

LITERARY NOTICES.

THE CANADIAN JOURNAL.—The January number of this Periodical contains the Annual Address of the President of the Canadian Institute; articles on the Rocks of Canada; on the ancient town of Louisburg, in Cape Breton; the American Nautical Almanac; the Ancient Miners of Lake Superior; Correspondence; Scientific Intelligence, &c., &c., with a Lithographed plan of Louisburg Harbour.

In the article on Louisburg, the author remarks: "In the simple article of sand, which invariably abounds upon the sea shore, experience proved had to be conveyed to Louisburg. The character of the mortar which is found among the ruins of the fortifications is sufficient evidence of the difficulty under which the engineers laboured for proper sand as a building material. The simple fact is, that in every instance in which sea-shore sand was used the works speedily mouldered away and fell down, especially after they had been submitted to the action of the frost during winter. Mortar used in building is a silicate of lime; and when a large quantity of the chloride of sodium (always found in the sea-shore sand) is combined with it, the proper combination of silica and lime is impeded, and instead of becoming the hard durable material which characterizes proper mortar, it is friable, and easily disintegrated with the least moisture, depending in all probability on the chloride of calcium formed in the mixture. It is certain that after the engineers employed on the works at Louisburg had discovered their mistake, there existed a vast difficulty in remedying the defect, and of procuring sand free from salt. The whole Island of Cape Breton is surrounded and greatly indented by the sea, while all its inland parts were totally inaccessible for want of roads, so that proper sand could not be procured nearer than Canada or the West Indies."

We do not see the *vast difficulty* here spoken of. Why, in the name of common sense, did not the builders employ the aid of *fresh water*, and wash the salts away from the sand? The trouble would certainly have been far less than that of importing an article required in such large quantities from either "Canada or the West Indies."

CAOUTCHOUC, OR INDIAN RUBBER.—This singular substance is the inspissated juice of a tree, the *Jatropha elastica*, a native of different provinces of South America, and is prepared thus:—Incisions are made in the lower part of the trunk through the bark, and a milky fluid issues in great abundance: it is conveyed into a vessel prepared to receive it by means of a tube or leaf fixed in the incision, and supported with clay: by exposure to the air, it gradually dries into a soft, reddish, elastic resin. The purest is that which separates spontaneously in close vessels; it is white, or of a light fawn colour. It is, however, imported into Europe in pear-shaped bottles, which are formed by the Indians of South America by spreading the juice over a mould of clay; as soon as one layer is dry, another is added, till the bottle be of the thickness desired; it is then exposed to a thick dense smoke, or fire, which not only dries it thoroughly, but gives it the dark appearance. It is then ornamented with various figures by means of an iron instrument. When dry, the clay mould is crushed, the fragments extracted, and in this manner the spherical bottles are formed. Owing to its great elasticity and indestructibility, it is used for a variety of important purposes, such as tubes for conveying gasses, catheters, &c. &c.; among the latest applications is that of a flexible tube for introduction into the stomach, to which an apparatus is attached for the washing out any deleterious matter, such as poisons, &c. In Cayenne, and places where it is abundant, torches are made of it for the purpose of illumination. A solution of it in five times its weight of oil of turpentine, and this solution dissolved in eight times its weight of drying linseed oil, is said to form the varnish for balloons. Would not a solution of it be of service to leather, so as to render it water-proof, without destroying its elasticity?

NEGRO COUNCIL.—Near the centre of Congo there is a little kingdom watered by the river Lao, which runs from north to south. The negro king is a sage prince, and very much beloved by his subjects. He has a numerous court, but it costs the nation nothing; because the arts and luxury are at present unknown there; the result of which is, that a grandee of the country lives nearly in the same manner as an honest labourer. Some idea of the simplicity of manners there may be formed from the way in which the sessions of the King's privy-council are held. In the midst of a vast plain is a large enclosure, formed of palms instead of columns: and in the midst of this verdant hall are placed a dozen of great jars, half full of water; a dozen councillors, quite naked, betake themselves to this spot with a solemn pace: each jump into his jar, and plunges in the water up to the neck. In this way they deliberate, and decide on the most important affairs. When opinions are divided, they put two stones, one red and one white into a thirteenth empty jar; the king draws; and the opinion represented by the stone which issues first has the force of a law.