the result of true labor contractions, we can not assign to the posterior lobe of the hypophysis the rôle of hormone for the induction of normal labor. It is true that during pregnancy the pituitary gland hypertrophies and that after the expulsion of the fetus retrograde changes occur. This hypertrophy is limited to the true glandular lobes, the anterior and middle divisions. The posterior lobe shows no sign of increased activity. But it is from the posterior lobe, and from this alone, that the ecbolic principle can be obtained. Furthermore, Kohn denies the existence of an active substance in the posterior lobe during life. He believes that extracts of the gland owe their activity to some decomposition product which is formed during the manufacture of the extract. These facts seem to indicate that the posterior lobe is not concerned with normal labor. Though extracts of the posterior lobe are pharmacologically very active, the lobe itself is not essential to life. Complete removal of this portion of the gland does not interfere in any way with normal bodily activity. It is the anterior lobe which is essential to life. Oddly enough, extracts of this lobe have not been shown to have a demonstrable pharmacological activity. But it is this lobe which hypertrophies during pregnancy. It is apparent that if the pituitary gland is to be regarded as intimately concerned with the onset of labor, the hormone should be sought not in the posterior lobe but in the anterior portion of the gland.

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On the action of temperature and humidity on the organism.

By FREDERIC S. LEE and ERNEST L. SCOTT.

[*From the Department of Physiology, Columbia University, New York.*]

The main object of the present research is to discover whether objective signs of physical inefficiency may be found in individuals when subjected to an atmosphere of high temperature and high humidity. Cats were used as the subject of experimentation, and were confined individually for a period of six hours within a small chamber supplied with abundant moving air. With one

group of animals the temperature averaged approximately 21° C. and the humidity approximately 54 per cent.; with the other a temperature of 33° C. and a humidity of 89 per cent. were employed; that is, the animals of the first group were kept under comfortable atmospheric conditions, those of the second group were given air approximating that of a hot, humid summer day. In some of the animals the rectal temperature was observed at the beginning and the end of the period of confinement. At the end of this period the cats were taken from the chamber and killed by instantaneous decapitation. The blood was collected for the estimation of sugar, and certain of the muscles were removed and stimulated until they were exhausted, each contraction being recorded graphically and the total duration of the working period and the total amount of work performed being determined. The average results of the observations on the muscles are presented herewith.

	Temperature in Degrees C.	Humidity in Per Cent.	Duration of Work in Minutes.	Work Done in Gm. Mm.	Percentage of Work Done.
Sternal strip of diaphragm...	21.3	55	196	157,665	100
	33	89	212	136,123	86
Extensor longus digitorum...	21	59	101	31,305	100
	32.6	89	80	25,714	82
Sartorius.....	21.7	49	138	46,598	100
	33	89	109	29,785	63.9

Under the influence of the high temperature and the high humidity, therefore, the total amount of work which the muscles are capable of doing before exhaustion sets in is markedly diminished; and the total period of working power is shortened, except in the case of the diaphragm.

The observations show that the bodily temperature of the animals rises in the atmosphere of high temperature and high humidity. This is seen from the following average temperatures.

Temperature of Air in Degrees C.	Humidity of Air in Per Cent.	Bodily Temperature before Confinement.	Bodily Temperature after Confinement.
21.4	50	39.13	39.03
33.1	89	39.33	39.81

In addition to any bearing which the content of sugar in the blood of these animals may have upon the problem in hand the apparatus offered a means for determining whether certain extreme weather conditions would introduce a disturbing factor in experiments involving the determination of sugar in the blood. In order to avoid vitiating the results by emotional hyperglycemia, only the blood from those animals which appeared quiet during confinement in the chamber and upon removal was taken for analysis. The normal or standard percentage of sugar in the blood of cats—0.069 per cent.—reported elsewhere by one of us,[1] was determined upon animals which could be presumed to be in every way comparable with those used in these experiments except for the experimental conditions. The results of our observations are as follows:

No. of Animals.	Temperature of Air in Degrees C.	Humidity of Air in Per Cent.	Sugar: Gm. Per Cent.		Sugar: Percentage of Standard	
			Actually Found.	Calculated to 30 Gms. of Blood per Kg. of Body Wt.	Actual.	Calculated.
9	21.27	56.44	0.068	0.067	98.6	94.8
5	33.08	89.50	0.060	0.057	87.0	83.0

It is thus seen that the average found for the cats kept at the low temperature and low humidity was practically identical with the standard, while the animals kept under the adverse conditions described gave an average of only 0.060 per cent., or 87 per cent. of the standard. The significance of this difference is somewhat difficult to determine; this is especially so in the absence of the coefficient of respiration. It is possible that less sugar is mobilized in response to the lessened heat requirements of the organism.

[1] E. L. Scott, *American Journal of Physiology*, 34, 1914, p. 271.