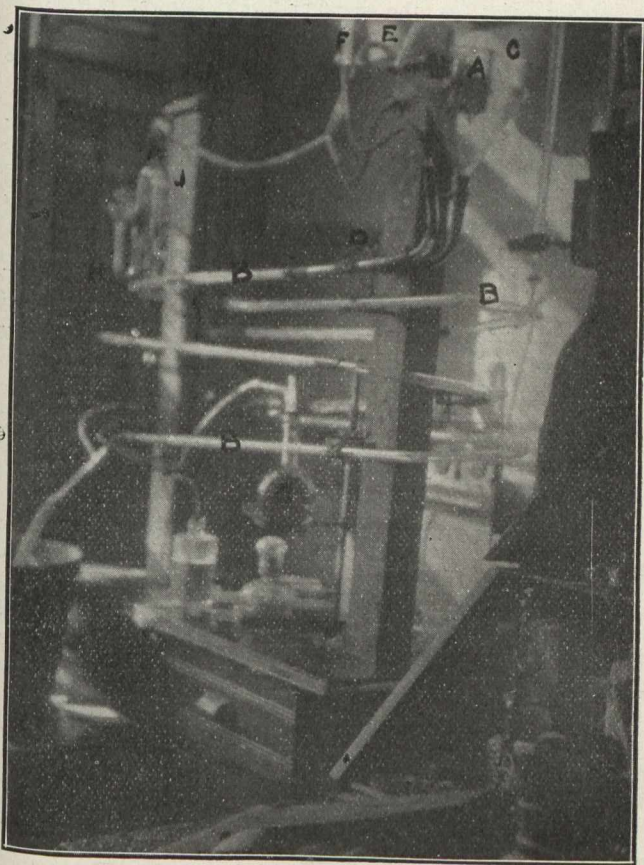


baffling "epidemic," the Black Death of early Norman times; the Plague, of the Stuart Dynasty; and the Black Plague of Russia; to say nothing of many continental diseases, are probably derived from the same causes that produce typhus. Roughly speaking, typhus is derivable from stagnant sewage, and it is difficult for us to realize the actual conditions surrounding habitations during the Georgian period.

By studying the drawings of Hogarth, it is borne in upon the mind that all slops and excretae were disposed of by the simple but disconcerting practice of merely "chucking" the contents of night-soil receptacles out of the window. This conclusion is confirmed by reading the humorous plays of the time, and the immortal works of Sir Walter Scott contain many instances of brawls and duels resulting from demands made upon passers-by to "give the wall." This expression takes on a grave significance when it is realized that the wayfarer was liable to be covered with filth at any moment.

Archaeologists are given to tracing the establishment of centres of civilization and commerce as primarily due to the presence of a navigable river. We see for ourselves that inter-communication between Montreal and Quebec was



chiefly dependable upon the mighty St. Lawrence, and we see how "portages" retard the development of up-stream townsites. Therefore we can follow their arguments and agree with those conclusions.

But we do not recall of any thesis that claimed that the **hamlets or towns which were blessed with a running stream of water in the roadway or "kennel" were the healthiest.** It is, however, inferable, and I would go further, and claim that those with a heavy annual rain-fall would be healthier than those towns which were dependable upon jackals and carrion crows. Men of a mountainous district were hardier than those of a long lying plain, not only because of the entailed exercise and rarified air, but also because their sanitary conditions were naturally more favorable. History records the deeds of Huns, Goths, Picts and Scots, Norsemen and men of Northern breed. They devastated the Southern plains, took possession, and retrograded to extinction. The same process is now in operation. For many years I have made enquiries, but I have **never met a Londoner of the third generation.**

Canadians would be surprised if they knew the value put upon vultures, carrion birds and jackals in Eastern and

African climes. In West Africa it is an indictable offence to kill one of these "sanitary inspectors." The "Potter's Field" of Biblical times, could not have been the receptacle of the indigent dead for so long a period had not the dead been devoured. Pestilence, with attendant famine, must have followed the natural decomposition of dead bodies in the open air.

Old Quebecers are stored with reminiscences about the unsanitary conditions of the Old Town. They quote with pride the fact that their drinking water was taken out of the river from amongst dead bodies and back-water filth. They say there was "body" in their drinking water in those days. We can merely admit that their uvulas, tonsils, and bodily health were exceptionally robust.

Looking backward, we say, "How very ignorant our rude forefathers were in those days. Why, they actually had no sewers."

Looking forward, we can anticipate our descendants saying, "How very ignorant our rude forefathers were in those days. They had sewers, but did not flush them. They studied ancient history and dead languages, but ignored latter-day history and living languages. They knew the water they drank to be full of animalculae, yet would not "ozone" the water. They knew they were poisoning the rivers with their sewage, but as there was no returning current, it mattered not. They spat upon their earthen roads, and the automobiles churned up the dust. Their breath of life was charged with death, yet apathy prevailed."

Typhus, and the pleasures of childhood, are of the past. Typhoid, taxation and the poor are with us yet.

Typhoid is connected with "running sewage," in contradistinction to typhus, and vitally affects the water and milk supplies. Without dealing with the water and milk questions, or with the purification of sewage in this article, I propose to discuss that which, in England, is a minor cause of typhoidal outbreaks; but which in Canada assumes the predominant factor. I allude to the absence of proper provision for automatically flushing the main sewers.

Since taking up this question, I have had many communications from England, and it is curious to read how the sanitary authorities there cannot believe that we have ignored this matter.

At our homes, before and after business hours, the sewage in the sewers attains the abnormal levels. During business hours, it sinks to the normal, leaving the sides encrusted with filth containing disease germs.

Now there is always an up-draft in our sewers whereby the sporing pathogenic and non-pathogenic germs are wafted to the outer air. It is permissible to imagine that the B. Typhosus, which is of a sticky character, can attach itself to the floating spores. Whatever be the means, it is now indisputable that B. Typhosus gains access to houses through faulty or un-trapped drains, and through dangerous road-ventilators. It is through ignoring this point that American cities are not able to eradicate typhoid from their midst, and that, notwithstanding, that the purification of sewage, water and milk has been effected.

The sewers are favorable to the growth of the B. Typhosus, the damp humidity therein being an ideal condition. Therefore it follows that the sewers should be cleansed, not with a cursory dribble from a 3-inch hose stand, but with a short bulky body of water that will descend the sewer like a piston head. Naturally, in the course of its progress, this body loses its efficiency; and its power must then be reinforced by a supplementary discharge from another tank placed at suitable strategical site.

About 20 years ago, the authorities of St. Bartholemew's Hospital were perplexed by the unsanitary condition of their hospital. Examination proved that the sewers were too large to be flushed properly; the intrados was encrusted with ancient filth. A smaller sewer system was installed with perfect success.

To the writer's knowledge, a virulent outbreak of typhoid was effectually checked by the installation of these flushing tanks by order of the Local Government Board in England;