

obliged to your correspondent for having assisted in drawing public attention to this matter, than which none can be of greater importance generally, but especially to the inhabitants of the colder parts of North America.

Thanking you for the use of your columns, and complimenting you,—which I may fairly do,—upon the great improvement in the *Canadian Agriculturist*.

I remain yours, much obliged,

H. RUTTAN.

COSBOURGE, January 28, 1852.

ORIGIN OF SPONGE AND FLINT.

Professor Rymer Jones commenced a course of lectures before the members of the Literary and Philosophical Society, at the Music Hall. The lecturer said, his object was to elucidate the contents of the museum—to give some notion of the power, the might, the majesty of the Creator. It was of no consequence where they began the great study. To-night their lecture led them to the bottom of the ocean. Here they found the vast manufactory of nature—a machinery to create new worlds as our own earth was constructed. The progress was quiet, gentle, persevering. He took first the sponge. When alive it was covered with a film of oil—a substance like the white of eggs. The sponge itself was horny, elastic, resilient. It was building, remodelling the world, the film of jelly deriving from the water the substances of its structure. Whether it was animal or vegetable it was difficult to decide. The flint was once a sponge. Examined by the microscope in thin laminae, it was found to contain the fibres of the sponge, and countless millions of the shells of animalcules, which were drawn into the sponge while living, and lodged there when dead. The flint was found in the chalk only, and the tall chalk cliffs were formed in the bottom of the sea. They contained layer after layer of flints, laid as regularly as the bricks in a wall, indicating the series that had been gradually superposed. Paley said that if a man found a stone on the ground, for aught he knew it might have lain there for ever. But he knew not a stone, except the brick made by man, or the volcanic stone, in which all traces of organization were extirpated, that did not speak trumpet-tongued of its origin. The chalk contained tens of thousands of indications of beings that had perished. When the chalk was formed, the water was no less heavy than now; the waves roared as now, and the existing things at the bottom of the sea were ground to powder by the pounding waves, and these heaped up layer upon layer formed the strata of chalk. The sponges overwhelmed in these layers became flints. But the sponge, before it died, spouted out the germs of new sponges. The lecturer went on to speak of the construction of marble rocks, of corals, of limestone rocks, &c. This film of jelly had formed islands in the sea, made land where all was water, and rescued solid ground from the ocean. And this was the work of globules of jelly almost invisible to the human eye. In conclusion, the lecturer referred to the volcanic agency by which the strata formed in the course of ages in the bed of the ocean have been upheaved so as to form our tall cliffs and chains of mountains.—*Sheffield Independent*.

England, now lie desolate, not by the course of nature, but because there are no populous cities in their vicinity to render their cultivation profitable.—*Ibid*.

COAL AND CIVILIZATION.

Coal was undoubtedly known to Theophrastus and Pliny, and from a very early period amongst the Britons. Nevertheless, for long after it was but little valued or appreciated, turf and wood being the common articles of consumption throughout the country. About the middle of the ninth century, a grant of land was made by the Abbey of Peterboro', under the restriction of certain payments in kind to the monastery, among which are specified sixty carts of wood, and as showing their comparative worth, only twelve carts of pit coal. Towards the end of the thirteenth century, Newcastle is said to have traded in the article, and by a charter of Henry III, of date 1234, a license is granted to the burgesses to dig for the mineral. About this period, coals, for the first time, began to be imported into London, but were made use of only by smiths, brewers, dyers, and other artisans, when, in consequence of the smoke being regarded as very injurious to the public health, parliament petitioned the king, Edward I. to prohibit the burning of coal, on the ground of being an intolerable nuisance. A proclamation was granted, conformable to the prayer of the petition; and the most severe inquisitorial measures were adopted to restrict or altogether abolish the use of the combustible, by fine, imprisonment, and destruction of the furnaces and workshops! They were again brought into common use in the time of Charles I. and have continued to increase steadily with the extension of the arts and manufactures, and the advancing tide of population, till now, in the metropolis and suburbs, coals are annually consumed to the amount of about three millions of tons. The use of coal in Scotland seems to be connected with the rise of the monasteries, institutions which were admirably suited to the times the conservators of learning, and pioneers of art and industry all over Europe, and in whose most rigorous exactions evidences can always be traced of a judicious and enlightened concern for the general improvement of the country. Under the regime of monastic rule at Dunfermline, coals were worked in the year 1291—at Dysart, and other places along the coast, about half a century later—and, generally, in the fourteenth and fifteenth centuries, the inhabitants were assessed in coals to churches and chapels, which, after the Reformation, have still continued to be paid in many parishes. Badius records that in his time, the inhabitants of Fife and the Lothians dug "a black stone" which, when kindled, gave out a heat sufficient to melt iron. How long will the coal-mines of the British Isles last at the present, or even an increased expenditure of fuel? So great has been the discrepancy, and so little understood the data on which to form a calculation, that the authorities variously estimate from two hundred to two thousand years. For home consumption the present rate is about thirty-two millions of tons annually. The export is about six millions: and yet such is the enormous mass of this combustible enclosed in one field alone, that no boundary can be fixed, even the most remote, for its exhaustion. The coal trade of Great Britain is nearly in proportion of three to two of that of all the other nations of the world; while in superficial area her coal measures are to those of the United States only as 11,859 square miles to 133,132 square miles. What a vision of the future is hereby disclosed! If rightly employed, if the arts and progressive development of society at all keep pace with the means provided, the human race in the New

LAND AND LABOUR.—It is the grossest fallacy to suppose, that the land-owner can be prosperous, while manufactures decline. Lands, as fertile as those of