

ceeded to lay open the largest pustule by a crucial incision, and then divided the phlyctenæ of the others, allowing the serum to escape. I next, with a piece of lunar caustic, pencilled the edges of all the pustules freely. I then applied stimulating fermenting poultices, composed of coarse flour, yeast, and onions, from the middle of the fore-arm downwards, the onions so placed as to be in proximity with the pustules, and to be repeated every second hour; and cooling evaporating lotions from the part last mentioned upwards to the shoulder. I continued this plan of treatment from the 26th to the 29th, when I ordered the onions to be omitted, continuing the yeast and flour only, as the sores were already beginning to slough; and finding that the appetite had slightly failed, with sinking pulse, I ordered port wine. I continued the fermenting poultices until the 2d July, when sloughing was complete, and the sores looking healthy. From this time until the 17th I used an ointment, composed of cerat. cetacei 3i, with kreosote, gtt. ij., when the sores were completely healed.

During the whole course of this case there was less general derangement than I have seen in others, it having fallen to my lot since I have been here, to witness five cases of this dangerous and distressing disease, four of which came under my own care. I followed the same plan of local treatment, as above described, varying the general one, according to circumstances of habit, constitution, idiosyncrasy, &c.

My reasons for opening the pustules as soon as they appear, in lieu of allowing them to break spontaneously are, that we diminish the symptomatic fever, by preventing the absorption of the virus, on the same principle that it has been recommended to open the pustules of small pox as they ripen, and by applying caustic, we hasten sloughing, and the poultices, by their stimulant and antiseptic qualities, excite the local action of the morbid parts, and diminish the chances of a systemic tendency. Of the four cases I have treated according to this plan, the erysipelas was immediately arrested. Whether my hypothesis be correct or not, remains to be seen. From the result of my own observations and research, I have arrived at the following conclusions respecting "CHARBON":—

1st. That it is a disease *sui generis*.

2nd. That it is the effect of a specific virus.

3rd. That it can only be obtained from the dead body.*

* Now, although Gibson "attributed the cause of his disease to have originated in the introduction of his arm into the rectum of a bull labouring under dysentery," *non sequitur* that such was the cause, as he afterwards assisted in skinning the animal. I am not aware that charbon ever occurred from "raking" an animal, (as it is vulgarly termed,) even where the death of the animal has followed. It is the custom of butchers and others, in skinning dead animals, after having removed a portion of the hide,

4th. That it may be introduced into the system without any breach of surface.

5th. That some idiosyncrasies are not susceptible of its influence.

6th. That no prophylactic can guard against it.

7th. That it has no fixed period of incubation or termination.

ON THE CHEMICAL COMPOSITION OF THE WATERS OF THE ST. LAWRENCE AND OTTAWA.

By E. S. DeROTTERMUND.

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The waters of the river St. Lawrence, which flow past Montreal are of two kinds,—the one coasting along the left side of the river, appertains to the Ottawa, the other flowing opposite the city, comes from the upper lakes. These run together for several leagues without intermingling, a fact demonstrable from the preservation of their respective colours. The St. Lawrence water possesses a fine blue colour, that of the Ottawa approaches to a brown. Both kinds are very pure, differing from distilled water only by .002 or .003, for by taking the specific gravity of distilled water as unity, the specific gravity of the St. Lawrence water is 1.0036; that of the Ottawa water 1.0024, their temperature being 66° Fah., while that of the air was 82°. Taking into consideration the specific gravity of the two waters, we can understand why they do not easily intermingle; this arises not only from a difference in the amount of saline matter dissolved, but also from a difference in its nature; both contain chlorides, sulphates and carbonates, with bases of lime and magnesia, but the St. Lawrence water moreover holds in solution carbonate of lime, and in consequence is not so well adapted for culinary purposes, as this salt deposits itself readily when fluids containing it are heated, and their bulk diminished by evaporation.

The brown colour which the Ottawa water possesses, might be attributed to the presence of a very minute quantity of Marle or Loam, held in suspension; but the amount of it must be exceedingly minute, for when specimens of the two waters, the St. Lawrence and Ottawa are put into tumblers, no difference in colour is perceptible between them. It is rather to be supposed that the colour of the Ottawa water is not due to colouring principles, but the two waters being impregnated differently with saline matter,—the rays of light are reflected differently, an effect which is more striking when the

to use the bare elbow to tear away the remainder from the cellular membrane. In the case of Gibson, the first pustule was observed "about three inches below the bend of the elbow, on the anterior part of the fore-arm." On enquiry I doubt not it will appear that he had used the *modus operandi* I have just described, and that the part where the first pustule appeared, was the one most exposed to the action of the virus.