

THE IBIS.

BY PROF. CHARLES F. HOLDER.

The spectacle of the ibis so thoroughly at home in a pool within the corporate limits of Los Angeles, Southern California, is suggestive of the mild winters of that region, as these birds, as a rule, are confined to the tropics or their immediate vicinity. The birds shown here were introduced some years ago, and soon became perfectly domesticated, living among the great clumps of tule, apparently perfectly contented.

This is the glossy ibis, found in tropical regions and in Mexico; and while it is an attractive and graceful creature, it has not the beauty of color possessed by the scarlet ibis of South America, which Audubon believed he saw in Louisiana, but which has never been observed there since. The glossy ibis is common in Mexico in summer, retreating to more congenial climes in winter; yet as suggested, the winters of Southern California apparently do not trouble the birds shown in the illustration.

The color of this species varies with age, this being so marked that different names have been given the different birds, as glossy ibis, green and gray ibis. There is no difference in plumage between male and female. The latter is a little smaller than the male. In the adult bird a dark chocolate hue pervades the neck, head, and part of the back, while the wing coverts are darker and dashed with green; the tail is glossed with purple and green. The beak is dark brown with a touch of purple, and around its base, including the eye, is a naked space that gives the impression of a face. This is colored a grayish green; the legs and feet are also of this color. The bird is about two feet in length, and its position in the water or as it stands among the tules is at once dignified and graceful, well shown in the accompanying illustration. The young lacks the glossy sheen which characterizes the adult, and is more mottled.

The so-called sacred ibis, and the fact that it figures extensively in the literature and religion of the ancient Egyptians, has given the group more than ordinary interest. The sacred species is *Ibis æthiopica*, a striking bird, being pure white, the disconnected barbs of its plumes a purple black. The head and neck are naked, the latter being black. Travelers on the Nile always have the sacred ibis pointed out by those who "personally conduct," but the bird seen is the buff-backed ibis, the real sacred ibis having long ago disappeared from the Lower Nile, confined now to the region south of Khartoum. There is very good reason to believe that the sacred ibis never was found in Egypt or Nubia except in the case of a few individuals, the vast numbers in the tombs being explained on the theory that the Egyptians imported them.

The buff-backed species is very common, and was formerly, more than at present, employed as a scavenger, and pro-

tected in Alexandria. Dr. A. H. Adams writes: "Every street in Alexandria is full of them. In certain respects they are useful; in others troublesome. They are useful because they pick up all sorts of small animals and the offal thrown out of the butchers' and cooks' shops. They are troublesome because they devour everything; and dirty, and with difficulty prevented from pollut-

Hermopolis was the patron city of the ibis, and it was imported into Italy in early times and kept at the temples of Isis, the emblem of Thoth, the secretary of Osiris, and supposed to record the deeds of the dead, thus explaining the presence of its figure upon so many monuments.

To see the bird to-day it would be necessary to go far into tropical Africa. It nests near Khartoum in September, according to Dr. Vierthaler, forming the nests in the mimosa trees which are surrounded by marshes. As many as thirty nests, constructed of course with twigs and lined with feathers and fine twigs, have been counted in a single tree. Three, sometimes four greenish white eggs are laid, about the size of those of a duck. The birds from long exemption from interference pay little or no attention to the natives, moving about among them and near their flocks without fear; but they avoid the white man and lead him a long and generally fruitless chase.



THE IBIS OF SOUTHERN CALIFORNIA.

ing in every way what is clean, and what is not given to them." The birds apparently are protected, as are the buzzards in Charleston; those roosting about the market place do not add materially to the cheerfulness of the surroundings though they are of undoubted value, and in some towns evidently cheaper than a system of sewers. Thousands of mummified birds are found in Egypt and the bird frequently figures in the sculpturing of this country, and evidently for some reason made a strong impression upon the people.

vice as a means for saving life. Our engraving represents a new portable search-light which the New York Fire Department has had installed as a part of the equipment of Engine Company No. 20, on Marion Street, in the heart of the drygoods district. At first sight the apparatus resembles the ordinary fire engine, and, in fact, it was built by the La France Fire Engine Company, of Elmira, N. Y. It is intended for use at fires at night, or where the smoke is very dense, as the light penetrates the smoke easily and enables the firemen to save life and put out the flames much better than with lanterns.

The boiler is of upright tubular pattern and drives a Forbes upright engine with 5x5 cylinders, which at a pressure of 100 pounds makes 600 revolutions per minute. There is an independent Blake duplex feed pump, and there is a 10-gallon feed tank. The engine is direct-connected to a Bullock ironclad multipolar marine type generator, and the current is furnished at a pressure of 80 volts, each light taking 35 amperes of current. There is a flywheel between the engine and the generator to assist in making the motion regular. There are two search-lights of the Rushmore marine pattern, of 6,000 candle power each, the barrels being 18 inches in diameter. They are carried on each side of the driver's seat. The usual means are provided for turning them at any angle, and special care is taken to provide means whereby the vibration is taken up. The search-lights can be removed from the pins which secure them at the front of the apparatus, and they may be placed on portable standards which are carried at the rear of



NEW YORK'S LATEST FIRE FIGHTER—THE PORTABLE SEARCH-LIGHT PLANT AT WORK.

the boiler along with the cables. Two reels of double flexible conductor cables carry 200 feet of cable, and the connections are so arranged that there can be no confusion as to positive and negative. One of the search-lights is provided with lenses which throw a square beam of light on the face of the building, while the other is an ordinary reflecting search-light whose rays may be converged or diverged at will. The light is controlled by block switches and a rheostat, which is situated behind the driver's seat. Weston ammeters and voltmeters are provided in order to enable the electrician to obtain readings at all times when the current is being generated. There is little doubt that the machine will prove of great value in many cases where at present the facilities for lighting are very inadequate, such, for instance, as at fires on ships. The apparatus may be run out on a pier and one of the great lamps made to project the light into the hold, thus enabling the firemen to conduct their salvage operations with more immediate chance of success. In searching ruins for bodies the lamps will also prove of great use. Smaller incandescent lights will be carried in time for use in cellars, etc. The portable search-light plant has been a favorite subject of study with Fire Chief Croker, and the results of the new experiment will be looked for with interest.

NEW EXCAVATIONS AT CARTHAGE.

Since the month of January of last year, some important excavations have been made at Carthage, in ground never before explored. It was M. Gauckler, the learned director of the antiquities of Tunis, who, after obtaining the consent of the owners of the land, began the work according to a definite plan, before bringing to light a necropolis of the Punic epoch.

The site of the excavations is situated at the base of Bordj-Djedid Hill and in proximity to the restored cisterns. The sea is not very far distant, and the present trench is contiguous to the land in which Father Delattre discovered so many tombs in 1894.

As M. Gauckler had foreseen would be the case, there were at once found various superposed ruins of structures that corresponded to successive civilizations which have passed over Carthage. In the first place, the débris of the Christian city at the epoch of Theodosius, then, underneath, the remains of the city of the Upper Roman Empire, the epoch at which it attained its greatest splendor, and, in aggrandizing itself, constructed its houses upon the necropolises of Phœnician Carthage; and, finally, the débris of the purely Carthaginian civilization of the sixth and seventh centuries before our era, an epoch very curious by reason of the affinities that it presents with Egypt on the one hand and with Assyria on the other.

At the first blows of the pick, the discoveries were important. Under a great mosaic which served as a facing to a structure of the Christian epoch, M. Gauckler came across one of those curious places of concealment in which the last votaries of paganism often endeavored, without always succeeding, to protect their idols against destruction by Christian iconoclasts. It was a walled vault, and was full of various débris that covered a collection of very valuable objects of worship. In the first place, there was a slab of white marble bearing a dedication to Jupiter Ammon signed by twelve priests, having at their head a grand mistress of the rites (Mater Sacrorum); and then, at the bottom of the vault, four white marble statues, three of them well preserved, one representing the Greek Demeter (Ceres Africana), who replaced Tanit, the Phœnician goddess, and two others, perhaps representing a Canephore and a Core in the act of walking.

All these statues were of very careful workmanship and were touched up with paint that gave vigor to the marble.

At a depth of about twenty-five feet, M.



DEMETER.



CANEPHORE.

Gauckler came across the first tombs, the origin of which dates back to the seventh and eighth centuries before our era. They were simple ditches dug in sand at the bottom of a well, or funereal chambers constructed of large bond-stones. Several of them con-



FEMALE AND FUNERAL MASKS.

tained terra cotta masks having a grotesque and realistic expression of a striking effect, and were doubtless placed in the tombs in order to frighten such spirits as should trouble the repose of the dead.

Nearer to the front of the trench there were dis-

covered some richer tombs that contained silver jewelry, collars of beads of glass or precious stones and a few gold rings.

The richest funereal objects were found in two vaults constructed of very regular flat stones and closed by a flagstone. The interior was covered with a stucco as white as snow, and the ceiling was lined with cypress wood. The skeletons lay directly upon the floor, adorned with their jewels and surrounded with pieces of pottery of all sizes.

In another tomb was found the skeleton of a woman, probably a priestess, holding in its hands a bronze mirror and cymbals of the same metal. It had numerous bracelets of glass beads on the arms and several gold rings on the fingers, and, on the neck, a superb massive gold collar composed of forty elements, and enriched with hard stones.

There was, in addition, a second collar, of silver, a large flagon of enameled earthenware, painted disks of ostrich eggs, a lamp with two burners, and various other objects. This constituted the most complete collection of funereal objects that has been found in a necropolis.

The most curious finds made in other graves consisted of terra cotta molds representing fishes, ibises and masks, but of a different kind from the grotesque masks. These are figures of an entirely Egyptian style as regards head-dress and type of face.

There has also been discovered a jade cylinder of Assyrian origin representing the god Marduk strangling an ostrich.

At present the excavations are being carried on in a region of a very different archæological character from the preceding. They have just brought to light a Byzantine monastery, the most important part of which is already exposed. It comprises a rich basilica with five naves supported by columns of valuable multicolored marbles. The floor is entirely paved with well preserved mosaics.

Along side of the basilica, properly so called, extends a hexagonal baptistry, a chapel with a martyr's tomb, an atrium set apart for ablutions, and vestiaries and different chambers of less certain functions—the whole paved with mosaics of very varied designs.

This monastery was established directly in the center of the ancient Phœnician necropolis, and nothing is more curious than to find upon the ground now being excavated the inter-mixture of structures so diverse, which are distributed over a period embracing more than fourteen centuries.

All these discoveries do great honor to M. Gauckler, who has made his researches in a very methodical manner, and it is but just that they have been crowned with success.

The statues, jewelry, pottery and mosaics derived from these excavations are now on exhibition at the Musée du Bardo.

For the above particulars and the engravings we are indebted to Le Monde Illustré.

Protection of California's Big Trees.

Steps are being taken to preserve the famous Calaveras grove of big trees, which will probably pass into the hands of a large lumber firm which has secured an option on this famous grove. It is the intention of the new possessors to build large sawmills in Calaveras County, and they will then turn all of the large trees, which have been made one of the points of interest to visitors, into lumber unless some immediate steps are taken to save them. Various clubs and associations in California are doing their best to save the great trees, which are famous all over the world. It is urged that a national park would be most desirable at this point, as has been done in Mariposa and Tulare Counties.



POTTERY.



A BYZANTINE BASILICA UNEARTHED AT CARTHAGE.



PHENICIAN TOMBS.