

FAIENCE WARE.

The term *faience* is properly applied to pottery which is decorated on the surface by an enameling process after the object is made and partly baked. The name is derived from Faenza, in Italy, where decorated pottery was made in the sixteenth century; and although for a long time it was given, in France, to porcelain and china, such use must be considered erroneous. M. F. de Lasteyrie, in writing on the subject, states that forty years ago hardly any one in France was acquainted with this beautiful ware. Porcelain, which alone was used on the tables of the wealthy, enjoyed all the popularity; and faience was hardly reckoned in the same category as its more refined relative, and was found, chiefly in cheap wine shops, etc., in the form of plates and dishes of white color coarsely ornamented with military and other subjects printed on the ware by a kind of lithographic process. However, as taste developed and specimens of old pottery were studied, it was found that the art of Palissy and Lucca della Robbia was not without its uses, and that those great men did not give their lives to the perfection of processes merely for the enrichment of the collections of curiosity seekers. Now faience ware occupies the attention of the best manufacturers of ceramic art objects; and in France, where the revival of taste is most marked, the enameled pottery processes are being used in the production of the finest works of art. But the details of the old processes were not known; and the potters had chiefly to depend on the study of objects in museums for the means of carrying out their ideas. Soon, however, the art made great strides, and faience ware became common in the better class of houses and was accessible to men of moderate means.

Among the manufacturers and artists who brought about this result were Count Adalbert de Beaumont, a gentleman whose taste had been formed by study of the art in the East, and M. Collinot, a potter who spent many years in the study of enamels and in attempting to rival the works of the old masters. Our engravings, selected from the pages of *La Nature*, show two specimens from the *atelier* of M. Collinot; and it may be interesting to know how such superb vases, 8 or 10 feet in height, are produced, the enameled decorations being in unalterable colors.

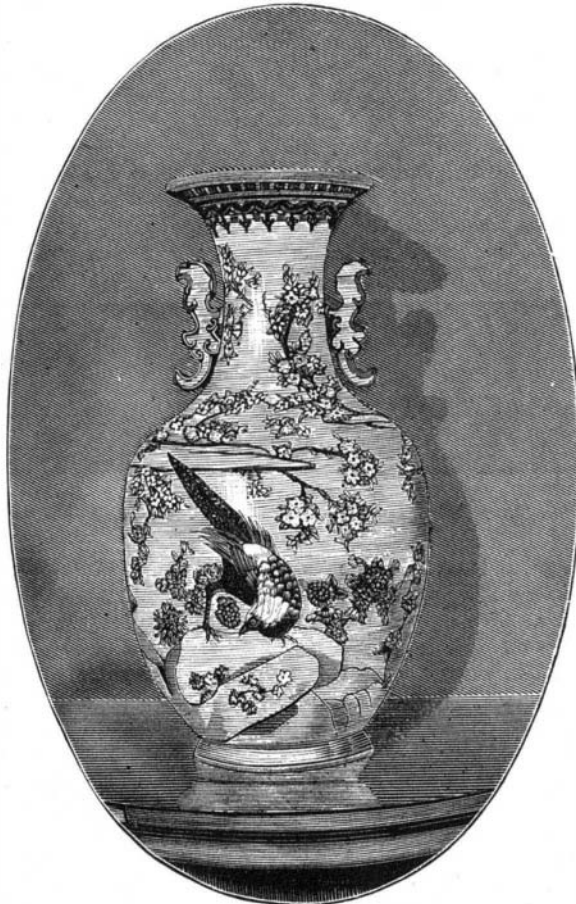
The clay suited to the potter's art has one of two origins: it is either deposited by a decantation process or is a volcanic formation. The first is either marl or fuller's earth; and when baked, it possesses a rough surface to which the enamel adheres. If the ware is polished a little too much, the enamel sooner or later chips off. The clays of igneous origin, however, formed from felspar, quartz, sand, etc., take the enamel by the fusibility of their surface and form with it a homogeneous whole; but, unfortunately, they are very difficult to work and to bake, and the homogeneity will vary in different parts of the same vase or other article. These difficulties have to be overcome by mixing the clay so that the enameled surface shall be uniform all over when the ware is withdrawn from the oven; a rather difficult problem, as it will be acknowledged when it is remembered that the conditions are never alike in two instances. But when the proportions of the ingredients are once settled, and the vase is formed, it is coated with a preliminary glaze of salt and sand, or frit, as it is termed in the trade; and a first baking yields a true biscuit ware, with a surface having an affinity for the enameling materials with which it is to be treated. But in mixing the clay, it must be borne in mind that all oxides of iron must be excluded, as their presence is fatal to the brilliancy and purity of nearly all the enameling colors. The forming of the vases is done by the potter's wheel and by moulding, two methods which are almost as old as the human race.

The enamels in relief are sometimes apt, when subjected to the intense heat of the furnace, to melt and spread over the adjacent parts of the surface, making the design appear smeary and devoid of sharpness. The Egyptians and Chinese avoided this by using a kind of *cloisonnage* process, the term signifying "partitioned work." It is extremely expensive, but gives great durability and permanence to the ornamentation, especially when employed, as it frequently is, on metal. Messrs. de Beaumont and Collinot used a simple and rapid method of doing this work, which is one of the most curious discoveries of the modern ceramic art. The design is outlined on the object with a brush dipped in a mixture of copper and iron in fine powder. In the baking, the metallic mixture oxidises, and forms hard lines which prevent the overflow of the enameling material when it begins to melt under the heat. A second and a third baking give the finish to the ware, and produce the glaze, which is then uniform all over the object.

Of the two beautiful specimens illustrated, the first was exhibited at Vienna in 1873; and the Chinese Imperial Commissioner remarked: "I thought that exhibitors were allowed to show only their own productions; but here is a Frenchman who does not hesitate to place among his own

wares a Satsuma vase." To deceive an educated Chinaman with a vase of European manufacture was a real triumph for M. Collinot.

Freight Charges to the French Exposition.
A special order of the French Minister of Public Works



SATSUMA VASE IN FAIENCE WARE.

has lately been published, in which it is stated that all objects for the Exposition of 1878 (except objects of art and valuables), will be transported by all French railway companies for half the regular rates. The price, however, is in no case to be reduced below the basis of $\frac{1}{4}$ of a cent per ton



ASSYRIAN VASE IN FAIENCE WARE.

per kilometer (0.6 mile). Objects of art, valuables, very large articles, such as locomotives, cars, etc., if they cannot travel on French tracks, are subject to special rates, to be agreed upon.

A pink efflorescence has been removed from a stone wall where the Rosendale cement was used. It contained manganese, magnesia, alumina, iron, soda, and sulphuric, carbonic, and silicic acids.

Whales on the California Coast.

Last week, says a recent number of the *Monterey Californian*, our Portuguese fishermen killed a large female whale of the California gray species (*rhachianectes glaucus*) about sixty feet in length, being somewhat larger than has ever been killed here before—the average of females killed being about forty-two feet. After cutting off the blubber, they found inside a nearly full-grown male calf, which measured eighteen feet from the end of its nose to the tip of its tail, or fluke, as the whalers call it; the circumference of the body at its center, nine feet; the head about four feet in length; pectoral fins, three feet; breadth of tail, three and a half feet; and it had two ridges on the lower jaw. When brought on shore it still had three feet of the umbilical cord attached to it. The whalebone on its upper jaw was soft and white; the tongue, large and soft; the eyes, nearly full size, about as large as a cow's; and the skin was of a dark brown, mottled white. It had no dorsal fin. The females, when with young, generally keep off shore when on their way down south, to bring them forth in the warm waters of the bays of Lower California, where they remain all winter and go north in the spring. The females, when with calf, are dangerous, as they often attack the boats of the whalers. The writer once saw a boat cut completely in two by the flukes of one of these whales, and it looked as if it had been chopped in two by a dull axe; and several of the men were wounded. The term of gestation is about one year. Formerly these marine monsters were so numerous in Monterey Bay that whalers would fill up lying at anchor. Oftentimes they would be seen playing in the surf and rolling the barnacles off of their sides and backs on the sand beach—an odd way of scratching themselves.

Health Improvements.

On this subject Dr. Richardson, F.R.S., has recently delivered a lecture at the London Institution, in which he gave further illustration of the high views he entertains in regard to house sanitation. He considered that for purposes of health the houses in Great Britain require to be rebuilt, or remodeled, from Land's End to the Hebrides. Dr. Richardson entered into the history of ventilation, from the time of Stephen Hales, in 1733, to the present day, and explained the different discoveries that had been made in the various branches of science bearing on the health of towns, showing that, till these were understood and appreciated, all modes of construction were of necessity imperfect. He called attention to the influence of water, dampness, light and darkness, etc. The effects of light deserve special notice. Having got from India some poison of the cobra, on ivory points, he discovered that, on some of those which had been exposed to the light in a glass bottle, the poison had become inert; while on others that had been wrapped in paper, in the same bottle, the poison retained all its deadly activity. He hence argued that, if sunlight exercised such power on the poison of the cobra, it might by analogy destroy the poison of smallpox, scarlet fever, and typhoid. He considered that pure air and water, freedom from damp, pure daylight, and equal temperature were essential. He then entered into a variety of details of the required modifications of our present house architecture, foundations, closets, and other offices, which may possibly be excellent if practicable. From the amount of expense that would be incurred in erecting such model houses, we imagine that the worthy doctor would justly entitle himself to the thanks of every architect and builder, if not of the owners of such houses.

An Intelligent Watch.

Mark Twain has been examining a curious watch at a jeweler's in New Haven, Conn., which he describes as follows:

"I have examined the wonderful watch made by M. Matile, and it comes nearer to being a human being than any piece of mechanism I ever saw before. It knows considerable more than the average voter. It knows the movements of the moon and tells the day of the week, the month, and will do this perpetually; it tells the hour of the day, the minute, and the second, and splits the seconds into the fifths and marks the division by stop hands; having two stop hands, it can take care of two racehorses that start one after the other; it is a repeater, wherein the voter is suggested again; musically chimes the hour, the quarter, the half, the three quarter hour, and also the minutes that have passed of an uncompleted quarter hour—so that a blind man can tell the time of day by it to the exact minute.

"Such is this extraordinary watch. It ciphers to admiration; I should think one could add another wheel and make it read and write; still another and make it talk; and I think one might take out several of the wheels that are already in it, and it would still be a more intelligent citizen than some that help to govern the country. On the whole, I think it is entitled to vote—that is, if its sex is the right kind."