

## Natural History Notes.

**The Age of Fish.**—Many statements have been made as to the great age that fish may attain. Some persons think that there are carp at Fontainebleau that date back to the time of Francis I., but the majority is skeptical in regard to this, and for good reasons. Professor Spencer F. Baird thinks that we may allow an age of 200 years for certain carp. There is nothing, says he, to prevent fish from living almost indefinitely, since they have no period of maturity, and grow every year of their life. In Washington there are goldfish that have belonged to the same family for fifty years, and they appear to be scarcely any larger than they were when purchased. In the royal aquaria at St. Petersburg, there are fish that are really 140 years old. Some of these are fully five times larger than they were when introduced, while others have gained but a fraction of an inch in length. It appears that in China there are sacred fish of still greater age.

**A Gigantic Sea Weed.**—Captain John Stone, commander of the ship *Clever*, recently carried to Montevideo some remains of a gigantic sea weed that he picked up near the equator. While overtaken by a dead calm in these regions, the sailors perceived an object floating on the surface at some distance from the ship. Manning a boat, they rowed out to it and found to their surprise that it was an alga of the extraordinary length of over fifteen hundred feet. From an examination of the specimens collected, botanists identified the plant as *Macrocystis pyrifera*.

**Deep Water Fauna of the North Atlantic.**—In a recent paper by Professor S. I. Smith on the decapod crustaceans dredged by the *Albatross* in the North Atlantic, the author remarks that at least a third of all the species taken came from depths greater than a thousand fathoms, and a number were remarkable for their large size. One Brachyuran had a carapace five inches long and six broad, and some specimens of an Anomuran measured, with outstretched legs, over three feet. Some of the species were nearly colorless, but most were of some shade of red or orange. As regards eyes, eight out of twenty-one had normal black ones, two had abnormally small ones, three had eyes with light colored pigment, and of the rest the function was doubtful. Of five species from below two thousand fathoms, one had normal, well developed eyes, while the eyes of the rest were small, imperfect, or doubtful. From these and other

facts, Professor Smith draws the conclusion that, notwithstanding the objections made by physicists, some light penetrates to a depth of over two thousand fathoms, and, in view of the purity of the water in mid-ocean, he sees no reason why light should not reach that depth as easily as it does five hundred or two hundred fathoms nearer shore. However this may be, he finds that there is a tendency toward a radical modification or an obliteration of the normal visual organs in deep water species.

**The Enemies of the Oyster.**—In a recent number of *Science*, Mr. R. S. Tarr gives some interesting details in regard to the habits of two enemies of the oyster, studied by him—*Asterias Forbesii* and *Eurosalpinx Cinerea*. The former of these approaches the oyster, which naturally is powerless to move, and lies upon its shell. It then proceeds to attack its victim's stomach, and in so doing secretes a peculiar liquid that seems to weaken or kill the oyster, so that the latter remains with its shell partly open. After a while, the *Asterias* has absorbed sufficient of the oyster, and takes its departure, leaving its victim to perish. Getting hungry again, the *Asterias* begins upon another oyster, eating a small portion as before, and leaving the rest without ever returning to it. It appears that at times an oyster bed will be entirely taken possession of by these animals and be wholly destroyed in one night. Mr. Tarr thinks the only remedy is to find whether there is not some mollusk that the *Asterias* might like better than the oyster, and, if there is, to rear this in the vicinity of oyster beds in order to satisfy the starfish's voracity.

The *Eurosalpinx*, by means of its odontophore, bores a hole into the oyster's shell with amazing rapidity, and then scrapes out the flesh and feeds upon it. After a short period of rest it passes to another oyster, and so on. In both cases the victim is fatally injured, and soon dies. According to Mr. Tarr, these two enemies are the cause of very great mortality among oysters.

**Influence of Electricity on Plant Roots.**—It is a fact generally known to botanists that the roots of aquatic plants incline to one side or the other when an electric current is passed through the water in which they grow. Mr. Elfring was the first to observe this fact, as long ago as 1882. He found that the majority of the roots examined by him curved positively, that is, toward the anode; others, on the contrary, curved toward the cathode; and, finally, some exhibited an inclination whose direction it was difficult to determine. Mr. Elfring endeavored to explain this phenomenon by saying that the current, acting upon the protoplasm, produces a diminution in the turgidness of the cellules, and consequently a retardation in the growth; and this retardation being different at various points of the root, there results a curvature of the latter.

A little later, Mr. Brunchorst thought that he had discovered that the curvature depended solely upon the intensity of the current, that is to say, that a

fall annually upon the earth. But that one should fall of exceeding brilliance, and described in almost identical language by correspondents in the *Times* and by ourselves, is worthy of note and of further inquiry. We recorded that such a meteor appeared at 27 minutes past 12 in the direction east-southeast from Cumballa Hill, from which place it was seen. It was subsequently reported from Rutnagherry that a meteor was seen there, but to the north. A correspondent wrote us from Mahableshwur, who reported that he saw a very bright meteor at half past 1 (local time), but the great difference in time pointed to some error in recording the exact appearance, or else proved that it was some other meteor that was seen. In England there was a meteor which seems to have passed over London about 5:5 P.M. Greenwich time, or 9:55 P.M. Bombay time; and it appears to have been traveling eastward. It does not seem beyond the bounds of possibility that the meteors seen here and in England were the same. The absolute difference in time would thus be 2 hours 32 minutes, which is equal to the time taken to travel the distance between these two points. Assuming this distance to be about 5,500 miles, the rate at which the meteor was traveling was about 35½ miles a minute in the earth's atmosphere. The rate at which meteors travel in interstellar space is about 40 to 50 miles per second. So that the difference between these two rates of

speed shows the retardation due to the earth's atmosphere, always going upon the assumption that the meteor seen in England was the same as that seen here. To settle this point, it will be of interest to know if any one between Bombay and London noticed the brilliant meteor of the 16th of January, and it would also be interesting to know if any one saw it on the other side of India and further east. Though meteors or meteorites fall in such great numbers, it is very rarely that their history can be traced, and it appears that a service may be done to science by tracing out the path of this particular one, if so be that two points in its journey have been fixed.—*Times of India*, March 6, 1886.

## NOVEL MODE OF FEEDING LAMBS.

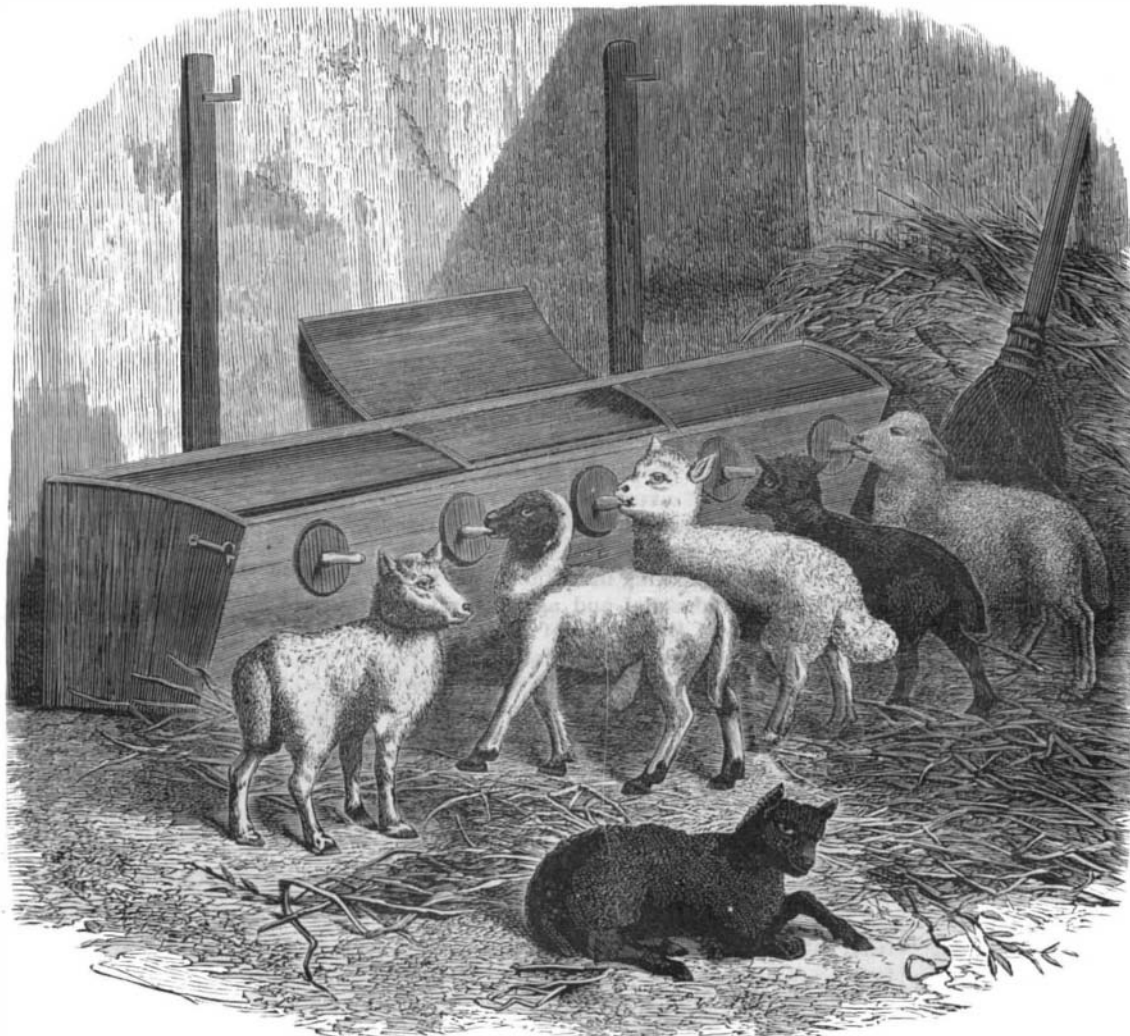
The device for feeding lambs is so simple and so well delineated in our excellent engraving as to require but very little description.

It may be well to state that the reservoir containing the milk should be kept clean and sweet, and fed to the lambs at about the normal temperature of the animal.

The sooner after birth the lambs are introduced to this mode of artificial feeding, the less trouble will be experienced in the weaning process. The lambs should be fed regularly, not less than three times a day. In France, where the invention has been introduced quite extensively, it is said to have proved very satisfactory.

## The Paris Metropolitan Railway.

The capital of the company for the promotion of the Metropolitan Railway for Paris is to be 50,000,000 francs. The plan comprises (1) an inner circle line along which the rails will pass, according to the nature of the ground traversed, underground through cuttings or over viaducts; (2) two great arteries destined to connect the stations of the great companies and intersecting Paris. One underground will connect the Gare de l'Est, pass through the district of the General Post Office and Halles, and terminate at Mont Parnasse Station; the other, which will be above the surface level, will connect with each other (1) the Saint Lazare and the Nord stations by a line which will pass through the Carrefour Drouot; (2) the two stations so united of the West and North with the Vincennes and Lyons stations by means of a line passing from the Carrefour Drouot and leading toward the Avenue Daumesnil by crossing the district of the Halles, which, serving as a point of intersection of the above-ground artery and the underground artery, will thus have exceptional advantages. The contemplated stations number 64, of which 28 are to be on the viaduct, 15 over open cuttings, and 21 over the underground way.



A NOVEL MODE OF FEEDING LAMBS.

current of feeble intensity produced a negative curvature, and one of strong intensity a positive one.

More recently some researches on this subject have been made by Mr. Rischewi. According to the theory which he espouses, the curvatures are attributable to cataphoric action. This scientist bases his theory upon the well known experiment of Dr. Du Bois Reymond, in which two cylinders of coagulated albumen, placed between the electrodes, show an inflation at the negative electrode and a contraction at the positive. This phenomenon is due to the fact that the water in the cylinder moves, under the influence of the current, in the direction of the latter. Roots afford another example of such action. As the turgidness of the cellules increases on the side next the cathode, this side elongates, and a positive curvature is produced. The negative curvature is explained by the diffusion of the external liquid in the porous roots, this occurring on the side next the anode, when a current of feeble intensity is made to pass.

## The Velocity of Meteors.

About six weeks ago, we referred to the fact of an extraordinarily brilliant meteor having flashed across the sky in this neighborhood, and we invited communications upon it from any who might have observed it. It seems that upon the same night a similar meteor was observed in England. Now, under ordinary circumstances, there was nothing notable in this, for meteors are known to be continually falling, it having been calculated that many millions of them