alone excepted). We had no means of ascertaining in kilogramme-meters the amount of work done by each man during a test, but it may be stated that the following figures have been obtained under conditions where measurement was possible in Drager:

43,500 kilogram meters of work per 2 hours, or per minute 362.50
35,000 kilogram metres of work per 2 hours, or per minute 250.00
33,028 kilogram metres of work per 100 minutes, or per minute 330.28

These may be regarded as maximum values.

The powers of endurance of the experimenters were considerable, as may be seen from the maximum times during which the following five types of apparatus were worn: Drager, 155 minutes; Fleuss, 135; Meco, 130; Weg, 122; Aerolith, 115.

As might be expected, the men experienced some discomfort in the wearing of the apparatus, especially those of helmet form where the lack of ventilation of the face is very trying. The face perspires profusely and no provision is made to carry off the moisture; and in those forms of apparatus with mouthpieces the flow of saliva proves troublesome.

The most exhausting atmosphere was found to be not the irrespirable, hot and moist one of the Group II., but the respirable and excessively hot and moist atmosphere of the tests of Group III. At the end of only one hour all experimenters in temperatures of wet bulb about 90 degrees F. felt excessive lassitude and disinclination to remain any longer in that atmosphere. Even those not wearing apparatus were similarly affected.

As regards the observations which follow, *the experimental conditions fall into three classes, thus*:

I. *Respirable* and *not* excessively hot or moist atmospheres.

II. *Irrespirable* and hot and moist atmospheres.

III. *Respirable but very hot* and moist atmospheres.

II. The Pulse.

Reviewing the whole series of tests, the increment in the pulse rate was very much the same throughout the three sets of experiments. Thus taking the figures for the test on May 10th, 1910 (Group I.), we have:

Subject	Pulse Rate Per Minute Before	After	Increase Per Minute
J.	72	120	48
A.	68	118	50
F.	69	90	21
I.	74	120	46
G.	68	90	22
C.	72	96	24
B.	84	124	40
B.	84	104	20

Taking the following as typical of Group II. (test April 10th, 1910):

Subject	Pulse Rate Per Minute Before	After	Increase Per Minute
J.	88	120	32
F.	72	104	32
C.	88	124	36
B.	86	104	18
A.	76	92	16

The following is typical for Group II. (November, 1910):

Subject	Pulse Rate Per Minute Before	After	Increase Per Minute
J.	72	120	48
A.	80	100	20
J.	82	122	40
A.	68	126	52
F't.	84	126	42

Thus in the 18 cases cited, the pulse rose to above 100 in 15 of them.

In all cases the accelerated pulse had returned to its normal rate within ten or fifteen minutes after taking off the apparatus.

As was to be expected, the rate of the respiration was correspondingly accelerated, but in no case did we observe anything more than a physiological hyperpnoea. We never saw true dyspnoca in any subject even at the close of more than two hours in any of the forms of rescue apparatus.

The special cases of syncope are referred to later on page 108.

III. The Body Temperature.

The body temperatures were in all cases taken by a clinical thermometer placed under the tongue, the lips being closed. The thermometers used were "guaranteed half minute" instruments, but two minutes were in nearly all cases allowed to elapse before a reading was taken.