

THE ISATIS, OR ARCTIC FOX.

Thanks to Mr. Delalande and Lieutenant Veron, the Museum of National History of Paris is now in possession of two representatives of a species of carnivorous animal rarely seen in zoological gardens, but the skin of which is well known to furriers. This species is the isatis, or Arctic or blue fox, known to the Russians as *Peszi* or *Peszez*, to the Greenlanders as *Terreniak*, and to the Samoyeds as *Noga*.^{*} In zoological catalogues it bears the name of *Vulpes lagopus*, the specific name being in allusion to the presence of very thick hairs that form around the animal's feet a sort of furry shoe—an arrangement which is certainly in accordance with the habitat of this species of fox. At the present time, in fact, the isatis is confined to the Arctic regions of the two worlds, and it is only accidentally that it is met with further south, and, when it is, it must be because it has been transported thither by some iceberg, or because an exceptionally severe winter has enlarged the limits of its hunting grounds. Being destined to live in a severe climate, the blue fox had need of soft fur, a gift which nature did not refuse. The body of the isatis, indeed, is so abundantly provided with hair that the animal appears to be larger than it really is. Yet its size is notably smaller than that of our own fox, with which, however, it could not be confounded, since its paws are flatter, its body is more elongated, its head is shorter, its ears are rounder, its snout is less pointed, its tail is more tufted, and its coloring is entirely different.

In its own country the isatis is, during summer, of a brownish, smoky, or leaden gray, or brown glossed with blue, but, in winter, of a whiteness as immaculate as that of the fields of snow amid which it seeks its food. But between these two so diverse coats—the one light and the other dark—the transition does not occur abruptly, but takes place, on the contrary, by gradations, so that at the change of seasons the animal exhibits a spotted aspect. So it is not astonishing that, on various occasions, travelers and naturalists have seen the isatis in these different costumes, and have described as different species individuals that were either in their winter or summer coat, or in a state of transition. But we now know positively that the names blue fox, white fox, Arctic fox, smoky fox, pied fox, rock fox, etc., are applied in reality to one and the same specific type.

The two specimens that are to be seen at the Jardin des Plantes were captured in Iceland, but the animal is likewise met with, and more commonly still, in Greenland, in Southern Scandinavia, in the portion of Siberia situated beyond 60° of latitude upon the banks of Behring Strait, in the Aleutian Islands, and in the northern part of the American continent, beginning at the 50th parallel. Everywhere where it is not disturbed it scarcely takes the trouble to excavate or burrow, but is content to take shelter under a rock or bush in order to sleep or watch for its prey. The latter consists principally of small mammals and birds of different kinds, of which it devours both the adult and young. It is not, however, particular in the selection of its food, and, for want of living animals, will devour such carcasses as are thrown upon the beach by the waves. Moreover, it enters with astonishing boldness the very center of the encampments of travelers and seizes not only provisions, but also bags, coverings, and woolen and skin clothing. The naturalist Steller and his companions, who were cast by shipwreck upon Behring's Island, and who had to stay there for ten long months, were obliged to suffer much from the incursions of these carnivora. It was in vain that they tried to drive them off by firing at them, setting traps for them, and capturing a few individuals which they afterward exposed to the eyes of their companions, for every night the foxes returned to the charge, disarranged the stones under which provisions were hidden, and gnawed gloves, shoes, hats, and even the reindeer skins which served the shipwrecked party as beds.

The isatis may, then, by good right, be considered as a noxious animal, and the war that is waged against it would be perfectly justified even though its skin had no commercial value. But the skin is valuable, however, and so the hunting of the animal has, during the last century, consid-

erably extended. Its capture presents no difficulty, since its instinct for self-preservation is but feebly developed, and it possesses a singular mixture of stupidity and cunning, and cowardice and boldness.

It is asserted that the Ostiaks Samoyeds have no need of traps in order to capture the isatis, but proceed very simply as follows: When the ground is covered with a winding sheet of snow in winter, they start upon a campaign armed with nothing but shovels made of the antlers of the reindeer. As soon as they discover the mouth of a burrow dug through the snow they quickly ascertain its direction, open the gallery with their shovels, seize the semi-torpid animal by the tail, and dash its brains out against a rock. In other countries this animal is taken in traps or hunted for with the gun.

Mr. P. L. Martin estimates the number of isatis skins that



THE ISATIS, OR ARCTIC FOX.

annually reach the markets of Europe to be 90,000. These skins are of two kinds, pure white ones from Arctic America and bluey-gray ones either from Archangel or Labrador. The former are worth at wholesale 6 to 15 francs each, and the latter bring from 45 to 90, and are usually cut into strips for trimming ladies' cloaks, or are more rarely put together in such a way as to form magnificent carpets or rich coverings.

But all the skins of this kind do not reach Europe, for there is also a very important trade in them with China, which for the last century has annually imported several thousands for ornamenting the cloaks and robes of the mandarins. Some of these peltries must likewise be utilized upon the spot, and others are sold in large numbers to the United States. Finally, it is certain that many animals are massacred without profit to the industry or become a prey to eagles and gyrfalcons; so that we may, without exaggeration, estimate the number of these carnivora that annually disappear as 300,000. Under these circumstances the species is surely fated to extinction in a very short time, and, if it has not as yet been totally destroyed, the fact is due to its re-

made upon this subject, and we trust that the specimens at the museum will live long enough to allow us to ascertain whether transportation decidedly deprives these carnivora of the power of modifying their coloring, according to the season.—*La Nature*.

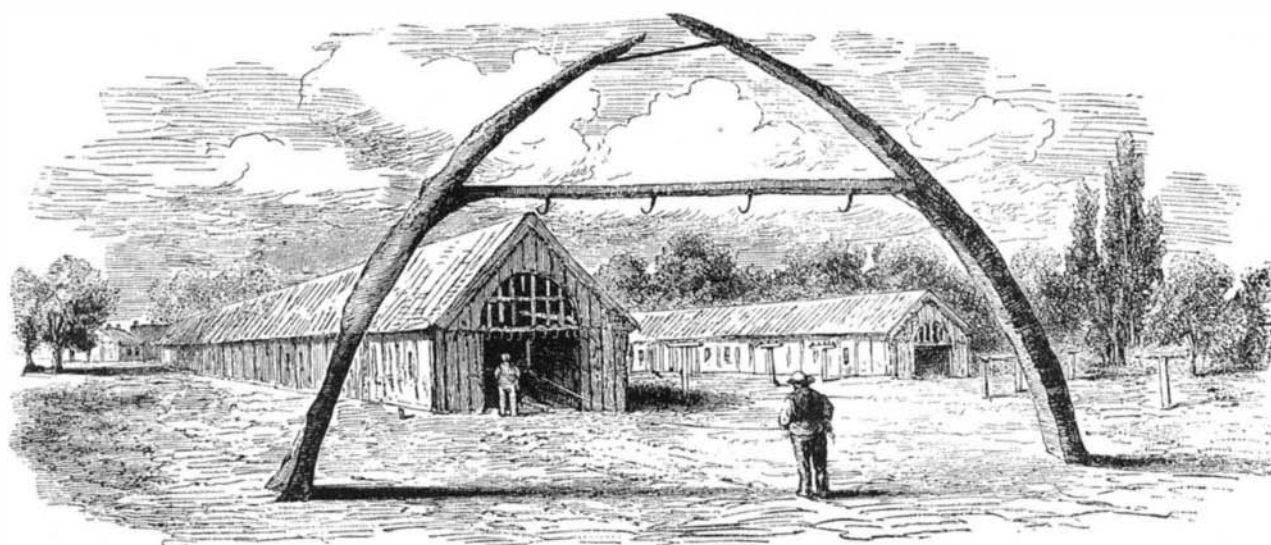
The Red Sunsets.

Mons. M. J. Jamin, a member of the Academy of Sciences, communicates to *Revue des Deux Mondes* an article on the red sunset phenomenon which prevailed in nearly every part of our globe last winter. He believes the volcanic theory, and the conclusion reached by him is that the eruption of Krakatoa was one of the most important manifestations of volcanic forces the world has known; that the magnitude of the forces then put in motion renders it entirely credible that an immense mass of volcanic ashes mixed with watery vapor was propelled from Krakatoa to a height probably almost coextensive with the limits of the earth's atmosphere; that this dense mass of fine and principally microscopic ashes floated above or on the surface of the atmosphere as oil floats on water, and that it was gradually diffused by the air currents until it had become visible over nearly three-fourths of the earth's surface. To the objection of the advocates of the cosmical theory that some traces of this volcanic dust ought to have been found on the surface of snow somewhere, M. Jamin replies by adducing evidence that it has actually been found, and at points considerably distant from one another.

He also produces a strong argument from analogy by citing the case of a similar eruption which occurred on an island in the Mediterranean in 1831. In that case the same peculiar optical phenomena were noted, and for two months red sunsets and sunrises were observed, not only in various parts of Europe, but also on the continent of America. He refers further to the contemporary accounts of that eruption of Vesuvius in A.D. 79 which resulted in the destruction of Herculaneum and Pompeii to show that the same aspect of the heavens was then visible, though naturally it was not ascribed to the true cause. The objections against the duration of the phenomena are met with careful reasoning showing the possibility of the persistent flotation of the extremely attenuated matter composing these clouds of mingled ashes and vapor. It may be said, adds the editor of the *New York Tribune*, from which we copy, that parts of M. Jamin's argument appear to conflict somewhat with Professor Nordenskjold's theory of cosmical dust, it seeming possible that the Professor's supposed meteoric dust may have been of the same nature as the volcanic ash clouds. The article is extremely interesting, carefully written, and makes a strong showing indeed for the volcanic theory, if it does not altogether settle the question at issue.

A WHALEBONE ARCH.

In former years the city of Hamburg was one of the great whaling ports of Europe; but since 1850 no whaler has sailed



A WHALEBONE ARCH.

from Hamburg, as the business did not pay. Among the many relics of the time that whalers sailed from Hamburg the most noteworthy is the arch formed of two enormous whale jaw bones erected on the site of the former rope yards at St. Pauli. These jaw bones are quite intact, and will probably remain so for many years.

The annexed cut representing this arch is taken from the *Illustrirte Zeitung*.

Military Skating.

A corps of skaters is said to be attached to the Norwegian army, the members being men selected for good physique and accurate marksmanship. These skaters can be maneuvered upon ice or over the mountain snowfields with as great rapidity as the best trained cavalry, and as an instance of their speed one of the corps, it is reported, recently accomplished 120 miles in eighteen and a half hours over a mountainous country.

To prevent haystacks firing, scatter a few handfuls of common salt between each layer. The salt, by absorbing the humidity of the hay, not only prevents its fermentation and consequent heating, but it also adds a salty taste to this forage, which all cattle like; besides, it stimulates the appetite and assists their digestion, and so preserves them from many diseases.

^{*} The Chippewyans call it *Kkas-ba*, "white beneath," and the hares *Kka-pa*, a name having the same meaning.—*Translator*.