

What a U. S. Senator Has Found

ABOUT

The Rise and Fall

OF

A Great People

By EMILY C. DAVIS

AN attempt to dispel the mysterious haze which surrounds the birth and death of the great empire of the Incas in Peru is being made by Dr. Hiram Bingham, formerly a Yale professor, now senator from Connecticut.

It is fifteen years since the senator led expeditions through dense Peruvian jungle forest and up perilous trails of the Andes to the "lost city" of Machu Picchu. But he has never got over the fascination of that career as explorer and archaeologist. Discoveries made by those expeditions have been studied and re-studied in the light of old chronicles.

He has now published a new, comprehensive work which includes a double-barreled theory that Machu Picchu was not only the cradle-city of the Incan empire, but the place where the last of the Incas established a sacred city and sent the last Virgins of the Sun to keep up the religious duties of his dying empire.

The Family Ambition

White men, from the Spanish conquerors of Peru down to today, have always been eager to identify the places where dramatic events in Incan history occurred. They have listened curiously to the old traditions telling that the rule of the Incas began when out of some place in Peru remarkable for having three windows there stepped a family of Indians. This family had the ambition to make the Sun god the deity of the Indian world and it had a gift for both conquest and political organization. Starting on its Alexander-the-Great career about the

twelfth century, the group of four brothers and one sister founded the line of Incas, or lords. One of the number became the chief ruler, the Inca.

The place of the three windows naturally became a shrine in Incan history, a shrine that some people have thought legendary, though explorers have hoped to find some basis for the story at whatever place the Incas did start on their conquest.

The career of the Incas lasted gloriously for about five hundred years. They brought tribe after tribe into a great communistic government and built up one of the most machine-like and glittering empires that the world has ever heard of. (Fascist Italy bears some resemblance to that highly organized Indian government.) And then—the Spaniard Pizarro came sailing to America in quest of gold and adventure.

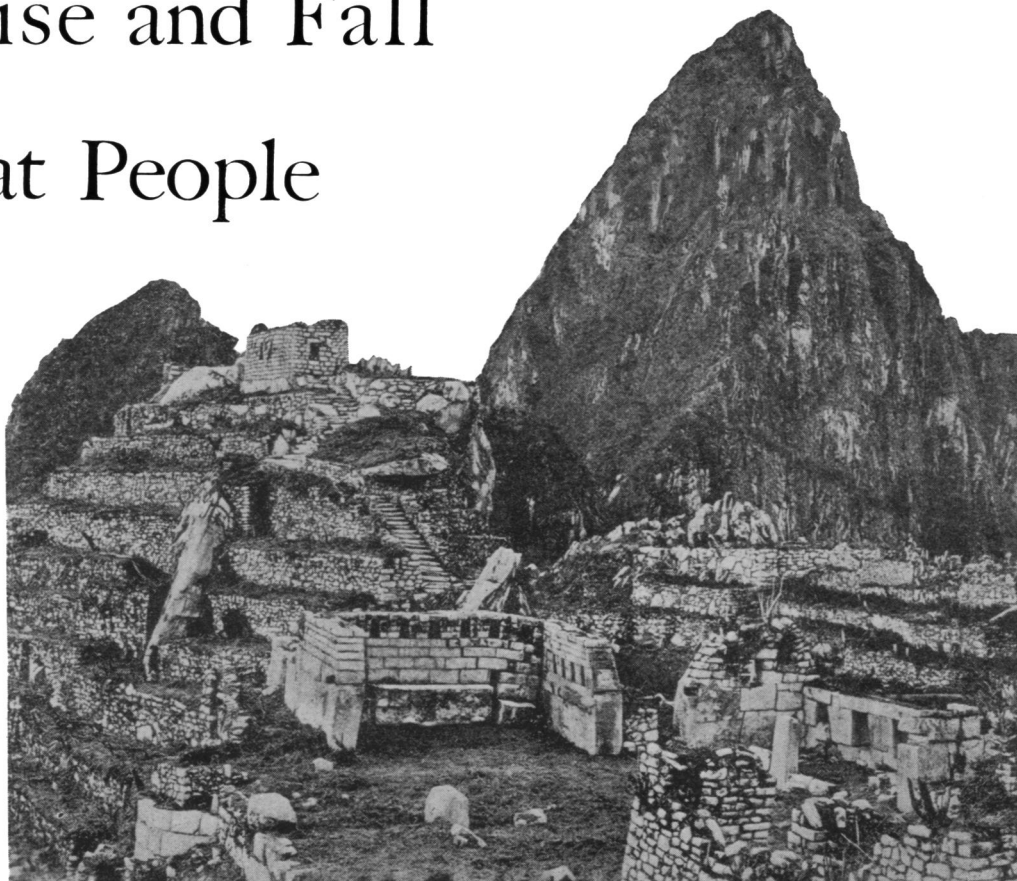
In the confusion that followed, in

the midst of Spanish demands for wealth, the Incas stole away their greatest treasure—not the gold that they used so lavishly to make their temples shine like the glory of the sun, but the Virgins of the Sun, the living Vestals of the Temple. Some of these Incan maidens of the nobility were spirited off to some safe retreat, and there, it is supposed, they lived out their days carrying on their religious duties in the last undisturbed City of the Sun.

Dr. Bingham's Discoveries

Identifying either the place of the three windows or the last refuge of the Incas has proved difficult, because the first writers of Incan history, whether Spaniards or Indians of Incan descent, contradicted one another freely and often let their imaginations and their enthusiasms run away with their pens.

Dr. Bingham's first South Ameri-



First and Last City of the Incas, Senator Bingham believes. Machu Picchu, high in the Peruvian Andes, sent forth a strong race to conquer and 500 years later sheltered its remnants from the invading Spaniards.

can expedition, sent out by Yale, led him to the "most inaccessible spot in the central Andes." Putting faith in an Indian guide who promised to show the explorers the ruined city, Dr. Bingham was rewarded by the discovery of the cloudland citadel of Machu Picchu. He returned twice, directing joint expeditions of Yale and the National Geographic Society. These workers reclaimed from the wild tangle of weeds and trees the plan of the mountain top city, with its granite temples and palaces, its stairway streets, the guardian walls, and its terraced farms down the mountain side.

Dr. Bingham writes: "We uncovered more than a hundred stairways whose existence had not been suspected. We made tentative excavations in various parts of the city. Wherever these test holes yielded results we continued the excavations until nothing more could be found. We searched every nook and cranny of the ridge and near-by mountains for burial caves. Every potsherd which by its shape or its decoration could tell a story, and hundreds more which were eventually used in restoring long-lost forms were collected and studied."

In their wanderings over the city, the explorers were particularly excited by the discovery of a temple with three windows. So familiar an architectural device as a row of windows might not seem like a significant clue to the identity of an historic site, but it could be so in Peru. Prehistoric architects who built the massive stone palaces and temples of Peruvian cities allowed but sparingly for window holes, for the highland climate was severe.

The Temple of the Three Windows, as the stone wall with its big openings was promptly named, was clearly a significant structure. Was it the shrine of Incan origin?

Best Temple of Three Windows

Checking over old chronicles, Dr. Bingham found that this temple of three windows bears out the story written by an Indian who was a descendant of a long line of Incas. This Indian with the musical name of Pachacutiyamqui Salcamayhua declared that when the first Inca came away from his native home and established himself in the city of Cuzco, he "ordered works to be executed at the place of his birth, consisting of a masonry wall with three windows, which were emblems of the house of his fathers whence he descended."

The temple at Machu Picchu is the

only one in Peru with three large windows befitting a memorial of this peculiar type, Dr. Bingham pointed out. Seeking to know whether the Incas did not throw offerings through the ceremonial windows, the explorers looked in the ground below and found pieces of thirty-one pottery jars.

"There is no question in my mind, therefore," Dr. Bingham sums up the evidence of the site, "that the Temple of the Three Windows, which has



Hiram Bingham

U. S. Senator from Connecticut and formerly of Yale University, who has made three trips to the ancient Inca city of Machu Picchu, high in the Peruvian Andes.

been described as the most interesting structure within the citadel, is the building mentioned in the chronicle written by Pachacutiyamqui Salcamayhua in 1620."

The high and hidden location of Machu Picchu fits in well with old bits of description telling that the original home of the Incas was a mountain refuge, undisturbed by earthquakes. The story which Dr. Bingham reads in the buildings, graves and bits of bronze, bone, and clay pottery found in the ruins is that the mountain citadel had two distinct periods of occupation.

The stone buildings represent two distinct styles of workmanship, the older part being far finer than the masonry added in the Incan style. The older part is thus assigned to the days of the first Incan conquest, and to the centuries just prior to that conquest when some Peruvian tribe took refuge in this mountain fastness.

If the Incas sallied forth to power from so remote a citadel as Machu

Picchu, we can readily understand why they left the place abandoned and forgotten while they were able to dominate their neighbors. They continued to venerate the place of the three windows in memory, its location forgotten perhaps by all except a few priests or officials, until, at length, the Spaniards recalled it to those who knew the secret location and thought of it as the safest conceivable place for a retreat.

Their Supreme Sun God

The greatest anxiety of the Incas in that time must have been to save the Virgins of the Sun, Dr. Bingham states. The Sun worship was a vital spot in their government. In fact, it has been said that the motive power back of the Incan conquests was the desire to make their own tribal Sun god supreme. The prestige and holiness of the Inca was insured by his claim to be the earthly representative of that powerful Sun god who guided Incan destinies. Hence, if the Sun's favored attendants were overthrown, the empire's defeat would be complete indeed.

Some of the temple maidens did escape. These were accompanied by the young Inca, Manco, who had been set up by Pizarro as a dummy ruler, but who rebelled and fled into inaccessible gorges and canyons, Dr. Bingham states.

This last of the Incan chiefs established his capital at the fortress of Uiticos, near the highway linking Lima and Cuzco. Here he could conveniently attack the Spaniards as they journeyed between the cities. Machu Picchu would not have been so convenient for the Inca's last desperate efforts at fighting for his kingdom.

"It is possible, however," Dr. Bingham adds, "that he placed most of the Virgins of the Sun in the ancient citadel of his ancestors, at Machu Picchu. It will be remembered that Father Calancha relates the trials of the first two missionaries in this region, who, at the peril of their lives, entered the sequestered valley of Uiticos, and later urged the Inca to let them visit the largest city in the region, where was the 'university of idolatry.'"

Missionary Did Not See City

The Spanish missionary did not, it appears, attain his desire to visit the university of idolatry, as he called the headquarters of the sun worship. So, he never tested the truth of the rumors that the place was inhabited by "teachers who (*Turn to page 174*)



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Rise and Fall of Incas—*Continued*

were wizards and masters of abomination."

Dr. Bingham finds sufficient evidence to warrant the belief that Machu Picchu was the place the missionary wished to see, but which remained unreported by white men until long after the last refugees died and left their homes to the swiftly growing jungle.

There are traces of strange events in the ruins and graves that represent the later period of Machu Picchu's occupation. The builders who put the old city in shape for its last set of residents were under pressure of speed, Dr. Bingham points out. Above the solid ancient foundations they laid hasty walls, and in order to provide enough houses they even built some on the old agricultural terraces.

The people whose coming was so swiftly prepared for were mostly women. In the burial caves which contained pottery of late Incan types most of the skeletons were those of women. There were a few children, a few bones pronounced those of effeminate men, of "inferior physical development." In graves within twenty-five miles of the mountain there were found the skeletons of fighters who were sturdy of build and who bore marks of battle and surgical operation. But the high citadel itself stood aloof from warfare. In all the hundred burial caves found on the sides of the mountain and on the neighboring peak of Huayna Picchu, there was no sign of broken or patched skulls, or of any husky soldiery to protect the women of the sacred city.

Women's Pottery

The pottery in the graves was all of the type associated with Incan women. There were ladles such as were used in drinking the favorite soups and stews of the highlands. There were sets of cooking jars and dishes and large pins of bronze which the women used to fasten their shoulder coverings.

The most wealthy woman of all, judging by her burial display, was a delicately formed little person, a "grande dame" of the Incan nobility. Her property placed in her burial cave included a set of clay dishes, a bronze mirror, bronze pins and spoons. With her lay the skeleton of her dog, an Incan colliie.

One puzzling discovery was the burial of two men accompanied by women's possessions. Not only was

there a jug of the sort belonging to women in the grave of the older man, but there were also bronze necklace pendants, and some ornaments. The younger of the two men had an elaborately carved gray talc necklace ornament, a number of bone beads, and, strangest of all, some greenish fragments which appeared to be the remains of a bead made of fused green glass. These two burials were among the latest in the sacred city, for muscles of one thigh still adhered to the bone of the older man, and there were a few pieces of cloth and cord made from brown llama wool.

Who Were They?

There was something peculiar about these two, Dr. Bingham reasons: "Were they unwelcome visitors who came to the outskirts of the sacred city and were buried near the gate without being admitted to the society of the Virgins of the Sun? It seems to be an insoluble puzzle. And what about that bead of fused green glass? Where did the young man get that? It is probably of European origin. To be sure, it is only a little thing, but it would seem to say that the young man came here after the Spaniards had reached Cuzco. Were these men spies, sent by the Spaniards to try and locate the refuge of the Virgins of the Sun who had escaped from the holy city? Did they bring presents for the sacred women, necklaces and a jug and a precious glass bead, the like of which none of them had ever seen before? Who can tell?"

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New Canning Aid

ACETALDEHYDE vapor may have a future use in the preservation of fruit because it kills the spores of molds without injuring the fruit itself.

This conclusion has been reached by two investigators who have worked on different sides of the question. R. G. Tompkins, of the Low Temperature Station, Cambridge, England, has shown that acetaldehyde vapor rapidly kills the spores of the molds and fungi which are likely to cause fruit spoilage.

In the same laboratory, S. A. Trout has recently found that healthy fruits can absorb a certain amount of acetaldehyde vapor without any harmful effects.

Botany

Science News-Letter, September 13, 1930