

# SCIENTIFIC AMERICAN

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## DR. LE PLONGEON'S LATEST AND MOST IMPORTANT DISCOVERIES AMONG THE RUINED CITIES OF YUCATAN.

A recent letter from Alice D. Le Plongeon, dated at the ruins of Chichén Itzá, Yucatan, gives a very interesting account of Dr. Augustus Le Plongeon's latest discoveries, from which we make the following extracts. The letter was accompanied by several fine photographs, two of which we have engraved. The others will soon appear.

In 1875, when Dr. Le Plongeon brought to light the then beautiful statue that for good reasons he called Chaacmol (Leopard), people who knew nothing about it said that he had given that name at random, or for some fancy, which assertion was as foolish as it was unjust. As among us we have Mr. White, Mr. Black, Mr. Long, Mr. Short, Mr. Wolf, Mr. Fish, so the Mayas had for names animals and other objects, and when their portraits were made, instead of inscribing their name beneath, as we frequently do, they put a picture of the animal or object whose name they bore, above their head or on their breast, sometimes both. Thus we see a dignified looking gentleman, elegantly dressed and well armed, with a pretty goblet above his head; he is Mr. Cul, cul being the Maya word for cup. From certain indications of mural paintings and sculptures, Dr. Le Plongeon was led to look in one place for the statue of a man named Leopard, and when on reaching that he saw a monument with a sculptured leopard on the top, and slabs with leopards carved on them round it, his conviction was confirmed. He then unearthed the statue of Chaacmol; and it was to the memory of that warrior that the monument I propose to describe was raised. It consisted of two apartments, the outer, without any front wall, being more like a grand portico. The front half of the triangular arched roof rested on massive round stone pillars with feathers carved on the front and sides, while on the other part the scales of the serpent's belly are represented. The base, formed of a monolith two meters long, one meter fifty centimeters wide, and one meter twenty-five centimeters high, resembles a serpent's head with open mouth, whose projecting tongue alone requires two strong men to move it. (See engraving.)

But the roof of this front room fell, burying beneath its debris the pillars and other beautiful objects between them. A thorough excavation brought to light a stone altar; the upper part, or table, consisted of two stones fifteen centimeters thick, that together were two meters ten centimeters square, or be it six feet ten inches. Most unhappily, the roof, in falling, broke the table into fragments; nevertheless, as the piece remained in place, it is not difficult to see that it was sculptured in bas-relief, representing two men, one seated, the other standing. The edge of the table is also exquisitely carved, showing priests in various postures, making offerings; of the parts least injured Dr. Le Plongeon made moulds. Smashed, even pulverized in some parts, by the enormous stones, weighing hundreds of pounds, that fell on it, the table yet served to protect fifteen figures that supported it as caryatides. These were placed three abreast, five deep, with their arms upraised. They are eighty-five centimeters high,

fifty centimeters wide at the top, and thirty-five at the base. Except in their position, there are not two alike in any respect. The outermost ones have their noses broken, but those within are perfect as if just from the master's hand. They are very interesting and important, showing, as they do, the features, ornaments, and dresses of those people, for the artists paid little attention to the body, bestowing the utmost skill and care on the face, ornaments, and dress. The heads are well shaped, disproving again the assertion of some writers that the Mayas deformed their skulls. That custom was introduced by people who about 1,500 years ago invaded the country from the side of Baealax, destroyed Chichén Itzá, took possession of Uxmal, and in fact became masters of the country after destroying the dynasty of the Caes, as we read in an inscription carved on the facade of one of the principal monuments of Uxmal. These Toltecs, or Nauatl, with their religious rites and other customs, introduced that of deforming the skull, a practice that was in vogue even among the Mayas at the time of the Spanish conquest, as Landa informs us. Very lately a skull has been unearthed in Progreso, the port of Yucatan, quite conoidal in form, being flattened back and front, and rising like a peak at the top.

All the caryatides have headdresses on which are chiseled with great delicacy various designs, some figuring mosaic work that those people used to ornament their dresses, made of bone, shell, ivory, and each substances, cut in various shapes, and painted with bright colors. Other headgears are covered with feathers, the lines exquisitely fine; and the

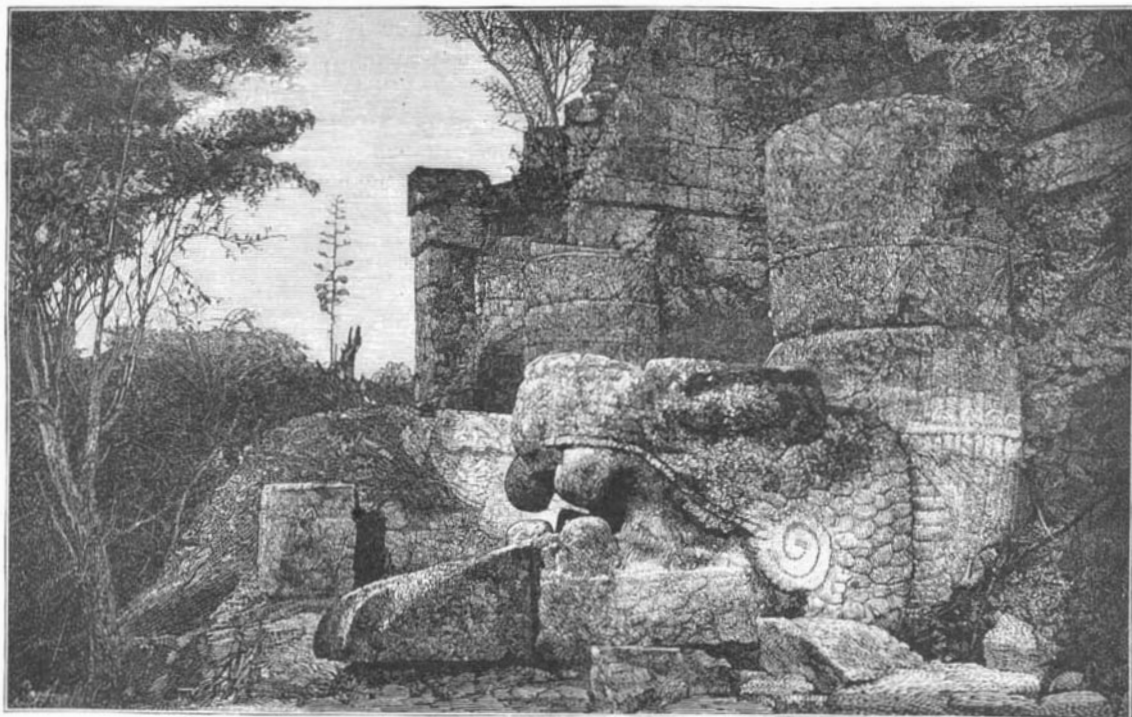
back of each figure is sculptured to imitate a mantle of feathers, but in each the feathers are differently arranged. Their hair is cut short in front and combed straight, to come partly over the forehead, thus we see that it is a very old fashion to bang the hair. The eyes are two-thirds natural size; some are decidedly feminine, and their dress seems to be that of women. The eyes are open, foreheads broad, noses correct in shape according to our present ideas of beauty, some quite small and fine; lips thin and firm. Some have the upper row of teeth visible, and they are small and even, not filed like a saw, so that fashion was evidently not compulsory, though some followed it, as we learn from the Chaacmol statue and others. All have ornaments in their noses, and some of them consist of two small disks, linked by a tiny straight bar. It is very possible that these links were made of some metallic substance. Besides the ornaments fastened on the outside of the nostrils, several have one hanging from the cartilage, down over the lips. As well as disfiguring a pretty face, it must have been most uncomfortable, and shows that people in those times made themselves the foolish slaves of fashion, just as now. One face is so covered that the features can hardly be seen; two serpent heads face each other on the forehead, and their bodies encircle the eyes; other snake bodies surround the mouth, the heads resting on the cheeks.

It is not easy for the pen to give an exact idea of how these caryatides are formed. The bodies do not correspond to the size of the faces, yet the feet are large, to serve as a firm base for the table they supported. From the knees up to the throat there is very little form, and though we see that the arms are upraised, the hands are not defined, but lose themselves in the flat part of the stone that is above the head, and on which the table rested. As far back as where the ears should be, the faces are completely in the round, but from there the stone extends on each side, and on that stone, in the place where ears should be, are large circular ornaments. One figure has square tablets instead, and on them a finely chased inscription that causes us to exclaim: "They must have had metal to work with!" The large circular ornaments have for center the face of an old man, but not all alike; so they may have been portraits of individuals celebrated among them.

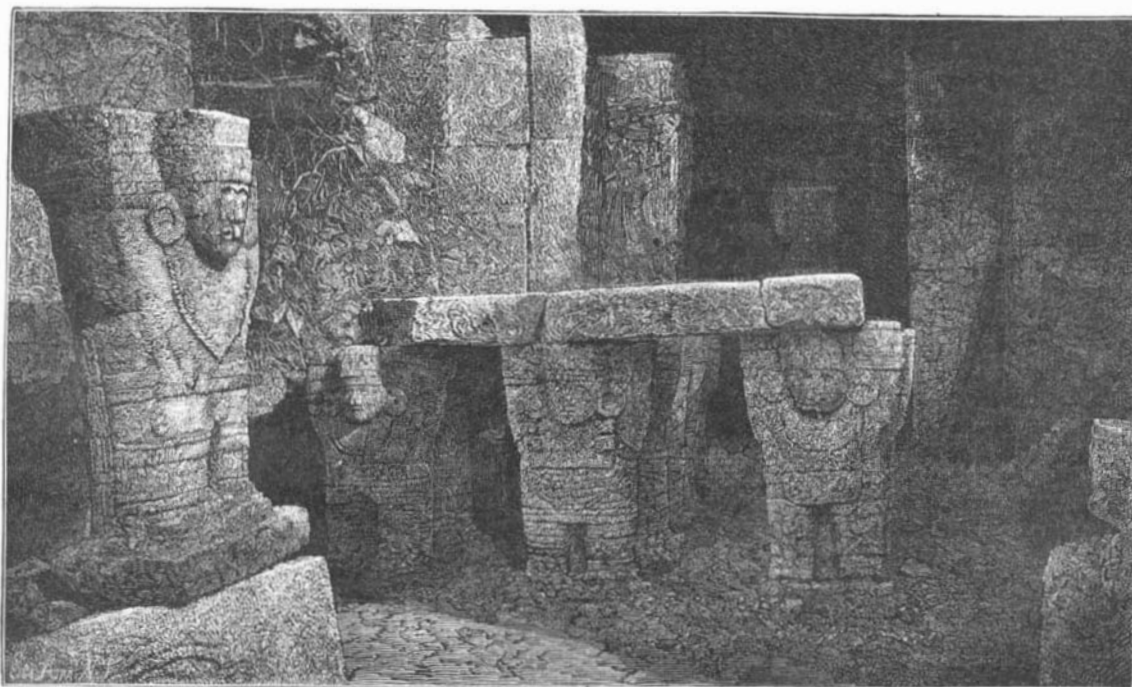
The toe nails of these figures have fallen out; for the Maya artists made nails and eyes of shell for their statues, which were also painted in vivid colors. The feet are shod with sandals, each fastened with a different bow, knot, or clasp. From their necks are suspended badges, necklaces, and other ornaments. One has an animal carved on the badge. Some have handsome waist belts, and three cornered aprons, trimmed in divers manners, especially with flat plaiting.

As so little care has been given to the body, it is not easy to decide upon the shape of the garments, but some certainly have a short tunic folded round their hips, closing in front by one end lapping over the other, the corners being curved from waist to bottom of garment.

We have reason to suppose that these figures were likenesses of individuals attached to the warrior Coh, and they supported the altar on which



THE MONUMENT OF CHAACMOL, AT CHICHÉN ITZÁ, YUCATAN.



INNER APARTMENT OF CHAACMOL'S MONUMENT, WITH STONE ALTAR SUPPORTED BY FIFTEEN CARYATIDES.

offerings were made to the manes of that chieftain. The room beyond the altar seems to have been a funeral chamber. The concrete floor was painted red; in spots the color is still bright. Opposite the doorway there is an *estrade*, half the width of the room, which is narrow, and two or three yards long. The walls are perpendicular to a height of three meters, then slant inward, forming a triangular arch, the total height of the room being about six meters. Throughout the ruins the same shaped roof is used, in some cases without any capping stone. This room has its walls covered with paintings, from floor to apex of roof. Red, blue, green, and yellow are the colors that form the pictures, but the outlines are drawn with a dark brown paint (bister); another color is also used, that I may, perhaps, call maroon, to paint boats and other objects that represent wood, for among the paintings are large boats; in one of them people painted blue are fighting with others painted yellowish-brown, and these last are apparently quite overcome by the men painted blue. Our future studies will doubtless give us a clew to all this.

#### High Buildings in Cities.

The burning of the St. George's Flats, in New York City, April 7, was but one more strong proof that it is indeed high time we had some comprehensive legislation governing the whole matter of high buildings in cities. Were it not that such structures are almost invariably claimed to be absolutely fireproof, there is no doubt but their erection, to be used as dwellings, would have been prohibited ere this. But here we have a representative structure of this kind entirely burned out, except the walls, like a tinder box, or as though the whole affair was a furnace, in which the interior partitions, furniture, etc., formed the charge, and the walls were the shell. It presented an imposing appearance, was seven stories high from the sidewalk and eight stories high in the rear; the front was of stone, ornamented with terra cotta; the spacious entrance hall had polished marble columns, while the stairways in front were of stone, and the halls tiled—the apartments renting at from \$1,300 to \$1,800 a year—but there was a rear dumb-waiter and air shafts of wood, with wooden stairs, floor beams, and flimsy partitions; so the destruction of the building was very rapid, notwithstanding the best efforts of the fire department. The question naturally arises, How many of our so-called fireproof structures are of this character?

The law now provides for the thickness of walls, according to the height it is proposed to build, and the building department can enforce the erection of fire escapes, but there is no limit to the height to which structures for either business purposes or dwellings may be carried. A bill is before the Legislature limiting the height of dwelling houses "intended to be used for more than one family" to eighty feet, and in streets less than sixty feet in width making the limit seventy feet; but much more than this is needed. With many it is by no means clear but that such high buildings should be absolutely prohibited, except in special locations, apart from other buildings, for they so much shut out the light and air as to greatly lessen the comfort and healthfulness of adjoining houses. This may be thought a hardship, in a city like New York, where the value of land affords such an incentive for piling story upon story, but there can be no question that the law should prevent the erection of such buildings unless they can be made fireproof in fact as well as in name. And to do this, with all the combustible material it is customary to use in the luxurious furnishing of such apartments, calls for a most specific enactment, with a thoroughness of inspection which householders have been slow to see the necessity of, and at least some builders will try in every way to shirk. Such regulations, in so far as they would increase the expense of putting up these great structures, and thus limiting their number, would be doubly satisfactory. Some legislation in the same line is also needed for tall factories, employing many hands, while there are here and there office buildings, likewise, altered over perhaps to accommodate more tenants, which are not only highly dangerous to surrounding property, but quite likely at any time to furnish a human holocaust, although their owners have nominally complied with all the requirements it is at present in the power of the building department to enforce. Let us have the law before its need is further emphasized by the loss of human life in some of these unsafe structures.

#### Turpentine in Infectious Diseases.

The *Med. Record* tell us that H. Vilandt writes in the *Ugeskrift for Læger*, concerning the value of the oil of turpentine in the treatment and prophylaxis of diphtheria and the exanthematous diseases. He states that he has never seen any of these diseases spread from a sick child to other members of the family when this remedy was employed. In many of his cases no isolation could be attempted, as the mother was the only female in the family, and was obliged to take care of both the sick and the well, continually passing back and forth from one to the other. His method was to pour from twenty to forty drops of a mixture of equal parts of turpentine and carbolic acid into a kettle of water, which was kept simmering over a slow fire, so that the air of the sick room was constantly impregnated with the odor of these two substances. He claims also that by this means a favorable influence is exerted upon the exudation in diphtheria, although it is by no means curative of the disease, and should never be relied upon to the exclusion of other remedies.

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#### DR. AUGUSTUS LE PLONGEON'S LATEST AND MOST REMARKABLE DISCOVERIES IN YUCATAN.

Among those who have made valuable additions to our means of studying the character and institutions of a once great but now almost unknown American people, Dr. Augustus Le Plongeon has performed conspicuous service. For some ten years he has been, at his own expense, pursuing a series of investigations among the buried cities of Yucatan. We give a record to-day of his latest and most important discoveries there, written for us by a member of his family participating with him in these explorations. Dr. Le Plongeon believes that the Maya civilization was contemporaneous with, if not anterior to, that of the most ancient Egyptian, and he certainly brings to the support of his conclusions some very remarkable facts; as presented by him they show the apparent similarity of the architecture, the language, the religion, and many of the customs of the Mayas with those of the Egyptians, so far as we can judge of either by such monuments as they have left in broken and buried statues, in the ruins of what were once extensive cities, and in the almost undecipherable hieroglyphics common to both people.

To reason, from such ground, to the possible connection in early days of the dwellers in the Nile Valley with those on the south of the Gulf of Mexico, is to open a wide door for speculation, and suggests at once the Platonic story of the sinking of the great and populous territory of Atlantis, which is said at one time to have bridged the distance between the Eastern and Western hemispheres. But there have been instances, in the prosecution of scientific investigation, where hypotheses that seemed more violent than this suggested connection of the Mayas and the Egyptians have been successfully demonstrated.

The pictures we give are the photographs themselves cut upon wood, untouched by draughtsman's pencil. The views presented are therefore, as nearly as possible, the actual reflections of the wonderful objects themselves. The Egyptian characteristics of these remains will be evident at a glance. In following numbers of the SCIENTIFIC AMERICAN we shall soon give additional illustrations. Dr. Le Plongeon has sent us a number of beautiful photographs of remarkable interest, which are now in the hands of our engravers for reproduction.

#### PROTESTS FROM MANUFACTURERS.

The unwise legislation against patents lately attempted in the House of Representatives has aroused a feeling of alarm among manufacturers in different parts of the country, and they are sending to the Senate some very strong protests against the passage of any ill-advised measure. It is as yet uncertain what action the Senate will take. It is known that some of the Senators are strongly opposed to any tampering with the patent laws or to the enactment of any scheme for the depreciation of patent property. But it is feared the majority in the Senate may, like that in the House, be disposed to do real mischief. A hopeful sign however is that the sending in of remonstrances has had the effect in the Senate to postpone action upon the patent bills; and the presentation of additional protests, will unquestionably have much influence in extending the postponement, and perhaps finally defeat the bills. We therefore urge the friends of home industry everywhere to continue their efforts to put a stop to these measures. They should send individual protests; call meetings of suitable corporations and societies to pass resolutions; ask their several State legislatures to do the same; request the editors of local newspapers to discuss the subject editorially; send marked copies to all Senators and Representatives. In short, use every possible exertion, without loss of time, to enlighten the members of Congress and influence their action as far as possible against the commission of these legislative errors.

It must not be forgotten that two very obnoxious bills, those of Mr. Calkins, 3,925, to compel owners of patents to pay counsel fees to the lawyers of infringers, and of Mr. Vance, 3,934, to allow anybody who chooses to infringe until he gets notice, and after that to deprive the patentee of the control of his patent, have passed the House by overwhelming majorities, and are now before the Senate for concurrence.

The bill introduced by Senator Voorhees, which practically gives to anybody who wants it the free right to use any patent, and openly robs the holder of a patent of the exclusive right of manufacture, is now before the Senate, and its passage will be strongly advocated. The House bill of Mr. Anderson, 3,617, reducing the lifetime of patents from 17 years to 5 years, has not yet passed, but very likely will go through. The adoption of any one of these bills by both branches of Congress would have disastrous effects upon all manufacturing properties and industries. These, to the enormous extent of eight-tenths of the gross capital employed, are, according to Senator Platt, of Connecticut, based directly or indirectly upon patents.

If any editor wishes for first-rate data on which to write interesting articles concerning American inventions and manufactures, we would refer him to the recent speech upon the Reorganization of the Patent Office, by Senator Platt, given in full in SCIENTIFIC AMERICAN SUPPLEMENT, No. 432. In this remarkable document will be found a most valuable array of facts and figures, beginning with the early history of the country and brought down to current dates.

The Jarvis Engineering Company, of Boston, has a large capital employed in the manufacture of various patented devices, such as furnaces, steam engines, injectors,