

PYGMY CATTLE.

The extraordinary pygmy cattle of Benares and other parts of India, a specimen of which, about the size of a month old calf, has for some time been on exhibition at Central Park, are the result of careful selection continued for many generations, and are very fair representatives of the result of heredity. A cow of the same diminutive variety was for years an attraction to visitors at Prospect Park, Brooklyn.

The disposition of these small cattle, as indicated by their expression, is extremely mild and gentle. In their own country they are, as indicated by their name, worshiped by the natives as incarnations of the Holy Spirit and as containing the soul of some future Buddha. Treated with the greatest consideration and never subject to the vicissitudes that the Bos genus is subject to in Christian countries, they may rather be said to own their keepers, who are their servants, and who would consider it a greater crime to harm one of them than to kill a human being. Ramsay Wright considers the humpback cattle of India possible descendants of the gayal or gam, the wild cattle of Bengal and the peninsula generally. The method of catching and domesticating these cattle by the Kookies of the Chittagong hill districts is as follows:

A number of balls, each about a foot in diameter, composed of salt, cotton, and a particular kind of earth, are first made up and scattered about a part of the jungles frequented by the animals. A number of tame cattle are then driven to these places, where they await the coming of the wild ones. The two herds mingle, the opposite sexes associating together. As they graze, the balls, attracting attention by their shape and smell, are tasted, and relishing the taste of the salt and the earth of which they are composed, the combined herd of tame and wild cattle never quit the spot until all the balls are consumed.

"The Kookies," says Mr. Macrae, from whom this account is quoted, "having once observed the gayals to have tasted the balls, prepare a sufficient supply of them to answer the purpose, and as the gayals lick them up they throw down more. It is to prevent them from being too readily consumed that the cotton is mixed with the earth and salt. This process generally goes on for three changes of the moon, or for a month and a half, during which time the tame and wild cattle are always together, licking the decoy balls; and the Kookie, after the first day or two of the mingling of the herds, makes his appearance at a distance, so as not to alarm the wild ones. By degrees he approaches nearer and nearer, and at length the sight of him has become so familiar that he can advance to stroke the tame cattle on the back without frightening the wild ones. He next extends his hand to the latter and caresses them also, at the same time giving them plenty of decoy balls to lick. Thus in the short space of time mentioned he is able to drive them along with the tame ones to his "parrah," or native village, without the least exertion of force; and so attached do these captives become to the parrah that, when the Kookies migrate from one place to another, they always find it necessary to set fire to the huts they are about to abandon, lest the gayal should return to them from their new pasture grounds.

The small variety shown in our illustration is sometimes kept as a garden pet in our own country.

The Air of the Sea.

The air of the sea, taken at a great distance from land, or even on the shore and in ports when the wind blows from the open, is in an almost perfect state of purity. Near continents the land winds drive before them an atmosphere always impure, but at 100 kilometers from the coasts this impurity has disappeared. The sea rapidly purifies the pestilential atmosphere of continents; hence every expanse of water of a certain breadth becomes an absolute obstacle to the propagation of epidemics. Marine atmospheres driven upon land purify sensibly the air of the regions which they traverse; this purification can be recognized as far as Paris.

The sea is the tomb of moulds and of aerial schizophytes.—*M.M. Moreau and Miquel.*

Fish Killed by Poisonous Water.

Large shoals of dead fish have been met with between Egmont Key Light and Charlotte Harbor, off the mainland, and vessels have been several hours in passing through them. A few weeks ago the fishing schooner City of Havana, Captain John Curry, lost two loads of live fish, which were killed in sailing through strips of this poisoned water. It is said to be of a reddish color, and distinguishable for some distance from the surrounding water. Captain Samuel Morgan, a patient in the hospital, informs me that in some of the fresh water creeks fish are caught by placing bags of the bruised bark of the swamp dogwood (*Cornus sericea*) in still water, and that the fish will revive if allowed to remain in it for a short time only. There would appear to be some connection in this, as the mortality seems to appear after considerable rainfall in the swamps and fresh water outlets, and is not due, as has been stated, to submarine volcanic action. I have mentioned the fact to Dr. Joseph Y. Porter, U. S. A., and requested him to take advantage of his proposed visit to Tampa, Fla., this week, to collect samples of the water, should the vessel pass through any of these reddish colored strips.—*A. H. Glennan, Bulletin Fish Com.*

Pigments under Natural and Artificial Light.

M. Petrouschewsky has communicated to the *Journal* of the Russian Physico-Chemical Society an account



PYGMY OXEN AT THE CENTRAL PARK, NEW YORK.

of some experiments undertaken by himself for the purpose of ascertaining what mixtures of colors will give in sunlight the same effect upon the eye that is produced by various known colors as viewed by artificial light. A special form of photometer was used in these experiments, in which one-half of the field of vision is occupied by the piece of colored paper illuminated by the artificial light, while the other half is taken up by a card placed upon the table and exposed to daylight. Upon the surface of this card the colors are mixed until the general effect equals the tint of the other, and the two halves of the screen appear of the same color. Thus, to give to white paper the appearance which it has under the rays of a petroleum lamp, it is necessary to color it orange, or yellowish orange if the petroleum light is very bright. Papers colored reddish orange and vermilion become so intense in lamplight that it is impossible to imitate them by means of oil colors. Violet pigments take the aspect of reddish brown, not in the least resembling the true color. The mixtures of pigments thus obtained, looked at apart from the light of the sun, are very far from producing to the eye the same sensations as with the light of a lamp. In fact, the sensitiveness of the eye for various colors of the spectrum changes when this organ is accustomed to the yellowish light of petroleum, and the effect of the contrast with orange, which under this condition is taken for white, is an additional cause of error of judgment. By modifying his apparatus, the author has been able to continue his experiments under the electric arc light, which appears yellow in comparison with the light of the sun, and not bluish, as is generally thought.

Our Native Birds.

We are glad to see that the movement for the protection of American birds, recently started by the Ornithologists' Union, has been very generally taken up by both the daily and weekly press. It is only in this way that a public sentiment can be created against the present indiscriminate slaughter of birds, which characterizes every part of the country where the birds and man come in contact with each other. The classes to whom this appeal for the life of the innocent songsters must be made are so widely different that probably on no other issue could they be named in the same connection. It is odd that the first and strongest appeal must be made to those whom we would suppose to be the natural defenders of the birds, the women of the country.

Yet so remorseless has been the war which the gentler sex has indirectly waged against these feathered visitors, that it has acquired the unenviable title of belonging to the "dead-bird wearing gender." It is estimated that five million birds are annually sacrificed for the personal decoration of the women of the United States. If every woman who contemplates decorating her next bonnet with stifled songsters would reflect that with thousands of others indulging in the same barbarous fancy, there will soon be no birds left to gratify either personal vanity or the better love of bird companionship before they have been rendered mute and lifeless, we think it would be easy to persuade her to substitute some more fitting decoration. Other causes are also helping to depopulate our groves and forests. Many birds which do not secure protection under the game laws now existing in nearly every State are being killed for food, and each year the list is extended. Our markets are already stocked with such great variety that there seems absolutely no excuse for this slaughter.

Not only are the adult birds destroyed, but the eggs are consumed in large quantities. And then there is the traditional small boy, whose instinct is to kill, if we are to believe what we are told—but there is another side to his nature. If his sympathies are once enlisted, he is a most loyal champion, and will do good battle in the cause to which he devotes himself. If the bird protection societies can win over this impetuous little advocate, they will lose a very destructive enemy and gain a very active friend.

Though the list of bird destroyers is by no means exhausted, we have space only to refer to one other

class, those who collect for scientific purposes. This is perfectly legitimate, and requires a much less number of birds than is usually accredited to it. In all the museums of the country, both public and private, there cannot be more than half a million birds—one-tenth the number annually demanded by fashion. There are also egg collectors, whose apparent cruelty in robbing the nest of its treasured contents is entirely justified by the strictly scientific use to which the eggs are put. But there are just now numbers of pseudo-scientists all over the country, who are influenced simply by the prevalent mania for collecting anything and everything, without regard to their ability to make it valuable. These people kill birds by the score, and steal eggs by the dozen, and make a collection, but the absence of classification or an attempt at completeness prevents it from having any value whatever.

So many reasons conspire to make a plentiful bird life desirable, that the question of why we should protect it seems to answer itself. For purely utilitarian reasons, as a check upon the insects harmful to vegetation, the birds deserve our protection. Even those birds which have themselves a bad reputation as garden marauders destroy more insect enemies than garden products. Not one can be shown to be wholly injurious.

And as a pleasing and beautiful form of natural life, nothing surpasses the sociable little house birds or the wilder dwellers in the woods. To have broad meadows and country lanes devoid of the cheerful song of birds and noisy only with the monotonous whir and buzz of insect life, would be to rob them of one of their greatest charms.