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The skin reactions, blood chemistry and physical status of 'normal' men and of clinical patients

Petersen, William F.

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II. THE CLINICAL STATUS OF THE GROUP OF ONE HUNDRED "NORMAL" MEN

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II. THE CLINICAL STATUS OF THE GROUP OF ONE HUNDRED "NORMAL" MEN

In the first part of the study, we presented a table of possible correlations of certain reactions of the skin (the blister time, the reaction time to the Kromayer light, the reaction time to ice, the resistance of the skin to electric current, the reactions to intracutaneous injections of pharmacologic substances, etc.) with the blood chemistry.

In the present analysis of this material, we proceed to a grouping of the men into clinical subdivisions, based on the physical observations and on the results of the urinalyses, the examinations of the blood pressures, the Wassermann tests, the roentgenologic interpretations, the microscopic examinations of the capillaries of the skin, etc.

In arranging the individual results of the examinations of these men, we first present table 1, which classifies the men as follows: a normal group of 20 men (column 3); a group of 9 proved by the x-rays to have active tuberculosis (column 4); a group of 17 with healed parenchymal tuberculosis, as evidenced by the x-rays (column 5); a group of 4 with syphilis (column 6); a group of 40 with cardiovascular renal disease, which has been subdivided to include those with arteriosclerosis, as shown by the x-rays (column 7), those with probable myocarditis, as shown by the x-rays (column 8), those with an increased range of blood pressure (column 9), those with a normal range of blood pressure (column 10), those with a low range of blood pressure (column 11), those with changes in the urine—casts or albumin (column 12) and those with alterations of the capillaries of the skin—granulation, tortuosity, slowing, etc. (column 13); a sensitized group of 2 (column 15); a "nervous" group of 4 (column 16), and a group of 4 with miscellaneous conditions, making a total of 100 men.

The following tables have been prepared: Table 2 contains the results of the examinations of the normal men; table 3, of men with roentgen evidence of healed tuberculosis, and table 4, of men with roentgen evidence of active tuberculosis.

The cardiovascular renal material has been recorded in the following way: in table 5, the results of the examinations of men with increased blood pressure, but without urinary changes; in table 6, of men with increased blood pressure with urinary changes; in table 7, of men with normal blood pressure and normal urine, but with x-ray evidence of arteriosclerosis or myocarditis; in table 8, of men with normal blood pressure, but with urinary changes; in table 9, of men with blood pressure under 110 (including the syphilitic group, normal men and men with roentgenologic evidence of healed tuberculosis), and in table 10, of men with low blood pressure, but with urinary changes.

The averages for these groups have been brought together in table 11.

TABLE 1.—*Classification of One Hundred So-Called Normal Men on the Basis of the Results of Physical Examinations*

Cardiovascular Renal																
1 Serial Number	2 Individual Number	3 Normal Persons	Tuber- culosis, Shown by Roentgen- ogram		6 Syphilis	7 Arteriosclerosis of Large Vessels (X-Ray)	8 Myocarditis (X-Ray)	Blood Pressure			12 Changes in Urine (Casts or Albumin)	13 Changes in Skin Capillaries	14 Cardiovascular Renal	15 Sensitized	16 Nervous	17 Miscellaneous
4 Active	5 Healed						9 High	10 Normal	11 Low							
1	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
2	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	8	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	10	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
5	13	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
6	14	..	..	..	..	..	..	+	..	..	+	..	1	..	..	(Liver)
7	15	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
8	17	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	18	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
10	20	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
11	21	..	..	+	..	..	+	..	..	..	+	..	1	..	..	..
12	23	..	..	1	..	..	..	..	+	..	..	..	..	..	..	..
13	24	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
14	25	..	1	..	..	..	..	+	..	..	+	..	+	..	..	..
15	26	..	..	..	1	..	..	..	..	+	..	..	..	..	..	..
16	28	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
17	29	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	30	..	..	..	..	+	..	+	..	..	..	..	1	..	..	..
19	32	..	..	..	..	..	..	+	..	..	..	..	1	..	..	..
20	34	..	..	+	..	..	..	+	..	..	..	1	..	..	..	..
21	35	1	..	..	..	..	..	..	+	..	..	..	..	..	..	..
22	36	..	..	..	..	..	..	..	..	+	+	..	1	+	..	(Hay-fever)
23	37	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	39	..	..	+	1	..	..	..	..	..	..	..	..	..	..	..
25	40	..	..	+	..	..	..	..	..	..	..	1	..	..	..	..
26	41	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27	42	..	..	..	..	..	+	..	+	..	..	..	1	..	..	..
28	43	1	..	..	..	..	..	..	+	..	..	..	..	..	..	..
29	44	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	45	..	..	..	..	..	+	+	..	..	..	..	1	..	..	..
31	46	..	..	..	..	..	..	+	..	..	..	+	+	..	..	1 Inanition
32	47	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
33	48	..	..	+	1	..	..	..	..	+	..	+	..	..	..	..
34	49	..	..	..	..	..	..	..	+	..	+	..	1	..	..	..
35	50	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36	52	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
37	53	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
38	54	..	..	..	..	..	+	..	..	+	+	..	1	+	..	..
39	55	..	..	+	..	..	..	+	..	..	+	..	1	..	..	..
40	56	..	1	..	..	..	..	..	..	..	..	..	..	+	..	..
41	59	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42	61	..	..	..	..	+	..	+	..	..	+	+	1	..	..	..
43	62	..	..	..	..	..	+	..	..	..	..	..	1	..	..	(Aortic regurgita- tion)
44	63	..	..	+	..	+	..	..	+	..	..	..	1	..	..	..
45	64	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
46	65	..	..	..	..	..	..	..	..	+	+	+	1	..	..	..
47	66	..	..	..	..	+	+	..	+	..	+	+	1	..	..	..
48	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1 Dwarf
49	68	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
50	70	..	..	..	..	+	..	+	..	..	+	..	1	..	..	..
51	71	..	..	..	..	+	..	+	..	..	..	..	1	..	..	..
52	72	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
53	73	..	..	..	1	..	..	..	..	+	..	..	..	..	..	..
54	74	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
55	75	..	..	+	..	..	..	+	..	..	..	..	1	..	..	..
56	76	..	..	..	..	+	..	..	..	+	+	..	1	..	..	..
57	77	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
58	78	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59	79	..	..	+	..	+	..	+	..	..	..	..	..	..	1	Ulcer
60	80	..	..	..	..	..	..	..	..	..	..	+	+	..	..	..
61	81	..	..	..	..	..	+	+	..	..	..	..	1	..	..	..
62	82	..	..	..	..	..	..	+	..	..	..	+	1	..	..	..
63	83	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
64	84	..	..	..	..	..	..	+	..	..	+	..	1	..	..	(Angioneurotic edema)
65	85	..	..	..	..	..	..	..	..	..	..	..	..	..	1	Elevated tempera- ture (cause un- known)

TABLE 1.—Classification of One Hundred So-Called Normal Men on the Basis of the Results of Physical Examinations—Continued

Serial Number	Individual Number	Cardiovascular Renal														
		Normal Persons	Tuberculosis, Shown by Roentgenogram		Syphilis	Arteriosclerosis of Large Vessels (X-Ray)	Myocarditis (X-Ray)	Blood Pressure			Changes in Urine (Oasts or Albumin)	Changes in Skin Capillaries	Cardiovascular Renal	Sensitized	Nervous	Miscellaneous
			Active	Healed				High	Normal	Low						
66	86	..	..	..	..	..	..	..	..	..	..	..	..	+	1	..
67	87	1	..	..	..	..	..	..	..	+	..	..	..	..	..	..
68	88	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
69	89	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
70	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
71	91	..	..	..	+	..	..	..	+	..	..	+	1	..	..	..
72	92	..	..	..	..	..	..	..	+	+	..	..	..	..	1	..
73	93	..	..	..	..	..	+	..	+	..	..	..	1	+	..	..
74	94	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
75	95	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
76	96	..	..	..	..	+	..	+	..	..	..	..	1	..	..	..
77	97	1	..	..	..	..	..	..	..	+	..	..	..	..	..	..
78	98	..	..	..	..	+	..	..	+	..	..	..	1	..	..	..
79	99	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
80	100	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
81	101	..	..	+	..	..	..	..	..	..	..	+	..	1	..	..
82	102	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
83	103	..	..	..	..	+	+	..	+	..	..	..	1	..	..	..
84	104	..	1	..	..	+	..	+	..	..	..	..	+	..	..	..
85	105	..	..	1	..	..	..	..	..	+	..	..	..	..	..	..
86	106	..	..	..	..	+	..	..	+	..	..	..	1	..	..	..
87	107	..	..	..	..	+	+	..	..	..	..	..	1	..	..	..
88	108	..	1	..	..	..	..	..	..	+	..	+	+	..	..	..
89	110	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
90	111	..	..	+	..	+	..	..	+	..	..	..	1	..	..	..
91	112	..	..	..	..	+	..	..	+	..	..	..	1	..	..	..
92	113	..	..	+	..	+	..	..	+	..	..	..	1	..	..	..
93	114	..	1	..	..	+	..	+	..	..	+	..	+	..	..	..
94	115	..	..	+	..	..	..	+	..	..	+	..	1	..	..	..
95	122	1	..	..	..	..	..	..	..	+	..	..	..	..	..	..
96	127	..	..	+	..	..	..	..	+	+	..	..	1	..	..	..
97	128	..	..	+	..	+	..	..	+	+	+	+	1	..	..	..
98	129	..	1	..	..	..	..	..	..	..	+	+	+	..	..	..
99	130	..	..	..	..	..	..	..	+	+	..	..	1	..	..	..
100	134	..	..	..	..	+	..	+	..	+	..	..	1	..	..	..
		20	9	17	4	..	..	..	..	..	..	3	37	2	4	4

(Aneurysm)

COMMENT

The Normal Group.—In the normal group, there have been included men whose blood pressure is under 140, with no urinary changes, no roentgen evidence of tuberculosis and no alterations of the capillaries of the skin, with negative Wassermann reactions and without history of sensitization.

Even with such criteria, it is to be expected that certain ones may be abnormal in the sense that chronic pathologic conditions of the organs, either anatomic or functional, may exist, but need not be clinically apparent in one examination. Thus, a number of deviations are observed in the course of the examinations.

Blister Time: The blister time is shortened only in patient 122, a young medical instructor, apparently normal, who gives a history of

TABLE 2.—The Results of the Examinations of

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Komauer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Blood Pressure	Pulse Rate	Euphorine, Pulse Pressure, per Cent	Euphorine, Pulse Rate, per Cent	
														Systolic	Diastolic			
132	6	62	9.5	11.8	21.2	1.8	94.3	1.3	8.98	1.75	+12	0.34	111	21	45.5			
39	6.5	70	10.7	10.6	19.2	1.81	50	1.3	8.06	1.75	+7	0.37	111	21	45.5			
35	6	54	6.7	8.7	35.2	2.9	79	1.3	8.28	1.75	+7	0.37	111	21	45.5			
41	6	56	9.1	9.8	21.2	2.16	70	1.3	8.49	1.75	+15	0.38	111	134	88	62	+24	
48	6.25	60	9.7	9.2	17.4	1.59	67	1.3	7.63	1.75	+14	0.27	96	50	74	+23	+23	
44	8	56	7	10	17.6	1.76	90	1.3	8.49	1.75	+12	0.26	130	68	60	+7	+22	
53	8	71	8.8	11.4	24	2.4	82	1.3	8.38	1.75	+21	0.43	128	70	67	+12	+20	
64	6	66	10	9	16.6	1.84	82	1.3	7.41	1.75	+23	0.32	113	59	64	+15	+18	
73	6.5	69	11.5	10.8	18.7	1.73	77	1.3	7.73	1.75	+15.9	0.27	114	76	54	+22	+46	
78	6	86	12	8.4	18.8	2.23	67	1.3	8.49	1.75	+6.2	0.42	112	70	71	+11	+20	
82	6	51	5.6	8.2	19	2.31	68	1.3	7.73	1.75	+7	0.16	118	64	58	+40	+53	
87	6	56	9.3	8.4	19.5	2.32	94	1.3	7.55	1.75	+18	0.42	102	58	69	+40	+53	
97	6	54	9	8.4	20.9	2.37	60	1.4	7.55	1.75	+25	0.22	100	60	68	+20	+30	
17	8	66	8.2	12.7	18.2	1.43	61.5	3	8.72	1.5	-11	0.22	130	70	66	0	0	
33	8	62	7.7	10.6	18.8	1.95	85	3	8.06	1.5	+31.8	0.35	130	70	66	+22	+32	
59	6	86	9.6	10.5	21	2	73	2.12	8.06	1.15	-8	0.16	4	116	69	74	+2	+8
8	7	75	10.7	10.5	21	2	73	2.12	8.06	1.15	-8	0.16	4	116	69	74	+2	+8
37	7	75	10.7	10.5	21	2	73	2.12	8.06	1.15	-8	0.16	4	116	69	74	+2	+8
84	6	58	8.8	8.4	17.5	2.08	75	1.7	7.85	1.45	-1.8	0.43	134	78	53	+20	+50	
6.8	62	9.3	9.7	20.3	2.1	72.8	2.22	8.04	1.83	+5	0.33	3.7	116	70	68	+19.6	+28.6	

TABLE 3.—The Results of the Examinations of the Men who Were

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Komauer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Systolic Blood Pressure	Diastolic Blood Pressure	Pulse Rate	Euphorine, Pulse Pressure, per Cent	Euphorine, Pulse Rate, per Cent
95	6	59	9.8	7.8	18.8	2.41	77	2.2	8.5	1.85	-20	0.39	110	60	58	+17	+17	
13	6.5	67	11.1	11.1	16.3	1.47	73.3	4	7.7	2.5	-22	0.33	114	60	58	+20	+20	
15	6	64	9	9.6	22.8	2.48	78	4	7.7	2.5	-22	0.33	114	60	58	+20	+20	
6	6	68	7.5	12.1	18.8	1.55	76.4	4	7.7	2.5	-22	0.33	114	60	58	+20	+20	
67	11.1	13.1	28.6	2.19	85	....	....	....	7.87	1.75	+10.9	0.42	3	102	58	82	+1	+29
23	6	70	11.6	11.7	24.8	2.12	81	4	7.29	2	+1	0.19	2	110	58	78	+50	+41
52	8	53	9	10.4	20.9	2.12	81	4	7.29	2	+1	0.19	2	110	58	78	+50	+41
100	6	64	7.2	12.1	16.3	1.34	61	7.2	7.55	1.6	-1.6	0.11	3.8	128	58	76	+8	+13
68	7	78	11	8.8	17.1	1.94	68	2.3	8.66	1.5	+25.8	0.53	5	138	76	89	+31	+36
89	6	62	8.6	9.2	16.7	1.81	75	2	7.51	1.25	+25	0.16	1.6	100	60	73	0	+2
99	9	77	8.1	9.5	17.9	1.86	71	4	7.85	4.5	-3	0.14	4.2	106	78	76	+12	+54
105	9	62	7	9	17.1	1.81	68	2.3	7.51	1.25	+25	0.16	1.6	100	60	73	0	+2
18	8	70	8.7	14.5	21.2	1.46	70.2	2	7.63	2.5	+31.6	0.09	2	116	78	76	+25	+39
28	6	64	10.6	11	24.1	2.19	72	1.8	8.30	3.25	+4.2	1.00	2	120	80	88	10	....
10	6	64	13.3	10.1	24.6	2.4	74	2.12	8.70	2.5	-1.4	0.08	4	118	76	65	+21	+52
47	5	62	12.8	10.4	20.2	2.51	72	1.5	8.38	1.45	+34	0.15	5	126	64	70	0	0
7.3	64.8	9.6	10.5	20.8	1.98	71.6	2.43	7.88	2.15	+8	0.36	2.97	117	67	75	13.4	20	

the Men Who Were Grouped as "Normal"

CO ₂ -Combining Power	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Euphorine, Wheel (Diameter, Mm.)	Euphorine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxine, Wheel (Diameter, Mm.)	Thyroxine, Flare (Radius, Mm.)	Caffeine, Wheel (Diameter, Mm.)	Caffeine, Flare (Radius, Mm.)
64	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
56.8	Asthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
60.1	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
57.6	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
58.6	Asthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
57.1	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
64.9	.....	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
55	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
60.6	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
62.6	Asthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
53.1	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
55.4	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
57.2	Sthenic	..	..	Slight dilatation	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
58.1	Normal	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
53.9	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
56.6	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
56.1	Asthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
22	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
51.5	Sthenic	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0
57.6	.....	..	..	Normal	40	237	...	32.8	10.6	16	17	16.2	0	10.2	0	0

Grouped as Having Roentgenographic Evidence of Healed Tuberculosis

CO ₂ -Combining Power	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Euphorine, Wheel (Diameter, Mm.)	Euphorine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxine, Wheel (Diameter, Mm.)	Thyroxine, Flare (Radius, Mm.)	Caffeine, Wheel (Diameter, Mm.)	Caffeine, Flare (Radius, Mm.)
61.6	Sthenic	Healed	..	Normal	10	54	222	318	23.6	6.4	10.3	12.6	12	6.2	26.2	..
68.6	Asthenic	Healed	..	Normal	15	53	223	185	13.2	6.8	12.4	11.2	12	6.2	25.6	..
67.6	Sthenic	Healed	..	Normal	38	60	210	...	23.2	12.6	11.2	12.4	12	6.2	25.6	..
57.4	Sthenic	Healed	..	Normal	28	54	233	...	17.2	8.2	10.6	17.8	9.2	3.2	7.2	4
53.7	Sthenic	Healed	..	Normal	30	50	219	...	16.8	12	9	27.2	11.2	12.4	20	7.8
53.9	Sthenic	Healed	..	Normal	15	36	213	...	17.6	10	12.8	19.2	11.2	12.4	20	7.8
58.3	Sthenic	Healed	..	Normal	5	45	241	238	18.8	8.6	11.4	10.6	12	6.2	27.6	..
57.2	Asthenic	Healed	..	Decreased	30	62	190	222	21.8	4.2	9.6	14.6	12	6.4	18.2	1
51.1	Asthenic	Healed	..	Normal	10	35	217	238	18	9.6	12.4	10.2	12	6.2	27.6	..
56.3	Asthenic	Healed	..	Normal	16	41	204	222	20.8	9.8	12.4	10.2	12	6.2	27.6	..
57.4	Sthenic	Healed	..	Normal	11	46	228	230	20.4	7	12.2	11.2	12	6.2	27.6	..
64.4	Asthenic	Healed	..	Normal	15	56	194	238	19.6	5.6	9.2	16	12	10.4	27.2	..
58.4	Asthenic	Healed	..	Normal	10	31	200	...	....	....	....	....	....	....	....	....
66	Asthenic	Healed	..	Normal	25	43	200	...	12.2	10.8	13.2	7.4	....	....	....	....
60.4	Sthenic	Healed	..	Normal	7	40	230	...	20	8.4	12.6	14.6	9	7.2	12.2	..
50.4	Sthenic	Healed	..	Normal	15	38	200	...	22.6	5.2	14.2	10.8	9	6	....	....
57.9	.....	..	..	Normal	16.5	43.6	218	233	19.2	8.66	11	15.5	11	6.2	17	1.5

TABLE 4.—The Results of the Examinations of the Men Grouped

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Konover Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Pressure, per Cent
104	56	52	6	10.6	11.4	1.08	82	1.70	8.58	1.5	+20.4	0.25	1	..	130	76	+13	+28	+28
114	8.5	64	6	8	19.2	2.4	75	2.3	8.06	2.25	+11.2	0.12	4	Albumin, blood	174	60	48	+6	+60
129	15	52	3.5	8.9	19	2.13	83	1.3	7.85	2.5	+28	0.22	2.2	..	116	65	92	+10	15
108	8	52	8	10.4	15.3	1.47	62	1	7.85	1.75	+17	0.44	0.6	..	94	52	71	+9	+29
162	11	64	5.8	10.6	17.3	1.63	62	0.82	7.55	1.5	+22	0.29	2.4	..	114	60	96	+11	+5
8	7.23	58	8	9.4	13.1	1.4	79	2	7.63	2	.....	0.68	2.5	..	128	75	76	+10	0
	8.4	59	7.5	9.6	20.1	2.08	70	1.4	8.08	1.9	18.2	0.28	2.2	..	133	73	78	+11	+2

TABLE 5.—The Results of the Examinations of the Men in the Cardiovascular

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Konover Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Pressure, per Cent
46	6	59	10	13.8	17.4	1.24	61	2.3	7.63	1.15	+13	1.7	1	..	140	82	76	+15	+37
21	7	62	9	10.2	25.6	2.51	72	4	8.06	1.75	+4.3	0.74	3.9	140	80	72	0	-8	-8
32	6	60	10	9.5	26.1	2.75	76	2.3	8.80	1.75	+22	1.18	7.4	144	86	74	+22	+30	+30
45	6	54	9	11.2	16.6	1.48	77	1.5	7.73	0.75	+30	0.28	7.4	162	114	84	-3	+8	+8
79	15	86	5.7	11.2	20	1.78	67	1	8.78	4	-15.2	0.71	7.7	140	80	60	+8	+8	+10
51	6	59	10	8.4	25.8	3.07	63	1.7	8.49	1.5	+35	0.10	2.3	144	84	76	+4	+4	+4
75	9	60	6.6	10.8	19.2	1.78	75	2.6	9.23	3	+2.5	1.3	1	146	80	72	-9	-15	-15
82	6	58	9.6	11.4	17.2	1.5	68	2	7.41	1.5	+7	0.30	5.7	170	100	61	+31	+37	+37
30	6	55	9.1	10.3	24	2.33	76	....	7.07	1.5	-5.9	1.05	1.8	150	72	85	0	-10	-10
96	8.25	57	7	8.2	17	2.02	77	1.8	7.26	1.75	+31	0.11	2.6	140	85	68	+25	+25	+25
	7.5	61	8.6	10.47	20.8	2	70.2	1.85	8.04	1.86	11.4	0.7	4.6	147	83	73	9.3	14.1	14.1

as Having Roentgenographic Evidence of Active Tuberculosis

CO ₂ Combining Power	Endothelial Reaction	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)
62.3	..	Asthenic	+++	0	Normal	10-20	42	230	...	24.2	6.6	12.4	15.4	10	2.6	9	0
59.8	..	Asthenic	+++	0	Normal	20	35	183	...	21.4	12.2	8.2	17.8	9	15.2	10	0.2
56.5	..	Asthenic	+++	..	Normal	15	44	247	...	17.8	5.8	10.8	22.4	14	0	21.4	12
57.2	..	Asthenic	+++	..	Normal	15	76	235	230	20.9	6.2	10.8	10	12	0	15.2	0
60.6	..	Asthenic	Left upper bronchus	+	Normal	25	79	235	308	29	7.2	10.2	10.2	12	9	22.2	0
61.1	..	Asthenic	+	+	Granulations	17	66	247	238	18.4	7	10.6	9.6	12.2	0	13.2	0
64.1	..	Asthenic	Hilum bronchi	..	Slight granulations	18	67	196	139	18	2.4	10.2	11	14.8	13.2	23.4	3.4
60.9	+	Asthenic	+	+	Normal	40	65	170	208	23.2	7.4	10.8	15	12.2	0	18.2	7
58.1	..	Asthenic	+++	..	Normal	15	55	203	230	18.4	11	11.6	20	12.4	12	27.6	0
58.8	..	Asthenic	+++	..	Normal	21	58.7	215	308	20	7.2	10.6	14.6	12	6.4	18	2.6

Renal Group Having Increased Blood Pressure but No Urinary Changes

CO ₂ Combining Power	Endothelial Reaction	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)
56.2	..	Asthenic	..	+	Sluggish, empty	15	29	168	...	21.2	13.2	15.0	16.2	12.2	11.2	18	9.2
62.9	..	Asthenic	Healed	0	Dilated, in granulations	25	56	200	...	23.2	12.6	8.8	13.2	7.2	2.6	5.2	...
54.1	..	Asthenic	..	0	Normal	25	96	190	...	23.6	11.2	11	21.4	9.8	...	8.4	...
54.3	..	Asthenic	..	0	Normal	20	40	317	...	20.4	9.8	14.2	21.4	16.4	12	20	4.8
57	+	myocarditis	Healed	..	Normal	20	58	220	230	19.2	9.4	10.2	17.8	8.2	12.2	30.6	5
57	+	Arterio-sclerosis	Healed	..	Normal	45	68	209	222	14	6.2	10.2	15	10	...	16.4	9.6
61.6	..	Myocarditis	..	+	Normal	10	54	243	278	20.4	10.2	18	15.2	10	...	23.4	8
58.8	..	Asthenic	..	1800	Slightly tortuous	25	66	208	190	21.2	7	14.2	14.2	11	...	27.6	9
62	+	Arterio-sclerosis	..	0	Normal	15	42	175	...	20	8.8	8.2	16	7.2	...	7.2	...
53.4	..	Arterio-sclerosis	..	+	Normal	40	70	245	167	18	8.2	11.4	15.4	12.4	...	28.4	...
57.7	..	Arterio-sclerosis	..	+	Normal	24	50.9	217.5	217	20.1	9.72	12	16.6	10.4	3.8	19.2	4.6

TABLE 6.—The Results of the Examinations of the Men in the Cardiovascular

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Rate, per Cent
61	6	10	11.6	7.6	17.9	2.35	72	3.5	7.41	1.75	+ 0.9	0.38	7.4	+	142	82	64	+ 8
70	10.5	74	7	11.4	16.6	1.45	67	1.9	8.65	1.25	+23	0.39	4	++	148	80	76	- 6
84	11	71	6.4	10	17.8	1.78	67	1	7.85	1.5	- 5	0.38	2.8	+	140	78	80	- 6
115	8	46	5.7	7.8	15.2	1.95	69	0.66	8.28	1.65	+15	0.38	2.8	+	148	84	84	- 4
134	15	60	4	9.9	15.4	1.56	71	1.4	7.85	1.35	- 4	0.7	...	+	146	86	78	0
	10.1	64	7	9.34	16.6	1.82	67	1.7	8	1.5	6	0.38	4		145	76	76	+ 4.6

TABLE 7.—The Results of the Examination of the Men in the Cardiovascular Renal Group with Normal

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Blood Pressure	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Rate, per Cent
42	7.35	47	6.5	11.4	17.8	1.56	71	1	7.63	2	+ 6.8	0.15	4.5	138	70	86	+ 19
113	6.5	60	9.2	10.2	18.6	1.82	66	1.5	7.41	1.75	+ 6.2	0.34	2.2	136	72	60	+ 8
71	6	70	11.6	8.8	17.5	2	73	2.3	8.5	1.1	+ 7.4	0.36	1.4	114	70	88	+ 15
63	6	50	8.3	7.6	14.5	1.9	71	1.4	8.39	1.45	+ 0	0.35	2.4	114	71	85	+ 19
103	6	32	8.6	9.2	17.3	1.88	57	1.5	7.73	1.75	+ 2	0.39	1.4	126	70	76	- 1
106	6	71	12	11.2	19	1.69	65	1.7	8.06	1.45	- 6	0.63	2.2	130	80	84	- 5
107	9	58	6.4	8	18.4	2.2	60	1.5	8.06	4.75	- 0.5	0.33	2.8	134	72	72	- 1
111	6	57	9.5	11.8	18.3	1.5	75	1.5	8.28	1.15	+31	0.33	1.2	122	70	92	+ 19
112	6	54	9	12.6	18	1.42	68	2.1	7.44	1.15	+19.6	2.7	2.4	139	80	75	+ 5
98	8.35	37	7	8.2	17	2.07	77	1.85	7.41	1.75	+31	0.11	2.6	140	85	68	+25
91	7	56	8	...	...	...	67	2	7.85	2.5	- 1.7	0.30	4	136	64	76	+26
63	7.5	71	9.4	11.4	20.9	1.82	62	1.5	7.63	5	+ 0.65	1.4	5	116	62	60	+ 5
	6.8	58.5	8.7	10	18.6	1.86	67	1.65	7.90	2.15	6.5	0.60	2.67	127	72	77	+ 9.8

Renal Group Having Increased Blood Pressure with Urinary Changes

CO ₂ Combining Power	Endothelial Reaction	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)
53.1	..	Arteriosclerosis	..	..	Slight granulation	7	51	208	207	19.6	9	14.4	17.6	13.4	0	20.2	5
56	+	Arteriosclerosis, dilated aorta	..	..	Normal	45	65	264	232	18	11	9.8	18.2	10	0	24.6	6.6
53.1	..	Asthenic	..	..	Normal	20	73	200	167	16.4	8.4	8.2	19.2	10.2	7.2	20.6	0
51.8	..	Sthenic	Healed	..	Normal	10	66	215	247	18.2	6.2	11	13.2	14.2	8	16	9.6
54.8	..	Arteriosclerosis	..	+	Normal	12	67	233	196	23.6	17.8	11.4	13.2	19.2	9.6	28.6	3.2
53.7	..					19	64.5	224	220	19	8.9	11	16.4	13.4	5	22	5

Blood Pressure and Normal Urine but with X-Ray Evidence of Arteriosclerosis or Myocarditis

CO ₂ Combining Power	Endothelial Reaction	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)
54.5	..	Myocarditis	..	..	Normal	32	33	241	...	19.2	11.8	10.8	16.8	9.2	4.6	6.8	0
62.7	++	Arteriosclerosis	Healed	0	Normal	12	59	212	222	18.4	9.2	9.6	18.8	10.8	10.6	18.2	0
57.9	..	Arteriosclerosis	..	..	Normal	15	42	195	256	19.2	9.6	12.6	18.2	15.4	11	24.4	8.2
57	++	Myocarditis	..	..	Normal	12	53	267	239	20.4	8.6	12.4	15	10	0	22.4	0
55.3	+	Arteriosclerosis, myocarditis	..	..	Normal	5	59	270	215	22.4	9	12.2	18.2	12.2	0	18.2	0
49.5	+	Aorta, arteriosclerosis	..	..	Normal	30	60	243	222	19.6	7	9.2	14.4	11.2	0	25.6	0
55.2	+	Myocarditis	..	+	Normal	15	62	265	256	20.8	5.8	8.6	11.2	13.4	6.2	21.4	0
55.3	++	Arteriosclerosis	++	++	Normal	15	60	200	290	22	9.4	11	15	10.8	5.6	28.2	0
59	..	Arteriosclerosis	+	+	Normal	18	60	218	215	22.4	7.2	10.8	18.4	9.6	0	24	0
53.4	..	Arteriosclerosis	..	+	Normal	40	70	245	167	18	8.2	11.4	13.2	13.4	0	28.4	0
58.9	+	Arteriosclerosis	..	..	Venous capillaries tortuous	45	65	268	222	16.8	6.8	8.8	16.6	12	9.4	22	0
62.4	..	Arteriosclerosis	Healed	..	.....	17	40	190	215	20	11	17.2	15.2	12.2	0	20.2	0
55.9	..					21	55.3	229	228	20	8.62	11.2	16.1	11.6	4	21.8	0.68

TABLE 8.—The Results of the Examinations of the Men in the Cardiovascular

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure (Systolic/Diastolic)	Pulse Rate	Electrocardiogram, Pulse Pressure, per Cent	Electrocardiogram, Pulse Rate, per Cent
14	7	74	10.5	11.2	19.6	1.75	67	1.7	8.06	1.55	-2.7	0.20	2.1	Cast, sugar	128/80	76	0	0
55	8.5	60	7	8	24.9	3.1	73	1.5	7.75	2.75	+6.2	0.38	0.5	+	128/68	84	+5	+8
66	6	78	15	11	20	1.82	67	1.32	8.66	0.85	+1.3	0.37	3.5	+	128/66	77	+37	+44
128	15	68	3.8	9.4	19.7	2.09	79	0.8	8.06	4	-18	1	0.6	+++	122/80	84	+13	+24
49	6	66	11	11	25.2	2.29	74	4.8	8.28	5.5	+7.2	0.32	2	+	134/72	60	+21	+41
	8.5	67	9	10.1	21.9	2.2	72	1.14	8.16	2.93	0	0.45	1.76		128/73	76	+15	+23

TABLE 9.—The Results of the Examinations of the Men in the Cardiovascular Renal Group and Those with Roentgenographic

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Wassermann Reaction	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Blood Pressure (Systolic/Diastolic)	Pulse Rate	Electrocardiogram, Pulse Pressure, per Cent	Electrocardiogram, Pulse Rate, per Cent
26	6.5	72	11	10.2	26.6	2.61	69	1.9	8.28	Slight	2.25	+9.6	0.28	2	92/48	68	+12	+6
48	6.75	66	9.7	9.6	27.6	2.87	71	1.5	8.59	Slight	1.25	+8.5	0.10	1.6	104/72	84	+9	+12
73	9	60	7.6	11.2	19.5	1.74	71	2.3	8.5	Slight	2.1	+10.3	0.20	2	104/70	84	+3	+10
86	6	67	11.1	13.1	28.6	2.19	83	1.6	7.87	..	1.75	+10.9	0.42	3	102/58	82	+25	+41
106	6	62	8.6	9.21	16.7	1.81	75	1.6	7.51	..	1.25	+23	0.16	1.6	100/60	73	0	+2
107	9	68	7	9	17.1	1.81	82	1.6	7.08	..	2.5	+31.6	0.60	..	108/70	82	+26	+36
87	6	56	9.3	8.4	19.5	2.32	94	2.3	7.55	..	1.5	+18	0.42	4	102/58	69	+40	+53
97	6	54	9	8.4	20.9	2.37	60	1.4	7.55	..	1.75	+20	0.22	4.5	100/63	68	+20	+30
122	4	68	17	10.6	19.2	1.81	50	1.8	8.06	..	?	-7	0.37	2.4	102/50	68	-3	-6
43	6.25	60	9.7	9.2	17.4	1.89	67	1	7.63	..	1.75	-1.4	0.27	3.5	96/50	74	+18	+40
33	8	54	6.7	8.7	25.2	2.9	79	2	8.28	..	1.25	+12.3	0.38	2	108/78	62	+23	+47
	6.7	61	9.3	9	19.8	2.2	70.8	1.78	8		1.78	+13	0.50	2.76	101/61	71	+16	+23

Renal Group Having Normal Blood Pressure with Changes in the Urine

CO ₂ Combining Power	Endothelial Reaction	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Electrocardiogram, Wheel (Diameter, Mm.)	Electrocardiogram, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxine, Wheel (Diameter, Mm.)	Thyroxine, Flare (Radius, Mm.)	Caffeine, Wheel (Diameter, Mm.)	Caffeine, Flare (Radius, Mm.)
65	..	Asthenic	0	0	Normal	40	36	198	278	24.4	6.2	13.2	7.2	15	4.4	9.8	10
56.6	..	Asthenic	Healed	+	Normal	20	50	170	...	17.6	8.2	10.2	19.6	11.2	...	12.2	..
53.1	+	Arteriosclerosis	..	-?	Tortuous, dead	30	64	257	215	20	9.2	13.6	16.6	10.2	...	18.2	..
58.1	..	Arteriosclerosis	Healed	..	Slight granulation	24	66	180	230	...	...	12.6	10.2	14.4	...	22.6	..
59.1	..	Sthenic	..	..	Normal	15	42	239	...	18.4	10.2	13	12.2	4.2	1	9	..
58.4						26	51.6	209	241	20	8.2	12.4	12.6	11	1	14.4	2

with Blood Pressure Under 110 (Including the Syphilitic Group, the Normal Group, Evidence of Healed Tuberculosis)

CO ₂ Combining Power	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Electrocardiogram, Wheel (Diameter, Mm.)	Electrocardiogram, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxine, Wheel (Diameter, Mm.)	Thyroxine, Flare (Radius, Mm.)	Caffeine, Wheel (Diameter, Mm.)	Caffeine, Flare (Radius, Mm.)
63.4	Sthenic	..	0	Normal	35	30	210	...	19.6	10	10	8.6	7.2	6.4	10.4	0
58	Sthenic	Healed	0	Tortuous	35	46	222	...	19.2	8.4	15.2	12	8	0	7	0
59.7	Asthenic	..	0	Normal	25	48	191	17.6	17.6	8.2	12	16	15.6	0	7	0
57.9	Sthenic	Healed	0	Normal	28	54	233	...	17.2	8.2	10.6	17.2	9.2	3.2	7.2	6
56.3	Asthenic	Healed	+	Normal	16	41	204	222	20.8	9.6	9.2	20	10.2	0	20.4	0
64.4	Asthenic	Healed	?	Normal	15	56	194	228	19.6	5.6	9.2	16	12	10.4	27.2	6
55.4	Sthenic	..	..	Normal	18	46	200	222	16	8.8	10	12.4	12	9	25.4	10.2
57.2	Sthenic	..	+	Dilated, U-shaped	20	53	230	245	18.2	9	9.8	16.4	12	9	32.6	0
56.8	Asthenic	..	..	Normal	5	33	189	209	20	7.8	10	6.6	12	9	21.2	0
60.1	Asthenic	..	..	Decreased	7	45	231	...	22	7.5	11.2	20.6	10	0	11	0
57.6	Sthenic	..	+	Normal	20	44	203	...	22.8	11	14.8	20.4	9.2	0	5.2	0
58.7					21	45.1	209	230	19.44	8.5	11	15.2	10.6	3.94	14.2	2

TABLE 10.—The Results of the Examinations of the Men in the Cardiovascular

Individual Number	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure (Systolic/Diastolic)	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	Epinephrine, Pulse Pressure x Pulse Rate, per Cent
36	8	58	7.2	12.1	20.3	2.17	90	0.66	8.28	3	+1.3	0.11	3.8	++	104	50	+22	+28
139	15	71	4.7	9.5	15.5	1.63	86	0.66	7.99	3	+12	0.35	...	++	106	64	...	...
54	6	60	10	...	22	16.4	80	1.7	8.28	1.35	-3.4	0.26	2.6	++	104	80	+66	+90
65	6	61	10	9.8	16.4	1.67	85	1.7	8.28	3	+29	0.55	0.4	++	100	70	+30	+42
76	8.5	76	9	10.8	20.2	1.87	77	2.3	8.2	1.65	+8	0.28	9.6	+	108	82	+11	+8
127	13	50	3.8	9.7	16.2	1.67	81	2	7.85	4.25	-3.5	1.2	3	+++	108	74	+60	+54
	9.7	59	7.4	10.4	19.4	1.86	80	1.77	8.14	2.36	7.2	0.51	3.9	...	105	71	+38	+44

TABLE 11.—Averages of the Results of the Individual

	Number in Group	Blister Time, Hours	Permeability of Capillaries	Inflammatory Index	Calcium, Mg.	Potassium, Mg.	K/Ca Ratio	Sugar, Mg.	Albumin/Globulin Ratio	Protein, Mg.	Wassermann Reaction	Kromayer Light Erythema Time, Hr.	Basal Metabolic Rate	Resistance of Skin to Electric Current, Megohms per Sq. Cm.	Muscle Reaction, Ma.	Changes in Urine	Blood Pressure Systolic Diastolic	Pulse Rate	Epinephrine, Pulse Pressure, per Cent	
Table 2: Normal group.....	29	6.8	62	9.3	9.7	20.3	2.1	72.8	2.22	8.04	....	1.83	+ 5	0.33	3.7	...	116	70	+19.6	
Table 3: Normal group with x-ray evidence of healed tuberculosis	17	7.3	64.8	9.6	10.5	20.8	1.98	71.6	2.43	7.88	....	2.15	+ 8	0.36	3	...	117	67	75	13.4
Tables 2 and 3: Average normal group	37	7	63.3	9.4	10.1	20.6	2.04	72.3	2.32	7.96	....	1.97	+ 6.3	0.35	3.5	...	116	69	71	+16.5
Table 4: Roentgenographic evidence of active tuberculosis	9	8.4	59	7.5	9.6	20.1	2.08	70	1.4	8.08	....	1.9	+18.2	0.28	2.2	3/9	133	73	78	+11
Table 5: Increased blood pressure; urine normal.....	10	7.5	61	8.6	10.47	20.8	2	70	1.82	8.04	....	1.86	+11.4	0.7	4.6	0	147	83	73	+9.3
Table 6: Increased blood pressure; urine + ...	5	10.1	64	6.4	9.34	16.6	1.82	67	1.7	8	....	1.5	+ 6	0.38	4	5/5	145	76	76	0
Table 7: Normal blood pressure; normal urine; x-ray evidence of arteriosclerosis or myocarditis	12	6.8	58.5	8.7	10	18.6	1.86	67	1.65	7.90	....	2.15	+ 6.5	0.60	2.67	0	127	72	77	+9.8
Table 8: Normal blood pressure; urine +; arteriosclerosis or myocarditis	5	8.5	67	9	10.1	21.9	2.2	72	1.14	8.16	....	2.93	0	0.45	1.76	5/5	128	73	76	+15
Table 9: Low blood pressure; normal urine	11	6.7	61	9.3	9	19.8	2.2	70.8	1.78	8	3/11	1.73	+13	0.26	2.76	0	101	61	71	+16
Table 10: Low blood pressure; urine + ...	6	9.7	59	7.4	10.4	19.4	1.86	80	1.77	8.14	....	2.36	+ 7.2	0.51	3.9	0/6	105	71	72	+38

Renal Group Having Low Blood Pressure, with Changes in the Urine

CO ₂ Combining Power	Heart	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)
57.6	Asthenic	...	0	Normal	20	43	222	...	20.8	14.2	11.2	18	7.4	0	7.4	0
55.5	Aneurysm, sthenic	...	...	Normal	15	65	196	196	20	5.4	10.8	12.6	11.2	0	22.6	0
56.6	Myocarditic cirrhosis of liver, sthenic	...	...	Normal	25	49	256	...	21.2	10.4	11	18	12	0	11.0	0
53.1	Sthenic	...	Tortuous	...	12	34	221	...	18.5	13	12	19.8	5.2	10.2	10.4	0
57.9	Arteriosclerosis, dilated aorta	...	Normal	...	10	45	230	215	20	6.6	12.4	19.6	11	7	12	0
59.1	Asthenic	Healed	...	Normal	16	65	180	247	18.4	9.4	12	10.2	15.4	12	22	0
56.6	...	...	...	...	16	49.8	218	211	19.2	9.8	11.8	16.4	11	4.8	14.2	0

Examinations Set Forth in Tables 2 to 10

Epinephrine, Pulse Pressure, per Cent	CO ₂ Combining Power	Tuberculosis	Influenza	Capillaries	Ice Reaction Time, Seconds	Age	Weight/Length Ratio	Cholesterol, Mg.	Epinephrine, Wheel (Diameter, Mm.)	Epinephrine, Flare (Radius, Mm.)	Morphine, Wheel (Diameter, Mm.)	Morphine, Flare (Radius, Mm.)	Thyroxin, Wheel (Diameter, Mm.)	Thyroxin, Flare (Radius, Mm.)	Caffein, Wheel (Diameter, Mm.)	Caffein, Flare (Radius, Mm.)	Clinical Diagnosis and X-Ray Diagnosis
+28.6	57.6	...	7/20	...	14.5	40.2	224	222	21	9.36	11.7	16.3	11.6	5.45	17.9	3.1	Healed parenchymal tuberculosis
20	58.5	Healed parenchymal	6/17	...	16.5	43.6	218	223	19.2	8.66	11	15.5	11	6.2	17	1.5	Healed parenchymal tuberculosis
+24	58	...	13/37	...	15.6	41.8	221	228	20	9	11.3	16	11.3	5.8	17.4	2.38	Active parenchymal tuberculosis
+23	58.8	Active (roentgenogram)	3/9	2/7	21	58.7	215	208	20	7.2	10.6	15.6	12	6.4	18	2.6	Active parenchymal tuberculosis
+14.1	57.7	...	2/10	3/10	24	50.9	217	217	20.1	9.7	12	16.6	10.4	3.8	19.2	4.6	Arteriosclerosis or myocarditis (3/10 x-ray)
+4	53.7	...	2/5	1/5	19	64.5	224	220	19	8.9	11	16.4	13.4	5	22	5	Arteriosclerosis or dilated aorta (3/5 x-ray)
+17	55.9	...	4/12	1/12	21	55.3	229	228	20	8.62	11.2	16.1	11.6	4	21.8	0.68	Arteriosclerosis or myocarditis
+23	58.4	...	1/5	2/5	26	51.6	209	241	20	8.2	12.4	12.6	11	1	14.4	2	Arteriosclerosis
+23	58.7	...	3/11	1/11	21	45.1	209	230	19.5	8.5	11	15.2	10.6	3.94	14.2	2	
+44	56.6	...	1/6	16	49.8	218	211	19.2	9.8	11.8	16.4	11	4.8	14.2	0		

feeling tired. The blood sugar level and the blood pressure are low, the reaction to epinephrine is vagotonic and the weight/length ratio is low.

Permeability of the Capillaries: High permeability occurs in only one man (no. 78). The history is negative other than that the man has recently had an acute attack of rheumatism.

K/Ca Ratio: A low ratio (1.43) is found in patient 17, a young laboratory technician. He has a markedly vagotonic reaction to epinephrine and shows other abnormalities. A high ratio occurs in patient 35, who is apparently normal.

Kromayer Lamp Erythema Time: Two persons (nos. 29 and 78) have prolonged Kromayer light erythema time. These men have high resistance of the skin to electric current and increased muscular irritability, as well.¹

The averages for this group of selected normal men, as compared with the averages for the entire series of 100, differ in the rapidity of the responses to cantharides, to Kromayer light and to ice, and in the lower resistance of the skin to electric current, and lower systolic blood pressure and pulse rate and the more marked reaction to epinephrine. The men are somewhat younger. Of the reactions to pharmacologic substances the wheal due to epinephrine is increased.

Healed Tuberculosis.—The group of men with roentgenologic evidence of healed parenchymal tuberculosis are slightly older. The group averages slightly higher in cholesterol, and somewhat lower in serum proteins. The Kromayer light erythema time is increased twenty minutes. The muscle irritability seems somewhat greater than for the normal group. The pulse rate is increased. The men are somewhat thinner. The intracutaneous skin reactions other than the reduction of the wheal and flare due to epinephrine show no marked deviations.

Active Tuberculosis.—When we turn to the group of men with x-ray evidence of active parenchymal lesions, several important differences make their appearance. It is probable that some of the differences are due to the increased age of the group and the associated cardiovascular renal disturbances. It should be emphasized that these men are ordinary workmen and there was no particular reason to suspect activity. The majority of the cases are undoubtedly chronic in a marked degree.

It will be noted that the blister time is longer, the permeability of the capillaries is low and, consequently, the inflammatory index is low,

1. Despite inclusion in this true "normal" group, we are inclined to consider patients 17, 29, 78 and 122 as abnormal because of their repeated deviations from apparently normal ranges for many of the tests. It was later found that patient 29 had bile in the urine.

and that the basal metabolic rate is distinctly increased, as are the muscle reactivity, the pulse rate and the ice reaction time. On closer examination (the section on the K/Ca ratio may be consulted here), it will be observed that the men can be grouped on the basis of the K/Ca ratio into those with low ratios and those with high ratios. Those with high ratios include the men with cardiovascular disturbances. Roentgenologic examination indicates that those with low ratios have asthenic hearts (all with low or normal blood pressure). Those with high ratios have sthenic hearts. Those with low K/Ca ratios have shorter reactions to the Kromayer light, lower blood pressure, lessened muscular irritability and diminished weight.

Cardiovascular Renal Groups.—If we average the cardiovascular renal group and compare it with the normal, it will be noted that the blister time is longer, the globulins considerably increased, the Kromayer light erythema time prolonged, the resistance of the skin increased, the CO₂ combining power diminished and the ice reaction prolonged. Some of these differences must, of course, be attributed to the advanced age of the men. If we contrast the men having positive urinary conditions in the cardiovascular renal group with those having no urinary changes, we find that the blister time is longer and the capillaries appear to be somewhat more permeable. There is more globulin and the resistance of the skin to electric current is lowered.

If we compare the groups having increased blood pressure (5 and 6) with the groups having normal blood pressure (7 and 8), the following differences make their appearance: The blister time in the groups with increased blood pressure is prolonged, the Kromayer lamp erythema time shortened, the basal metabolic rate heightened, the muscular irritability lessened and the vascular reaction to epinephrine diminished.

III. DETAILED STUDY OF THE "NORMAL" GROUP AND OF MISCELLANEOUS CLINICAL PATIENTS

In this article we present the results of the clinical response to each of the various tests that we have carried out. The material consists of the 100 so-called normal men, as well as a considerable number of persons with diseases, chiefly exophthalmic goiter, glaucoma, diseases of the skin and certain vascular diseases (Raynaud's, Buerger's, etc.).

In table 1, the identification number, age, sex, occupation, nationality and clinical diagnosis of each person are presented. The identification numbers marked with an asterisk indicate persons included in the group of 100 so-called normal men.

METHOD OF PRESENTATION OF RESULTS

Since many different tests were made on each person, we proceeded to study each reaction separately, and to permit a rapid survey of the results, we adopted the following method: Results of each test for the entire group were arranged in numerical progression. A chart was made of this curve, and at the bottom of the chart we indicated the location on the curve and the clinical classification of the individuals of the group of 100 "normal" men. At the top of each chart, we usually indicated the location and clinical classification of the patients, particularly those with exophthalmic goiter and those with glaucoma. In addition to this chart, we made a tabulation of the twenty persons at each of the extreme ends of the curve and endeavored to correlate the results of other tests with the results of the one under consideration.

As the charts were all prepared in a uniform manner the first one—the chart of the blister time—is explained in some detail.

BLISTER TIME

When one analyzes chart 1, a number of features immediately present themselves. There appear to be proportionately more persons with roentgenologic evidence of healed tuberculosis in the region of the prolonged blister time with the cantharides method. The persons with roentgenologic evidence of active tuberculosis also tend to have a longer blister time. There are more of the persons showing cardiovascular renal changes in this end of the curve. This seems to apply not only to the group with urinary changes but to those with changes in the capillaries of the skin. Advancing age, increasing blister time and more frequent cardiovascular renal injury are obviously associated. The patients with glaucoma, as might be anticipated, are at the end of