If the appearance of hen-feathering in normal males as a consequence of thyroid feeding is dependent on the presence of lutear cells, it remains to consider the nature of the relation between thyroid and lutear tissue. The former might lead to an augmentation either of the mass or the activity of the latter, or both. There is no evidence as yet of an increase in the mass or number of lutear cells in the testis of thyroid-fed males. The second alternative, for which direct evidence is far less easy to obtain, may yet prove to be the correct one.

121 (1868)

The relation of the diffusion constant to mountain sickness.

By **GEORGE HARROP** (by invitation).

[*From the Presbyterian Hospital, New York City.*]

In connection with the recent physiological expedition to Peru, a series of determinations were made of the gas diffusion constant by the CO method described by Dr. Marie Krogh.[1] A series of preliminary determinations made at sea level agreed in the limits of error (5 per cent.) with those made at Cerro de Pasco, at 14,300 feet. It was found that the severity of the symptoms of mountain sickness, or seroche, exhibited by the eight members of the party were in direct proportion to the value found for their diffusion constants, those having values of over 40 suffering very little, or practically not at all.

TABLE A.

DETERMINATION OF DIFFUSION CONSTANT—CO METHOD.

Cerro de Pasco, Dec. 27–Jan. 10, '22—14,300 Feet.

Subject.	K.	D_{O_2}.	Clinical Phenomena.
H.....	5.50	25.4	Severe seroche, 3 days, symptoms chiefly nervous.
Bo.....	6.03	31.8	Severe seroche, 6 days, symptoms gastric and nervous.
Ba.....	8.44	36.0	Moderately severe seroche, 2 days in bed.
Bi.....	9.3	38.3	Moderately severe seroche, 2 days in bed.
D.....	5.91	41.5	Practically symptom free throughout stay.
R.....	6.85	42.9	Some headache; otherwise symptom free.
F.....	6.01	43.8	Practically symptom free.
M.....	9.80	45.6	No effects from seroche.

[1] *Jour. of Physiol.*, 1915, xlix, 271.

TABLE B.

DETERMINATIONS ON AMERICAN RESIDENTS AT CERRO—14,300 FEET.

Subject.	K.	Do_2.	
P.....	7.86	43.4	
McL.....	9.76	44.9	All of these persons have lived two or more years at high altitudes carrying on their work, free from symptoms.
Cu.....	7.85	44.7	
Co.....	11.37	41.5	
R.....	12.22	65.3	

A further series on five acclimatized persons, none of whom had ever suffered from seroche, all gave values for the diffusion constant for oxygen (Do_2) above 40.

122 (1869)

An undescribed relation of the suprarenals to ovulation.

By OSCAR RIDDLE.

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The observations described here make it extremely probable that the suprarenal glands regularly and greatly enlarge in close relation to the time of liberation of ova from the ovary. The maximum size seems to be attained in the 44-hour interval between the ovulation of the first and second ova—which together constitute a definite period of ovarian activity in the pigeon. The early stages of the suprarenal enlargement are coincident with the 4 to 5 days of extremely rapid growth [1] which these ova undergo immediately before their expulsion from the ovary. Knowledge of the exact time (within an hour) of ovulation in the pigeon has made this result possible. An enlargement of the oviduct also occurs quite parallel with that of the suprarenals (both facts shown by curves and tables). That an hypertrophy of the suprarenals occurs in some sort of relation to the menstruation, pregnancy and lactation of mammals has of course been described; so far as we are aware the nexus with ovulation has been overlooked.

[1] Riddle, O., *Amer. Jour. Physiol.*, 1916, xli, 387.