

Maya Cities Found by Lindbergh

In five days of flying over unmapped areas of Mexico, Guatemala, and British Honduras, Col. and Mrs. Charles Lindbergh and Carnegie Institution of Washington scientists have carried on archaeological reconnaissance that, if it could be done on the ground, would require eight years of mule-back travel. Using a large amphibian in which Col. Lindbergh had been pioneering the new international routes of the Pan-American Airways, many miles of bush and dense jungle were searched from the air for signs of ruins of Maya cities, hitherto unknown to science.

The four ruined Maya cities discovered give a better conception of the line of growth of the ancient Maya civilization.

They lie in a line stretching north-eastward from the Old Empire region of the Maya located largely in what is now the state of Guatemala, where the civilization emerged about the time of Christ. The newly found ruins connect this older area with the New Empire region, on the north end of the Yucatan peninsula. Chichen Itza is the outstanding example of this New Empire Culture.

Flying over unmapped dense tropical jungles, the Lindbergh party sighted three ruined cities definitely determined to be "new." A fourth city, one of the largest found, may be a new discovery, but it may prove to be one seen by Dr. Thomas Gann some years ago in the vicinity of Lake Bacalar.

Many months and perhaps years will be required to investigate and explore the cities located from the air. Many weeks of hard travel by land will be necessary to place land parties at the ruins. But when their broken temples are rescued from the enveloping vegetation there will be available a better idea of the spread of the Maya, who more than fifteen centuries ago rose from primitive simplicity to a complex state with highly developed religion, government and monumental architecture. How and when the center of Maya culture shifted from the Old Empire region to the New Empire has been one of the unanswered questions. The connecting cities now found will probably supply the answer.

Nearly as exciting to archaeologists as finding new ruins is the fact that no cities were found in the area of the Mexican state of Campeche which was surveyed on the second day's flight from Merida to southward. Coupled with the discovery of the ruined cities farther to the east, the absence of Maya settlement sites in the western part of the Yucatan peninsula is significant in explaining the spread of the Maya civilization.

The four discovered ruins are located in flat country. From the air the raised temple mounds could be seen twenty miles away in some cases. But giant trees and dense vegetation rise about a hundred and fifty feet to shroud the glistening white stones with which time has dealt severely.

Only by flying low over the area could the central temples of the cities be seen and studied from the speeding airplane.

The first ruined city, seen on the first day's flight, is located in the southeast corner of the state of Campeche, some fifty miles from the Guatemalan boundary line. Situated in the heart of uninhabited jungles, far from lakes of any kind, it will present a difficult objective to land parties.

Of the three cities discovered in Quintana Roo during the most fruitful fourth day's flight, two are located sufficiently near lakes to allow early exploration by parties transported by air to these lakes. The city near Lake Bacalar is probably more extended in area than the others. The last city discovered and the one nearest the coastal ruins of Tulum is the least accessible of the three due to the absence near it of water on which an airplane might land.

Dr. A. V. Kidder, director of the Carnegie Institution's archaeological work, who flew on the last three days, was disappointed in not being able to see from the air traces of great stone highways connecting Maya cities.

The flights over Coba on the fourth and fifth days of the joint Carnegie Institution and Pan American Airways explorations were of historical interest because the city has been seen by white men (*Turn to next page*)

Telegrams From Lindbergh Plane

Typical excerpts from the radio messages announcing the discovery of Maya cities by the joint expedition of the Carnegie Institution and the Pan American Airways. These dispatches, written by W. I. Van Dusen, Pan American Airways official, were radioed from the Lindbergh airplane direct to the Pan American International Airport at Miami, Florida, and relayed by land wire to Science Service.

Oct. 9—Took off from Belize 11:35 A. M. Today's flight has been projected over a general course north and slightly inland from Pan American Airline to South America that Col. Lindbergh blazed last February.

Several definite ruins have been located within a few miles of his line, and Col. Lindbergh will devote more of today's flying to the search for unknown land inland to Quintana Roo.

Noon—Passing city of Orangewalk printed in large letters on the map; only little cluster of native huts in reality. Savanna plentiful through here, in which Indian burial grounds can be seen occasionally. We are well inland. The Colonel amazes the scientists by his accurate and constant knowledge of true position. Thirty-five minutes from Belize have covered four days' distance by mule, the only surface transportation.

12:30 P. M.—Penetrating into vir-

gin jungles. Col. Lindbergh sighted the first indication of ruins silhouetted against the skyline. We circled sharply several times and definite mounds set about a triangular plot were found. Intense excitement was experienced by party at this first white man's view of lost Maya city. Too cloudy for pictures, but position carefully mapped.

12:45 P. M.—Ten minutes after finding first Maya city, Mrs. Lindbergh, whose keen eyes have been sharpened in past three days sighted a bit of white wall glistening above deep green brush. Further explorations brought out three more towns. Dr. Kidder (*Turn to next page*)

Color Light Symphonies

Colored light can be made to sway, blend and sweep over displays, theaters, or buildings by a new control mechanism just perfected, J. L. Stair, Chicago electrical engineer, announced to the Illuminating Engineering Society.

Like a piano player, the color combinations are controlled automatically by a perforated paper roll fed into the machine.

"The dimming of the circuits is accomplished without flicker, and changes in color may be made exactly in a predetermined order," Mr. Stair said. "The fact that the control is based upon electro-pneumatics gives the opportunity for exact, quiet control, practically as subtle as that to be found in the pipe organ.

"As a perforated paper roll passes the openings in a tracker bar, the functions of turning on and off circuits and the operation of the dimmers are automatically performed. The nature of the color combinations may be predetermined and transcribed to the paper roll.

"The machine has great flexibility, inasmuch as all circuits are in no way related. The operation of the dimmer is independent of the electrical circuits, enabling any combination to be pre-set. Further flexibility is obtained by various speed controls, and the use of manual operation by means of a console keyboard."

Science News-Letter, October 19, 1929

Russians Dig at Samarkand

The ancient history of Samarkand, famed city destroyed by the Mongol conqueror Genghis Khan in 1220 A. D., is being dug out of the earth by a Russian archaeological expedition. The present season's work has been completed and nothing more can be accomplished until next spring.

Clay utensils bearing a strong resemblance to Roman vases have been unearthed in the lowest levels of earth reached by the spade. These raise the question of contact between Rome and this eastern center. The finds demonstrate that the city had its origin as far back as the second century. Well preserved houses from a later period, containing coins, lamps, and household utensils, have been excavated. Art panels and reliefs of considerable beauty have been recovered and are now in the Museum of Samarkand.

Science News-Letter, October 19, 1929

Maya Cities Found by Lindbergh—Continued

on only two occasions before this time. In 1926 Dr. Kidder and a companion, J. Eric Thompson, now of the Field Museum, visited the city, and not until last February when Col. Lindbergh located it during a Pan-American Airways trail-blazing flight was it seen again by a white man.

Air travel will become a routine part of the Carnegie Institution's archaeological work in the Maya region as soon as funds can be secured for a light amphibian airplane and equipment, Dr. Kidder indicated on his return to Washington. With the use of Pan American Airways bases at Cozumel Island and Belize, a two-year program of detailed aerial exploration could be carried out for about \$50,000. Col. Lindbergh will act as an advisor to the archaeologists

on the aeronautical aspects of the work.

Landings made on inland lakes and along the coast during the flights demonstrated how the airplane could be used in Middle America to transport archaeologists over distances that would require many days of difficult land travel.

Dr. Oliver Ricketson, Carnegie Institution archaeologist, participated in the flights of the first three days and Dr. Kidder was in the party the last three days. Other members of the party besides the Lindberghs were W. I. Van Dusen, Pan-American Airways official; Charles Lorber, co-pilot, and William Ehmer, radio operator. The flights took place October 6, 7, 8, 9, and 10.

Science News-Letter, October 19, 1929

Telegrams from Lindbergh Plane—Continued

believes this is probably center of some ancient Maya city and both first and second ruins discovered may be part of same city where Mayas neared height of their amazing era which flourished more than thousand years ago.

1:15 P. M.—Northbound again now over trackless bush. Great highway elevated and built out of blocks of solid stone may still lie under the 150 feet of dense jungle below.

1:30 P. M.—Col. Lindbergh now discovered third Maya city to be credited to expedition today. As in previous cases it has sloped hills from highest of which masonry of Mayas shows above jungle and it is an almost perfect square. Santa Cruz Indians below take to cover at sight of the plane. The type of vegetation is changing fast. Numbers of small temples and dwelling mounds are seen to the north.

2:15 P. M.—The crumbling walls of a majestic Maya temple pyramid estimated at 60 to 70 feet in height marked the fourth ancient city found by Col. Lindbergh within past two hours. Dr. Kidder described it as a perfect type of Maya empire edifice. Its original glory was the central part of a flourishing city. The mound was sighted by Col. Lindbergh fully 22 miles away when it was seen on

the horizon. There are no signs of modern human habitation. The ruins are thirty miles north of Santa Cruz.

5:45 P. M.—That section of Quintana Roo indicated by blank on maps because it has never been mapped is likely filled with small mounds, indicating the presence of minor temples, private dwellings and other small buildings. Coba, one of the largest of the ruins, discovered some time ago was re-discovered about 2:45 P. M. Ten minutes later turning toward coast, we sighted Tulum, one of the first coastal ruins to be discovered. It made a beautiful sight from the air with its 25 buildings strung along the seacoast, and grouped about a great square. Col. Lindbergh circled the site three times so that pictures might be taken and then decided to land to allow the party to explore the site at first hand. The rubber boat was inflated and the entire party went ashore. Col. Lindbergh visited every spot on site, showing considerable interest, and Dr. Kidder told history. The tide started coming in during the two and one-half hours stay ashore, and everyone had considerable amusement getting back to plane. Everyone but Mrs. Lindbergh got well soaked, and Dr. Kidder got first rowing lesson on his turn as captain of the Tulum ferry company. We took off for Cozumel Island at 5:34 P. M.

Science News-Letter, October 19, 1929