

1900

Breathing Oxygen

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Recommended Citation

Schober, William Bush, "Breathing Oxygen" (1900). *Early Publications of the Lehigh Faculty*. Paper 308.
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were collected over water saturated with carbon dioxide. The object of the experiments was to get relative rather than absolute values. In experiments 1, 4, 7, 10, 13, 16, 19, 22 and 25, the gas (air, mixture of air and oxygen, or oxygen) was inhaled for five seconds and then exhaled for five seconds.

In experiments 2, 5, 8, 11, 14, 17, 20, 23 and 26 the lungs were inflated as fully as possible with the gas, which was retained *fifteen* seconds and then exhaled.

In the other experiments, 3, 6, 9, 12, 15, 18, 21, 24 and 27, the lungs were fully inflated and the gas retained *thirty* seconds before exhalation.

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BREATHING OXYGEN.

THE experiments here described were carried out during the course of an investigation to determine the quantity of carbon dioxide exhaled from the lungs of different persons under stated conditions.

The method of procedure was as follows : (1) Ordinary air was inhaled through the nostrils and exhaled through the mouth (the nostrils being closed) into an inverted receiver filled with water. The quantity of carbon dioxide in the exhaled gases was determined in the usual manner. (2) A mixture of air and oxygen containing 26.4 % of oxygen was inhaled and exhaled as in (1). (3) Pure oxygen was employed and the experiments conducted as in (1) and (2).

The breathing experiments were made by three different persons, A, B, and C, under conditions as nearly indetical as possible.

The following results were obtained :

A		B		C		
Exp.	CO ₂	Exp.	CO ₂	Exp.	CO ₂	
1	3.8	10	3.6	19	3.8	} Ordinary air.
2	5.2	11	4.4	20	5.1	
3	5.6	12	4.6	21	5.8	
4	4.0	13	4.0	22	4.0	} Air and oxygen.
5	5.6	14	5.2	23	5.1	
6	—	15	5.6	24	5.6	
7	4.2	16	4.8	25	4.4	} Pure oxygen.
8	5.8	17	5.6	26	5.8	
9	6.2	18	6.2	27	6.4	

The figures given express percentages by volume ; they are lower than those that would be obtained if the exhaled gases