TABLE I.
Result of Complement Fixation Tests in Yellow Fever.

Sources of sera tested	Antigen Used.					
	Saline extract of liver and spleen of yellow fever monkeys.			Saline extract of liver and spleen of normal monkey.		
	Positive	Negative	% correct	Positive	Negative	% correct
Normal men and monkeys	3	38	93	1	28	97
Recovered and immune men and monkeys	18	5	78	3	9	75
Convalescents from other diseases*	1†	19	95	0	18	100

* Syphilis 14, dengue 4, poliomyelitis 2 (1 human, 1 monkey).
† Syphilis.

South America and with the sera of monkeys which had been inoculated with virus from Brazil.

The method described appears to offer a means of identifying at least a useful percentage of the convalescents from yellow fever in a community. As far as can be determined by the tests which could be made with the small number of sera available, the reaction seems to be specific. Further work needs to be done in the search for more sensitive antigens, and the usefulness of the improved test should be determined by numerous trials under field conditions.

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Hemoglobin Standards in Normal Men.

M. M. WINTROBE.

From the Department of Medicine, Tulane University School of Medicine, New Orleans.

In an earlier report on normal blood standards,[1] a Newcomer hemoglobinometer, restandardized on the basis of 10 hemoglobin determinations made by the Van Slyke oxygen capacity method, was employed. Further standardization of this Newcomer instrument has led to the conclusion that the original correction curve was incorrect.

Additional hemoglobin determinations by the Newcomer and Van

[1] Wintrobe, M. M., and Miller, M. W., *Arch. Int. Med.*, 1929, xliii, 96.

Slyke methods have been carried out on 22 different samples of blood. Of this number 19 determinations (Table I) which checked very closely on 4 different Van Slyke instruments have been selected and a correction curve plotted on the basis of the total of 29 determinations.

TABLE I.

Hemoglobin Estimations by Newcomer and Van Slyke Methods.

Blood number	Hemoglobin.		
	Newcomer		Van Slyke
	%	gm.	gm.
11	73.0	12.35	16.70
12	84.5	14.30	18.58
13	67.0	11.35	16.31
14	39.0	6.60	9.40
15	70.0	11.85	15.41
16	80.0	13.55	16.65
17	57.0	9.75	13.75
18	54.0	9.14	12.12
19	76.0	12.88	16.96
20	48.0	8.15	12.41
21	45.0	7.62	10.86
22	45.0	7.62	11.19
23	74.0	12.52	16.86
24	59.5	10.06	15.59
25	61.0	10.30	15.54
26	85.0	14.38	18.77
27	73.0	12.33	16.19
28	76.0	12.88	17.01
29	66.0	11.13	15.30

The method employed for the plotting of the correction curve is that recommended by Pearl.[2] The hemoglobin determinations on the 2 instruments showed a high degree of correlation, the correlation coefficient (r) being .8669 ± .0984. From the fact that the correlation ratio (n) for these 29 determinations is not significantly different from the correlation coefficient ($n = .9349$ $\zeta = n^2 - r^2 = .1163 \pm .0835$) it has been concluded that the correlation is linear. Correction curves have been calculated by the method of averages and the method of least squares. None of these has been found altogether satisfactory. A logarithmic curve of the formula $y = 6.25 + 1.038\,x + .0286 \log x$ has finally been selected as the best fitting curve. (See Figure 1.)

As the result of this recalibration, the author has come to the conclusion that the hemoglobin figures already reported for normal young men in the South[1] are too low. By the new calibration the published average of 15.85 gm. becomes 17.0 gm., with 73% of the

[2] Pearl, R., "Medical Biometry and Statistics," W. B. Saunders Co., Phila., 1927.

determinations ranging between 15.5 and 18.5 gm. This figure agrees exactly with Williamson's[3] finding in 214 men 20 to 80 years of age and is close to his result of 16.8 gm. in 36 men 20 to 30 years of age. The average of 317 relatively reliable hemoglobin determinations made in different parts of the world becomes 16.23 gm.

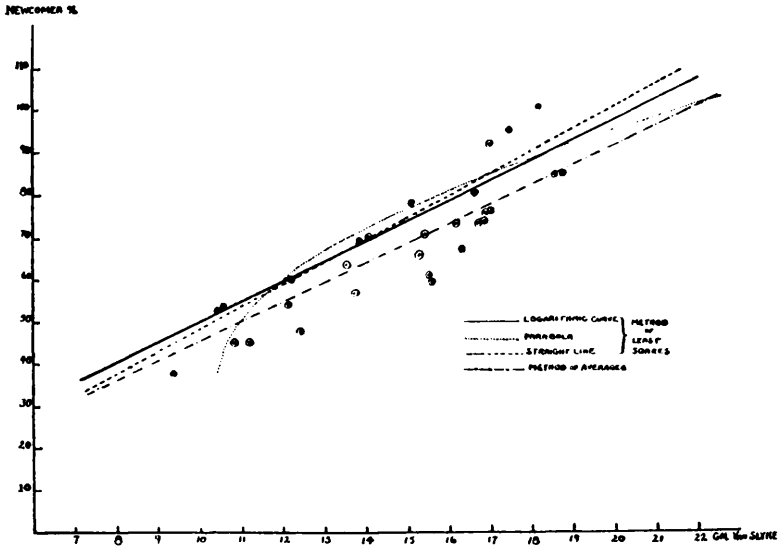

Fig. 1. Correction curves for Newcomer hemoglobinometer.

The average hemoglobin coefficient for the 100 men examined by the author becomes on the new scale 14.53 gm. instead of 13.66 gm., with 90% between 13 and 17.35 gm. The average hemoglobin coefficient based on 274 determinations made in different parts of the world is 14.61 gm. which agrees closely with the coefficient suggested by Osgood[4] (14.7).

Recalculation of color indexes on the basis of a hemoglobin coefficient of 14.6 gm. shows the following:

Haden[5] (Kansas City)	20 men,	averaging	1.07
Osgood[4] (Oregon)	137 "	"	1.00
Wintrobe and Miller[1] (Louisiana)	100 "	"	1.00
Gram and Norgäard[6] (Denmark)	7 "	"	0.96
Bie and Möller[7] (Denmark)	10 "	"	0.91

Total, 274 men, averaging 1.00.

[3] Williamson, C. S., *Arch. Int. Med.*, 1916, xviii, 505.

[4] Osgood, Edwin E., *Arch. Int. Med.*, 1926, xxxvii, 685.

[5] Haden, R. L., *Arch. Int. Med.*, 1923, xxxi, 765.

[6] Gram, H. C., and Norgäard, A., *Arch. Int. Med.*, 1923, xxxi, 164.

[7] Bie, V., and Möller, P., *Arch. d. mal. du coeur*, 1922, xv, 177.

Corresponding saturation indexes, based on a hemoglobin coefficient of 14.6 gm. and a volume coefficient of 41 cc. are:

Wintrobe and Miller (Louisiana)	100	men,	averaging	1.02
Osgood (Oregon)	137	"	"	0.98
Haden (Kansas City)	20	"	"	0.96
Gram and Norgäard (Denmark)	7	"	"	0.91
Bie and Möller (Denmark)	10	"	"	0.89

Total, 231 men, averaging 0.99.

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Influence of Change of Sex on the Intensity of Heredity.

J. ARTHUR HARRIS, MARIAN A. WILDER AND BORGHILD GUNSTAD.

From the Department of Botany, University of Minnesota, Minneapolis, Minn.

Of recent years intense interest in the investigation of "sex limited" or "sex linked" inheritance by genetic experimentation has tended to divert attention from some of the phenomena of sex noted by statistical workers many years ago.

Pearson,[1] in studying Francis Galton's data for eye color in human ascendants and descendants, noted that the eye color of the younger generation is more highly correlated with an ascendant or collateral of the same than of the opposite sex, and suggests "that change of sex weakens the intensity of heredity." Lutz[2] determined the correlations between the eye color of the great grandparents and the great grandchildren and concluded that "every change of sex in the line of ancestry sensibly weakens the intensity of inheritance."

While the original data are given in multiple categories both Pearson and Lutz used the classical 4-fold table method of determining correlation, dividing the colors for both generations into 2 alternative classes at about the middle of the series of color categories. Since their work was done, papers on contingency[3] and on equivalent probability correlation[4] methods have appeared. It has, therefore, seemed worth while to recalculate these correlations by

[1] Pearson, *Phil. Trans. Roy. Soc. Lond.*, 1900, A. 195, excv, 79.

[2] Lutz, *Biometrika*, 1903, ii, 237.

[3] Pearson, *Draper's Co. Res. Mem.*, Biom. Ser., 1904, i, 1.

[4] Pearson, K., *Draper's Co. Res. Mem.*, Biom. Ser., 1912, vii, 1.