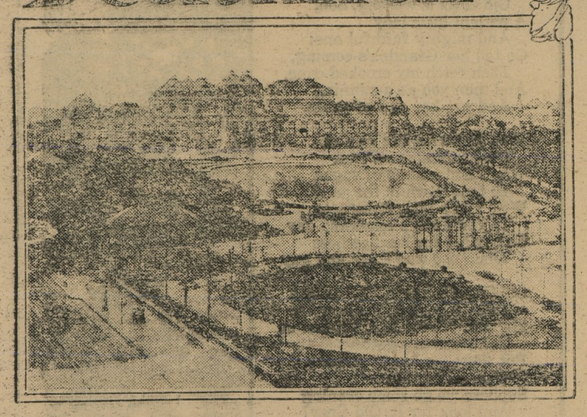
Vienna Still Beautiful



Belvedere Palace in Vienna.

(Prepared by the National Geographic Society, Washington, D. C.)

FEW civilizations of the past in any part of the world have been so worthy as that disclosed by the ruined cities of the Mayas in Central America. From about 500 B. C. until sometime between 471 and 530 A. D. the Mayas lived in the region now included in the states of Tabasco and Chiapas in Mexico, the department of Peten in Guatemala, and just along the western frontier of Honduras.

There a magnificent civilization had been developed. This region, now overgrown with a dense tropical forest, had been cleared and put under intensive cultivation. Great cities flourished on every side. Lofty pyramid-temples and splendid palaces of cut stone, spacious plazas and courts filled with elaborately carved monuments of strange yet imposing dignity, market places, terraces, causeways, were to be counted, not by tens and scores but by hundreds and thousands.

Indeed, it is not improbable that this was one of the most densely populated areas of its size in the world during the first five centuries of the Christian era, the seat of a mighty American empire.

Nor did other arts and sciences lag behind architecture and sculpture in the Mayan cultural procession. Metal, it is true, the Mayas of the Old Empire did not have, but the lack of it did not prevent them from carving such a hard substance as jade, which they made into beautiful pectoral plaques sometimes six inches square, showing their principal deities and rulers in acts of adoration or sacrifice. Necklaces, anklets, wristlets, earrings, nose ornaments, beads, and pendants were fashioned from the same refractory material.

Exquisite wood carvings, delicate modeling in stucco ceramics, painting, weaving and gorgeous mosaics made of brilliantly colored feathers were some of the other arts in which, so far as the native races of the New World are concerned, the Old Empire Maya acknowledged few equals and, with the possible exception of the Inca in the art of weaving, no superiors. And when one comes to a knowledge of the abstract sciences, such as arithmetic, chronology and astronomy, they had few peers among their contemporaries, even in the Old World.

Great Mayan Exodus.

But the Mayan Dark Ages were approaching. Art, architecture and learning were soon to suffer a temporary eclipse—one, indeed, from which the first never again fully recovered. The Mayas during the Seventh century were forced to abandon the Old Empire region, where they had wrought so laboriously and had achieved so splendidly, and to seek new homes elsewhere.

The cause, or perhaps better, causes of this great Mayan exodus are as yet obscure. Climatic changes rendering the region unfit for further habitation, internecine strife, foreign invasions, intellectual and social exhaustion following hard upon such rapid esthetic development, devastating epidemics of yellow fever, even such a modern manifestation as the high cost of living, have been suggested to account for this great historic event.

This last explanation seems a likely one. The agricultural practices in vogue among the ancient Mayas were such as gradually to exhaust the productivity of the land available for cultivation. Planting eventually became impossible, as the repeated burnings which alone served to clear the ground in the absence of tools and work animals, permitted such a thick sod to grow that no cereal could force its way up through it.

The people, it seems, were literally starved into searching for new homes. No lesser calamity than this, apparently, could have driven a whole nation to such a drastic step as the complete abandonment of a region wherein they had expended such a tremendous effort.

Whatever may have been responsible for this migration, the fact itself is sufficiently clear that Yucatan was discovered as early as the latter half of the Fifth century, by advance parties of Old Empire Mayas pushing northward along the then, and even still, unexplored forests of southern Yucatan, looking for a new and more promising land in which to live.

Yucatan must have held not a few disappointments for these early adventuring Americans. It is at best but a parched and waterless land. There is no surface water, and there are no rivers or streams and only one or two lakes. The country is of limestone formation, with only a subterranean water supply and relatively few places where this may be got at naturally. And these first Mayan explorers had neither time nor means for drilling wells.

Cities by Water Holes.

Here and there about the country a few natural openings or wells have been formed, great holes in the ground, sometimes several hundred feet in diameter, places where the limestone crust has become undermined and has fallen through, exposing subterranean water. These the Mayas called cenotes, and wherever they existed, there, by very force of circumstance, important centers of population were established and flourished.

The place where Chichen Itza, the great city of the New Empire, was later to be founded, was peculiarly favored in this respect, for here the waterless plain of Yucatan is pierced by two of these great natural wells within half a mile of each other. Under primitive conditions, this fact alone determined that an important city would one day grow up around them.

In the late New Empire five centuries and more after the cities of the Old Empire had been abandoned and lay in desolation, buried beneath a vast tropical forest, Chichen Itza had grown to be the largest city of her day—indeed, more—the holiest city of her times, the Mecca of the Mayan world.

In 1004 A. D. the three largest city-states—Chichen-Itza, Uxmal and Mayapan—formed a triple alliance, under the name of the League of Mayapan, by which the government of the peninsula was divided equally among them.

This is the period of the true Mayan Renaissance. Under the peaceful conditions and general prosperity brought about by the league, art and architecture revived.

But not yet had Chichen Itza reached her greatest development, her crowning glory as the holy city of the Mayas. In 1201 A. D. the ruler of Mayapan made successful war on Chichen Itza, and from this time until its final abandonment, in 1448, the city was held in thrall by foreign rulers, the Toltec-Aztec allies of Hunnac Ceel.

This foreign influence from the distant Vale of Anahuac gave to the city not only new rulers, but also new customs, new esthetic inspirations, a new architecture, even a new religion, all of which reacted powerfully upon the Itza people and raised their capital to a position of honor and sanctity never enjoyed by it or any other Mayan city before or since.

Great Building Boom.

The conquerors brought with them the worship of the fair golden-haired god, Quetzalcoatl, the "Feathered Serpent." Removed to Chichen Itza, this Toltec Zeus became Kukulcan, a direct Mayan translation of Quetzalcoatl; and presently all over the northern part of the city, which dates principally from this last period, temples and sanctuaries were rising to the new god, all adorned with highly realistic representations of the Feathered Serpent—in columns, balustrades, cornices and bas-reliefs—until his sinuous trail was to be seen on every side.

In two and a half centuries, 1201-1448 A. D., more buildings went up in the city than had been built since its foundation, close to six centuries earlier.

A considerable part of Chichen Itza has been brought to light by the excavations of the Carnegie Institution of Washington, begun in 1924. One of the principal structures found, which has been named the Court of the Columns, covers five acres.

After Chichen Itza was abandoned, in the middle of the Fifteenth century, and the Itza had withdrawn from Yucatan back toward the south, whence they had originally come, it is highly probable that a few stragglers lingered on in the deserted city and sheltered themselves here and there in its empty temples and palaces.

WHY

Desert Is Losing Its Picturesque Aspects

Modernization of the "Wild West"—particularly of those picturesque aspects which have delighted so many readers of novels about the great open spaces—seems to be progressing with as much disregard for romance as has the modernization of the deserts of the Orient. Last summer we read that the camel had given way to the flivver and that the old caravans bobbing from water hole to water hole were to be replaced by lines of automobiles. Now comes the report from the new gold fields in Nevada that the "burro," or donkey, always the inevitable companion of the prospector, has fallen before the flivver, and that in place of the individual stake hunter cooking his own meals and looking after his own camp, a restaurant and bunkhouse has moved forward—evidently on wheels—in pace with the taking of the prospective gold fields. It is hard to believe that those thick-skinned, mouse-colored, thirstless burros, which possess the art of deriving nourishment from the sand and air of the desert and drink from the dew of the mountains, are to be replaced by soulless machines. The latter may be more efficient—at least for getting to and from the nearest settlement, but they are not self-sustaining as are the burros.—New York Times.

How Silk Is Obtained

The silkworm spins its cocoon about itself and passes into the torpid state of a chrysalis or pupa. If allowed to remain in this state too long, it becomes active, begins to gnaw its way out through the cocoon, and finally comes forth in the butterfly state. The cocoon is then of little value. But if, just before the chrysalis begins to grow active, the cocoon is dropped into boiling water, the insect is instantly killed, and the silk is easily unwound and reeled for the market.

HOW

TO USE WASTE PRODUCTS PUT UP TO ENGINEERS.—How to put corn stalks, peanut shells and cotton stalks to use is the problem that engineers of the United States bureau of standards are about to tackle. Congress has appropriated $50,000 for an investigation looking toward the utilization of waste products from the growing of corn, peanuts and cotton. Scientists recall that at one time the seeds of cotton were regarded as valueless and that now they form the raw material for a vast industry. The grains of corn, except for the relatively small part of the leaves and stalk used for fodder, constitute the only usable part of America's great corn crop, and since the grain represents only about a fifth of the total weight of the corn plant, experts see the possibility of using the stalks and cobs. Various methods of harvesting, collecting and bringing together enough stalks to make utilization possible are being considered. Manufacture of paper, alcohol, and other chemical products from the stalks is being considered. A similar problem is presented by the peanut hulls which now constitute a waste by-product of large magnitude. Warren E. Emly, bureau of standards engineer, is now making a survey of the problems and expects to receive suggestions and descriptions of various possible utilizations from those who have ideas on the problem. He will soon make a trip into the corn belt states where some experimental work has already been started.

How Insects Locate Flowers They Seek

Fifty years ago a hawk-moth flew into the window of a scientist's home and was observed to plunge its tongue repeatedly into flower designs woven in the tapestry. Experiments prompted by this incident proved that, as insects go, the hawk-moth is not very intelligent. It was previously presumed that color was the chief factor in causing insects to locate flowers and real blossoms showed that few insects would be fooled as the hawk-moth was. For nine years Dr. Frederic Clements and Dr. Frances Long, of the Carnegie institution, have been investigating this subject at Alpine laboratory on Pike's peak. They have come to the conclusion that insects are guided to flowers by both color and odor and after the insect reaches the flower it is guided by form and such markings as stripes and dots.—Exchange.

How Famous German Ace Defied His Foes

With a gesture of daring that added to his reputation for fearlessness with friend and foe, Baron Manfred von Richthofen, the famous German ace in the World war, fought the allies' aviators in an airplane painted a bright and glaring red, according to Floyd Gibbons, in an article in Liberty. "The German flyer," writes the author, "wanted each of his adversaries in the air to know who it was they fought.

"Later," continues Gibbons, "when rumors reached the squadron that special inducements had been offered for Richthofen's head, his flying comrades prevailed upon him to let them share his special color. He consented, but always made them carry an additional color on some part of the machine, so that he retained the distinction of being all red."

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