

	Per cent.
Mean of 18 analyses on Lake Geneva, by Saussure....	.0439
Air of Madrid outside the walls—	
Mean of 12 analyses by Luna .....	.045
Air of Madrid inside the walls—	
Mean of 12 analyses by Luna .....	.051
Air of Munich, by Pettenkofer .....	.050
In the streets of London (summer) .....	.0380

**49. Different kinds of impurities** are added to the air, viz.:—by

- (1) Respiration and transpiration.
- (2) Combustion.
- (3) Putrefactive processes, sewage emanations and excremental filth.
- (4) Gases, vapors and suspended metallic, mineral and vegetable matters given off by trades and manufactories.

(5) Poisons of unknown nature evolved by damp and filthy soil.

**50. The impurities in air exhaled from the lungs** are roughly the following:—

- (1) 100 parts of such air contain 13, instead of 21, parts of oxygen, the missing 8 parts having been withdrawn by the blood-cells in the lungs.
- (2) The .03 or .04 part per cent. of carbon dioxide is increased to between 4 and 5 per cent.
- (3) An increase of watery vapor is noted, which is loaded with organic matter.

**51. The animal organic matter** which is here referred to is probably the most injurious ingredient of re-breathed air. It is also thrown off from the skin by perspiration. It has a very fetid smell, and this is retained for a long time in rooms, even where free ventilation is used.

Substances which imbibe water freely, such as wool, feathers and moist paper, absorb it readily; whilst, on the contrary, substances of an opposite nature, such as straw and horse-hair, take it up to a very slight extent. It is probably not a gas, but is molecular, and floats in clouds through the air, as the odor is not equally diffused through a room. The wood of gymnastic apparatus, and even of school-rooms, if not washed well, has a smell of perspiration, which is highly characteristic. The peculiar sickening odor of animal organic matter is especially noticed in crowds of "the great unwashed," and creates

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