

"Diving God" in Ancient Maya Carving

Archæology

By EMMA REH STEVENSON

In Mexico, where archæology is not at all a dead thing, the scientist must often cope with the passions of the living as well as with the ruins and relics of the dead.

In the Zapotec village of Zaachila in the valley of Oaxaca, where religious feeling runs high, a number of important prehistoric stone carvings have been found incorporated in a four-century-old Christian church. The position they occupy suggests that they must have been of great importance to the Indians in precolonial times, and the Director of Archæology of the Mexican Department of Public Education is planning to remove them to the city of Oaxaca where their significance may be studied.

The ten-foot doorstep of the church of Santa Maria of Zaachila is a single monolith which still shows the signs of ancient carvings in spite of the wear and tear of four centuries of footsteps. But a smaller slab, apparently of much harder stone, has resisted the years much better and shows beautiful carvings of a style that indicates strong Maya influence. This slab is the first stone of the floor just inside of the doorstep.

T. B. Vaccine Honors

Medicine

The grand cross, highest rank of the Legion of Honor, has been conferred on Dr. Albert Calmette of the Pasteur Institute, who developed a preventive vaccine treatment for tuberculosis. His collaborator, Dr. C. Guerin, was given the rank of officer of the distinguished order.

Some 52,772 children have been vaccinated at birth in Paris and the provinces since July 1, 1924, when the vaccine was first put at the disposal of physicians, Dr. Calmette told members of the Academy of Medicine. Cards of 5,749 vaccinated infants born in tuberculous surroundings are kept in the Pasteur Institute files for record and observation. Infants in the group under one year of age present a mortality of 3.1 per cent. while that of unvaccinated children is 8.5 per cent. The general mortality has been reduced more than half. Among the vaccinated children who have reached ages of from two to three and a half years, the tuberculosis deaths have been practically nil. The vaccine is administered at birth and a second dose seems to be unnecessary.

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It is divided into three segments framed by grooved lines. The first segment represents a god similar to the famous Maya "Diving God" so-called because he is always found in the act of descending from heaven in a jack-knife dive. In the case of the Zaachila stone, the god appears to be dropping from a sort of a vault which looks like a symbolized upper jaw with all its teeth. The god wears plumes in his hair and the "language sign" comes from his mouth. He has with him his "penache," the label by which one who is skilled in reading the Maya sign language could tell his name. A necklace hangs from his hands, and is probably meant to represent the well-known collars of jadeite pebbles so popular with ancient Zapotecs and Mixtecs, and for which Oaxaca is famous.

Receiving the god on the ground below, seated crosslegged on either side and facing the center, are two other human figures, probably beating drums, and wearing curious crownlike headgear. They are not dressed alike, in spite of their symmetrical position, and they may represent different sexes. The language sign also comes from their mouths.

The second and third segments of the slabs are similar to the first, except that the figure of the Diving God is found only in the latter. The figures are likewise seated crosslegged, the soles of their feet turned out, and they are occupied with drumshaped objects. The spaces are filled with scrolls whose meaning has not been studied.

The faces of some of the seated figures are completely obliterated, while others are only partly destroyed so that faces are concavities. At first appearance it might seem that the position of the slab at the first step down from the threshold explains the destruction, but on reconsideration it is evident that if it were only the natural wear of feet, the destruction would be uniform and not just in spots.

The fact that the slab is laid down on the most stepped-on place on the floor makes it appear deliberate, and it was probably done to demonstrate to the early Indian converts the impotency of their native gods. In the National Museum at Mexico City there are a number of wooden "huehuetls," ancient drums used by the Indians, carved (*Turn to next page*)

Chicken Pox and Measles Serum

Medicine

Chicken pox may be added to the list of diseases that can be prevented by vaccination.

Dr. Jean V. Cooke of the Washington University School of Medicine at St. Louis, Mo., has reported to the American College of Physicians that inoculation of exposed children with serum from convalescent patients has successfully prevented cases of both chicken pox and measles.

Though the former disease is sufficiently mild as not to require general protective measures, its appearance in epidemics in institutions causes considerable difficulty, especially in the very young children affected. Of a total of 369 cases of exposed children, vaccinated for chicken pox described in medical literature, Dr. Cooke declared, only 74, or 20 per cent., developed chicken pox. Of 206 unvaccinated exposed children observed as controls, 158, or 77 per cent., contracted the disease. Such

immunity is temporary but serves to protect orphanages and schools from the inconvenience of an epidemic.

The preventive treatment for measles, said Dr. Cooke, should be concentrated on account of the danger of complications on infants and young children under five years of age. Results with this method show, he stated, that almost 90 per cent. of children given convalescents' serum during the first week after exposure fail to develop the disease.

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Belgian Research

General Science

Belgium, taking advantage of its industrial prosperity, is raising a 200,000,000 franc fund (\$5,600,000) for the promotion of scientific research along mechanical and chemical lines, according to information received by the U. S. Department of Commerce. The fund will be administered by the government.

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"Diving God"—*Cont'd.*

in numerous figures of gods and priests, also with their faces scratched out.

The fact that these two stones, the doorstep and the slab on the floor just inside, were singled out for the most stepped-on position in the church, suggests that they were important symbols in the prehistoric religion whose influence the early missionaries attempted to destroy.

The church itself is built near the largest of a number of prehistoric mounds which were probably the substructures of old Zapotec or Mixtec temples, no relics of which now remain. The sites are stripped of even the stones which once faced the sides of the mounds and formed the stairways, and ancient Zaachila was probably used as building material for Colonial Zaachila. High up in the uneven masonry of the old church a broken stone with carved symbols stands out.

The village has about 1,000 inhabitants. It is out of the beaten track and visitors are rare, and the hamlet has probably changed very little in many generations. The church is a

The Human Eye

Physiology-Physics

SIR JOHN PARSONS, in *Nature* (London):

As Helmholtz long ago pointed out, the eye shows many defects as an optical instrument. The refracting surfaces are not accurately spherical; they are not accurately centred on the optic axis; they are not completely homogeneous and therefore give rise to irregular astigmatism, or completely transparent; the cornea and the lens are not free from spherical or from chromatic aberration. Hence Helmholtz's oft-repeated dictum that if an optician delivered so faulty an instrument it would be justifiable to return it to the maker. Even Homer sometimes nods, and it is regrettable that Helmholtz should have uttered so unjust a sarcasm. For the true criterion of the eye as an organ of vision is its biological utility, i. e., its capacity to fulfill its manifold functions in the interests of the individual and ultimately of the race. An instrument approximately a sphere of 11 mm. radius, which combines the advantages of being a camera with automatic adjustment from infinity to a distance of 3 or 4 inches and unparalleled range of sensitivity, an efficient photometer, colorimeter, kaleidoscope, stereoscope, and range-finder cannot be regarded as inefficient.

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few steps from the market plaza, and the Indian in trouble comes in between barterings for pigs and turkeys or chili, to wail his prayer before the Black Christ on the Crucifix or to the primitively carved and painted saints and madonnas. He kisses the floor in front of the statues, and as he passes out to go back to his fields or to his "puesto" in the market, he gazes curiously, but very hurriedly, at the carved stone slab he no longer understands, which was once perhaps his bible, and which strangers are now going to carry away.

The village is not a friendly place to a tactless visitor and the modern Zapotecs and Mixtecs do not like strange things they do not understand to be done in their church, just as four centuries ago they resented having their original native Indian religion tampered with.

In a church in the town of Oaxaca, not many miles away, there is an historical painting of the conversion in Zaachila in 1521, of Cosijoeza, the last native ruler in the Valley of Oaxaca, who was afterwards known as Don Carlos Cosijoeza, according to the label of the picture. This suggests

that Zaachila might have been an important center of precolonial civilization.

There are other archaeological relics in this village besides the ones in the town church. On another side of the plaza an old colonial house has as part of the street pavement by its doorstep, a large flat stone that bears what is probably a date, according to the Maya system of writing down time. The symbols consist of the conventional Maya bars, dots, and heads. In the back yard of another house nearby is another monolith covered with carvings on two sides, which also appear to be dates. This stone, it is said in the village, once formed the cover of a sepulchre in one of the great earth mounds outside of the village, which formed the substructures of temples in ancient times.

Very few outsiders have seen these stones. They were first reported to the Mexican government by Senor Martin Bazan, federal inspector of archaeology for the State of Oaxaca. They are about to be removed to the museum at the city of Oaxaca.

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Do You Know That—

The best climate for man to live in would average 51 degrees in temperature, according to one weather expert.

A few centuries ago, men of science believed that diamonds had sex and reproduced as living creatures do.

Bones of at least 2,000 hippopotami killed by prehistoric hunters were found in a single cave in Sicily.

Only two per cent. of the trees struck by lightning in national forests catch fire, but this causes 17 per cent. of the forest fires.

A number of tropical game birds have been brought to Sapelo Island, Georgia, in an attempt to acclimatize them to the United States.

A slab in the Berlin Museum dating about 2600 B. C., from a temple in Egypt, shows the various processes in smoking honey, putting it in jars, pressing, and sealing it.

Children in Nebraska's public schools are now taking courses in character education, including courtesy, obedience to law, and good citizenship.

A Scientific Civilization

Philosophy

PROF. A. W. MEYER of Stanford, in *Scientific Monthly*:

It has often seemed to me that it will be far more difficult to establish a scientific civilization than a religious one. Belief spreads easily, even when it concerns scientific things. It does not take long to believe that I-On-A-Co cures all ills, but it would take long indeed to prove it! Knowledge comes far slower than belief, for it is the result of individual effort, of toil. It may have been this which caused Stevenson to say that the lamp of science smells terribly of oil, but it frequently is forgotten that he also added that its light shines very brightly.

Science is slow and halting and can not hurry. It must be circumspect. Dogma, being ready-made, is always at hand. It knows none of the impediments of science. Science encourages the suspension of judgment, not the abdication of it. It inculcates a judicial attitude, and by revealing man's place in the world, teaches him humility and that should make for tolerance. It does not, it is true, invariably effect these things, but surely that is not surprising, for the far older humanities, and the still older religions, also have failed to do so. They too could not wholly overcome human frailty.

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