

Lake Titicaca has many beautiful islands. The most of them are rocky, ragged mountain peaks, which have their bodies under the water and a thin coating of soil on the rocks above it. Eight of the islands are inhabited, and these are cultivated to the very tops of the mountains. If the United States could be as carefully tilled as the parts of Peru through which I have traveled, where every available bit of land is used, it would, I believe, furnish enough food for all of the people of the world and leave enough grain left to glut the Chicago markets during a corner on wheat. Patches of soil as big as a bed quilt are surrounded with stones and carefully tilled. Bits of land between the rocks are green with scanty crops of potatoes, barley and quinoa, which are about the only things that will grow at this altitude, and you see people working on the sides of hills where they almost have to hold on with one hand while they use the rude little hoes of this part of the world with the other. This grubbing for a bare existence goes on over the greater part of the plateau in which Lake Titicaca lies. It is the plateau which formed the chief center of the Inca civilization which prevailed here when the Spaniards came. Lake Titicaca was the center of civilization generations older than that of the Incas, and upon its shores still stand ruins so old that the Incas could not tell the Spaniards anything about them, and only said that the mighty monuments were made by a race of giants who lived about this lake before the sun appeared in the heavens. These ruins are those which lie near the little town of Tiahuanaco. They cover an area of about three miles and consist of the remains of massive walls, terraced mounds and the ruins of a great edifice which is sometimes called the temple. This building covered about four acres, and it was made of great blocks of black stone, each thirty inches thick. The stones, like those of the famed buildings of Cuzco, were fitted together without mortar and were so carefully laid that it was impossible to insert a knife blade between them. From these ruins some of the most curious archaeological relics have been taken, many of the most valuable having been secured by Prof. Adolfo Bandoller, who is spending his life in this region as the collector for the New York Museum.

Professor Bandoller has made many new discoveries and investigations about Lake Titicaca and he is inclined to believe that the most of what has been published about some parts of this region is almost pure fiction. He has spent months upon Titicaca Island, which some authorities claim was the Garden of Eden of the Inca mythology, the spot upon which their Adam and Eve first lived upon earth and from which they started out to found Cuzco and build up the race. According to this theory our first parents were the children of the sun. There were two of them, Manco Capac and Mama Oello, his sister-wife. On this account, so says Squier, who is one of the authorities on Lake Titicaca, the Incas considered this lake and especially Titicaca Island holy. They built their temples here, had wonderful palaces, and even brought soil to the island from the mainland in order that corn might be grown upon the island. This corn, so says one of the old chroniclers, who Professor Bandoller thinks had a very lively imagination, was considered so sacred that when a grain of it was put in one of the public warehouses it was sanctified and preserved all other grains, and it was also said that a man who could have as much as one grain of Titicaca Island corn in his storehouse, would not lack for food during his lifetime. There are today many ruins on Titicaca Island, and the very rock on which Manco Capac and

his sister-wife stepped when they first landed from the sun is shown. This rock, says the same chronicler, was once plated with gold and kept covered with a veil. The inhabitants of Indians, who are said to be descendants of the tribes who were so numerous about Lake Titicaca years ago. They live in little huts of mud or stone thatched with straw, and show no signs of having had gorgeous temples or the more extensive civilization which they possessed when the Incas were their masters. They are Catholics and are superstitious in the extreme.

How would you like to sail over Lake Erie in a boat made of straw. I can see a dozen straw boats from where I am writing. Some of them are filled with people and one has a mule, a donkey and a llama in it in addition to its human freight. The captain of each boat is an Aymara Indian, who stands up as he poles the boat along. There is a boat over there which has a straw sail and which is skimming along over the waves. Those boats are of the curious craft known as balsas. They have been in use upon this lake for more than four hundred years and were found here when the Spaniards came. Until the steamers were brought in they carried all the freight on the lake, and they do a large business today. I can hardly imagine anything which looks more insecure. I tried to ride on one of them yesterday and was surprised to find that I was not turned out into the water. These balsas are made of reeds, which grow in great quantities on the banks of the lake, and they are, in fact, rafts formed of rolls of reeds so tied and woven together that they keep out the water. Only a roll of reeds about the top of the balsa keeps the passengers in, and they must sit flat on the floor. These reeds are also used for making bridges, ropes and baskets. The people roof their houses with them, and they are almost as important plants to them as the bamboo is to the Chinese.

Much of the freight that is brought to Lake Titicaca is on llamas. The word is pronounced "yahmah." These animals are to a great extent the freight wagons of the Andes. You see them by the hundreds everywhere on the Titicaca plateau. I found them loaded with silver ore at the mines in the mountains of central Peru and saw thousands of them feeding upon the pampas over which I crossed on my way here. They are the most graceful beasts I have ever seen. They walk along the road with their little heads high up in the air, and seemed to tread as though they owned the earth. They have heads like a camel, bodies like a sheep and feet and legs much like a deer. They are not sulky looking like the camel, and are far more aristocratic in their actions. When you load a camel he cries like a baby. The tears roll down his cheeks, and as he marches off he pouts and groans and groans. The llama carries his burden with a proud air and pricks up his ears for all the world like a sly terrier at every new thing he sees. He will carry only so much, and the usual load for a llama is 100 pounds. If you put on more he does not cry or groan, but calmly kneels down and will not move until the load is lightened. If you make him angry he does not bite you, as does the camel.

He merely shows his contempt by spitting upon you. I would rather be kicked by a government mule than be spat upon by a llama. He chews his cud like a cow and has a special reservoir somewhere in his anatomy well stored for such an occasion. A llama's spittle smells worse than the weapon of the polecat. If once hit, it is almost impossible to get the scent out of your clothes, and no one wants to be near you until you have had a bath and a

change. I find, however, that most of the llamas I have handled are gentle, and I have had good opportunities to study them. They are everywhere about me on this plateau. Some are almost snow white, some are seal brown and a few black and spotted. Their wool is very long, and beautiful rugs are made of it. The Indians are very fond of their llamas. They pet them and talk to them. They sometimes dye their wool and often tie bright-colored ribbons through holes in their ears. They always walk beside them when on a journey, stopping from time to time to let the animals graze upon the way. The wool of most of the ponchos which form the overcoats and shawls of the people of this plateau is from llamas. It is spun by the women, who, whether tending the flocks or walking along the road, always have a spinning spool in their hands. They weave the wool themselves, and out of it make all of the clothes of the family. The llama not only clothes and through the money received from him as a freight carrier feeds these people, but he warms them as well. There is no wood on this high, desolate plateau. Wood all over the western part of Peru is very costly. In the markets of Arequipa each customer carries home a bundle of twigs or rather roots and bushes with his vegetables and meats, and this forms the fuel for cooking the day's meal. No one thinks of using fuel for anything but cooking, and none of the cities of this part of the world have chimneys, furnaces, heating stoves or fireplaces.

On the plateau of Bolivia in which Titicaca lies there are not even bushes, and almost the sole fuel is composed of the droppings of the llama. Every hut has a pile of this fuel beside its fireplace, and the better classes of houses have special quarters for it. La Paz, which is a city of nearly 50,000 people, depends entirely on the llamas for its fuel, and the steam which moves the dynamos of the electric light plant of the city is created by a fire of llama manure. The cooking is all done over such fires, and for this reason I have for the time given up such things as broiled beef steak and mutton chops, and am now sticking religiously to soups, fries and to all victuals cooked in pans. In this connection it seems a curious dispensation of Providence that the llama has one place for making this fuel deposits. He uses the same place every day when possible, and the manure is thus easily saved.

Llamas have curious habits as to their love affairs. The female I am told picks out the male whom she especially loves and makes all the advances. The males are bigger than the females, and I have seen it stated that the latter are not used to carry burdens. This is a mistake, for the freight trains of llamas which I have seen, often numbering hundreds, seemed to have almost as many females as males. About La

I am told that the females are used as much as the males for carrying burdens, but that the sexes are always kept separate in the freight caravans.

The flesh of the llama is spongy and not of agreeable flavor. Still it is eaten by the Indians and llama stew forms a favorite dish. There are other animals of the same class as the llama which live on these highlands, such as the vicuña (pronounced vicuña), which runs wild, and which is not so large but more beautiful than the llama, and the alpaca, grown chiefly for its wool, and which is herded in flocks as we herd our sheep.

FRANK G. CARPENTER.