly rejected.

At a very late hour, though still before ten o'clock, and with a burden of six arrobas more, which the tiger skins added to our packs, we began the ascent, which turned out to be harder than the day before. At every step the climber would slip back and would recover himself with much effort, so difficult was the way at times. After eight hours of hard going on that very rough ground, Reyes Carrasco and El Chileño were the first to put the soles of their feet on the highest peak of the Pinacate. The rest of the party arrived moments after, just as it was getting dark.

We examined the point we had reached and could see that the peak was a small flat area, about 100 meters wide, to be reached only on the side we had chanced to take. Around us were some shrubs, semi-woody, and a little beyond, several trees of medium height, which looked dry.

Because of the late hour, we could not continue our journey. We were all weary and so decided to spend the night there. Some of us gathered wood while others prepared food and still others cleared a space for our gear, while great fires were soon blazing. Soon all had turned in. Some of our comrades, though tired and sleepy, kept on chatting and smoking, laughing at one another's jokes, but we all got to sleep at last. When least expected, and while we were thinking ourselves well entertained, an acrid and penetrating smell secreted by a skunk offended our olfactory organs.

"There is a skunk prowling about," said Ramón Sotelo. "Phooey! What a dreadful stench!"

"There must be several, to make all this smell; it grows stronger," said Manuel Parra.

Carrasco, who was the only one who was asleep when this happened, promptly awoke to find that several of those small animals, three or four of them, were nestling at his feet, under the serape with which he was covered, with all the confidence of domestic cats.

"Why, those scoundrelly vermin!" exclaimed the angry Reyes, seizing one by the end of its tail and dashing it against the rocks. The skunk, finding itself firmly grasped by the hand of Carrasco, secreted the now familiar substance on poor Reyes, as an indication of protest. Some small jet of this liquid, semi-corrosive and viscous, struck Bedoya. The other little creatures, in imitation of their comrade, distributed their secretions on sundry parts of our belongings, and, to sum it up, inside of ten minutes every member of the party was well perfumed. Reyes Carrasco was the man who received most of the secretion of the skunk, commonly known as "urine." No one would go near him. Actually, everyone, including the engineers, was wonderfully scented; Reyes O. Carrasco was worst of all.

"Water! Hot water! Please, Señores, give me water so I can wash myself!" said Reyes.

“No, don’t wash, for that will just make it worse, and no one could stand being near you for a week, Señor Carrasco,” Blázquez told him. “Just rub yourself down with earth, and that will lessen the ‘perfume,’ although very little. Time will do the rest.”

“Accursed animals!” said Reyes, and rubbed himself with earth, which he then threw to the ground wrathfully.

He had reason for this. Everyone stank, but no one as much as he did. Our bodies, our clothing, our belongings, the ground itself, over a large area, were penetrated by that most disagreeable stench.

“This is why we can’t sleep,” said Reyes, cursing. “First the serenade by the coyotes, then the tigers, now these confounded skunks, and tomorrow the devil himself!”

As was natural, we were all affected, but in spite of it, we had to laugh, which enflamed Reyes even more. Don Ramón Sotelo, Don Isauro Quiróz, Don Ramón Parra, and Don Miguel Ramírez were seized with severe headaches. Only Manuel Parra, El Chileño and Pepe Salazar suffered little; they had head colds. The engineers and Gil Samaniego were seen stuffing their nostrils with cotton, but it was no use. The cotton was itself aromatic. It was clear to us that those skunks had chosen to unload their perfume on the belongings of Reyes. At his feet was a real nest or “watering place” of the little creatures. A scent more penetrating could never be imagined. The atmosphere was unendurable, and until day we would make music of another sort, although still very odoriferous. In the midst of the laughter of some and the protests of others, we spent a sleepless night. At dawn we saw that Reyes had dashed three of the unlucky little skunks against the hard ground. Their mischief had cost them their lives. Ramón Gil Samaniego did not weary of complaining, grumbling about his headache. The coffee, invariably prepared by Don José Salazar, Sr., and Don Ramón Sotelo, had no effect on him.

In daylight, with the sun up, we took note of our real danger, in which darkness was our greatest enemy. Adjoining us, at only twenty paces, the mountain opened in a wide, deep cleft. One can hardly imagine such an abyss. All that mountain country, including the high peak on which we were, was covered with lava. On the south side we could see that the formidable fiery stream, in a series of waves like those of the sea, reached in places almost far enough to meet the waters of the Gulf of California, in spite of the distance, which we estimated at more than forty kilometers. To the north, east and west, the high sand dunes were visible, and to the east we could see, in the distance, a white ribbon that looked like the Sonoyta River, until it lost its waters in the sandy mounds near the San Francisco Mountain Range, while a little farther on was seen the Sierra Pinta, in whose bowels gold is present in abundance, along with other precious metals.

There we were, faced with a problem that had to be solved. The knowledge of the country possessed by the López brothers was useless. It was this: How, by what means, could we get over that cleft, so that we might go on to La Cholla or La Soda? If we should take one side or the other of the ridge of lava which formed the Pinacate, the result would be the same, because that fissure crossed the range and cut it in two. Go back? Never! At least, that was the opinion of Gil Samaniego, who under no circumstances liked to backtrack. We must, then, go forward, but where? That was our problem. While we were making our plans to find a way out, a cry from Don Ramón Sotelo caused us to turn our heads towards him.

“Look at that sentinel!” said Don Ramón, pointing to a wild sheep, standing on a ridge of lava, not far away from us. By way of answer, Celaya picked up a Winchester that was handy and fired at the sheep. Hit in the neck, the animal jumped and fell to the ground. The sound of the shot frightened a large band of sheep hidden there, which fled noisily; we were almost trampled by them as they veered off to the left, over the fissure which was obstructing us. An instant later, before we could leave our position, we saw the band amongst the broken lava, but now on the far side of the fissure; they were still running.

Could it be possible that that band of sheep had found what we had not been able to discover? Or could that be another band? To find out, some eight of our group set forth in the direction in which the sheep had fled; returning shortly, they brought news that in one place the fissure narrowed, leaving only four meters between its walls, a distance that the sheep could easily clear, used as they were to sheer cliffs. The engineers ordered that a temporary bridge be made from great bundles of dry sahuaro, which abounded there—its wood having a length of more than five meters. This was done, and an hour later a firm viaduct had been made, which enabled us easily to cross the deep fissure which split the summit of the mountain.

Now that we were assured of uninterrupted progress, the engineers determined the altitude, finding an altitude of 1,300 meters above sea level. Both of the professional men busied themselves photographing those vast unpopulated regions, visible in every direction from that height, and also made many careful notations in their notebooks.

Regino Celaya picked up the carcass of the sheep, which was close by, and brought it in. Next, Don Abelardo López, using some ocotillo branches, prepared to dress out the carcass, which he did unusually well; this increased our meat supply.

After a half hour more, which the engineers used for making observations, the march was continued, after successful passage over the improvised bridge. We had abandoned

our camp, and were well perfumed by the accursed secretions of the skunks, of which Carrasco had received the greater portion, because of which he did not stop cursing for one minute. Poor Reyes had good reason! No one would go near him.

The sheep had not yet fled, being but a little withdrawn from us, as they watched us from the high black rocks on which they stood. The instinct of curiosity must be strong in that animal, which is a mixture of goat and sheep, surely, inasmuch as they display in their bodies the beauty and the ugliness of both quadrupeds. The head of the *cimarrón* or bighorn sheep is of enormous size. It has been verified that there have been some that weighed more than twenty kilograms. The huge horns twist like a corkscrew, with distinctive rings around the entire length; sometimes they measure eighteen inches in circumference, in their thickest part. The wild sheep run in bands, in the northwest region of the district of Altar, but the species will disappear, if hunting is continued by many lovers of the sport, unless our government restrains it in some degree and puts a watch on the hunters. Some rules have been made in this respect, but unfortunately there are individuals who are unscrupulous in enforcing the restrictions. In the areas only casually watched by the forest rangers, the sheep are subject to immoderate pursuit, as well by the members of the Papago tribe, as by occasional North Americans who cross the border at unauthorized places to engage in clandestine hunting.

Some hunters tell that when they take a band of sheep by surprise, the sheep, sensing the nearness of danger or hearing a noise, run away at full speed, covering great distances with their leaps and going over cliffs head first. The hunters do not pursue the frightened band, but instead conceal themselves as best they can; the sheep, impelled by curiosity, soon stop and turn around, as though to see what scared them. Then the hunters kill them. Be that as it may, this unrestrained hunting should be stopped, for if it goes on, within a short time the species will become extinct. At present, so far as we know, it is still found only in the northwestern part of the district of Altar and on the ridges of the mountains that lie in the rich state of Sonora.

Some of us wanted to give good account of some sheep which were near us on some lava rocks, but the engineers opposed it, forbidding a single shot more at those lamb-like creatures. We could only obey.

Although we were now on the far side of the fissure, our progress was not much helped, since we were continually walking on fragments of lava and on volcanic sand. We did not come upon any crater in that part of the mountain. Seemingly, the range was scorched on its exterior. During many hours of travel due south, we did not meet with anything but the wide fissure described.

The spacious little tableland over which we marched appeared wholly covered with lava and sand; there was some vegetation. We saw a variety of shrubs and woody plants, not to mention, of course, the cholla, the '*Cibiri*' [sibiri, a class of cholla cactus], the *nopal* [prickly pear cactus], the *pitahaya* [organpipe cactus] and a few giant sahuaros. At about three o'clock we began to go down the flank of the mountain, without any incident worthy of mention. What we did notice particularly was the view from that side of the mountain. We saw a great lava flow, in the form of waves, like the sea, issuing from that mountain slope, running down into the plain and extending until it reached almost to the shores of the Gulf of California, in the direction of La Soda and La Cholla.

"But where did this come from?" asked Engineer Blázquez. "I have not been able to discern any crater, and this is certainly something to think about. Can we believe that this formidable lava flow issued only from the vast flank of this mountain and not from inside it, through some vent which we have not yet found?"

"Señor Engineer," said Abelardo López, "my brother Antonio and I are perfectly well acquainted with our present position, and we do not recollect that there is any crater on this side of the mountain. To the west of us, sure, are an infinity of abysses, and they seem to extend to the very center of the earth, but as for this lava, we do not know from where it gushed to the surface."

"Then I must find out," said the engineer, "and for that purpose we shall stop here and not take another step until our curiosity has been satisfied."

"Bravo! We'll accept that idea," said Lários.

"It is agreed! This ought to be of the greatest importance," said some of the party, as we threw to the ground all the stuff we were carrying.

"A fire, quick, a fire!" demanded Ramón Gil Samaniego, who was shivering with cold.

Indeed the temperature at that height on the mountain at that time of year was some degrees below zero. Wood was very plentiful, and it is unnecessary to say that great fires were blazing very shortly. We shall see what happened next in the following chapter.





Dawn light on the Gran Desierto sand dunes, seen beyond a basaltic lava outcrop near the Sierra del Rosario, just west of the Pinacate Mountains. In this region, Esquer's expeditions reportedly discovered the buried "Mission of the Four Evangelists." (On-site acrylic painting, 2008, William K. Hartmann).

## CHAPTER X

### ANOTHER MEMBER JOINS THE PARTY

We were very quiet as we rested from such a long march, and we were engaged in pleasant conversation on what had taken place, when, to our great surprise, we heard from the eastward, and quite close, the barking of a dog. Lários thought that a hunter might be near.

“Harken carefully,” said Gil Samaniego, “the dog is not barking now, it is howling, as though it has lost its master.”

Listening intently, we heard very clearly the mournful howls of a dog, perhaps separated from its master. Our best naturalists were agreed that a dog in good health seldom howls mournfully unless alone, and that it does so when it is separated from its master and is trying to find him. The history of the world has not recorded a single case in which anyone has broken the fidelity of those luckless animals. The loyalty of a dog to its master knows no limits and truth, not fable, cites us many examples of those grateful creatures, whose bones whiten the graves where their masters lie in eternal sleep.

If one wishes to acquire a loyal friend, a true friend, choose a dog; one is secure in the absolute certainty that from the first, he will learn that before a dog will commit an act of treason against its master it will die. If one castigates his dog for some trifling fault, it will go to one, timidly wagging its tail, cringing and licking the hand that holds the stick that struck it. As beings who call ourselves rational, we ought to respect that instinct for gratitude. To wound or kill those animals is to commit a crime. The learned professor Engineer Felipe Salido, educator of two generations in the state of Sonora, whose disciple I have had the honor to have been, very often, in college, gave us examples of the behavior of dogs, moving our young souls to pity by his narrations.

The dog, in spite of his being irrational, is susceptible of being educated, the better to serve its master, and if, in the long run, it becomes surly, that is to say, given to growling and bad humor, it is the master who deserves blame, not the dog. How many of us, who claim to be rational, succeed in being useful to our fellow men, while others are actually a blemish on society! Why are we so inclined towards evil and not towards good? Why do we choose that path, and not this? Are we to blame? I think not. The blame is on the environment in which we grew and in the multitude of bad examples which we see

every day; but even so, there is something which puts a little of the blame in our hands, because we do not make use of that reason with which Nature endows us, we do not choose the path of virtue but take up whole-heartedly the practice of evil. What would we not give to be able to show gratitude to our benefactors, even the one-hundredth part of that gratitude, sincere and unselfish, which a dog has towards its master? But let us return to our story.

The mournful howls of the dog continued, on the ridge behind us.

“The howl of that dog warns us of some misfortune,” said Don Ramón Parra. “I do not know who amongst us will be black-balled by tomorrow or before.”

“There goes another superstition!” exclaimed Engineer Lários. “Where did you get that one?”

“Well, you are frightened over nothing,” said Engineer Blázquez. “The extraordinary thing that has happened is that the dog has lost his master and is mournful about it. Belief in anything else is rather stupid. Stir up the fires and make enough light, and very soon that poor dog will come to us. Perhaps it is both hungry and cold.”

We replenished the fires, and the flames lighted a wide area. The poor dog howled closer now. Perhaps it had already caught our scent. Carrasco stood up suddenly.

“It is my Yaqui, it is my Yaqui that is howling! Señor Blázquez, you have said a great truth. It is my dog that is seeking his master. Why doesn't he come to me?”

In a few moments a blackish dog, with color somewhat faded, rather young looking, came to Reyes and leaped into his arm, with tail wagging. Then it certainly wept, indeed.

A moment later, the dog went to the fire to get warm, but we observed that it could not be still, but kept on howling.

“That does it! Something awful is going to happen!” said Don Ramón Parra.

“Don't you believe it, man!” said the engineer, taking notice at the same time that Yaqui pulled away from Reyes the serape that covered him, as though trying to carry it to the trail by which he had just come.

“That dog brings us some news,” said Ramón Gil Samaniego, “and because he pulls his master in that direction, we must follow. Let's go, Señor Carrasco!”

Both men took off after the dog. What must have been their surprise when they found Roque Santos, about four hundred meters from camp, lying stretched out on the lava, stiff with cold. Roque had come from Phoenix, Arizona, to the village of Sonoyta, and when told that we were going on an expedition to the Pinacate, he asked no more

questions, but started to follow, in his jalopy, with no companion save Yaqui, Carrasco's dog, on the trail to Rocky Point, opposite the Sierra del Pinacate.

There he left his vehicle and went on foot to the top of the mountain, going up the easterly side, and was just able to reach it, tired out and stiff with cold. Had it not been for the dog, he would have died at the place where he was found, and his name would have been stricken from the book of the living. Gil Samaniego had no other recourse than to take Roque to camp and place him near the fire, in order that he might come back to consciousness. Roque Santos, of course, at that time did not know that Yaqui had saved him.

"How did this happen? Where did you come from, and when? When did you start to climb the mountain?" we asked him. After about an hour he was able to talk.

"I left Sonoyta, following you," he said, "and came in my Ford, which I left at the foot of the mountain, in order to climb in this direction, until I reached you, but the cold got me, son of a devil!"

Then he drew from his pouch a great bottle of wine made in Tequila, Jalisco, and took a long pull, which would never have ended had not the bottle been snatched away by Samaniego and Reyes.

"Alcohol is a poison, and you ought not to drink it," exclaimed Ramón, 'poisoning' himself with the remainder of the drink, leaving Reyes disappointed and with eyes like those of a repentant Magdalene. Gil Samaniego directed that Roque be searched, to learn whether or not he had more 'poison' in the pockets of his olive-green greatcoat. Reyes took another bottle from the depths of those pockets, deeper than the caverns of El Pinacate, took a drink and handed the bottle to Quiróz and Salazar, Jr. We all wanted a drink to dispel the cold, the like of which must be felt only on the peninsula of Greenland or in the lands of Labrador. Of course, the second bottle did not last two minutes. We bewailed the fact that Roque had not brought more with him. Finally, the poor Roque was well again and in our midst, thanks to Yaqui, who grumbled with satisfaction between the knees of Carrasco, as he shook with cold. From time to time the dog made grimaces of disgust, and sniffed continually. It was the foul smell of skunk that permeated his master; the dog was not quiet for a single minute.

When Roque was better able to talk, he told us, to everyone's surprise, that the day before in the afternoon, when he abandoned the Ford and began the climb with no companion save the dog, Yaqui ran after a band of sheep which he had seen close by; that he had followed the dog, hoping to get one of the sheep, which ran into a cave almost at the

foot of the mountain; that Yaqui reached the cave alone, and barked. He stopped when Roque came up, being afraid to enter the wide-mouthed cavern. Roque said the cave must have been very deep. He thought it worthy of exploration, as he saw vast quantities of bat guano. He said the rock there seemed to be igneous, like that which was around us, and that a strong flow of air came out of it, showing that there was another opening.

“That is the cave that is near the Tinaja del Cuervo,” said Don Abelardo López, “and, in fact, there is a current of air. The cavern or tunnel is easy of access, and seems to lead to the sea.”

“I already suspected the presence of that cavern,” said Engineer Lários, “because the formation of the terrain does not indicate anything else. You know only that one cave, Roque, but there is no doubt that there are others like it there, perhaps even larger ones. That whole range is hollow, and we tread upon it as though on a great shell. I have given this special thought. Because the descent that we have planned is very difficult, as the trail is slippery and much too long, I now propose, in the light of what Señor Santos has told us, that we take the road by which he came, and that we explore the cave and go to where it takes us; there is no doubt but that it will take us to the sea. What do you say?”

“It is all right with us,” we all said, obliged as we were to follow blindly the slightest directions of the two professional men, who had told us the purpose of the expedition, and for whom we had some degree of affection.

“The change in route proposed by my colleague is to be taken under consideration,” said Blázquez, “and I approve it in all its parts. I had thought to explain some things about this sierra, but the finds we have made at the Mission of the Four Evangelists and the absence of our comrades, who by now should be very close to El Batamote, have turned my attention to devoting myself to making other observations; but when we are all together again, I shall do it gladly.”

“Then I have won, and because I was the man who discovered this cave, I claim for myself the ----”

“That cave was discovered long ago, and it remains for us only to explore it,” interrupted Carrasco.

“We shall do that tomorrow when we get there,” said Don José Salazar, “and we shall travel underground until we go out at the gulf, and can bathe in the salt water there.”

“No one doubts that,” said Lários.

At this, our thoughts turned to catching fish and El Chileño and Regino Celaya at once searched their gear for wire, from which to make fishhooks. Indeed, they made

them during that long night, as though they might not have any other time for it. Roque Santos then took it on himself to make everyone laugh, even the engineers, with his large repertoire of jokes. I do not know where he picks up such tales; he kept us in a state of constant hilarity. Finally sleep overcame that clown. Poor Roque! He is capable of stripping to his underwear and removing his pants to give them to a naked man. He is one on whom one can depend when it comes to doing a good deed. He has one great fault, but I excuse it in return for his good qualities. The fault is that he has a marked fondness for *margallate*, *bacanora* and for *cola de gallo*, but who is the man to whom an aperitif does not taste good. There are men who cannot leave it alone, and perhaps Roque is one of them. As a friend, he is frank and kind; as an enemy, I, at least, am not acquainted with him, and can only say that at Ocoroni and Mocerito they call him the “Panther of Sinaloa.” Be that as it may, we liked him and wished him well, because we appreciate his humane qualities, which in many of us, unfortunately, are lacking.

Near dawn, we heard loud barks from the dog, which was not with its master, perhaps on account of the penetrating smell of skunk. Quite near us was a small cave, which we had not noticed earlier. Yaqui was barking at a sheep at the mouth of the cave. The poor horned creature, frightened in the extreme, was unable to leave the cave for fear of being attacked by the dog, which was excited, and was barking louder and louder. The hunting urge seized El Chileño and Regino Celaya, who, rifles ready, resolved to end the sheep’s luckless existence. When Blázquez saw this, he opposed it.

“To destroy, to kill, just for pleasure, is a demonstration of cruelty. Have we not sufficient meat for many days to come? Haven’t we already enough heads to give to the Museum of Zoology? This killing must be stopped, lest there be an early end to this beautiful species of sheep, the pride of our national fauna.”

The hunters conceded that the engineer was right and formally pledged that they would not again take a single shot at the sheep. With regard to Yaqui, he was promptly called off by Carrasco; it cost him no small effort to get the dog away from the cave. Yaqui wanted to eat the sheep alive, and the sheep would not submit, but attacked the dog with its twisted horns. We did not abstain from enjoyment at the sight of the battle between dog and sheep, which remained safe and sound, thanks to the opportune intervention of the engineer.

After breakfast, we loaded our equipment and began the descent of the east side of the mountain. On the way we talked much of the work done before the arrival of Roque.

The terrain was so steep and so covered with fragments of lava that we went down with the greatest of difficulty. Roque had fared badly indeed, for his footprints, left on the trail, and the overturned stones, clearly indicated his many falls on the steep mountain flank. Roque Santos, however, is perhaps more tenacious than Ramón Gil Samaniego, and he was determined to keep on going until he found us, as he did at last, though with great danger to his life.

We marched along until well below the sierra, and at six p.m. we still had far to go on that painful journey. Don Ramón Sotelo, Don Ramón Parra, Don Isauro Quiróz, Don José Salazar, Sr., Bedoya, in short, all the travellers, including those who posed as "Alpinists," namely Carrasco and El Chileño, were extremely fatigued. Finally, two and a half hours later, we reached the base of the mountain, which before we reached it had changed the nature of its black surface. On every side we saw lava in abundance; there were several layers, of incredible thickness. Our boots were already ruined by contact with sharp fragments.

"The Tinaja del Cuervo is close by," said Don Antonio López. Don't you want to visit it?" The tank was about five kilometers distant and after two hours of rather slow going, we reached it. It was quite late, and we decided to spend the night there. Water and wood were plentiful; all was according to our wishes. Fires were lighted, according to regulations, tended by Roque Santos, who stacked up heaps of dry ironwood, paloverde and other dead wood. The flesh of the wild sheep, with which we were well supplied, was enjoyed by all. Yaqui fell heir to the remains of our camp repast, and one hour later everybody slept, with no thought of the skunk smell that had impregnated our bedding.

The music of innumerable coyotes was heard; the dog delegated itself to make reply all night long, or at least until early morning, when El Chileño and Don Miguel Ramírez awoke, startled, and aroused the rest of us. When asked the reason for their fright, Pepe Salazar pointed out no less than four enormous rattlesnakes that were on our beds. They were a menace, a danger to us. One bite from those animals could send us to eternity, for we lacked effective antidotes with which to combat the terrible poison which the reptiles inject by means of their hollow or channeled fangs. We withdrew a little from our beds, to get some sticks with which to finish off those loathsome, dangerous rattlesnakes, but before we could act, we witnessed something which claimed our attention most urgently. The dog, Yaqui, took it upon himself to remove the "unknown quantity" before we could do it.

We saw how the dog seized the snakes, about the middle of their length. It shook them violently, tearing the heads off by the roots. In this way it killed all four snakes

and dragged the headless bodies away. The dog knew a lot more than we did. That was a surprising affair to all of us. It was something that we should perhaps never see again. By rare chance one of the poisonous heads, still showing the hollow dreadful fangs, was struck by Bedoya, with such force that it in some miraculous way entered one of the pockets of his jacket. Bedoya, learning this, turned green. He had plenty of reason to be concerned and begged Carrasco to get the viper's head out of there.

"May Judas take you!" Carrasco answered.

"Take it away, brother! What do you want to happen to this poor little man?"

El Chileno, from sympathy, perhaps, taking every precaution, removed the snake's head from the deep pocket, that head which was distilling from its sharp and hollow fangs the "elixir of eternity." Meanwhile Yaqui was killing time, amusing himself by shaking the headless bodies of the vipers over and over with his great jaws, until the rattles sounded no more. The engineers recorded the exploit of this dog in their notebooks, as an act which attracted much attention.

"The rattlesnakes of the Pinacate seem to have their heads stuck on with mesquite gum!" exclaimed Ramón Gil Samaniego.

We returned to our beds, after first sweeping the campground in a very wide radius to make sure that there were no more serpents or scorpions or insects or spiders that could harm us. Yaqui was the only one who did not seem to want to sleep, and when one of us raised his head, he was seen sitting on his hind legs, eyes and ears alert, looking over the surroundings. That gave us full confidence of safety from snakes and from other surprises, thanks to the noble dog.

On the following morning, Don Miguel Ramírez, observing some sand dunes in the distance, spotted a band of antelope and called it to our attention. In the direction in which Ramírez pointed, we saw that most of those beautiful animals were grazing. There must have been more than two hundred. In those remote places there were many antelope. They never went singly, but always gathered in herds. The poachers take advantage of this, and hundreds of them are killed every year, because the flesh of the antelope is the tastiest known. The hunting of these animals is forbidden by the Mexican government, and severe penalties are prescribed. The engineers decided that only one pair should be killed, in order that we might enjoy the meat and that the skins and heads might be sent to the National Zoological Museum.

Reyes Carrasco, Regino Celaya, El Chileno and Roque Santos were commissioned to kill them. We saw the four emulators of St. Eustace go forth, full of enthusiasm, to chase two antelope from the nearest band.

“Don’t eat it! You idiot!” called Manuel Parra, referring, no doubt, to Roque Santos.

The engineers and those of us who stayed in camp expectantly observed through their binoculars how our four hunters were faring. The engineers burst into guffaws of laughter as they watched the contortions and attitudes taken by the Nimrods as they hid, now behind a dune, now behind a lava rock, again behind brush, so as not to be seen by the antelope; they advanced with such good luck that one hour later they were on the way back, with two of those beautiful creatures, a pair. The hunters had done their duty and had brought back what the engineers asked for. Roque Santos was responsible, because of his well-aimed shots. The two antelope were larger than average. Ramón Gil Samaniego took over the task of skinning, and preparing the heads for mounting, for the benefit of our Museum of Zoology.

The flesh of the antelope is the most savory of all meats, therefore we decided to remain in the camp long enough to prepare and enjoy a good meal, and to rest, as there was no need for haste. Roque Santos was delegated to prepare a barbecue. He put the whole carcass on the fire without removing much of the entrails. Gil Samaniego decided that he would make a *birria* [a spicy meat stew originally from the state of Jalisco] with the meat of the other animal; this was the first time we had heard the word. Bedoya started to speak, in reply to a question from Roque, but was interrupted by a rodent called a *tuza* [pocket gopher] or *cozon*, which came out from the rocks and ran up his pant leg, perhaps, like us, to do some exploring. As we watched the tap-dancing which poor Bedoya performed, trying to shake off that confounded animal, we had to laugh. He finally grabbed it with both hands, inside his pant leg, half-way up his left thigh.

“Lend me your knife!” he said to El Chileno.

Jáquez handed him the knife, and Bedoya cut the cloth and removed the rodent through the slit, and flung it violently from him. Our renewed laughter added to his annoyance. About two hours later Roque’s barbecue struck our nostrils with its aroma, in spite of the fact that the meat was buried in a hole one meter deep. We hoped to have a tasty meal. As for the famous *birria* which Samaniego hinted at, no one knew how to make it, and now Bedoya was not willing to give any explanation, being discouraged by our laughter. Santos, with help from some of the others, brought forth the juicy barbecue, which, in the opinions of Isauro Quiróz, Miguel Ramirez, Ramón Parra, Ramón Sotelo and Don José Salazar, was fit for a royal banquet. After we had eaten, there was hardly enough left for the next day’s breakfast. Naturally, we wanted more, which we could not have, because we had eaten it all up in a jiffy. We therefore condemned the second antelope to the same fate, and we can affirm that when we came to eat that, there was

nothing left to be desired, so far as the cooking and the delicious flavor were concerned. Roque, after all, is a specialist in the art of the barbecue.

In spite of the time had passed, to our surprise the smell of the skunk had not diminished. Carrasco was the one most “perfumed”; this angered him and even caused severe migraine. Poor Reyes! Some time has now passed since that incident, and yet, as I write these lines, when I meet him in Sonoyta, that unpleasant odor is recalled.

The engineers called in all the men, to discuss the route we must follow. One engineer wanted to travel on the surface; the other thought we should take the underground route, which was supposed to lead in the same direction and that was quite near the Tinaja del Cuervo. The result was that we decided to go by the underground route, which, beyond all doubt, would lead us to the shores of the sea in the direction of La Cholla. Apparently we all wanted to go that way, because a general applause was heard. We resolved to spend the night where we were, so that we might begin our journey at dawn. What happened will be learned in the next chapter.



Pinacate Mountains from La Salina, one of the salt flats on the Sonoran coast of the Gulf of California. Esquer's expedition reported visiting a similar, nearby salt flat, "La Soda." Such sites also contain freshwater pools, called "pozos." These salt flats were destinations of pilgrimages by prehistoric and historic O'dham visitors, who gathered salt, trading it throughout much of the Southwest. (On-site acrylic painting, 2007, William K. Hartmann).

## CHAPTER XI

### NEW COMPANIONS

The engineers spent the rest of the day studying the formation of the terrain, taking samples of the igneous rocks, quickly measuring some slopes of the topography of that beautiful place, etc., etc., without neglecting the regular entries in their notebooks.

The rest of us, captained by Gil Samaniego and the indefatigable Carrasco, spent our time hunting fur-bearing animals. There were some javelina, coyotes and hares that paid with their lives for the great crime of being within the range of the thirty-thirty rifles and the twelve-gauge shotguns.

A portion of the Pinacate range lay before us, the part that looked to the southeast, where was born, so to speak, that subterranean path. We were all imagining the rough and trackless places, all the hollows, and all the side paths of the corridor we must take, and picturing ourselves being lost in those labyrinths. At about ten o'clock that night we were courting sleep, after one last "goodnight." Just what time it was I cannot say when some of us were awakened by the loud barking of the dog.

"Quiet, Yaqui, quiet!" ordered Carrasco, but the dog did not obey, and in a moment was barking even louder. Hardly a man remained asleep. Finally Carrasco, angry now, decided to muzzle the dog. Poor Yaqui, thus tortured, could no longer bark. He soon quieted down and seemed to fix his attention on a point on the nearby ridge. An hour passed, and Carrasco was about to remove the maguey rope from his muzzle, when we heard at a distance a human voice, which seemed to issue from the mid-flank of the high mountain.

"Do you hear that singing?" asked Carrasco.

"Yes, very clearly, and apparently it comes from this side," said Don José Salazar, pointing to the mountain. "Who can it be? Who can be wandering about, singing, in all this cold, on the flank of the mountain?"

"Might they be lost hunters who are gathered there for the night?" asked Blázquez.

"Lost men do not sing, Señor Engineer."

"Well then, who can it be?"

"That is what we all want to know."

The conversation was interrupted when we heard more singing, which, although it

came from the same direction, was clearer and stronger, compared to that of the other voice, which sang “second”; now we could also hear a sound like that of a guitar accompaniment, and the words of the song.

“Silence!” ordered Engineer Blázquez, “Let’s hear this song, which seems to be both merry and amusing.”

We were as silent as we could possibly be, and Reyes Carrasco held Yaqui’s nose, who, although unable to bark, growled furiously.

“It is not a guitar that is playing that accompaniment, it is a lyre!” declared Engineer Blázquez. “Can’t you hear the notes, so sweet, so harmonious? I haven’t the least doubt but that it is a lyre we are hearing.”

To most of us the word “lyre” was utterly unfamiliar; nonetheless we agreed that it was not a guitar, but some other stringed instrument unknown to us. The word came to us with complete clarity, in Alexandrian meter, such as was used by the troubadour in the miraculous music of “Mama Carlota,” a polka of the time, which originated at the Hill of the Bells. It went this way:

*“Salí ayer de Caborca  
y el Ford hube dejado  
en Cerro Colorado  
a un pobre leñador;  
y ahora errante vago  
en esta zona ignota; cantando:  
Adiós, Carlota, adios mi tierno  
amor!”*

“Leaving Caborca yesterday, I left my Ford with a poor wood-cutter at Cerro Colorado; and now I am rambling about in this unknown land, singing: Farewell, Carlota, farewell, my tender love.”

*“Mis rimas, raras rimas,  
que saltan atrevidas, preceptos y  
medidas  
del arte de cantar,  
son la expresión sincera  
de crueles sufrimientos dolores y  
tormentos  
que hoy vine a soportar.”*

“My rhymes, my beautiful rhymes, which come forth free of the rules and measures of the art of song, are the true expressions of the cruel sufferings, the sorrows and the torments that I endure today.”

*“Feliz yo me sintiera  
con una alegre pluma, mojada en  
roja espuma  
del vino de un festín,  
para cantar con ella  
los gozos y delicias  
los besos y caricias  
de una dicha sin fin.”*

“Happy should I feel, with a cheerful pen dipped in the sparkling red of festive wine, to sing with it the joys and delights, the kisses and caresses of an unbounded happiness.”

*“En esta abrupta Sierra llamada El  
Pinacate,  
el corazón me late  
más nunca de temor,  
que, hallando a mis amigos les cantaré la nota:  
adios mamá Carlota,  
adios mi tierno amor.”*

“On this steep mountain called the Pinacate, my heart flutters no longer with fear, when, having found my friends, I will sing them the refrain: Farewell, mama Carlota, Farewell, my tender love.”

So went the singing on the flanks of the nearby mountain, heard by us with complete understanding.

“But who is singing?” said Astorga.

“There are two or three singers, not one, as you think,” said Engineer Lários. “No doubt they are hunters who have camped near us. We know at least that they are from Caborca.”

“Do not decide that based on the words of the song!” said Gil Samaniego. “I myself can say in a song that I come from the stars, but that does not make it so.”

“Then let us set ourselves right, and go to see what sort of men we are dealing with,” said Reyes O. Carrasco in his turn, who was exerting more and more strength to restrain the dog, which was showing increased impatience. Followed by Roque and the intrepid Gil Samaniego, and sending the dog ahead, Carrasco started out on the rough trail towards the source of the songs. In half an hour they reached the singers, whose glad voices and exclamations of delight indicated their pleasure in meeting their new companions.

Silence ruled for a time, while the new expeditionaries abandoned their camp. They came to ours, guided by the two men, without delay. As we were ignorant of their identity, our surprise knew no limits when, on reaching our camp, we recognized them.

One was the sensitive poet from Caborca, Don Adalberto Sotelo, who, with lyre on his right shoulder and rifle on his left, was pushing aside with the butt of his weapon the ocotillos that hindered his passage. His companion was an employee of the telephone and telegraph office in Caborca, who had followed the poet, for whom he had a great admiration, with all pleasure. They were introduced to the engineers by Carrasco. They were already known to the rest of us.

“But how does it happen that a federal employee, such as Chief of a Postal and Telegraph Office, is wandering about in these parts?” Blázquez asked Sotelo.

“Very simple,” was the reply. “I was busily engaged in my work, when there came into my hands an issue of *El Perico*, a Sonoyta paper, which told me what this expedition was doing. Because I am a devoted follower of all kinds of recreation, I asked for a short leave, which I was given; leaving another man in my place, I went immediately in my Ford to Cerro Colorado, where I left it with a woodcutter and went on foot with my companion, looking for you, but I was never able to find you. This morning we sang for a little while on the mountain side, and maybe you heard us, because shortly three emissaries reached us....”

“That! That’s it!” exclaimed Gil Samaniego, “and the result of it is that you are now with us.”

“I compliment you, gentlemen,” said the poet, “on your discoveries, which are so important, about which I was told when I left Caborca. I cannot resist my desire to see something here with you, so here I am, determined, as I have always been, to engage in every sort of recreation.”

The two engineers and the rest of us accepted with great pleasure the incorporation of those good companions, who notably reinforced our group of excursionists. Naturally, upon the arrival of Sotelo and his companion, there again began all sorts of jokes and merriment, enjoyed by everyone. We wanted to join in, but were side-tracked by the inexhaustible repertoire of the delightful poet, Adalberto Sotelo. The lyre, strummed expertly by our new friend, sounded anew at the Tinaja del Cuervo. I still remember his verses, improvised that very night, and apparently dedicated to all who surrounded him. They went thus:

*“En este ameno sitio,  
de amigos circundado,  
me siento arrebatado  
por gozo sin igual;  
mi burlo de la lava  
y las temibles ‘cinas’  
ni me hacen las espinas  
de cholla y de nopal.*

“In this delightful spot, surrounded by my friends, I am carried away by boundless joy. I laugh at the lava and the fearsome senitas, the spines of the cholla and nopal are nothing to me.

*“Las inclinadas faldas  
de aquesta serranía  
no son – ¡por vida mía!  
muy fáciles de andar,  
pero me importa un bledo  
lo oblicuo del terreno,  
porque me siento pleno  
de gozos –como él mar!”*

“The steep sides of this mountain are not—by my life! easy to climb, but the roughness of the landscape doesn’t matter a straw, because I am as full of happiness as the sea is of water!”

The engineers were diverted by these songs of Sotelo, and they admired his facility; he had but to see a rock, a cholla, a sahuaro, etc., etc. and lo, a verse was made. I do not know how far our poet could have gone, had he not been interrupted by the arrival at his nostrils of a certain penetrating little stench.

“There is something rotten in Denmark,” he said, “is there not a certain slight aroma?”

*“Parece que un zorrillo  
se acerca, secretando  
su líquido... e infestando  
el campo alrededor...  
El pinto animalito,  
quizá ya esté inmediato  
porque, desde hace rato  
me dió el ‘ingrato olor’.”*

“It seems there is a skunk close by, exuding his essence... and stinking up the camp... The little spotted creature is perhaps very near because just now I caught a whiff of the ‘dreadful smell’.”

Laughter convulsed all of us when we heard this song. Thereupon we told him about the adventure of the skunks, about which poor Carrasco retained such fond memories, Carrasco, who had taken so much of the stench that he was no longer aware of it. Adalberto, however, who had not heard the story when he sang, really thought that skunks were present. Naturally Carrasco showed resentment over the explanation we gave Sotelo, especially when we hinted that Fortune had favored Reyes.

How late we slept that morning I do not know; such a thing as sleep was not to be had when the camp was filled with such talkative friends. We broke camp very early for the purpose of entering the subterranean corridor. When we were all ready to start, we undertook without delay the execution of the first order from Engineer Blázquez, the scientific leader of our expedition. The two engineers led the way, "beating the drum," followed by Roque Santos and Adalberto Sotelo, who came next, and the rest coming after, everyone fully armed and equipped. We were determined to travel that underground path, even though it might carry us beneath the sea to the peninsula of Lower California. Moments afterwards, we were at the mouth of the cavern. That great "mouth" was imposing, formidable. The poet sang:

*"Al ver la horrible cueva  
que aquí se nos presenta, debemos  
de hacer cuenta  
que el diablo la habitó."*

"The sight of the awful cave here  
before us  
makes us suppose  
that the devil lived in it."

Indeed, that cavern must have been another of Satan's dens. Its mouth measured in the widest part, about thirty meters, and was some ten meters high. When we reached the "door," after a quick inspection of its floor, made by the engineers, we ventured to go inside; our four or five electric torches were of great help. Adalberto had also brought one which he had found by some miracle in Caborca. As we took our first steps into that subterranean corridor, we could see the enormous accumulation of bat guano therein. It is correct to say that from the entrance for a distance of more than seventy meters it was burnt, but a little farther on there were great deposits, of great potential value. It could be taken out by the truckload. Our laughter never ceased over the difficulties we had scrambling over those heaps of bat dung, where many of us fell to our knees. Adalberto, whose eyes saw so much, was moved to create a verse:

*“Penosa hoy es la marcha sobre  
este odiado piélago de guano de  
murciélago,  
que aquí se atravesó;  
quizá tal vez no pueda  
cargar con más tormentos, porque  
estos sufrimientos  
ni el diabelo soportó.”*

“Painful today is the march  
across this smelly sea of  
bat guano  
to be traversed here; perhaps one  
does not often need to bear such  
torments,  
since these same miseries  
not even the devil could stand.”

Our renewed laughter greeted the rhymed complaints of our new comrade in adventure. Ramón Gil Samaniego, Don Ramón Sotelo and Don Ramón Parra did not tire of encouraging him. They suggested ideas and urged him to use some other verse form, but it seemed that they accomplished nothing, since Adalberto kept right on, in well-turned Alexandrines.

At last, after a journey of more than a mile over the guano, we reached a spacious area where it ended as though by magic. Our tedious march came to an end, because we were now proceeding on a floor of black glass, which looked like nothing but compact lava, decorating the interior of that corridor to the end. Although in reality we had gone only a short distance, we were then so weary that by common consent we decided to rest a couple of hours before setting out again. We spread our bedding and turned in for a little while, where the atmosphere was tainted with the characteristic smell of guano. Not even in those moments of hard experience could Adalberto cease the flow of syllables. Striking his lyre, he sang the following:

*“La obscuridad reinante de esta  
cueva impregnada de olor tan  
penetrante,  
me hace creer que tengo por delante  
de Satanás otra guarida nueva.”*

“The prevailing gloom in this  
cave, filled with an odor so  
penetrating,  
makes me think we have before  
us another of Satan’s haunts.”

There is no knowing when Adalberto would have ended his improvisation had his song of the cave not been interrupted by the loud roars of a tiger, or perhaps a puma, which had been asleep a few paces from us.

Adalberto became miraculously silent. As for Carrasco, Roque and Ramón Gil Samaniego, their hair stood on end like the quills of a porcupine. The rest of us turned the color of an olive. Quiróz and Don José Salazar counseled us not to make any movement, because there might be more than one wild beast dened up there. We were astonished when we saw luminous spots in the darkness, the eyes of wild animals, but what sort of beasts were they? That could not be learned from the nature of the roars, which were shaking the walls of Satan's lair. One misplaced shot would cause even one beast to make a slaughter house among us.

Nevertheless, we took up our guns and went on the defensive, awaiting events. The creatures did not stop roaring. They kept up that disagreeable noise for two hours. We were, without doubt, confronted by a number of carnivores. After a while the shining spots were no longer visible and the terrifying roars ceased, which showed us that they had gone farther into the cavern, on precisely the road which we were about to take.

Faced with that unforeseen obstacle, none of us wanted to go onward, so we decided to get out as soon as we could. An hour later we had all returned to the mouth of the cave. The engineers, Roque Santos and Adalberto Sotelo emerged first, the rest of us a few minutes later. We found Engineer Blázquez kneeling on the ground, shooting toward our right flank. We looked and saw an enormous striped tiger standing on some lava ridges, close by. It never ceased its frightful roars; perhaps it was calling the other wild beasts in the cave to join it. Blázquez' shot had no effect, it was a miss. The bullet struck a nearby sahuaro. Adalberto fired in his turn, and despite the fact that the beast was, at most, one hundred and fifty paces away, the bullet passed over its back, sending up a spurt of dust on a nearby sand dune. El Chileno aimed his best and fired, hitting the animal in the flank but not disabling it. It faced us and came towards us; we fired at will, as though engaged with numerous enemies. The tiger, riddled with bullets, though perhaps none of them mortal, was now very near, and was tormented even more by the dog Yaqui as by its wounds. It leaped and disappeared into a hollow in the lava, where the dog could not get at it. Without our firing another shot, it died there of a great hemorrhage. After about an hour, Roque Santos and Regino Celaya climbed into the hollow in which the enormous tiger lay quite dead. With considerable effort they drew it out, by rolling the carcass until it fell at full length at our feet. Gil Samaniego and Engineer Blázquez undertook to skin it with care, and to prepare its head for donation to the National Zoological Museum.

Much later, when we resumed our trek, now on the surface and in the direction of La Choya or La Cholla, it was with strenuous effort that we were able to carry the many

objects we had found, but we had to conform to the rigid rules of the two engineers, who were not willing to leave a single article behind. Although now travelling aboveground, we went in the same direction taken in the corridor, which fear of the tiger had caused us to abandon. In two hours we had made over eight miles, in spite of the heavy sand and the sharp fragments of lava, common there as everywhere in that region of fire.

Quite near was a true promontory, of igneous rock, over-topping the high sand dunes. By decision of Engineer Blázquez, we arranged to spend the night there, distant but a few meters from the pile of lava we have mentioned; we did this gladly, because we were very tired from the toil of our journey. Firewood was not scarce in those desert places. It was not long before Roque Santos, El Chileño, and Regino Celaya were lighting the customary camp fire.

Ramón Gil Samaniego stretched the skin of the great tiger on the sand and placed the head close by. We knew perfectly well that there were wild beasts thereabouts, such as lions and tigers, so we put our weapons in order. We spent the first hours of the night being well entertained by the music of the tuneful lyre of Adalberto Sotelo, and the infinite number of anecdotes and tall stories of one so fond of good, natural merriment. We spent the evening pleasantly, and slept relaxed, with not a single thought that fate was preparing for us a terrible surprise at the next day's dawn.

It was El Chileño who awakened when Aurora first gave light. As he sat up in his bed, to his great surprise, he saw that as many as three striped tigers, like the one just killed, were standing like sentinels on the nearby headland. He at once aroused us. Two of the great cats were spying on our movements and the other was some twenty or thirty meters farther away. In order for us to begin our trek again, we had first to dispose of those three dreadful tigers. We were sure of our weapons. We had expanding bullets and hunting-knives, but could we rout the tigers? When I looked closely at Carrasco and Roque Santos, I seemed to see a clear green color. No one made the slightest movement. Suddenly from behind us came a great explosion, which deafened us for a moment. At the same instant, we saw the nearest tiger make an extraordinary leap over the lava and fall dead.

"Bravo!" exclaimed Ramón Gil Samaniego, congratulating Regino Celaya, who was responsible for the deed. Regino had fired at the tiger from a distance of twenty meters, and had placed the expanding bullet in the center of its face, so that the tiger could only give a great leap and fall on its side in the sand, where it spilled out its brains. Its death was instantaneous. The dog, Yaqui, now could not be restrained by Carrasco. In a second it fell upon the dead tiger, biting it furiously. The two other tigers, instead of fleeing, came

nearer, keeping behind the fragments of lava as much as possible, and appearing ready to spring to the attack. Both roared frightfully. Yaqui, hearing them, rushed towards them, but always kept a respectful distance. Another “dum-dum” bullet fired by Carrasco pierced the shoulder blade of one and brought it down on the sand; if not dead, it was certainly out of the fight. The other tiger sprang into a patch of creosotebush, where Yaqui harassed it, while it glared at us in a most unfriendly manner. Yaqui barked incessantly, so close to the cat that we dared not shoot. Don Ramón finally had to fire, but his aim was so poor that he only “creased” its back, causing it to make some enormous leaps which brought it so close to Sotelo that the Caborcan poet would not have had a song left in him but for the dog, which, enraged now, took a vigorous bite at one of the cat’s knees, which enabled Sotelo to fling himself over the dog. Another shot rang out as Roque Santos fired at just three paces, but without effect; Roque was nervous. Still another shot was heard, this time by El Chileno, but the tiger merely bit at its flank, feeling the wound in that part. At that instant the dog retreated, howling mournfully, for the tiger’s claws had slashed it. Time was precious, and the affair had to come to an end somehow. We joined in a general fusillade, which concluded the operation. The skin of the tiger had become a mere sieve. The poet Sotelo, having recovered from his fright, and looking upon the episode as a joke, sang as follows:

*“Caramba! Aqueste susto  
no doy ni por mil pesos;  
del miedo los excesos  
jamás igual sentí.”*

“Caramba! What a fright! I would give a thousand pesos never to feel again such an excess of fear.”

Perhaps he would be singing still, while I am writing this book, had it not been for Manuel Parra and Don José Salazar, Sr., who called to us to skin those three great animals.

“What excellent mattresses we shall have!” exclaimed Gil Samaniego, spreading the beautiful skins on the sand, bright yellow, striped with wide black bands. We were already concerned about those skins, and those of the other lions, which were added to our burdens. We cast aside the heads over the protests of Gil Samaniego, who wished to give them to the museum. Poor Ramón!

We then approached the headland of lava and could plainly see that yonder was an opening, wide and deep enough, which connected with the underground corridor that we had left. The tigers were the same ones that had blocked our path and had attacked us. After loading up, we started the march in a direction S 12° W, towards La Soda, and

then, almost at sunset, we saw in the distance the waters of the Gulf of California, exactly where we expected to find them.

We spent the night there. Nothing happened, and the next day, in the afternoon, we reached La Soda, and eventually the sea shore. There the subterranean corridor actually came to the surface. The route showed nothing less, and all the walls and the vaulted roof of that grotto were like black glass. Earth movements and the eruption of the great volcanoes had reached that far, perhaps even farther, passing under the waters of the gulf to reach the eastern coasts of Lower California.

According to the authoritative opinion of Blázquez and Lários, soda-ash is plentiful there. It is a real fountain of wealth, awaiting development. How sad that these accumulations of soda-ash remain unknown to the people of Sonora, those lovers of great enterprises!

As we stood on the headland, we saw, at a distance of only some forty kilometers, the serene and spacious Bay of Adair, or Rocky Point, encircled by black rock. That was a beautiful spectacle, superb! Ramón Gil Samaniego took some good samples of that soda-ash to be analyzed.

Our own Gil Samaniego found there a real bed of oysters, and on hearing his cry, the entire force dedicated itself to enjoyment of raw oysters, whose shells were opened by placing them in the ashes of the fires we had built. The shrimp, the mussel, the crawfish and the oyster, so abundant there, were savored by all. Carrasco poured some *Sauza tequila*; Gil Samaniego some *bacanora*, Roque Santos some *cola de gallo*, El Chileno some *margallate*, and thus everyone had his favorite liquor. We staged the greatest exhibition of gluttony of the season. The poet Sotelo surprised us all and did not hide his contentment. The panorama we beheld could not be measured by any other feeling.

“Here there is certainly a lack of verses!” said Carrasco, speaking to Sotelo, who without a second hint, struck up the following, in the key of B-flat:

*“Al encontrarme en tan hermosa  
playa  
el susto de los tigres he olvidado,  
el gozo y el placer he vislumbrado,  
y al juzgarme feliz, mi ser no calla.*

“Finding myself on this lovely  
beach,  
I have forgotten the fright of  
the tigers.  
I have glimpsed peace and  
contentment.  
And to be happy, I shall sing

*de cangrejos, de almejas y de  
ostiones  
se ven nuestros estómagos repletos,  
ya veremos más tarde los aprietos  
de tripas al sentir retorcijones.*

*Mientras tanto, olvidemos el hastío  
que nos causó el sendero fatigoso,  
y admiremos el sitio tan hermoso  
al que canta esta vez el numen  
mío!”*

about crabs, mussels and oysters  
which have just filled our  
stomachs;  
Later we shall encounter  
internal cramps and contortions.

Meantime, let us forget the  
disgust  
which our exhausting road  
produced,  
and admire this beautiful spot  
which my poetic muse celebrates  
in song this time.”

Ramón Gil Samaniego interrupted with applause, and in one of the innumerable contortions and pirouettes that he executed in the poet's honor, he fell to the sand of the beach, as though he had stumbled over something. That, indeed, he had done. After some search, we found that he had tripped over a protruding bone, of colossal size. Removing it with care, we recognized it as the rib of a whale. About three hours later, the complete skeleton of a whale had been uncovered. Perhaps that cetacean had visited this place at high tide and was stranded there. We covered it up again, and Ramón Gil Samaniego marked the spot, so that he, at some later date, might return by sea to collect that gigantic skeleton for the Zoological Museum.

We observed that mother-of-pearl abounded there, in the opinion of the engineers, who found some of the shells. There are also many fish, particularly the *totoaba* [drum or croaker (a large fish of the Gulf of California)], *mero* [grouper or giant perch], *cabrilla* [grouper], *róbalo* [possibly snook], *lisa del mar* [striped mullet], etc., etc., and the *cabuama* [sea turtle] and *carey* [hawksbill turtle] leave nothing to be desired. There are also some salt works, but most important of all, according to the results of careful study, is the great abundance of soda-ash.

From the time of our arrival, a northwester blew that bothered us ceaselessly; because of it we had to seek shelter a little later in the nearby hills. We spent the night there without incident, and a great part of the next day was used by the engineers in making careful observations and entering the results in their notebooks.

Nearly all of us hunted shore birds, among which we noted the white heron and the

dove, the pelican, the sea-gull, the *tijereta* [frigatebird] and others; Gil Samaniego kept for himself a specimen of each bird from these localities, to stuff and give to the museum. It should be mentioned that Gil Samaniego is a specialist in the preparation and stuffing of every kind of creature.

On the following day, very early in the morning, and with much heavier burdens, we set forth towards the Bay of Adair, about fourteen or sixteen kilometers distant to the southeast; the engineers had given up the idea of going to La Cholla. We reached the bay in just three and a half hours. On the way, we saw numerous bands of antelope, unique in that region. Ramón Gil Samaniego and Manuel Parra followed them with their eyes, but were committed not to hunt them by the prohibition of the Federal government.

Don Ramón Sotelo, Don Ramón Parra and Francisco Bedoya remarked on the beauty of those places, asserting that they had never seen anything to surpass them. Indeed, they are enchanting. Nature lavished all her charms on that peaceful and spacious bay.

We made our temporary camp almost at the edge of the water, and devoted ourselves to fishing, for the moment, both to pass away the time and to enable us to enjoy the freshcaught fish, which we savored greatly. Some were busy hunting foxes and coyotes, which were abundant. Meanwhile the engineers found that the Bay of Adair lies about 31° N and 114° W. The bay is very large, perfectly sheltered and deep enough for ships of great draught. The lava from the volcanoes reached it, as shown by the great promontories of eruptive rock which, at the southeast, surround a good part of it, making it a magnificent port, if it were used. Something like an embankment of dark rock goes deep into a portion of the bay, perhaps about a kilometer or more, if you like, and I am of the opinion that this gives it its name of Rocky Point. As I have said, fish are abundant there. Infinite varieties are caught. The “tigers of the sea,” as the sharks are called, are not scarce. Innumerable marine birds live in those places, of indescribable variety.

I must now call attention to some cries for help sent out by Ramón Gil Samaniego and Roque Santos, who had taken a strong line and large hook with an attractive bait, and had flung the hook into a deep hole where fish of great size were visible among the sea plants. Some creature struck, as the fishermen say, and since neither Gil Samaniego nor Roque could pull in the line, the poor fishermen were drawn toward the water by a shark of great size.

“Slack the rope! Don’t pull!” shouted Carrasco. “If you hold it you will be dragged into the sea.”

But Ramón and Roque did not want to lose the line or the hook, and held on to the

line, which was burning their hands. A strong rush by the marine animal was enough to pull them into the water. Their bodies were lost beneath the surface, but in a moment we saw them emerge and gain a foothold on the nearby rocks. Of course, they had a good bath, but lost both hook and line. We all burst into laughter as we watched the conclusion of the drama.

Other fishermen brought in a goodly supply of small fish, such as striped mullet and corvinas, which we enjoyed at our ease, as we ate and gazed at those beautiful horizons. On the third day we set out for Sonoyta, as we shall see in the final chapter.





View of Sandy Beach in 1975 on the outskirts of the fishing town of Rocky Point (Puerto Peñasco), Sonora, near the location where Esquer's party reportedly ended their expedition and turned back toward Sonoyta. At the time of this publication, this beach is built up with high-rise condominiums. (On-site acrylic painting, William K. Hartmann).

## CHAPTER XII

### THE RETURN

The engineers undertook to make a sketch map of the region visited before we returned to Sonoyta. That kept them busy for two days or so. When the map was completed, we started out, taking the trail from the Adair Bay, which traces the straight and ample breach opened by a railway company that attempted to build a branch line from Ajo, Arizona, to Rocky Point.

As I recall, we could make only twenty kilometers before stopping to rest near one of the wells that the railway enterprise left. A wooden tripod showed the well's location. The well was only ten inches in circumference, with an estimated depth of several hundred feet; a pipe of that diameter and length was held up by vertical shoring. From the tripod hung a small pulley, from which dangled a long narrow wooden pail, tied to an interminable rope. With great effort we drew up enough good water, which helped us a lot, because our supply of that liquid was about gone.

At six the next morning we resumed our trek and by noon, at El Batamote, we joined the rest of the expedition, which was waiting for us impatiently. The first to greet us were Rafaelito and Nacho Alegría, who welcomed Roque Santos and the poet Adalberto Sotelo. Although we had arrived at an early hour, we decided to spend the rest of the day there, that we might rest from so long and tedious a journey on foot, and exchange ideas about our return to Sonoyta.

Nacho Alegría was most happy with his riches, which equalled that of all of us. We all cherished great plans for projects for the future. Roque Santos and Rafael Vega never stopped talking about the present state of things. They did more prattling than did the parrots of the Islas Marías. Ramón Gil Samaniego, the two engineers, Don José Salazar and Manuel Parra made an agreement, to return a month later with two or three carts and enough animals to carry all the objects we had to leave behind, because of their weight and numbers. In general, we all wanted to go back over the ground we had covered, but next time better prepared for a long expedition, to stay for as long as we chose, in order to accomplish our purpose. I remember well that the engineers, Blázquez and Lários, did not stop writing constantly, making no one knew what notes in their field books, and pleading with us to leave them alone and not to interfere with their work.

The restless Gil Samaniego and Roque Santos, followed by Rafaelito, El Chileño and Manuel Parra, all armed with rifles, went on a hunt that afternoon and came back at sundown with five beautiful javelina, which they threw on the ground on reaching camp, a new supply of meat. We watched attentively the completion of the task, as Nacho Alegría and Don Abelardo López dressed them and prepared the meat, and noticed the great skill of those two iron men, tireless at their work. Of course, those moments were used by Adalberto Sotelo for creating one of his songs. In order for the reader to get an idea of the fertility of the poet's muse, it is enough to know that with a single touch of the lyre he produced the following:

*“Cuando me hallo del monte en la  
espesura  
de la caza entregado al gran placer,  
allí termina toda mi amargura,  
allí acaba mi pena la más dura,  
se va mi padecer.*

*Si de buros me encuentro una  
manada  
por la senda que llego yo a cruzar;  
ya no estoy con el alma sosegada,  
y quisiera con bala despiadada  
con todos acabar!*

*Si son jabalíes los que miro  
por el campo que cruzo, peor les va,  
casi siempre al codillo y les tiro;  
pues cazando estos bichos, yo deliro  
como nadie, quizá!*

*Los puercos, los coyotes, los venados,  
ante mi rifle doblan la cerviz,  
los he visto con ojos apagados,  
verdes, rojizos, blancos o azulados  
y sangre en la nariz!*

“When I was on the brushy  
mountains,  
given over to the pleasures of  
hunting,  
there all my sorrows were ended,  
there all my worst troubles fell away,  
my afflictions disappeared.

If I meet a herd of deer  
on the trail I am following,  
my spirit is not at all pacific,  
and I yearn, with a merciless bullet  
to lay them all low!

If I should espy javelinas  
where I hunt, so much the worse for  
them, nearly always I shoot at their  
knees; indeed, I dote on hunting  
these little fellows like nobody else,  
perhaps!

Pigs, coyotes, deer  
all bow down before my rifle,  
I have seen them with glazed eyes,  
green, reddish, white or azure, and  
bloody nostrils!

*Causa placer la caza; yo aseguro  
que al monte acudo de la calma en pos,  
allí termina el padecer más duro  
y experimento un bienestar tan puro  
cual bendición de Dios!*

Hunting brings content, I will assert  
that, seeking tranquillity on the mountain  
my worst troubles disappear there,  
and I feel a well-being as pure  
as the blessing of God!"

"Hurray for Caborca! Long live the poet Sotelo!" exclaimed Reyes Carrasco.

"Hurray!" shouted Nacho Alegría and Abelardo López, equally enthusiastic.

Rafaelito asked for a copy of Sotelo's improvisation, but he could not give him one, the words had come too fast for him to remember them. After this song came another, and then another and still another, so that Nacho Alegría and Don Abelardo López finished skinning all the animals while we were still listening to the songs of Adalberto Sotelo.

Finally the evening came, and with it fresh songs and joking from everybody. Who could be quiet for a moment in such a chattering crowd of people? Astorga topped us all in inventing ingenious tall tales. It was midnight before we were able to sleep, tired out with talk and laughter. Old and young, we were all the same in our love of jokes and fun.

The usual strong coffee, this time deftly prepared by Don Antonio López, was savored by all at sunrise; then breakfast was served, consisting of loin and leg of javelina, richly seasoned by Carrasco. At length, we resumed our trek at eight o'clock, and at noon were very near Los Pozitos. I must remember to mention that Roque Santos, Adalberto Sotelo, Rafael Vega and Regino Celaya had left us at the start, to go and find the jalopies they had deserted when they joined the expedition. At six o'clock they rejoined us, but since it was so late, we decided to spend the night there and get an early start the next morning.

There are a great number of deer in that area, bigger than the usual variety. Rafaelito and Santos decided to go after some. Soon we heard five shots; they seemed quite near, and we went to see what was going on. The two men were amusing themselves by shooting at a stag standing on a small knoll, which, to judge by its attitude, was defying them. Neither of the hunters was able to hit the animal. Reyes Carrasco fired from a distance of not less than four hundred meters. We saw the stag leap and fall to the ground, mortally wounded.

"A magnificent shot!" exclaimed Engineer Blázquez, congratulating Reyes. The animal was brought in in the midst of great admiration. Of more than average size, its head displayed enormous antlers, with many branches. Gil Samaniego undertook to prepare

them for the Museum of Zoology. The flesh of the *buro*, this variety of deer, is appetizing at certain times of the year, but its flavor is not always agreeable, as is that of the antelope, which is also abundant in this area, and much hunted by the Papagos. At times, such as San Juan's Day, eight or ten Papagos take to the field on horseback, to capture the *bueros*; it is the rule that the animals must be taken with ropes, to be killed later, on the day of the feast, and enjoyed as *guacabaqui* [an O'odham stew with deer meat], after which the whole night is spent in dancing, full of contortions and ritual.

Our stag was prepared for barbecue by Roque Santos. The next day we ate it for breakfast. We broke camp and were on our way at eight o'clock. We marched without incident until we reached Agua Dulce, where we rested for about two hours. Nacho Alegría and all the rest of us worried about the burros, laden with gold. Bedoya could hardly speak, so affected was he by the return of the expedition. After a short siesta, we went on, and reached Quitovaquito very late, almost at sunset. We were about twenty kilometers from Sonoyta.

We camped at Quitovaquito that night. There for the last time we made a pile, a veritable mountain, of all that we had collected, and the engineers and Gil Samaniego, helped by some of the others, busied themselves with the classification of all the different kinds of rocks and other objects. That was our last task and it certainly took a long time. There were bones of antediluvian animals, skeletons of friars, bows, arrows, mortars, rocks of infinite variety, skins of all the game animals, from the striped tiger to the javelina; mummies, and everything imaginable, for the most part collected by Ramón Gil Samaniego, who wished to give it all to the national museum. Poor Ramón! In addition to all this, there were many canvas sacks bursting with ancient coins of gold and silver, and gold dust; and a life-sized crucifix, which Nacho Alegría had appropriated for himself; he had found it in the Mission of the Four Evangelists, in the vicinity of El Pinacate. We were highly pleased with the results of the expedition. I recall that at that very place we swore to return with our companions, to spend more time, and to prepare ourselves adequately for the trip.

Our work of classification lasted for many hours. The next day, at the rising of King Sun, we started for Sonoyta. When we came to the ruined Hacienda of Santo Domingo, we decided to rest for a little. Here Engineer Blázquez spoke to us thus:

"Gentlemen! My comrade Lários and I are highly pleased with you, and we do not know how to impress this upon you in any effective way. This journey has made us acquainted with one another. Just as we have had many pleasant and happy days together, we have had our ups and downs, and some good frights, now in the very bowels of the

great volcanoes, now on the earth's surface. As is natural, we wish to return very soon, when we can take more time, to start another expedition with new members, with new vigor, and then surely we shall make important discoveries that should shed light on events which took place in very remote ages and which remain unknown to this day. We never realized the great importance of this region to those who love to study nature, and we are surpassingly proud of our discoveries. Our great desire is to return, as I have just said; and because you have done us the honor of going along with us to those far-away places that we have now left behind, I want to hear your promise, your solemn promise, that you will go with us again very soon. What do you say?"

"We will go with you to the end of the world," said Reyes Carrasco, embracing each of the engineers. Those embraces were like signals of approbation for the new journey, plans for which were already made known before we reached Sonoyta, when we came to the Hacienda of Santo Domingo, about eight kilometers from there.

"Gentlemen Engineers!" exclaimed Manuel Parra in turn. "You must come back when it is convenient for you, for we, and I speak for the majority, will be ready when you are."

The engineers showed their pleasure over the results of the new proposal for undertaking another expedition. Indeed, we were pleased also, now that the first one had gone so well. Furthermore, now that we were accustomed to seeing and working with the engineers and were familiar with the work of exploration, we felt affection for them, if you please; ninety per cent of Mexicans are like that.

Much past midday, we started towards our terminal point, which, as we have said, was only about eight kilometers distant. We saw, on the left flank, and on both margins of the small stream, cultivated fields watered by diminutive and inadequate ditches leading from the principal outlets of one or another bank of the "Little River." Some advice was given by Engineer Lários to the workmen who were with us, while discussing the cultivation of the unirrigated land.

At last, and already very late, almost at sundown, our outfit reached the first houses of the village. A veritable battalion of women came forth to meet us. They also, led by the instinct of curiosity, wanted to see everything, everything, that we carried. Words of welcome were heard, and every one of those women heard from husband, brother or son the story of our adventures.

Under the great cottonwood in the Calle Principal, a large group of men and women were gathered. The big hall, next to the Cantina Sonoyta, was thrown open by its owner, Señor Jáquez, for the disposal of the innumerable objects we carried. Scrupulously, the engineers proceeded to make equitable apportionment of the precious metals, to the

members of the expedition, who, satisfied, were discharged and went to their homes. The engineers were billeted in a house nearby, cheerfully provided by El Chileno (Jáquez).

After a rest of two days, which was used by the engineers and Gil Samaniego for making a new classification of objects and for repacking them with great care, in which they were effectively aided by neighbors, the professional men devoted themselves to the completion of the assignment which had brought them to Sonoyta, along with Ramón Gil Samaniego, State Attorney for the state of Sonora. Blázquez and Lários stayed in Sonoyta ten days more, adjusting the land problems of the Papagos, natives of the region; all was done satisfactorily. They then went to the state capital, the city of Hermosillo, to write a report of the result of their commission.

The collection from the caverns and volcanoes of the Pinacate was loaded on three regular trucks, and one day, very early in the morning, after the most sincere promises of friendship, and that they would return soon, very soon, we, all the inhabitants of Sonoyta, watched the departure of the two engineers and Ramón Gil Samaniego, on the dusty road to Caborca, on their way to the state capital. Nacho Alegría, Don Ramón Parra, Don Abelardo López and El Chileno went with them to the lovely city of Hermosillo.

Will they return? Shall we have the pleasure of going with them again on another expedition? When can we be sure? The answers to these questions will perhaps be given in good time. Meanwhile the town of Sonoyta is warmly anticipating the arrival of Engineers Blázquez and Lários and their inseparable friend Ramón Gil Samaniego who, as they said goodbye, promised to return in the year 1928.





Looking west from the “Sykes Family Campsite,” near Sykes Crater. Godfrey Sykes, a member of the 1907 MacDougal / Hornaday expedition, “handed down” this campsite to his Tucson family descendants, who still sporadically visit the Pinacates. Bright dunes of the Gran Desierto are in the distance. (On-site acrylic painting, William K. Hartmann, 1993).

## ADALBERTO SOTELO'S PROLOGUE, 1928

In these times of scientific and political changes, books that provide enjoyable reading are so few that the appearance of the volume entitled *Campos De Fuego* is important to the lay reader. It not only gives opportunity for relief from serious reading, in order that he may withdraw himself from the daily grind, but enables him to enjoy the information acquired by its author, as he observed the mysteries that endure forever in those wastes of sand and lava which were the stage whereon the episodes of the expedition took place.

In our modern world our energies and faculties are fully absorbed in the vast fields of Commerce, Engineering and Politics. The exigencies of life rob us of our most precious possession, Health. In the midst of the wide horizons of Science and Art we feel ourselves smothered by pressures and we long for time for relaxation with Nature. Desire for freedom, expansion, domination, in the purest meaning of the words, will always be latent in mankind, regardless of social condition, epoch and civilization; there, in the open country, under the sun's rays, his lungs filled with fresh air, is where the King of Creation is himself, conscious of his might, Intelligence; there where every star and every grain of sand bespeak immortal existence perpetuated in infinite oscillation; where the injustices of social life give place to universal friendship. It is for this end that the book, *Campos de Fuego*, written in the little town of Sonoyta, in the state of Sonora, a village that stands like an outpost guarding the mysteries of the desert of the district of Altar, takes us for a brief time from the preoccupations of today, inviting us to survey with constant amazement those seas of sand and masses of lava that hide an untold tale where Geology and Archaeology are the prime protagonists and the traces of animals and men long extinct are the links of a chain whose beginning is lost in the night of time.

The author, Gumersindo Esquer, my most worthy friend, reveals in his writing the character of a gracious man, a keen observer and a poet of feeling. The beginning of the book, in my opinion, is none other than the commencement of an era of advance for this forgotten part of the district of Altar, to which the author has now, for some years, dedicated all of his attention and energies. Those who know Esquer, those who have watched him as he contended with poverty, without resources, as he carried his stainless integrity like a shield, can believe that the best reward for his labors would be success

in diverting attention from populous centers of wealth to this region, an emporium of natural resources as yet unexploited, to whose interesting features are joined the severe beauty of its volcanoes, the austerity of its deserts and the rich treasure of its natural harbors on the shore of the Gulf of California.

*Campos de Fuego*, the first book of its kind devoted to this section of the district of Altar, will doubtless be the precursor of new commercial and scientific orientations and since its author, by writing it, has striven only for the satisfaction of having completed the execution of the sacred duty of patriotism, he will see his efforts crowned with success and admiration, and gratitude will bear tribute to his memory.

Adalberto Sotelo

Caborca, Sonora

January 13, 1928

[translated by Irwin Hayden]





Irwin (at age 62, right) and Julian Hayden (age 33), Riverside, California, 1944. Photo courtesy of Steve Hayden.

## TRANSLATION NOTES

### IRWIN HAYDEN'S COMMENTS, 1964

When I undertook the translation from its original Spanish to English, I accepted *Campes de Fuego* at its face value, as described by Adalberto Sotelo in his Prologue. As the work of translation progressed, I became more and more interested in it, not only because of its literary worth, the beauty of the language, but also the apparent truth of it. There came, however, a time when I could not believe what I read. It was then that I perceived the significance of the statement on the title page of Esquer's book; "a brief *historico-fantastico* account," or, in plain English, a narration compounded of fact and fiction, of truth and unreality. This changed my attitude to the book, but it did not quite destroy the illusion of credibility.

In May, 1964, I accompanied my son, Mr. Julian D. Hayden of Tucson, Arizona, to Caborca, state of Sonora, Mexico, in order to interview a member of the expedition told about by Esquer, Don Regino Celaya. It is said that another member, Don Ramón Gil Samaniego, is living, but his whereabouts is not known to us.

We learned much from Señor Celaya. Esquer's tale was a hoax, from beginning to end. It was based on a two-day trip into the Pinacate area by a handful of men, including Don Regino. This trip was made at the suggestion of a man from Phoenix, Arizona, Señor Roque Santos, who wanted to inspect a cave in which a deposit of guano was burning. One mountain sheep was bagged on the trip. Esquer himself was not a member of the party.

It was, however, entirely good-natured, as the author gently "spoofed" his host of friends and cronies, ascribing to them acts of heroism, extraordinary feats of strength, ingenuity, daring, and now and then putting one or more of them in a ludicrous position or circumstance.

It is evident that Esquer delighted in naming his friends, over and over again; among them were Rafaelito, Manuel Parra, Regino Celaya, the "terrible" Nacho Alegría, Reyes C. Carrasco, "El Chileno" (the man from Chile), and last but not least, Ramón Gil Samaniego, whose name appears time and again, as though the author loved its rhythm. There seems no reason to doubt that all the men who are named in the book lived and were known to Esquer. Celaya knew most of them, but had never heard of the two

“professionals,” the engineers Blásquez and Lários, “the scientific leaders,” respected and loved by the members of the expedition that never was.

Señor Celaya said that apparently Esquer had built his tale from many a tall story heard by him in the *cantinas* of Sonoyta, not one of which, according to Celaya, was big enough to hold more than a few men at a time, and certainly not the group told about in Chapter One.

Who and what was Gumersindo Esquer, the author of this fiction so hard to disbelieve? We had heard him described as the “grandfather of all lies;” he is described in Sotelo’s Prologue as being a worthy friend, a gracious man, a keen observer and a poet of feeling. His book, in my opinion, verifies the last-named attribute. From Celaya we learned that Esquer was probably a Mayo Indian; that he was a man who made long journeys on foot, eschewing motor cars and other means of conveyance; that he was very quick at arithmetic and taught school (Adalberto Sotelo, author of the Prologue, was a school principal); that he was gentle, kindly, friendly. In August of 1940, he was found dead, in the shade of a tree about a mile from the then home of Señor Celaya. He had reached the age of about seventy years. On the brim of his hat (the hat may be seen in Caborca) was written a message to the effect that he was dying of thirst, and that no one should be blamed.

Irwin Hayden  
Tucson, Arizona  
May 25, 1964

## THE MULTIPLE EDITIONS AND TRANSLATIONS OF CAMPOS DE FUEGO, 2018

As we began to work on the project of republishing Gumersindo Esquer's "*Campos de Fuego*" in a new Spanish edition with an English translation, we realized there were certain problems we had to resolve. Gumersindo Esquer wrote his original manuscript in Spanish, apparently around 1926–28. To our knowledge, the current whereabouts of his manuscript (if it still exists) is unknown. In 1928 the book was published in Spanish in Hermosillo, Sonora, by Casa Editorial, Imprenta "El Modelo" in an inexpensive paperback edition, which included numerous typos, words spelled variously, and scattered blank pages that appeared to be missing text, but were just printing errors. This first edition can be found in the University of Arizona Special Collections Library. In a second edition published in 1985, also in Spanish, the text is identical to the 1928 edition. However, it has a different cover (a black-and-white aerial photo of the Pinacate volcanic complex taken by geologist/photographer Peter Kresan) and was published by the Secretaría de Desarrollo Urbano y Ecología (the Mexican Department of Ecology and Urban Development, generally known as SEDUE). In addition, it contained a foreword by the Sonoran delegation of SEDUE noting that *Campos de Fuego* provided the author's personal experiences about the Pinacate region and, thus, was relevant to the creation of the Pinacate Biosphere Reserve. A third Spanish edition was published in 2013 in Hermosillo by the Instituto Sonorense de Cultura with a color aerial photo on the cover also of the Pinacate volcanic complex.

In 1964, archaeologist Irwin Hayden undertook an informal translation of the 1928 publication into English. This was apparently for his own pleasure and to better familiarize himself with the region of which his son Julian had become so fond. Although on the whole extremely well done, it contained various infelicities, including typos, missing phrases, and some inaccurate translations. In addition, certain passages, with unfamiliar words or what can be referred to as "Sonoranisms" were left untranslated by Hayden. "Sonoranisms" that are clarified for readers of English, include totoaba (drum or croaker [a Gulf of California fish]), cina (senita cactus), cibiri (a kind of cholla cactus), guacabaqui (an O'odham stew made with deer meat), and chamizo (white bursage), among others.

A copy of Irwin Hayden's translation was given by Irwin's son, Julian Hayden, to us (Bill and Gayle Hartmann) when Bill was working on his 1989 book, *Desert Heart: Chronicles of the Sonoran Desert*, about the Pinacate region. For the current project a digital file was needed. In 2017, our friend and colleague, Elaine Owens, used optical character recognition (OCR) of a scanned photocopy followed by proofreading, to create yet another "edition" of Esquer's book with occasional misreadings of Hayden's somewhat unclear copy and the few inevitable new typos.

To clear up as much of that checkered history as possible, I reviewed and compared all three versions (the Spanish publication, the Irwin Hayden English translation, and the Owens digital rendering of Hayden's version). I utilized my own knowledge of Spanish, consulted various texts, and in certain cases, consulted with Spanish-speaking colleagues Richard Flint, Jesús Garcia, Kathleen Kimball, and David Yetman. To clarify the names of fishes, I consulted with marine biologist Phil Hastings. Together we cleared up nearly all of the mistranslations, non-translation of the "Sonoranisms," and typos.

The original Spanish book is delightfully written in a somewhat archaic style that is fun to read but, at times, is almost impossible to translate directly. I hope we managed to retain its fantastic quality with its joyful, devil-may-care attitude mixed with the early conservation ethic that emerges in the later chapters. I take responsibility for any errors that may remain in the circuitous history of Esquer's book.

Gayle Harrison Hartmann  
Tucson, Arizona  
May 27, 2018





Photograph of Gomersindo Esquer circa 1920 (about age 44). Courtesy of Stella Cardoza, Gomersindo's great niece. Stella Cardoza is the granddaughter of Guadalupe Esquer, Gomersindo's younger sister who is shown in the family photograph.

# GUMERSINDO ESQUER OF SONOYTA: A MEXICAN JULES VERNE IN THE FOOTSTEPS OF WILLIAM HORNADAY<sup>1</sup>

William K. Hartmann, Gayle Harrison Hartmann,  
and Guillermo Munro Palacio

The native village at Sonoyta, Sonora, was first recorded by Europeans when Father Eusebio Kino visited it in 1698. By 1700, he wrote that this “rancheria...is the best there is on this coast. It has fertile land, with irrigation ditches for good crops..., water which runs all the year, good pasture for cattle, and everything necessary for a good settlement...,” (Kino 1924, II:255). Kino was proved right. Sonoyta was a good place to live.

By the 1920s, Sonoyta was a prospering town, full of busy and optimistic inhabitants, a desert oasis on the Sonoyta River. This was the Sonoyta of the writer, poet, teacher, hunter, and explorer Gumersindo Esquer, one of the most colorful, yet least known, characters of the northwestern Sonora frontier at that time. He rhapsodized about his little town on the first page of his 1928 novel, *Campos de Fuego (Fields of Fire)*.

Sonoyta is an oasis in the midst of the desert. It is worthy of being seen and admired because of the small but never-failing river which, like a beautiful silver ribbon, runs from east to west along the north side, until its waters are lost in the unexplored sand dunes which are in the eastern part of the steep mountain range of El Pinacate.... Its climate is, I know not why, extremely variable, very hot in summer, very cold in winter, and subject to abrupt changes in temperature in spring and fall.

When in flood, the “Little River,” as the North Americans call the stream, fertilizes the floodplains on both banks, where small plantings of maize, wheat, beans, vines, fig-trees, pomegranates, etc. may be seen; these are pleasing to the eyes of the passersby, presenting as they do a most lovely panorama of verdure-clothed fields.<sup>2</sup>

## Sonoyta and the Explorers

Scientific exploration helped inspire the flowering of Sonoyta in the early 20<sup>th</sup> century. As early as 1887, the French geographer Alphonse Pinart passed through the area. Sailing from San Francisco, he visited Caborca and Sonoyta, explored the Pinacates, and sketched missions and lava fields. His account of his travels was published in 1880 in the French journal, *Bulletin de la Société de Géographie* (Pinart 1880). Intriguingly, Pinart mentions that around Batamote, on the southeast flank of the Pinacates south of Sonoyta, he heard a rumor of a discovery of ruins of a presumably Spanish-era “mission or church” and other structures. As we will see, this is the kind of story that may have influenced Esquer, forty years later.

Pinart’s publication, about both geology and folklore, probably also helped inspire a more famous expedition in 1907, when the sizeable MacDougal-Hornaday-Sykes party passed through Sonoyta, with colorful local lawman, Jeff Milton, as a guide. From then on, other historically interesting citizens of the area, such as Alberto Celaya and Hia C’ed O’odham Queléle, acted as guides for such Pinacate explorers as Carl Lumholtz and Julian Hayden. MacDougal’s 1907 party described various species of large animals such as bighorn sheep and pronghorn that roamed the region. They collected specimens, discovered and named yawning craters, photographed cacti and rattlesnakes. Hornaday, primarily a zoo director and travel-writer, published a bumptious book about the expedition’s adventures in 1908. Brimming with American turn-of-the-century optimism and enthusiasm, Hornaday’s *Camp-Fires on Desert and Lava* describes awesome vistas of lava and “first” descents into spectacular craters (which Native Americans had certainly visited previously). One of the most impressive anecdotes recounts the odyssey of MacDougal’s indefatigable colleague, Godfrey Sykes, who left camp alone one day at 1 p.m., and without telling anyone, made a 43-mile round-trip walk (according to his pedometer) across the trackless Gran Desierto dunes in order to reach the coast and calibrate his barometer at sea level, returning at 1:30 a.m. Sykes was photographed standing on his head after an ascent to Pinacate Peak, Jeff Milton was photographed with a rattlesnake on his bedroll, and a swell time was had by all.

Lumholtz, a Norwegian naturalist, passed through Sonoyta in 1909 and published his slightly more sober book of exploration in 1912. The two books, *Camp-Fires on Desert and Lava* and *New Trails in Mexico*, only four years apart, inspired new interest in the little known natural and historical features of this isolated volcanic desert area. Both

books contained new maps. Sonoyta was getting noticed. In a few decades a north-south road to Rocky Point would bring new commerce as well as *Norte Americano* tourists.

### Esquer's Curious Book: *Campos de Fuego*

The MacDougal expedition and the growing interest in the wonders of the Pinacates inspired something else in the 1920s—a burst of literary creativity little known outside of Sonora. Out of nowhere, seemingly, came an intriguing book in Spanish, recounting an astounding tale about an obscure but amazing Mexican expedition into the Pinacate region. It was an expedition that discovered historical treasures, a Spanish-era burial, and a lost mission, all amidst the Pinacate wonderland of dark volcanoes and sun-bleached dunes. The book, titled *Campos de Fuego*, was written by Gumersindo Esquer, the otherwise obscure school teacher.

Esquer's book was never well known. Originally published in Spanish by El Modelo in Hermosillo, Sonora, it was printed as a small, soft-cover book with an artfully designed cover. We are not sure how large an edition was printed. The book, long out of print, is available in the Special Collections of the University of Arizona Library (Esquer 1928).

The book became something of a legend among the small band of scientists, explorers, and desert buffs who penetrated the Pinacates by mid-century. Two of us (WKH and GHH) learned about it from Julian Hayden in the early 1970s. As a result, Esquer's account was described briefly in *Desert Heart* (Hartmann 1989).

It seems Esquer wrote the manuscript between 1926 and 1928. The extraordinary account reads like an alternate-universe version of Hornaday's *Camp-Fires on Desert and Lava*, even down to the title, *Campos de Fuego*. The text tells of a fateful camping trip, organized by a band of hearty Sonoyta outdoorsmen in order to explore the hidden heart of the nearby Pinacates. Esquer based his tale not only on Hornaday, but also on his own desert travels and on those of his Sonoyta pals. The protagonists of the story plan their adventure with rowdy male humor in a bar in Sonoyta. They start their month-long odyssey on horseback with three wagons and a dozen mules. Well-armed, the party blasts away with eco-abandon at most of the animals they sight. In the first few days, they claim, they proudly knock off two mountain lions, 14 pronghorn, several javelinas, and a bighorn sheep, whose head they keep as a trophy. (They seemed not too concerned to limit their take to what they could actually use; the MacDougal-Hornaday

expedition of 1907, also happy hunters, collected many specimens for museums.) In a nod to the personality of Godfrey Sykes and his barometer, Esquer tells us that the two “engineer”-scholars on the expedition made many barometric measurements of the altitudes along the route, and he complains that they also wanted to measure every rock they encountered. (Esquer tells the story in first person, as if he were on the trip.)

Eventually they reach the first of the Pinacate volcanos, Cerro Colorado. “Three times hail, Watch Tower of the Desert! Hail, silent witness of dreadful cataclysms!” exclaims the enthused narrator. The next day, they cross two kilometers of desert and several more kilometers of lava, whereupon they find a sunken region, a kilometer in radius, at the center of which they find a lava cave. Poking about in the cave, they stumble on a tremendous discovery: The cave contains not only Indian offerings (as actually found at “Itoi’s cave” near the Pinacate summit), but also bronze Christ figures, religious oil paintings, and a burial that seems to be that of an early Spanish priest. The materials are very old and encrusted with bat guano.

The modern reader’s excitement mounts! Why have we not heard of this find? We’ve reached only Chapter 3 out of 12 chapters ...what else is in store? The discoveries become more astonishing with every page. Soon, the hearty band has found mastodon bones. (Again, there’s a realistic element here: skeletal material from numerous mammoths have been found eroding out of washes and hillsides in the Sonoran Desert, which was a more temperate land at the close of the last ice age. Even Coronado’s expedition in 1540, somewhere in the hills of southeastern Arizona, remarked on what seems to have been a giant mammoth tusk.) By Chapter 8, Esquer’s party has cannibalized their tent fabric to parachute into a deep crater, and discovered a buried treasure of gold and silver coins. Next, they stumble onto the ruins of a city, protruding from the Pinacate lavas, where it was buried during some ancient eruption—not to mention their find of a lost mission of Father Kino, buried in the shifting Gran Desierto dunes, complete with bells (a find that echoes the persistent rumor mentioned earlier of at least one lost mission from the Kino days.)

Esquer tells this story with a straight face, but the whole book turns out to be a light-hearted fabulosity, a science-fictional spoof of a trip made by some of Esquer’s pals in the region around Sonoyta! Yet, to anyone who’s been there, it’s half believable that such wonders have been lost in the shifting sands and lavas of time. The elements are cleverly assembled from bits of real Sonora/Arizona history and old-timers’ mythic tales.

Esquer's mysterious book was privately translated into English around 1964 by archaeologist Irwin Hayden, father of famed Pinacate explorer/archaeologist Julian Hayden. This translation, in typed manuscript form, remained unpublished until now. In his preface, Irwin Hayden shares his initial reaction to the book, echoing the experience of many other Anglo desert buffs and scholars when they read the first pages of Esquer's wild tale: "Is this for real?" And by the end of the book, the question has become "Who was this fellow, Gumersindo Esquer?"

## Who Was Gumersindo Esquer?

Esquer was a Mexican Jules Verne and renaissance man of the Sonoran frontier. His book followed the style of Verne, who wrote a few decades earlier, by starting with real geography and a plausible party of explorers, then leading them into a fantastic adventure. But what brought this unknown Sonoyta resident to such a literary effort?

According to biographical sketch by Alonso Vidal, in the 1985 book *Poesía Sonorense Contemporánea 1930-1985*, Esquer was born in 1879. However, in 2018 we received Esquer's baptismal record from his great niece, Stella Cardoza, which was dated February 13, 1877. The baptism is generally two months after the birth, indicating that Esquer was born in December 1876. Stella Cardoza also quoted Esquer as saying he was born in Promotorios, a small town near Alamos, in southern Sonora, and she mentions that he was married in December 1896. A border-crossing document of Esquer dated June 1924 notes that he is married and his wife's name is Petra. A Mexican government investigation into his death is dated September 1933, strongly suggesting he died about August 1933, at the age of 56. [These documents were provided by Ms. Cardoza in 2018]. Irwin Hayden, in his 1964 foreword to *Campos de Fuego* says that Regino Celaya, who knew Esquer, told the Haydens that Esquer was "probably a Mayo Indian," and that he was "a man who made long journeys on foot, eschewing motor cars...." Whatever his possible Mayo connections, he grew up in a Europeanized family. Information about Esquer's family came to us after publication of *Desert Heart*, when one of us (WKH) received a handwritten letter, dated October 14, 1992, from Steven Figueroa, of Victorville, California. Figueroa explained that Esquer was his great-great uncle and he sent a family photo thought to date from the 1890s. He added that a cousin had traced the Esquer and Figueroa families back to Spain in the 1500s. We now know the cousin is Stella Cardoza.

Esquer showed early poetic inclinations. Vidal says that Esquer was influenced as a young man by the poet, Juan de Dios Peza, 27 years older, who was popular during the 1890s. Peza was known to have a wide circle of literary friends in Sonora, and Vidal assumes that Esquer was one of them. After Peza's final volume of poetry was published in 1900, Esquer (at around age 22 according to Vidal), wrote a lament that his favorite poet's voice had fallen silent, saying in part:

Your "songs of the home" leave impressions  
in the soul, word for word;  
don't be surprised, poet, it's not new for me,  
when my being is suffering, my consciousness opens.<sup>3</sup>

Vidal remarks that a certain intense, internal grieving seems to burst from many of Esquer's verses, and that the poems showed an interest in the ambiguous power of words. Vidal also remarks that "Gumersindo Esquer is remembered above all for having been an adventurous spirit.... He was, in a certain sense, an innovator, who figured out his own path in life. He was a bucolic, a romantic, a modernist—always finding his own way."

Never widely known, Esquer seems to have made his living primarily as a teacher. Vidal reports that he studied education and was a teacher to several generations in schools in Navojoa, Santa Cruz, La Casita, the Nogales area, and Santa Ana, among other communities. He must have roamed widely across northern Sonora but seems to have settled in Sonoyta where he was known as a teacher in the 1920s.

A fascinating article describing the long, colorful history of the Esquer family, has recently come to our attention. It turns out that Gumersindo's Basque ancestors migrated from Cádiz, Spain, to Veracruz, Mexico, in 1694. Members of the family held various posts on the frontier of Sinaloa and Sonora in the 1700s, finding themselves involved in episodes of Yaqui (Yoeme) and Pima (O'odham) unrest. If Gumersindo was conscious of the adventures of his ancestors, it might explain why he was moved, as a humble teacher in the tiny frontier settlement of Sonoyta, to write poetry and concoct the adventure story, with its historical allusions, that you hold in your hands now (Cardoza 2013–2015).

In 1985 one of us (GMP) interviewed Sonoyta resident Domingo Quiroz, who knew Esquer and shed new light on Esquer and the roaring twenties in Sonoyta. According to Quiroz, Esquer was regarded around town as an eccentric, a madcap fellow "always disheveled and unkempt. He lived in a house there and had forty or fifty cats! He was a

great hunter, Gumersindo. He really liked to hunt *cimarrones* (bighorn sheep). He'd go out on foot, but not too far from Sonoyta."

Quiroz, Esquer, and their friends were always ready for adventure. Esquer, with the help of the others, built a car from various donated parts—frame, engine, wheels—and took a trip to Puerto Peñasco in 1927 before there was much of any community there. They dubbed the car "*El Pájaro Azul*"—the Blue Bird. The car worked better than their firearms. The homemade gun Esquer had made and taken along for hunting failed to fire, surprising Quiroz, who thought Esquer was capable of building anything, even something as complicated as a firearm.

What about Esquer's livelihood during his Sonoyta years? Quiroz remembers that for some time he worked at the border crossing as an immigration officer. Then he served as a *comisario* or elected official representing the town, and finally he became a teacher to the O'odham in Sonoyta. At that time O'odham families, then called Papagos, lived around Sonoyta as they had for hundreds if not thousands of years. In spite of their long-standing ties to the region, they were regarded as second-class citizens and did not go to the school attended by Sonoyta's Mexican citizenry. A local Chinese businessman, however, gave a piece of his property to be the location for a "Papago school." It was Gumersindo Esquer who became the teacher. In the words of Quiroz, "Esquer was a rural teacher for Papagos. He made everything, all the items for the school, such as the ironwork, the hardware, the planes [for carpentry], all of the things so that the Papagos could do ironwork; everything to do this and that; he even taught them how to cure hams. He taught them everything. He was very intelligent!"

Esquer's wide-ranging intelligence fed his creativity. Vidal remarked that Esquer had an unusual ease in his writing. In a similar vein, Quiroz recounted that Esquer would call out, "Hey there, Quiroz, want a poem? I'll write you one!" He would then compose one out of his head, on whatever subject was suggested.

Not content as a teacher and poet, Gumersindo Esquer was also a painter. "He had vision," said Quiroz. This Verne-like vision contributed to his interest in the future. One of his paintings (1930s?) portrayed "Sonoyta in the year 2000." It showed a train and a highway passing through Sonoyta from California and heading on to Peñasco. "Esquer, my father, my uncle, and my grandfather, all thought that Sonoyta would become very large and be an important crossroads," said Quiroz. For a long time the painting reportedly hung in a bar in Sonoyta; then it passed through various hands and was eventually lost. Esquer reportedly also made paintings of the mission in Caborca and the ruins of the mission of San Marcelo on the hill overlooking Sonoyta itself.

Gumersindo Esquer was also an ardent outdoorsman, according to all our sources. Vidal remarked that “Esquer was always a wanderer who was fascinated with nature...” He could also be called a naturalist, although he was hardly a naturalist in the mode of East-Coast scholar-writers like MacDougal or Hornaday. Rather, he was a home-grown Sonoran product, a sort of cross between a 2000-era, gung-ho, off-roading gun-enthusiast and a sensitive Sonoran poet. In Vidal’s colorful phrases, “[He] swallowed the Altar Desert [the broad desert country of northwest Sonora]. He was obsessed with it, bewitched by an absolute hypnosis, and completely absorbed in its mystery.... Whenever he could, he escaped, sometimes with friends and sometimes alone, into the hills and byways. With Adalberto [Sotelo], [Esquer’s friend who became rector of the University of Sonora] he went on long trips. They traveled together on several adventures into the Altar Desert.” Confirming this image, Quiroz told how Esquer and Alberto Celaya (later a guide to Julian Hayden, and namesake of a prominent Pinacate crater) would travel “all over the place.”

### The Roots of *Campos de Fuego*

Sotelo, in January of 1928, wrote a prologue to *Campos de Fuego*, in which he calls Esquer “my most worthy friend... a gracious man, a keen observer and a poet of feeling.” Sotelo’s endorsement of the book rises to greater heights of rhetoric, perhaps with tongue edging toward cheek:

... the book, in my opinion, is none other than the commencement of an era of advance for this forgotten part of the district of Altar to which the author has now, for some years, dedicated all of his attention and energies. Those who know Esquer, those who have watched him as he contended with poverty, without resources, as he carried his stainless integrity like a shield, can believe that the best reward for his labors would be success in diverting attention from populous centers of wealth to this region, an emporium of natural resources as yet unexploited, to whose interesting features are joined the severe beauty of its volcanoes, the austerity of its deserts, and the rich treasure of its natural harbors on the shore of the Gulf of California.

*Campos de Fuego*, the first book of its kind devoted to this section of the district of Altar, will doubtless be the precursor of new commercial and scientific orientations and since its author, by writing it, has striven only for the satisfaction of



Young Gumersindo Esquer and his extended family, about the 1890s, with handwritten identifications. (Photo courtesy of Steven Figueroa, Esquer's great-great nephew, 1992. Photoshop touchups by WKH).

having completed the execution of the sacred duty of patriotism, he will see his efforts crowned with success and admiration[,] and gratitude will bear tribute to his memory.

According to Quiroz, Esquer especially admired the Pinacates. Of that volcanic wonderland, he used to say, "*Que vengan los hombres de ciencia!* Let the men of science come!" In this, he was prescient. In the 1950s and '60s, American geologists did come to study

and date the lava flows. Apollo astronauts trained there in the '60s to get a firsthand idea of lavas and craters so they would be prepared for what they would find on the lunar surface. And later came a new generation of Mexican naturalists. In 1993, the Pinacates became a biosphere reserve with the official name, La Reserva de la Biosfera El Pinacate y El Gran Desierto de Altar.

What clues does *Campos de Fuegos* itself reveal about Esquer's familiarity with the Pinacates, and that of his friends in Sonoyta? It contains recognizable descriptions of many specific features of the Pinacates. In some cases names are given, but others are left unnamed. Usually there is some embellishment of the features for dramatic effect. As mentioned above, they first reach Cerro Colorado, described by name, although Esquer makes the ascent of the rim and descent onto the floor (really just half-hour strolls) sound like day-consuming efforts. They leave toward the flows to the southwest where they encounter a deep cavern in which they find the skeleton of a Spanish priest and other artifacts. Then, after crossing unspecified country (with the Spanish priests' burial), they come to Tinaja de los Papagos, which is fairly accurately described. From there they go to what seems to be Sykes Crater (which indeed is the nearest large crater), but the Anglo name, given by the MacDougal-Hornaday-Sykes expedition twenty years earlier, is not used. The crater remains unnamed. The "buried ridges" are visited, now known as the "Buried Range" out in the Gran Desierto (where they discover the apocryphal lost Mission of the Four Evangelists as well as a chest of Spanish doubloons). An ascent of the summit is also described, although Esquer does not use the Anglo names of Pinacate Peak and Carnegie Peak assigned to the summit cinder cones. A large lava cave found nearby may or may not be "Itoi's cave," described by Lumholtz. Cuervo Tanks is named and described briefly. Esquer often lists compass bearings that sound reasonably accurate in some cases, but not in others. He mentions a "poor woodcutter" encountered at Cerro Colorado, matching encounters with friendly woodcutters described by Julian Hayden in the 1950s and experienced by some of us (WKH, GHH) in the 1960s and 70s.

Esquer seemed fascinated with lava tubes, grossly exaggerating their size. Typical lava tubes in the Pinacates are 1 to 2 meters high and up to a few tens of meters in length. When the devil-may-care adventurers parachute into Esquer's sheer-walled version of Sykes Crater, they seem to have made no plans on how to get back out. After they have explored the bottom, they fortunately discover a lava tube that leads to an exit outside the crater rim. This is one of Esquer's shorter tubes! Others lead much of the way across the Pinacates, possibly under the Gran Desierto all the way to the sea. The explorers

spend substantial time discussing whether to take aboveground routes or underground routes!

The overall geographical/geological content of the book proves that many features of the Pinacates were well known in the Sonoyta community around 1926–28. The perceptive descriptions, even when exaggerated, lead us to believe that Esquer himself did visit at least some of the features, especially Cerro Colorado, Papago Tank, and Sykes Crater, and perhaps the summit. We cannot prove, however, that Esquer did not take his descriptions of some features from others who had been there. The absence of names from either the Hornaday or Lumholtz maps suggests Esquer was not working with copies of those books by his writing table (nor do we know if he could read English). On the other hand, the many parallels to the structure of the MacDougal expedition (wagons, scientists, barometric measurements, collection of animal specimens for museums, rattlesnakes on bedrolls, book title, and similar route) strongly suggest that he was inspired by that expedition and perhaps even Hornaday’s book itself. It seems likely that Esquer knew people in the Sonoyta area who had helped guide MacDougal in 1907 or Lumholtz in late 1909 and early 1910, and we cannot rule out that some of his descriptions may have come from conversations about the expeditions, rather than from the resulting books.

We have better, but still only partial, information about the specific genesis of Esquer’s book. What was his motivation in writing it? Vidal claims simply that it was as a result of Esquer’s desert trips with Adalberto Sotelo that *they* wrote a book, *Campos de Fuego*. Vidal’s use of “*they*” is intriguing—it is the only indication we have that Sotelo helped spin the yarn. As recounted later by Irwin Hayden in the foreword to his translation of *Campos de Fuego*, and affirmed by his son Julian Hayden (1987, private communication), the two Haydens discussed the book with Don Regino Celaya, of Sonoyta, who according to Esquer’s account was a member of the purported expedition. They also sought another living member of the original expedition Don Ramón Gil Samaniego, but his whereabouts were unknown. Celaya gave them a slight variation on Vidal’s version of the book’s genesis. Esquer’s story was inspired (but only loosely!) by a real trip. As Irwin Hayden notes in his foreword to the translation of *Campos de Fuego*,

We learned much from Señor Celaya. Esquer’s tale was a hoax, from beginning to end. It was based on a two-days’ trip into the Pinacate area by a handful of men, including Don Regino. This trip was made at the suggestion of a man from

Phoenix, Arizona, Señor Roque Santos, who wanted to inspect a cave in which a deposit of guano was burning.

The burning cave does not play much of a role in the actual book, although Santos does show up in the Pinacates part way through the story. What is most interesting to us about the burning cave is its echo of a curious observation by the French explorer Alphonse Pinart, during his 1878 exploration of the Pinacates. Pinart, a professional geographer, said that in the southern Pinacate lavas, he found one of several secondary cones “still in partial activity. The opening of this little crater is filled in with sulfurous and warm cinders; on one of the sides is a cave from which escape abundantly some very sulfurous vapors.” Inside this cave he also found Indian offerings (Pinart 1880 quoted in Hartmann 1989:175). This story is striking in two regards. First, this account from Pinart is the only known account of fumerole activity in the Pinacates and has never been confirmed or clarified. Second, the discovery may have been a point of origin for local rumors, or perhaps even something read by Esquer, which may have inspired his own tales of volcanic caves and burials. Julian Hayden suggested to one of us (Hartmann 1989:176) that the source of Pinart’s description of sulfurous fumes might have been burning guano in one of the caves. Hayden recalled that the aging Alberto Celaya, in Sonoyta, had told stories of how his uncles had explored a lava tube in this part of the Pinacates, where natives’ firebrands were found, which the Celayas lit to explore the cave’s recesses. One of these was apparently dropped, which, according to the story, started a fire that smoldered for some years.

Archaeologist Paul Ezell (1991) supports this story. In 1951, he conducted an interview with Alberto Celaya, who described burning guano in a lava cave. Ezell, indeed, may have been the source for Hayden’s story. In his transcription of the interview Ezell states that “Celaya’s father told him that about 1880 a big cave on the Pinacate which had a deposit of guano which was fired somehow; this smoldered for a whole year, giving off smoke, and some people thought it was the volcano erupting....” In any case, it is possible that Celaya’s date was off by a couple of years and the smoldering cave was the one visited by Pinart in 1878, or at least that fumes from that cave had circulated through the lava tubes and porous lavas and were detectable in the tube visited by Pinart.

The whole story of Pinart’s fuming cave, not to mention his account of a mission or *visita* ruin, raises questions about the origins of the folklore of fabulous finds and phenomena in the Pinacates. In his foreword Irwin Hayden remarks that “we had heard

him described as the ‘grandfather of all lies,’” and a worthy, gracious man at the same time. But it is likely that many stories regarded as tall tales of the desert were not made up from scratch, but evolved, in a sort of “game of telephone,” from recountings and exaggerations of legitimate observations (whether interpreted correctly or not by the original observer). Esquer utilized and embellished these stories.

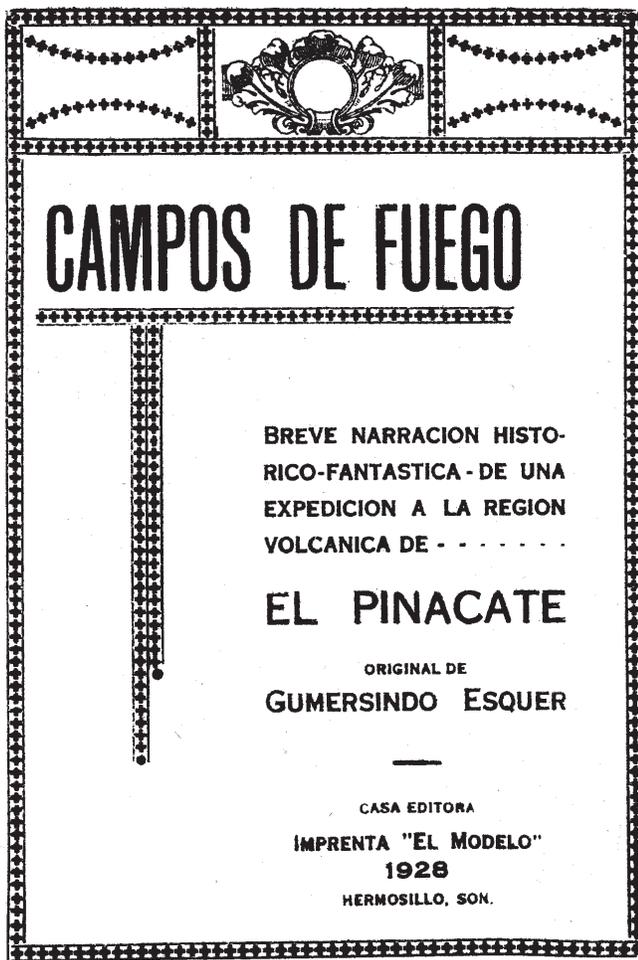
The Haydens concluded from their talk with Celaya that all the characters in Esquer’s “expedition” were real friends of his, except for the two professional “engineers” who were described in the book as “the scientific leaders” of the party. Celaya said the two-day trip had bagged one mountain sheep; it also brought back a harvest of stories. Celaya supported the view that Esquer created his book not only from his own real exploits and those of his friends, but from his friends’ braggadocio. In Celaya’s words, recounted by Hayden, “Esquer...built his tale from many a tall story heard by him in the *cantinas* of Sonoyta...”

Indeed, Esquer starts with exactly such a scene ...

There was a bar on the main street ... It was the night of October 10, 1926, and in the bar was a group of men, singing and joking. This bar was a place where idle men gather to talk and pass the time away with song and banter. As the evening was just begun, no one remembered to drink iced beer, tequila, fig-wine, or pomegranate, or any of the other poisons dispensed in this sort of place; everyone devoted himself to the telling of tall tales, in which he hoped to top all the others.

We conclude, then, combining the various accounts by Domingo Quiroz, Alonso Vidal, and Irwin Hayden, that Esquer developed *Campos de Fuego* by combining the adventures of his friends with his own knowledge, as well as drawing on Hornaday’s book and on local historical legends of the region, with all pages manifesting Esquer’s madcap zest for life. *Campos de Fuego* thus bequeaths us a unique legacy of early Pinacate days, a fictionalized compendium of the Pinacate mystique, and a good-natured Sonoran parody of the academic visitors from the outside world—MacDougal’s party especially.

*Campos de Fuego* may have had another legacy—it may have kept alive the lure of Sonoran Desert legends. One example was the American novelist Robert Duncan, who (under his pen name James Hall Roberts) wrote his own novel of fabulous Sonoran Desert discovery. The title of his book (*The Burning Sky*), also alluding to fire, has Tucson heroes discover the last surviving Hohokam village, in the Growler Mountains, north



Cover of *Campos de Fuego*, published in Spanish in 1928 in Hermosillo, Sonora.

of the Pinacates. Duncan, in later interviews about his own sources, recounted hearing (circa late 1950s) “construction workers talking about the lost village that still existed in the malpais ... around an old church, the steeple of which could sometimes be seen glinting miles off in the lava bed.” The tale sounds like a grandchild of Esquer’s 1928 imagination, descended in turn, perhaps, from Pinart’s more legitimate 1880 report of mission or *visita* foundations found at Batamote.

### Gumerindo Esquer: An Appreciation

Gumerindo Esquer stands as an example of a brilliant, creative spirit nearly lost, through no fault of his own, in a desert backwater outside the mainstream of 20<sup>th</sup> century culture. Had he been born in the New York of the 1930s, Paris of the 1890s, or Athens of the 200s B.C., we might have heard more of him.

He was as colorful and poignant in death as he was in life. Vidal wrote “Everyone knew of his [final] solo trip. He paid no attention to warnings. He didn’t return.”

One of us (GMP) got a more detailed account from Domingo Quiroz. Alluding to the ancient link between genius and madness, Munro asked, “Esquer was half mad, wasn’t he? Was that why he died?”

“Yes,” answered Quiroz, “he was crazy, just like all the Quirozes! He didn’t have a car. He was going to collect his pay at Sásabe or Magdalena, that’s where they paid the rural teachers. He died for a shitty salary ...three pesos a day they paid him.... He went on foot; it was closer if he went across the desert, and he never knew it but he died very close to the water. He wrote his own epitaph on his hat while he was dying in agony:

*Aquí murió Gumersindo Esquer, maestro rural de Sonoyta.* (Here died Gumersindo Esquer, rural teacher of Sonoyta.)

Irwin Hayden, in his foreword to *Campos de Fuego*, stated that the hat's inscription contained a phrase to the effect that he was dying of thirst and that no one should be blamed. Esquer was found in the shade of a tree, only about a mile from the home of his friend, Señor Regino Celaya.

"Señor Contreras from Caborca told me once that he had Esquer's hat, with that inscription," said Quiroz. Irwin Hayden's account says the hat was preserved in a museum in Caborca, but we have been unable to confirm this.

As previously mentioned, Esquer's fantastic book played a role in the evolution of the Pinacate Biosphere Reserve. In 1985 his book was reprinted in Mexico at the behest of the Ministry of Urban Development and Ecology, in connection with the establishment of the Reserve. An aerial photograph of Elegante Crater by Arizona geologist and photographer Peter Kresan graces the cover. This edition also contains a preface noting that:

The primary interest of the Ministry of Urban Development and Ecology in reprinting this interesting work by Gumersindo Esquer is to encourage and promote a conservation ethic on the occasion of the creation and operation of the Biosphere Reserve, *El Pinacate*.

The preface goes on to note that this book will permit us to understand some of the documented historic traditions of the Pinacate region by means of personal experiences of the author around the beginning of the past century. True, the most vivid "experiences" in the book were made up, but at the same time, they grew from the cultural fabric of the area.

Various geographic features of the Pinacates, such as craters, cinder cones, lava flows, and lava caves, have been named for explorers of the region. The time has come to name some appropriate feature for Gumersindo Esquer, the little-known teacher, dreamer, explorer, and artistic soul who, without ever becoming famous in his lifetime, made his mark among the legends of the Pinacate borderland.

<sup>1</sup> Originally published in *Journal of the Southwest* 49, 2 (Summer 2007): 305–321, republished here with permission from the editor. For this reprint we have made minor updates.

<sup>2</sup> A reminiscence of Esquer's Sonoyta was included by one of us (GMP) in the prizewinning novel, *Las voces vienen del mar (Voices come from the Sea)*, published in Spanish in Sonora in 1992. In this multi-generation novel of the Sonoran coast, the scenes are based on interviews with local inhabitants. A modern character poses a historical question to an elderly inhabitant, who affirms Esquer's prose:

“What other things do you remember [about Sonoyta], Rosalía?”

“The town. For us, it was almost paradise. [Back in Puerto Libertad] there was nothing. Only the sea in front, and behind, the immense desert as far as we could see.... But in Sonoyta, we found ourselves among cottonwoods and palms. Everywhere there were figs, pomegranates, grapes, and oranges. The whole town was an enormous orchard.... There was an *acequia* [irrigation ditch] that ran beside each house, a little river that was full of little fish.”

<sup>3</sup> All Esquer translations by Irwin Hayden. All Vidal translations by the authors.

## ABOUT THE AUTHORS

William K. Hartmann in his 1989 book of the Pinacates, “Desert Heart: Chronicles of the Sonoran Desert” wrote about Gumersindo Esquer and his book “Campos de Fuego.” He lives in Tucson, Arizona.

Gayle Harrison Hartmann, also from Tucson, has a background in archaeology, scientific editing, and conservation work, and served as editor of *Kiva: The Journal of Southwestern Anthropology and History*. She is a Research Associate at the Arizona State Museum, University of Arizona.

Guillermo Munro Palacio is a writer, photographer, and publisher as well as being the *cronista* (town historian) in Puerto Peñasco, Sonora.

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View of the Pinacate summit from Red Cove camp on an overcast day. In this view, painted in February, the brittlebush are blooming. (On-site acrylic painting, William K. Hartmann, 2004).

## ABOUT THE ARTIST

William K. Hartmann is a planetary scientist, writer and painter in Tucson, Arizona. He was the first recipient of the Carl Sagan Medal from the American Astronomical Society for public presentation of science, and he holds the Lucien Rudaux Award from the International Association of Astronomical Artists for lifetime contributions to astronomical art. His paintings have appeared in exhibitions in Moscow, Switzerland, Hawaii, and the Smithsonian Air and Space Museum in Washington, D.C. He has camped and painted frequently in the Pinacates since the early 1960s.

# Proceedings of the Desert Laboratory on Tumamoc Hill, University of Arizona

The Proceedings of the Desert Laboratory continues discoveries of desert biomes. The focus is arid domains worldwide, especially the Sonoran Desert region, including terrestrial and marine habitats. The journal is open access and peer-reviewed connecting to the roots of the Carnegie Desert Botanical Laboratory on Tumamoc Hill. The Proceedings of the Desert Laboratory, University of Arizona, are monographic to concise in length. Submissions are welcomed from all disciplines including social, biological, and earth sciences, which can be sent to Dr. Benjamin T. Wilder at [bwilder@email.arizona.edu](mailto:bwilder@email.arizona.edu).

## CONTRIBUTIONS:

1. Richard Stephen Felger, Susan Davis Carnahan, José Jesús Sánchez-Escalante. Oasis at the Desert Edge: Flora of Cañón del Nacapule, Sonora, Mexico
2. Gumersindo Esquer. Campos de Fuego: A Brief and Fantastic History of an Expedition into the Volcanic Region of the Pinacate

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