

the course of a few days, or even hours, the air in the bottle will be found to be just as pure and exactly the same as the rest of the air of the apartment in which the experiment is made.

How is it that many localities, lying in sheltered positions, surrounded by mountains, and in which thousands and tens of thousands of pounds of carbonic acid are being annually given out from the earth, for instance, at Carlsbad and the Rhine Provinces; how happens it that these places are perfectly healthy; how comes it that the gigantic breweries of London are not perfect charnel houses from the enormous volumes of carbonic acid exhaled from the fermenting vats? simply because there is such a law as the diffusion of gases.

But it will be said that carbonic acid in injurious quantity is often found in wells, caverns, sewers, &c., &c. The fact is perfectly true, but the reason of the gas being always found there is, that it is being constantly exhaled from the bottom, either from the water of the wells or from a decomposition of the filth of the sewers. Stop up the sources from which the gas is being continually exhaled and diffused through the atmosphere, and the Grotto del Cane, or the Valley of Death, would in a very short period of time become as healthy as Yonge Street.

Mr. Ruttan states that the deleterious gas accumulates to such an extent between the joists and floorings as to extinguish a candle, and yet in a previous paragraph he maintains that it passes with the greatest ease through floors and ceilings; the one statement is in contradiction to the other.

It is scarcely necessary to state that the assumption of cholera, consumption, scrofula and elephantiasis being caused by exposure to carbonic acid alone, is as unfounded in fact as are many of the statements to which I have alluded.

Thus far, Mr. Editor, I have pointed out a few of the errors into which your correspondent has inadvertently fallen; my present object has been solely to remove any erroneous impressions which might exist in the minds of some persons as to the danger they were incurring from carbonic acid, at the same time to assist in a small degree in that most important object of periodical literature,—the promulgation of correct knowledge.

I should be extremely sorry if it should be thought that I desired in the slightest degree to invalidate the efforts of your talented correspondent towards effecting a reform as regards ventilation, which is a subject of the greatest interest affecting as it does the health and lives of so many millions of our fellow creatures, and sufficient praise cannot be given to Mr. Ruttan for the zeal and energy with which he has devoted himself to so important a study.

In conclusion let me offer my readers a piece of advice:—Kick out your stoves, unless perhaps in the hall, where from the more constant draughts they can do little or no injury; use open fire-places or coal grates, and if you wish to make assurance doubly sure, fix an American ventilator into the flue just below the ceiling; stuff up your windows if you will, but not your doors; allow a free current of air into the room, either by Mr. Ruttan's process, or by the natural one, and having done this you may safely rely on it that you have nothing to fear from,

Mr. Editor,

Your most obedient Servant.

CARBONIC ACID.

December, 1851.

### THE GEOLOGICAL SURVEY.

*For the Canadian Agriculturist.*

SIR:—With the view of furthering the objects contemplated by the Geological Survey, connected with Agriculture, I communicated a few facts and practical observations in the *Globe* of March 11th last, with reference to the *Gypsum* and *Coal Formations*; especially referring to the former as immediately connected with the prosperity of Canadian Farming, and to the latter as exhibiting similarities in mining characters, Dip, Position, &c., with some of the great mineral masses in Europe and elsewhere. It was expected that the observations and suggestions alluded to, respectfully made and brought under notice, would have drawn the attention of persons officially employed; but as this usage has not been complied with, I take the liberty of offering a few further remarks on the same subject, and pointing out some important defects in the published proceedings. In the Reports, 1844, we have a brief and imperfect examination of the important Gypsum Formation on the Grand River; on the development of these and similar mines of the mineral depend results far more weighty to Canada, than the Copper regions of Lake Superior. Since the Reports alluded to, four or five mines have been explored, not one of which was indicated in the Report, but several of them were subsequently pointed out by practical men, by their relative Geological position to old workings, and other mining characters. Another important omission is the absence of any notice of the peculiar cretaceous nature and Chemical combination,—a Carbonate as well as Sulphate of Lime, of extraordinary Specific gravity.\* The interesting and valuable

\* This fact was explained in a former communication, when preparing a quantity of Gypsum sent from Paris in C.W. to the Royal Agricultural Society, the Carbonic Acid Gas liberated in grinding put out the candles in the mill.