

it; and through pure water, renders it offensive. Collected from the air by condensing the watery vapour on the sides of a globe containing ice (as by Taddei in the wards of the Santa Maria Novella), it is found to be precipitated by nitrate of silver, to decolorise potassium permanganate, to blacken on platinum, and to yield ammonia. It is therefore nitrogenous and oxidisable. It has a very fœtid smell, and this is retained in a room for so long a time, sometimes for four hours, even when there is free ventilation, as to show that it is oxidised slowly. It is probably in combination with water, for the most hygroscopic substances absorb most of it. It is absorbed most by wool, feathers, damp walls, and moist paper, and least by straw and horse-hair. The colour of the substance influences its absorption in the following order:—black most, then blue, yellow, and white. It is probably not a gas, but is molecular, and floats in clouds through the air, as the odour is evidently not always equally diffused through a room * * * *

“The carbonic acid which an adult man adds, to the extent of about $\frac{6}{10}$ ths of a cubic foot in an hour, is not within certain limits an important impurity, but as it is practically in a constant ratio with the more important organic matter of respiration, and as it is readily determined, it is taken as a convenient index to the amount of the other impurities.

“Taking the carbonic acid as the impurity of the air vitiated by respiration (and by respiration alone), we have to ask, What is to be considered the purity of air in dwelling-rooms? We cannot demand that the air of an inhabited room shall be absolutely as pure as the outside air; for nothing short of breathing in the open air can ensure perfect purity at every respiration. In every dwelling-room there will be some impurity of air.

“The practical limit of purity will depend on the cost which men are willing to pay for it. If cost is disregarded, an immense volume of air can be supplied by mechanical contrivances, but there are comparatively few cases in which this could be allowed.

“Without, however, attempting too much, it may be fairly assumed that the quantity of air supplied to every inhabited room should be great enough to remove all sensible impurity, so that a person coming from the external air should perceive no trace of odor, or difference between the room and the outside air in point of freshness. Taking the carbonic acid as the index of impurity, it appears, from experiments made by Dr. de Chaumont and myself, that the organic impurity of the air is not perceptible to the senses until the carbonic acid (*i.e.*, the