

former are not compelled to breathe the foul exhalations that rise from the decaying vegetable and animal matter so common in the lower streets of this city. Our authorities are to blame for this state of things; they seem to be afraid to enforce the law against those dirty people who are constantly violating its provisions with impunity.

The sanitary committee to which we refer has obtained much testimony upon a vitally important subject--ventilation. It is somewhat hackneyed, it is true; but in spite of this, we are exhibiting to the world a most pitiful spectacle of blindness and indifference to its importance, in the construction of our public and private buildings, counting-houses, workshops, railroad cars, and steamboats. We have it from undoubted authority that, in the construction of one of the most splendid church-edifices in the Fifth-avenue of this city, so little attention was paid to ventilation that, when its doors were closed, the building was hermetically sealed.

A great quantity of fresh air is continually demanded to maintain life in a healthy condition; thus, for instance, a man of large lungs inhales about 25 cubic inches at each respiration, and breathes eleven times every minute, thus requiring $9\frac{1}{2}$ cubic feet every hour. People can live in an atmosphere considerably vitiated without being aware of the fact, so far as their sensations are concerned; and here lies the danger. When we enter a warm close room on a cold day, the atmosphere is at first repulsive and oppressive, but these sensations gradually wear off, and, in a short time, we breathe freely, and feel unconcerned about the quality of the air. Science reveals the fact that the system sinks in action to meet the conditions of a vitiated atmosphere, but it does this at the expense of having the functions of nutrition and secretion gradually depressed; and when this is continued

for a considerable period, disease follows as a natural result. In Russia, where the houses are kept close and hot during winter, lingering fevers are common; and in our own country, during the same period of the year, scarlet and typhus fevers are frequent, but the great evil is pulmonary disease.

The air which we breathe is composed of 21 parts of oxygen and 79 of nitrogen, with a trace of carbonic acid; the nitrogen being merely a diluent, while the oxygen alone enters chemically into the system. The lungs require pure air, or their delicate tissue will suffer injury. In mechanical construction they are divided into 600,000,000 minute cells, some of which are only the 1,200th part of an inch in diameter. The capillary blood vessels run between the air cells, thus exposing them to the air which is inhaled on two sides, like steam to cold water in some steam condensers. The air which is respired is kept for a brief space in the lungs; then the oxygen passes through the thin membrane into the blood, as through a sieve, and the carbonic acid gas given out from the blood in exchange. This action should convince every person that an impure atmosphere drawn into the lungs must be injurious. The carbonic acid gas given out from the lungs vitiates the atmosphere, and when on equal proportions to the oxygen, it arrests life. The ancients were unacquainted with the chemistry of respiration; they supposed that the air cooled the interior of the body when drawn into the lungs. The function of respiration is a discovery of but recent date; and as we are so dependent upon what we breathe for the preservation of health and life, it is a subject of vast importance to all. As winter is approaching, when it is so common to exclude the cold atmosphere from houses, and to keep apartments close and suffocating, we exhort our people to look well to this question, and to provide such measures as