

II The Discovery of Machu Picchu

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One of the chief problems that faced the Yale Peruvian Expedition of 1911 was the question as to whether the young Inca Manco, fleeing from Pizarro's armies and establishing himself in the wilds of Vilcabamba, had left any traces in the shape of ruined palaces and temples. So we went about asking every one if they knew of any such.

It was known to a few people in Cuzco, chiefly residents of the province of Convencion, that there were ruins, still undescribed, in the valley of the Urubamba (Figure 2.1). One friend told us that a muleteer had told him of some ruins near the bridge of San Miguel. Knowing the propensity of his countrymen to exaggerate, he placed little confidence in the report, and had passed by the place a score of times without taking the trouble to look into the matter. Another friend, who owned a sugar plantation on the river Vilcabamba, said he also had heard vague rumors of ruins. He was quite sure there were some near Pucyura, although he had been there and had never seen any. At length a talkative old peddler said there were ruins "finer than Choque-

quirau" down the valley somewhere. But as he had never been to Choquequirau, and no one placed any confidence in his word anyhow, we could only hope there was some cause for his enthusiasm. Finally, there was the story in Wiener's picturesque but unreliable *Pérou et Bolivie* that when he was in Ollantaytambo in 1875, or thereabouts, he was told there were interesting ruins down the Urubamba Valley at "Huaina-Picchu, or Matcho Picchu" (sic). Wiener decided to go down the valley and look for them, but, owing to one reason or another, he failed to find them. Should we be any more successful?

We left Cuzco about the middle of July. The second day out brought us to the romantic valley of Ollantaytambo (Figure 2.2). Squier described it in glowing terms years ago, and it has lost none of its charm. The wonderful megaliths of the ancient fortress, the curious gabled buildings perched here and there on almost inaccessible crags, the magnificent *andenes* (terraces), where abundant crops are still harvested, will stand for ages to come as monuments to the energy and skill of a bygone race (Figure 2.3). It is now quite generally believed that the smaller buildings, crowded with niches, and made of small stones laid in clay and covered with a kind of

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2.2 View across the wheat fields to the mountains north of Yucay.

stucco, were the work of the Incas and their subjects. On the other hand, the gigantic rocks so carefully fitted together to form the defenses of the fortress itself probably antedated the Incas, and, like the cyclopean walls of the Sacsahuaman fortress near Cuzco, were put in position by a pre-Inca or megalithic folk who may have built Tiahuanaco in Bolivia.

At all events, both Cuzco and Ollantaytambo have the advantage of being the sites of a very ancient civilization, now shrouded in romance and mystery. The climate and altitude (11,000 feet) of Cuzco deprive it of lovely surroundings, but here at Tambo, as the natives call it, there is everything to please the eye, from lightly cultivated green fields, flower-gardens, and brooks shaded by willows and poplars, to magnificent precipices, crowned by glaciers and snowcapped peaks. Surely this deserves to be a place of pilgrimage.

After a day or two of rest and hard scrambles over the cliffs to the various groups of ruins, we went down the Urubamba Valley to the northwest. A league from the fortress the road forks. The right branch ascends a steep

valley and crosses a snow-covered pass near the little-known and relatively unimportant ruins of Havaspampa and Panticalla. Two leagues beyond the fork, the Urubamba River has cut its way through precipitous cliffs. This is the natural gateway to the ancient province of Vilcabamba. For centuries it was virtually closed by the combined efforts of Nature and man. The dangerous rapids of the river were impassable, but the precipices on the north side might with considerable effort be scaled. In fact, the old road into the province apparently lay over their dizzy heights. Accordingly man had built at the foot of the precipices a small but powerful fortress, Salapunco, fashioned after Sacsahuaman, but with only five salients and re-entrant angles. The cliff itself was strengthened defensively by walls, skillfully built on narrow ledges.

Salapunco has long been unoccupied. My first impression was that it was placed here to defend the Ollantaytambo Valley from enemies coming up from the Amazon valleys. Later I came to the conclusion that it was intended to defend against enemies coming down

the valley from Ollantaytambo. As a monolithic work of this kind could not in the nature of things have been built by the Inca Manco when fleeing from the Spaniards, and as its whole style and character seem to place it alongside the well-known monolithic structures of the region about Cuzco and Ollantaytambo, it seemed all the more extraordinary that it should have been placed as a defense against that very region. Could it be that it was built by the megalithic folk in order to defend a possible retreat in Vilcabamba? Hitherto no one had found or reported any megalithic remains farther down the valley than this spot. In fact, Squier, whose *Peru* has for a generation been the standard work on Inca architecture, does not appear to have heard even of Salapunco, and Markham makes no mention of it. It never occurred to us that in hunting for the remains of such palaces as Manco Inca had the strength

and time to build we were about to find remains of a far more remote past, ruins that would explain why the fortress of Salapunco was placed to defend Vilcabamba against the south, and not the south against Vilcabamba and the savages of the Amazon jungles.

Passing Salapunco, we skirted the precipices and entered a most interesting region, where we were continually charmed by the extent of the ancient terraces, the length of the great *andenes*, the grandeur of the snow-clad mountains, and the beauty of the deep, narrow valleys.

The next day we continued down the valley for another twenty miles. And such a valley! While neither so grand as the Apurimac, near Choquequirau, nor so exquisite as the more highly cultivated valleys of the Alps, the grand canon, of the Urubamba from Torontoy to Collpani, a distance of about thirty miles, has few equals



2.3 Ollantaytambo. Panoramic view showing the ancient fortress and terraces.

in the world. It lacks the rugged, massive severity of the Canadian Rockies and the romantic associations of the Rhine, but I know of no place that can compare with it in the variety and extent of its charm. Not only has it snow-capped peaks, gigantic precipices of solid granite rising abruptly thousands of feet from its roaring stream, and the usual great beauty of a deep canon winding through mountains of almost incredible height, but there is added to this the mystery of the dense tropical jungle and the romance of the ever-present remains of a bygone race.

It would make a dull story, full of repetition and superlatives, were I to try to describe the countless terraces, the towering cliffs, the constantly changing panorama, with the jungle in the foreground and glaciers in the lofty background. Even the so-called road got



2.4 Plants growing on the side of a cliff at San Miguel.

a bit monotonous, although it ran recklessly up and down rock stairways, sometimes cut out of the side of the precipice, at others running on frail bridges propped on brackets against the granite cliffs overhanging the swirling rapids (Figure 2.4). We made slow progress, but we lived in wonderland.

With what exquisite pains did the Incas, or their predecessors, rescue narrow strips of arable land from the river! Here the prehistoric people built a retaining wall of great stones along the very edge of the rapids. There they piled terrace on *andene* until stopped by a solid wall of rock. On this slightly bend in the river, where there is a particularly fine view up and down the valley, they placed a temple flanked by a great stone stairway. On that apparently insurmountable cliff they built unscalable walls, so that it should be actually, as well as seemingly, impregnable. They planted the lower levels with bananas and coca, and also yucca, that strange little tree whose roots make such a succulent vegetable. On the more lofty terraces they grew maize and potatoes.

In the afternoon we passed a hut called La Maquina, where travelers frequently stop for the night (Figure 2.5). There is some fodder here, but the density of the tropical forest, the steepness of the mountains, and the scarcity of anything like level land make living very precarious. We arrived at Mandor Pampa, another grass-thatched hut, about five o'clock. The scenery and the road were more interesting than anything we had seen so far, or were likely to see again. Our camp was pitched in a secluded spot on the edge of the river (Figure 2.6). Carrasco, the sergeant sent with me from Cuzco, talked with a muleteer who lives near by, a fellow named Melchor Arteaga, who leases the land where we were camping. He said there were ruins in the vicinity, and some excellent ones at a place called Machu Picchu on top of the precipice near by, and that there were also ruins at Huayna Picchu, still more inaccessible, on top of a peak not far distant from our camp.

The next day, although it was drizzling, the promise of a sol (fifty cents gold) to be paid to him on our return from the ruins, encouraged Arteaga to guide me up to Machu Picchu. I left camp at about ten o'clock, and went from his house some distance up-stream. The valley is very narrow, with almost sheer precipices of solid

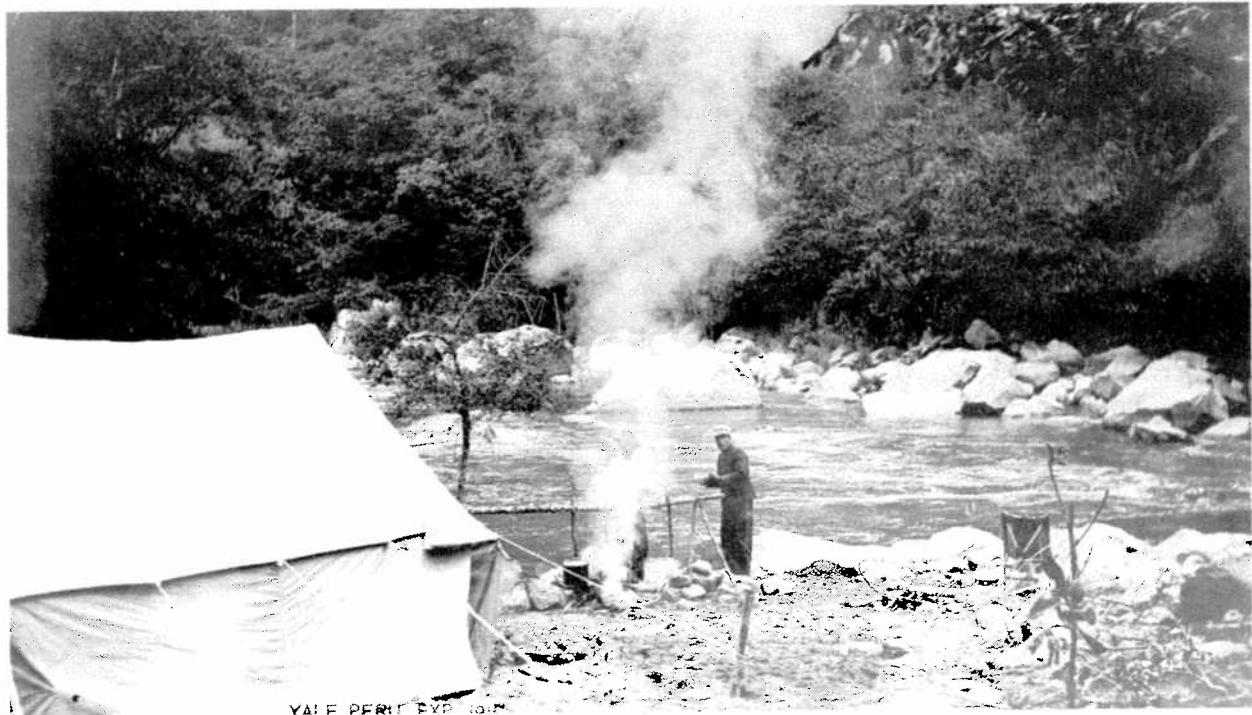


2.5 Indians of the Chamana River.

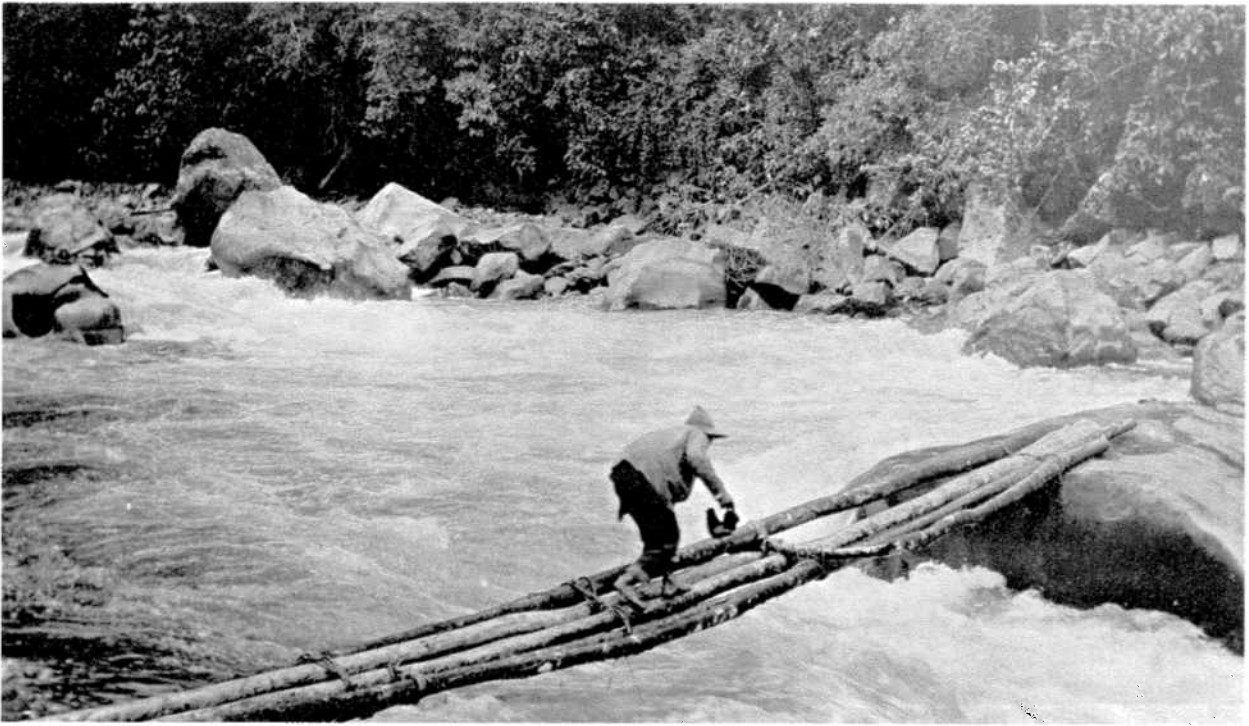
granite on each side. On the road we passed a snake that had recently been killed. Arteaga was unable to give any other name for it than "*vivora*," which means venomous, in distinction from "*culebra*," or harmless snake.

Our naturalist spent the day in the bottom of the valley, collecting insects; the surgeon busied himself in and about camp and I was accompanied on this excursion only by Carrasco and the guide, Arteaga. At ten

forty-five, after having left the road and plunged down through the jungle to the river-bank, we came to a primitive bridge, made of four logs bound together with vines, and stretching across the stream a few inches above the roaring rapids (Figure 2.7). On the other side we had a fearfully hard climb for an hour and twenty minutes. A good part of the distance I went on all-fours. The path was in many places a primitive stairway, or



2.6 Camp at Mandor Pampa.



2.7 Our guide Arteaga crossing the bridge over the Urubamba River.

crude stepladder, at first through a jungle, and later up a very steep, grass-covered slope. The heat was excessive, but the view was magnificent after we got above the jungle. Shortly after noon we reached a hut where several good-natured Indians welcomed us and gave us gourds full of cool, delicious water, and a few cooked sweet-potatoes. All that we could see was a couple of small grass huts and a few terraces, faced with stone walls. The pleasant Indian family had chosen this eagle's nest for a home. They told us there were better ruins a little farther along.

One can never tell, in this country, whether such a report is worthy of credence. "He may have been lying" is a good foot-note to affix to all hearsay evidence. Accordingly we were not unduly excited. Nor was I in a great hurry to move. The water was cool, the wooden bench, covered with a woolen poncho, seemed most comfortable, and the view was marvelous. On both sides tremendous precipices fell away to the white rapids of the Urubamba River below. In front was the solitary peak of Huayna Picchu, seemingly inaccessible on all sides. Behind us were rocky heights and impassable

cliffs. Down the face of one precipice the Indians had made a perilous path, which was their only means of egress in the wet season, when the bridge over which we had come would be washed away. Of the other precipice we had already had a taste. We were not surprised to hear the Indians say they only went away from home about once a month.

Leaving the huts, we climbed still farther up the ridge. Around a slight promontory the character of the faced *andenes* began to improve, and suddenly we found ourselves in the midst of a jungle-covered maze of small and large walls, the ruins of buildings made of blocks of white granite, most carefully cut and beautifully fitted together without cement. Surprise followed surprise until there came the realization that we were in the midst of as wonderful ruins as any ever found in Peru (Figure 2.8). It seemed almost incredible that this city, only five days' journey from Cuzco, should have remained so long undescribed and comparatively unknown. Yet so far as I have been able to discover, there is no reference in the Spanish chronicles to Machu Picchu. It is possible that not even the conquistadors ever

2.8 One of the first photographs taken of Machu Picchu, July 24, 1911.



saw this wonderful place. From some rude scrawls on the stones of a temple we learned that it was visited in 1902 by one Lizarraga, a local muleteer. It must have been known long before that, because, as we said above, Wiener, who was in Ollantaytambo in the 70's, speaks of having heard of ruins at a place named "Matcho Picchu," which he did not find.

The Indians living here say that they have been here four years. They have planted corn and vegetables among the ruins and on some of the terraces. One or two families live in ancient buildings on which they have built roofs. There are also three huts of recent construction. The climate seems to be excellent. We noticed growing sweet and white potatoes, maize, sugar-



2.9 Window of the semicircular building.

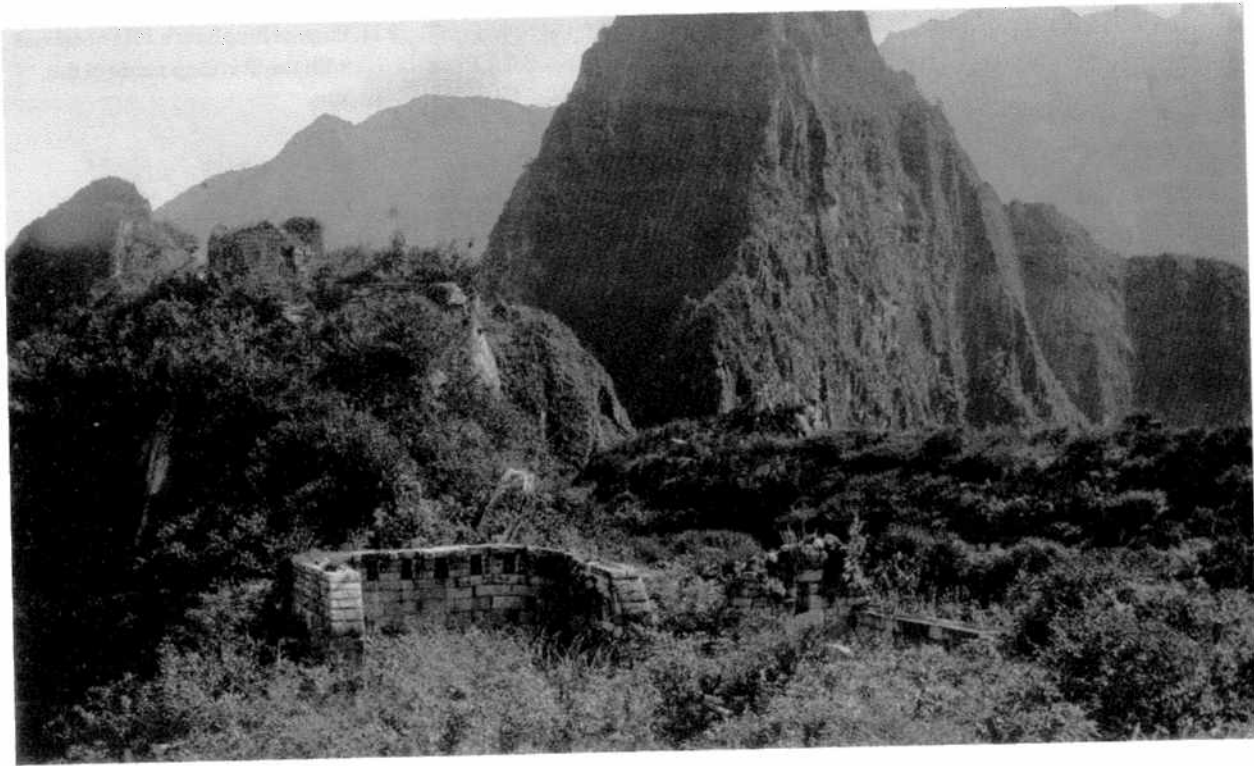
cane, beans, peppers, tomatoes, and a kind of gooseberry.

Travelers like the great Castelnau, the flowery Wiener, and the picturesque Marcou, who have gone north from Cuzco to the Urubamba River and beyond, had to avoid this region, where they would have found most of interest. The Urubamba is not navigable, even for canoes, at this point, and is flanked by such steep walls that travel along its banks was impossible until a few years ago. Even intrepid explorers like Castelnau were obliged to make a long detour and to follow a trail that led over snowy passes into the parallel valleys of the Occobamba and the Yanatili. Thus it happened that the Urubamba Valley from Ollantaytambo to the sugar

plantation of Huadquiña offered us a virgin field, and by the same token it was in this very region that the Incas and their predecessors found it easy to live in safety. Not only did they find here every variety of climate, valleys so deep as to produce the precious coca, yucca, and plantain of the tropics, and slopes high enough to be suitable for maize and potatoes, with nights cold enough to freeze the latter in the approved aboriginal fashion, but also a practically impregnable place of refuge.

About twenty years ago the Peruvian government, recognizing the needs of the enterprising planters who were opening up the lower valley of the Urubamba, decided to construct a mule trail along the banks to the river. The road was expensive, but it has enabled the much-desired coca and *aguardiente* to be shipped far more quickly and cheaply than from the Santa Ana Valley to Cuzco, and it avoids the necessity of climbing over the dangerous snowy passes so vividly described by Marcou and others. This new road enabled us to discover that the Incas — and their predecessors — had left here, in the beautiful fastnesses of Vilcabamba, stone witnesses of their ancient civilization more interesting and extensive than any found since the days of the conquistadors. It is difficult to describe Machu Picchu. The ruins are located on a ridge which ends in a magnificent peak, on top of which are said to be the ruins of Huayna Picchu. There are precipices on both sides, and a large number of terraces, evidently intended for agricultural purposes. There are also *azequias* (stone-lined watercourses), although it is at present somewhat difficult to see whence the water was brought. There are three small springs here, but the Indians do not know of any running water. As it must have taken a considerable water supply to furnish water to the inhabitants of such a large place as Machu Picchu, it may be that an irrigating ditch was carried back into the mountains for many miles to some point from which an unfailing supply of water could be secured.

There is a very nicely made bathhouse, a fountain with some niches, and an adjoining retiring-room with a seat. The water was conducted into the bathhouse through a stone channel, over a nicely cut stone block. On top of a gigantic granite boulder near the bathhouse is a semicircular building, made of nearly rectangular



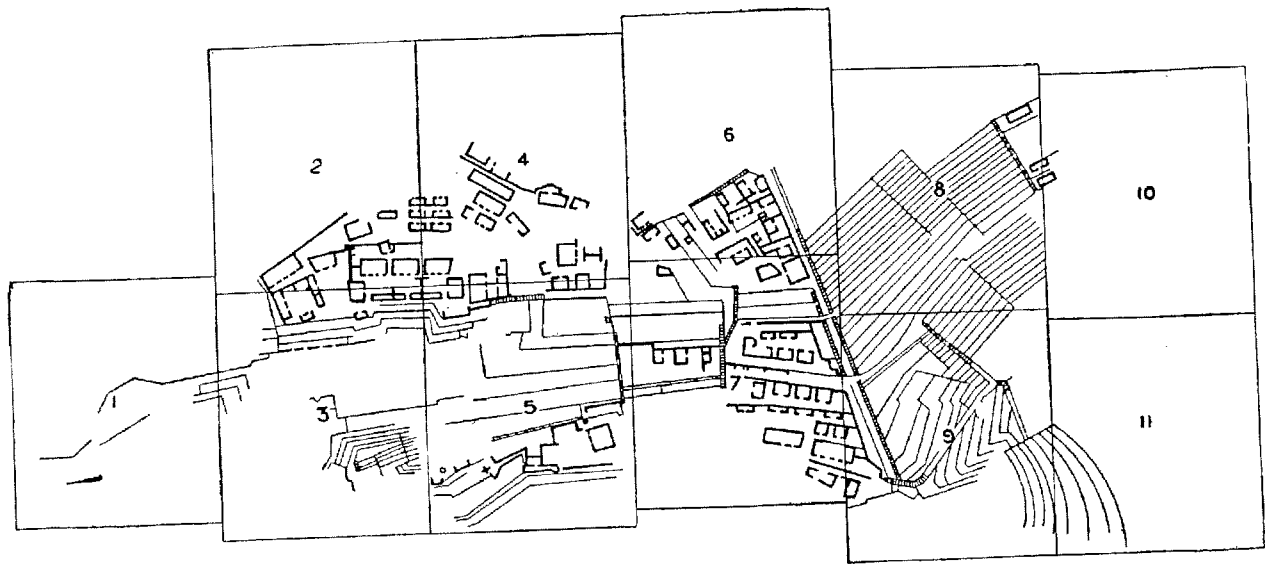
2.10 The three-sided building later called the Principal or Main Temple.

blocks, and containing nicely finished niches on the inside (Figure 2.9). Underneath the boulder is a cave lined with carefully worked stone and containing very large niches, the best and tallest that I have ever seen. There are many stairways made of blocks of granite. One stairway is divided so as to permit the insertion of a catch-basin for water. This stairway leads to a point farther up the ridge, where there is a place which I have called the Sacred Plaza.

On the south side of this plaza there are terraces lined with large blocks, after the fashion of Sacsahuaman, and also a kind of bastion, semicircular, with carefully cut, nearly rectangular stones, somewhat like those in the well-known semicircular Temple of the Sun, now the Dominican Monastery, at Cuzco. On the east side of the Sacred Plaza are the walls of a rectangular building, twenty-nine feet long by thirty-seven wide, containing niches and projecting cylinders resembling in many ways the buildings at Choquequirau. It has two doors on the side toward the plaza but no windows.

On the west side is a remarkable structure, truly

megalithic, entirely open on the side facing the Plaza, and entirely closed on the other three sides (Figure 2.10). The interior measurements of this building are 25.9 x 91 feet. As in the case of all the other buildings, its roof is missing. It is made of blocks of white granite, arranged in tiers. The stones in the lower tier are very much larger than those in any of the others. One block in the lower tier measures 9.6 feet in length; another, 10.2 feet, a third, 13.2 feet. As will be seen from the photographs they are considerably higher than a man and about 2.8 feet thick. The upper tiers are of nearly rectangular blocks, very much smaller, but cut with indescribable accuracy, and fitted together as a glass stopper is fitted to a bottle. The distinguishing characteristic of this building is that the ends of the walls are not vertical, but project in an obtuse angle. At the point of the angle the stone was cut away, apparently to admit a large wooden beam, which probably extended across in front of the structure to the point of the angle at the other end of the wall. This may have been used to support the roof, or to bring it down part way, like a mansard roof. This build-



2.12 Plan of Machu Picchu (published in original 1913 *Harper's Monthly* article).

posed by some to have been a sun-dial. It has steps carved in it, and is in a fine state of preservation.

Directly below the Sacred Plaza the terraces run down to a large horseshoe-shaped plaza, evidently an ancient playground, or possibly an agricultural field. On the other side of this are a great many houses of lesser importance, although well built and huddled closely together. Many of the houses are simple in construction. Some have gabled ends. Nearly all have niches. A few are of remarkably fine workmanship, as fine as anything in Cuzco. The material used is nearly uniformly white granite. The finish is exquisite, and the blocks are fitted together with a nicety that surpasses description. The work is of the same character as that which so aroused the marvel of the Spanish conquerors. Some of the structures are nicely squared, like the palaces at Cuzco. Others have niches which resemble the best at Ollantaytambo. Cylindrical stone blocks, projecting from the wall, are common, both inside and outside the structure. In general they are larger and very much better fashioned than those at Choquequirau. In places the ruins are almost labyrinthian. The plan gives a better idea than can be expressed in words of the extent and character of Machu Picchu (Figures 2.11 and 2.12).

On the north side of the Sacred Plaza is another structure, somewhat resembling that described as being

on the west side in that the side facing the plaza is entirely open. Outside of the building are cylindrical stones projecting from the wall. Huge stones were employed in the lower tier, as in the similar building on the west side of the plaza, and their ends — that is to say, the ends of the side walls — are followed out in an obtuse angle, as in the other structure. Similarly, the point of the angle contains a hole cut into the stone, evidently intended to permit the admission of a large wooden beam. In order to support this beam, which extended across from one end of the building to the other, a single block was erected, half-way between the ends, and notched at the top, so as to permit the beam, or the ends of two beams if such were used, to rest upon it. This structure has an internal measurement of 14.9 x 33.7 feet. Its most striking feature is its row of remarkable windows (Figure 2.13). Three large windows, 3.1 feet wide and nearly 4 feet high, are let into the back wall, and look out upon a magnificent prospect over the jungle-clad mountains. Nowhere else in Peru have I seen an ancient building whose most noticeable characteristic is the presence of three large windows. Can it be that this unique feature will help us solve the riddle of this wonderful city of granite?

Sir Clements Markham, in his recent and valuable book on the Incas of Peru, devotes a chapter to a myth



2.13 Niches in one of the larger buildings.

which was told to all the Spanish chroniclers by their native informants, which he believes is the fabulous version of a distant historical event. The end of the early megalithic civilization is stated to have been caused by a great invasion from the south, possibly by barbarians from the Argentine pampas. The whole country broke up into anarchy, and savagery returned, ushering in a period of medieval barbarism. A remnant of the highly civilized folk took refuge in a district called Tamputocco, where some remnants of the old civilization were protected from the invaders by the inaccessible character of the country. Here the fugitives multiplied. Their descendants were more civilized and more powerful than their neighbors, and in time became crowded, and started out to acquire a better and more extensive territory. The legend relates that out of a hill with three openings or windows there came three tribes. These tribes eventually settled at Cuzco and founded the Inca empire. Tamputo means "tavern," and toco a "window." The Spaniards were told that Tamputocco was not far from Cuzco, at a place called Paccaritampu, but the exact locality of Tamputocco is uncertain. So far no place

answering to its description has been located. It seems to me that there is a possibility the refuge of this pre-Inca fugitive tribe was here in the Vilcabamba mountains, and that Machu Picchu is the original Tamputocco, although this is contrary to the accepted location.

Certainly this region was well fitted by nature to be such a refuge; unquestionably here we have evidences of megalithic occupation; and here at Machu Picchu is a "tavern" with three windows. A view taken of this Temple of the Three Windows from below makes it easy to suggest that this was the hill with the three openings or windows referred to in the myth of the origin of the Inca empire. I may be wholly mistaken in this, and I shall await with interest the discovery of any other place that fits so well the description of Tamputocco, whence came the Incas.

In the meantime it seems probable that Machu Picchu, discovered while on a search for the last Inca capital, was the first, the capital from which the Incas started on that glorious career of empire that eventually embraced a large part of South America.