

Article VI.—A. J. STONE'S MEASUREMENTS OF NATIVES OF THE NORTHWEST TERRITORIES.

By FRANZ BOAS.

PLATES VII-XI.

During the years 1897-99, Mr. A. J. Stone made an extended journey through the Northwest Territories for the American Museum of Natural History, the required funds being provided through the liberality of the late Mr. James M. Constable. On this journey he collected a number of measurements of Indians and Eskimo, which were placed in the hands of the writer for discussion. Anthropometric data from this area are so scanty that the material collected by Mr. Stone is highly welcome. The measurements embrace 36 Tahltan (23 males and 13 females), 10 Loucheux from Fort McPherson (8 males and 2 females), 20 Nunatagmiut (15 males and 5 females), and 20 Koukpagmiut (14 males and 6 females). The two first-named tribes belong to the Athapascan family; the two last-named are Eskimo. The place of birth of the Nunatagmiut is given as being inland on Noatak River, in Alaska; that of the Koukpagmiut, as Kittygagzyooit, which is east of the mouth of the Mackenzie.

Mr. Stone employed the same scheme of measurements which I used in my collections for the World's Columbian Exposition. This scheme embraces twelve measurements: 1. Stature (abbreviated as St); 2. Stretch of arms (Str); 3. Height of shoulder (Sh); 4. Height of point of second finger; 4a. Length of arm (A), being the difference between 3 and 4; 5. Height sitting (Hs); 6. Width of shoulders (Wsh); 7. Length of head (Lh); 8. Breadth of head (Bh); 9. Width of face (Wf); 10. Height of face (Hf); 11. Height of nose (Hn); 12. Width of nose (Wn). Besides these, the following data are recorded in the list of measurements which is given at the end of this paper: proportion of stretch of arms, length of arm, height sitting, and width of shoulders, to stature (*IStr*, *IA*, *IHs*, *IWsh*), cephalic index (*CI*), and facial index (*IF*).

I give first a tabulation of the observation of full-blooded men recorded by Mr. Stone.

	STATURE.			STRETCH OF ARMS.			HEIGHT OF SHOULDER.			LENGTH OF ARM.			HEIGHT SITTING.			
	Tahlean.	Loucheux.	Koukpagmitut.	Tahlean.	Loucheux.	Koukpagmitut.	Tahlean.	Loucheux.	Koukpagmitut.	Tahlean.	Loucheux.	Koukpagmitut.	Tahlean.	Loucheux.	Koukpagmitut.	
155	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
156	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
157	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
158	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
159	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
160	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
161	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
162	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
163	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
164	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
165	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
166	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
167	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
168	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
169	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
170	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
171	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
172	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
174	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
176	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
177	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
178	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
179	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
180	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Number of cases.	17	7	12	11	11	11	17	7	12	11	17	7	12	11	11	
Average.	171.0	166.3	167.5	167.9	177.0	172.7	172.1	173.0	141.5	136.9	138.7	139.7	76.5	73.7	73.9	73.9
													90.3	88.1	80.3	86.8

WIDTH OF SHOULDERS.	LENGTH OF HEAD.			WIDTH OF HEAD.			HEIGHT OF FACE.			WIDTH OF FACE.			HEIGHT OF NOSE.		
	Tahltan.	Loucheux.	Koukpagamit.	Tahltan.	Loucheux.	Koukpagamit.	Tahltan.	Loucheux.	Koukpagamit.	Tahltan.	Loucheux.	Koukpagamit.	Tahltan.	Loucheux.	Koukpagamit.
34	—	—	—	135	—	—	115	—	—	135	—	—	—	—	—
35	2	2	—	136	—	—	116	—	—	136	—	—	—	—	—
36	2	2	—	137	—	—	117	—	—	137	—	—	—	—	—
37	3	2	—	138	2	—	118	—	—	138	—	—	—	—	—
38	3	1	—	139	—	—	119	—	—	139	—	—	—	—	—
39	6	2	—	140	—	—	120	—	—	140	—	—	—	—	—
40	—	—	—	141	—	—	121	—	—	141	—	—	—	—	—
41	—	—	—	142	—	—	122	—	—	142	—	—	—	—	—
				143	—	—	123	—	—	143	—	—	—	—	—
				144	—	—	124	—	—	144	—	—	—	—	—
				145	—	—	125	—	—	145	—	—	—	—	—
				146	—	—	126	—	—	146	—	—	—	—	—
				147	—	—	127	—	—	147	—	—	—	—	—
				148	—	—	128	—	—	148	—	—	—	—	—
				149	—	—	129	—	—	149	—	—	—	—	—
				150	—	—	130	—	—	150	—	—	—	—	—
				151	—	—	131	—	—	151	—	—	—	—	—
				152	—	—	132	—	—	152	—	—	—	—	—
				153	—	—	133	—	—	153	—	—	—	—	—
				154	—	—	134	—	—	154	—	—	—	—	—
				155	—	—	135	—	—	155	—	—	—	—	—
				156	—	—	136	—	—	156	—	—	—	—	—
				157	—	—	137	—	—	157	—	—	—	—	—
				158	—	—	138	—	—	158	—	—	—	—	—
				159	—	—	139	—	—	159	—	—	—	—	—
				160	—	—	140	—	—	160	—	—	—	—	—
				161	—	—	141	—	—	161	—	—	—	—	—
				162	—	—	142	—	—	162	—	—	—	—	—
				163	—	—	143	—	—	163	—	—	—	—	—
				164	—	—	144	—	—	164	—	—	—	—	—
				165	—	—	145	—	—	165	—	—	—	—	—
				166	—	—	146	—	—	166	—	—	—	—	—
				170	—	—	170	—	—	170	—	—	—	—	—
No. of cases,	17	7	12	17	7	12	17	7	12	17	7	12	17	7	12
Average,	37.7	36.9	38.4	193.2	194.3	195.2	120.2	122.9	131.5	150.9	148.6	148.0	57.2	54.3	57.0
	189.0	189.0	189.0	154.0	154.0	154.0	128.4	128.4	128.4	155.7	155.7	155.7	56.3	56.3	56.3

The number of observations is so small that no stress can be laid upon the variability of each series. Following is a condensed table of averages :

	MEN.				WOMEN.		
	Tahlan.	Loucheux.	Koukpagmiut.	Numatagmiut.	Tahlan.	Koukpagmiut.	Numatagmiut.
Stature.....	1710	1663	1675	1679	1603	1515	1556
Stretch of Arms.....	1770	1727	1721	1730	1613	1513	1592
Height of Shoulder.....	1415	1369	1387	1397	1310	1228	1284
Length of Arm.....	765	737	739	739	690	645	660
Height Sitting.....	903	881	893	868	853	812	818
Width of Shoulders. ...	377	369	384	380	350	337	342
Length of Head.....	193.2	194.3	195.2	189.0	190.7	187.8	181.0
Width of Head.....	159.5	153.1	144.0	154.5	153.3	141.5	142.6
Width of Face.....	150.9	148.6	147.8	155.7	146.0	139.7	144.6
Height of Face.....	129.2	122.9	131.5	128.4	118.7	120.8	119.8
Height of Nose.....	57.2	54.3	57.0	56.3	54.7	52.8	53.0
Width of Nose.....	35.8	38.6	38.6	37.6	34.0	33.2	33.4
Index of Stretch of Arms.	103.5	104.0	102.5	103.1	101.0	100.3	102.4
Index of Arm.....	44.9	44.4	44.0	—	43.0	42.7	42.6
Index of Height Sitting.	52.8	52.9	53.5	52.6	53.0	53.7	52.4
Index of Width of Shoulders.....	22.1	22.1	22.8	22.6	22.0	22.2	22.0
Cephalic Index.....	82.5	78.9	73.9	81.6	80.3	75.2	78.8
Cases.....	17	7	12	11	3	6	5

It would seem from these data that the sharp distinction between the physical types of the Eskimo and of the Indians, which we find all along the Arctic coast, is also well marked on the Mackenzie River. The Eskimo of that district are not as short as those of the east, a fact which has been remarked upon by many travellers.¹ They seem to be shorter, however, than the neighboring Athapascan tribes. Their heads are much less elongated than those of the eastern Eskimo, and in this respect they resemble

¹ E. Petitot: *Vocabulaire Français-Eskimau* (Paris, 1876), p. xii.

the Alaskan Eskimo.¹ Mr. Stone mentions that the Nunatagmiut were originally an inland people, and that they used to visit the coast of Bering Sea for the purpose of barter. It seems likely, therefore, that they are closely allied to the Alaskan Eskimo. Their head measurements are particularly remarkable on account of the low value of length of head and the resultant high value of breadth of head and high cephalic index.

In order to make this clearer, I have combined in the following table the cephalic indices of the whole series (children and adults, males and females), which is justifiable on account of the slight differences of the cephalic indices of individuals of the two sexes and of different ages.²

CEPHALIC INDEX.

	Tahltan.	Loucheux.	Koukpagmiut.	Nunatagmiut.
70	—	—	4	—
71	—	—	1	—
72	—	—	1	—
73	—	—	3	—
74	—	—	3	1
75	—	3	1	—
76	—	—	2	1
77	1	—	2	2
78	—	—	2	3
79	3	—	—	1
80	3	—	—	—
81	5	3	1	1
82	5	1	—	5
83	4	1	—	1
84	2	—	—	2
85	1	—	—	—
86	2	—	—	1
87	3	—	—	2
88	2	—	—	—
89	—	—	—	—
No. of cases,	31	8	20	20
Average,	82.7	79.1	73.1	81.0

¹ J. Barnard Davis: *Thesaurus Craniorum* (London, 1867), p. 224.

² F. Boas: *Zur Anthropologie der nordamerikanischen Indianer.* (Verh. d. Berl. Ges. f. Anthropol., 1895, vol. xxvii, p. 392.)

Notwithstanding this peculiarity of the Nunatagmiut, the fundamental feature of the Eskimo skull, which consists in great breadth of face as compared to narrowness of skull, is well marked. The contrast between the two Eskimo tribes and the two Indian tribes is very striking, as is illustrated by the following data.

PROPORTION OF WIDTH OF FACE AND OF HEAD.

	Tahltan.		Loucheux.		Koukpagmiut.		Nunatagmiut.	
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.
81	1	—	—	—	—	—	—	—
82	—	—	—	—	—	—	—	—
83	—	—	—	—	—	—	—	—
84	—	—	—	—	—	—	—	—
85	—	—	—	—	—	—	—	—
86	—	—	—	—	—	—	—	—
87	1	—	—	—	—	—	—	—
88	—	—	—	—	—	—	—	—
89	1	—	—	—	—	—	—	—
90	—	—	—	—	—	—	—	—
91	—	—	—	—	—	—	—	—
92	—	1	—	1	—	—	1	—
93	1	2	2	—	—	—	—	—
94	1	—	—	—	—	—	—	—
95	4	1	—	—	—	—	—	—
96	3	—	1	—	—	1	1	—
97	2	—	1	—	1	1	—	—
98	—	—	—	—	—	1	—	—
99	1	1	2	—	3	1	2	2
100	—	—	—	—	—	—	1	1
101	1	—	1	—	1	1	1	—
102	1	—	—	—	—	—	3	—
103	—	—	—	—	1	1	1	—
104	—	—	—	—	2	—	—	—
105	—	—	—	—	1	—	—	2
106	—	—	—	—	2	—	1	—
107	—	—	—	—	—	—	1	—
108	—	—	—	—	—	—	—	—
109	—	—	—	—	1	—	—	—
No. of cases,	17	5	7	1	12	6	12	5
Average.	94.8	94.4	96.9	—	102.7	99.0	100.8	101.6

The same features are characteristic of Eskimo skulls of other regions, with the exception of Labrador and Greenland, where there is a strong admixture of white blood. In the following

table I give the width of head and face and the proportions as recorded by various authors.

	Breadth of Head.	Breadth of Face.	Breadth of Face divided by Breadth of Head.
Skulls. Herschell Island ¹	137	139	101
“ Greenland, ² 5 Men.....	140	147	105
“ “ 5 Women.....	130	130	100
“ West Coast of Baffin Bay, ³ 5 Men.....	135	137	102
“ West Coast of Baffin Bay, 2 Women.....	132	124	94
“ Alaska, ⁴ 4 Men.....	135	140	104
“ East Greenland, ⁵ 15.....	133	136	102
“ Smith Sound, ⁶ 85.....	130	133	102
Heads. Labrador, ⁷ 3 Men.....	149	147	99
“ “ 2 Women.....	137	134	98
“ “ 8 to 10 Men.....	149	142	95
“ West Greenland (half-bloods), ⁸ Men.....	148.5	141.3	95
“ West Greenland (half-bloods), Women.....	142.3	136.3	96

Measurements of other dolichocephalic skulls, such as are given in Barnard Davis's 'Thesaurus Craniorum,' do not show this peculiar feature. In other narrow-headed American types the following values for width of head and of face were found :

	Breadth of Head.	Breadth of Face.	Breadth of Face divided by Breadth of Head.
Skulls. Caves of Coahuila, Mexico, ¹⁰ 16 Males.....	135	133	99
“ Tarahumare, ¹¹ 25 Males...	137	134	98
“ Prehistoric, from Southern Utah, ¹¹ 21.....	131	134	102

¹ Frank Russell : Explorations in the Far North (University of Iowa, 1898), p. 200.

² J. Barnard Davis : Thesaurus Craniorum (London, 1867), p. 221.

³ *Ibid.*, p. 222.

⁴ *Ibid.*, p. 223.

⁵ Bulletin de la Société d'Anthropologie, III. Series, vol. ix, p. 616.

⁶ Archiv für Anthropologie, 1875, vol. viii., p. 107.

⁷ R. Virchow : Eskimos von Labrador. (Verh. d. Berl. Ges. für Anthr., 1880, vol. xii, p. 272.)

⁸ Measurements obtained for me by Prof. L. S. Lee of Bowdoin College in 1891.

⁹ Søren Hansen : Bidrag til Vestgrønlændernes Anthropologi. (Meddelelser om Grønland, No. 7, 1893, pp. 210, 218.)

¹⁰ Cordelia A. Studley : Notes upon Human Remains from the Caves of Coahuila, Mexico. (XVI. Report of the Peabody Museum of American Archaeology and Ethnology, Cambridge, 1883, pp. 252-259.)

¹¹ According to data kindly furnished me by Dr. A. Hrdlička.

It appears from these data, that, although this index is high among the tribes of the Southwest, narrowness of skull is not necessarily correlated with great breadth of face.

The Tahltan and Loucheux resemble the type of the northern coast of British Columbia,¹ as the following table of average measurements of men will show.

	Northern Coast of British Columbia.	Tahltan.	Chilcotin.
Stature.....	1675	171	165
Length of Head.....	195	193	187
Breadth of Head.....	161	160	159
Breadth of Face.....	154	151	148
Height of Face.....	122	129	124

I am inclined to think that this very high value of height of face is due to a peculiarity of Mr. Stone's method of measurement, since it exceeds all known values of this measurement from the Pacific coast. The same is probably true of the height of the nose. I have also given in the table the measurements of Chilcotin Indians.² It appears that these, although belonging to the Athapascan linguistic stock, are more closely allied in type to the Salish tribes of the interior of British Columbia than to other northern Athapascans.

LIST OF MEASUREMENTS.

TAHLTAN.

I. Males.

- Age 9, Jack. — St 1270 Str 880 Sh 1002 A 522 Hs 670 Wsh 270 — Lh 176 Bh 153 Wf 137 Hf 113 Hn 46 Wn 27 — *I*Str 69.3 *IA* 41.1 *I*Hs 52.8 *I*Wsh 21.3 — *CI* 87.0 *IF* 82.5.
- Age 12, Archie. — St 1395 Str 1400 Sh 1135 A 590 Hs 742 Wsh 290 — Lh 192 Bh 151 Wf 134 Hf 115 Hn 48 Wn 28 — *I*Str 100.4 *IA* 42.4 *I*Hs 53.4 *I*Wsh 20.9 — *CI* 78.6 *IF* 85.8.
- Age 18, Ned. — St 1642 Str 1720 Sh 1355 A 730 Hs 867 Wsh 320 — Lh 186 Bh 154 Wf 140 Hf 123 Hn 54 Wn 34 — *I*Str 104.8 *IA* 44.5 *I*Hs 52.9 *I*Wsh 19.5 — *CI* 82.8 *IF* 87.9.

¹ Twelfth and Final Report on the Northwestern Tribes of Canada. (British Association for the Advancement of Science, 1898, p. 15.)

² *Ibid.*, pp. 3 ff.

4. Age 20, Bill. — St 1720 Str 1782 Sh 1430 A 768 Hs 842 Wsh 362 — Lh 196 Bh 170 Wf 148 Hf 126 Hn 56 Wn 34 — *I*Str 103.6 *IA* 44.7 *I*Hs 49.0 *I*Wsh 21.0 — *CI* 86.7 *IF* 85.1.
5. Age 20, Bear Lake Jim. — St 1735 Str 1800 Sh 1430 A 760 Hs 902 Wsh 372 — Lh 186 Bh 164 Wf 146 Hf 133 Hn 55 Wn 36 — *I*Str 103.7 *IA* 43.7 *I*Hs 51.8 *I*Wsh 21.4 — *CI* 88.2 *IF* 91.1.
6. Age 22, Tudeek. — St 1732 Str 1800 Sh 1425 A 765 Hs 880 Wsh 387 — Lh 200 Bh 162 Wf 160 Hf 132 Hn 53 Wn 34 — *I*Str 104.0 *IA* 44.2 *I*Hs 50.9 *I*Wsh 22.4 — *CI* 81.0 *IF* 82.5.
7. Age 22, M. Clusky. — St 1710 Str 1730 Sh 1410 A 728 Hs 920 Wsh 397 — Lh 189 Bh 155 Wf 150 Hf 135 Hn 58 Wn 39 — *I*Str 101.2 *IA* 42.6 *I*Hs 53.8 *I*Wsh 23.2 — *CI* 82.0 *IF* 89.9.
8. Age 22, Dennis. — St 1710 Str 1720 Sh 1430 A 790 Hs 912 Wsh 370 — Lh 197 Bh 160 Wf 152 Hf 132 Hn 59 Wn 33 — *I*Str 100.6 *IA* 46.2 *I*Hs 53.3 *I*Wsh 21.6 — *CI* 81.2 *IF* 86.8.
9. Age 27, Lonie. — St 1735 Str 1835 Sh 1435 A 770 Hs 925 Wsh 385 — Lh 199 Bh 161 Wf 154 Hf 133 Hn 59 Wn 37 — *I*Str 105.8 *IA* 44.5 *I*Hs 53.5 *I*Wsh 22.3 — *CI* 80.9 *IF* 86.4.
10. Age 27, Jackson. — St 1700 Str 1760 Sh 1400 A 760 Hs 900 Wsh 385 — Lh 188 Bh 155 Wf 148 Hf 134 Hn 54 Wn 33 — *I*Str 103.5 *IA* 44.7 *I*Hs 52.9 *I*Wsh 22.6 — *CI* 82.4 *IF* 90.5.
11. Age 27, George. — St 1730 Str 1800 Sh 1450 A 793 Hs 917 Wsh 360 — Lh 193 Bh 155 Wf 146 Hf 122 Hn 55 Wn 32 — *I*Str 104.0 *IA* 45.8 *I*Hs 53.0 *I*Wsh 20.8 — *CI* 80.3 *IF* 83.6.
12. Age 27, Harry Berkley. — St 1665 Str 1770 Sh 1385 A 760 Hs 885 Wsh 370 — Lh 190 Bh 160 Wf 152 Hf 126 Hn 60 Wn 35 — *I*Str 106.3 *IA* 45.5 *I*Hs 53.0 *I*Wsh 22.2 — *CI* 84.2 *IF* 82.9.
13. Age 30, Larry Martin. — St 1650 Str 1720 Sh 1360 A 753 Hs 907 Wsh 390 — Lh 189 Bh 151 Wf 154 Hf 128 Hn 61 Wn 38 — *I*Str 104.2 *IA* 45.6 *I*Hs 55.0 *I*Wsh 23.6 — *CI* 79.9 *IF* 83.1.
14. Age 30, Packen Johnie. — St 1760 Str 1850 Sh 1450 A 805 Hs 930 Wsh 355 — Lh 193 Bh 166 Wf 135 Hf 119 Hn 54 Wn 35 — *I*Str 105.1 *IA* 45.7 *I*Hs 52.8 *I*Wsh 20.2 — *CI* 86.0 *IF* 88.1.
15. Age 34, Dandy Jim. — St 1730 Str 1760 Sh 1435 A 778 Hs 955 Wsh 380 — Lh 195 Bh 166 Wf 155 Hf 132 Hn 64 Wn 40 — *I*Str 101.7 *IA* 45.0 *I*Hs 55.2 *I*Wsh 22.0 — *CI* 85.1 *IF* 85.2.
16. Age 35, Jackson. — St 1710 Str 1760 Sh 1422 A 762 Hs 915 Wsh 395 — Lh 197 Bh 160 Wf 154 Hf 138 Hn 59 Wn 36 — *I*Str 103.0 *IA* 44.6 *I*Hs 53.5 *I*Wsh 23.1 — *CI* 81.2 *IF* 89.6.
17. Age 36, Benny. — St 1690 Str 1800 Sh 1395 A 770 Hs 900 Wsh 390 — Lh 191 Bh 151 Wf 144 Hf 122 Hn 55 Wn 35 — *I*Str 106.5 *IA* 45.6 *I*Hs 53.3 *I*Wsh 23.1 — *CI* 79.1 *IF* 84.7.
18. Age 37, Ches-ul-ta. — St 1660 Str 1665 Sh 1380 A 708 Hs 880 Wsh 375 — Lh 192 Bh 154 Wf 150 Hf 131 Hn 53 Wn 36 — *I*Str 100.3 *IA* 42.7 *I*Hs 53.0 *I*Wsh 22.6 — *CI* 80.2 *IF* 87.3.

II. *Females.*

19. Age 4, Lonie. — St 927 Str 940 Sh 702 A 387 Hs 510 Wsh 215 —
Lh 163 Bh 134 Wf 111 Hf 81 Hn 35 Wn 22 — *I*Str 101.4 *IA*
42.1 *I*Hs 55.4 *I*Wsh 23.4 — *CI* 82.8 *IF* 73.0.
20. Age 8, Maggie. — St 1140 Str 1150 Sh 890 A 495 Hs 615 Wsh 250
— Lh 168 Bh 114 Wf 118 Hf 98 Hn 50 Wn 25 — *I*Str 100.9 *IA*
43.4 *I*Hs 54.0 *I*Wsh 22.0 — *CI* 67.9 *IF* 83.1.
21. Age 14, Emma. — St 1472 Str 1470 Sh 1170 A 615 Hs 790 Wsh 320
— Lh 189 Bh 156 Wf 134 Hf 111 Hn 54 Wn 29 — *I*Str 99.8 *IA*
41.8 *I*Hs 53.7 *I*Wsh 21.8 — *CI* 82.5 *IF* 82.8.
22. Age 14, Susie. — St 1510 Str 1560 Sh 1235 A 668 Hs 740 Wsh 315
— Lh 180 Bh 155 Wf 139 Hf 111 Hn 47 Wn 33 — *I*Str 103.3
IA 44.2 *I*Hs 49.0 *I*Wsh 20.9 — *CI* 86.1 *IF* 79.9.
23. Age 15, Annie. — St 1510 Str 1540 Sh 1265 A 670 Hs 825 Wsh 307
— Lh 180 Bh 147 Wf 136 Hf 113 Hn 49 Wn 31 — *I*Str 102.0
IA 44.4 *I*Hs 54.6 *I*Wsh 20.3 — *CI* 81.7 *IF* 83.1.
24. Age 15, Ya't, seq. — St 1540 Str 1630 Sh 1262 A 692 Hs 795 Wsh
345 — Lh 176 Bh 154 Wf 143 Hf 114 Hn 52 Wn 33 — *I*Str 105.8
IA 44.9 *I*Hs 51.6 *I*Wsh 22.4 — *CI* 87.5 *IF* 79.7.
25. Age 16, Lizzie. — St 1600 Str 1610 Sh 1300 A 688 Hs 872 Wsh 360
— Lh 186 Bh 153 Wf 145 Hf 113 Hn 49 Wn 32 — *I*Str 100.7
IA 43.0 *I*Hs 54.5 *I*Wsh 22.5 — *CI* 82.3 *IF* 77.9.
26. Age 18, Kittie. — St 1665 Str 1720 Sh 1387 A 730 Hs 877 Wsh 370
— Lh 183 Bh 154 Wf 143 Hf 120 Hn 49 Wn 35 — *I*Str 103.3
IA 44.0 *I*Hs 52.8 *I*Wsh 22.3 — *CI* 84.2 *IF* 83.9.
27. Age 20, Matilda Campbell. — St 1640 Str 1700 Sh 1350 A 713 Hs 877
Wsh 365 — Lh 186 Bh 155 Wf 153 Hf 117 Hn 51 Wn 33 — *I*Str
103.7 *IA* 43.5 *I*Hs 53.5 *I*Wsh 22.3 — *CI* 83.3 *IF* 76.5.
28. Age 22, Lucy. — St 1640 Str 1600 Sh 1335 A 698 Hs 860 Wsh 360
— Lh 198 Bh 160 Wf 147 Hf 122 Hn 60 Wn 36 — *I*Str 97.6 *IA*
42.6 *I*Hs 52.4 *I*Wsh 22.0 — *CI* 80.8 *IF* 83.0.
29. Age 35, Susie. — St 1525 Str 1540 Sh 1250 A 663 Hs 820 Wsh 332
— Lh 188 Bh 145 Wf 138 Hf 117 Hn 53 Wn 33 — *I*Str 101.0 *IA*
43.3 *I*Hs 53.6 *I*Wsh 21.7 — *CI* 77.1 *IF* 84.8.

TAHLTAN HALF-BLOODS.

I. *Males.*

30. Age 21, George Williams. — St 1690 Str 1720 Sh 1400 A 775 Hs 910
Wsh 350 — Lh 180 Bh 170 Wf 146 Hf 118 Hn 54 Wn 34 — *I*Str
101.8 *IA* 45.9 *I*Hs 53.8 *I*Wsh 20.7 — *CI* 94.4 *IF* 80.8.
31. Age 24, Johnie Campbell. — St 1670 Str 1750 Sh 1405 A 785 Hs 930
Wsh 405 — Lh 188 Bh 159 Wf 145 Hf 134 Hn 67 Wn 34 —
*I*Str 104.8 *IA* 47.0 *I*Hs 55.7 *I*Wsh 24.3 — *CI* 84.6 *IF* 92.4.
32. Age 25, George Campbell. — St 1695 Str 1810 Sh 1412 A 767 Hs 915
Wsh 410 — Lh 188 Bh 161 Wf 154 Hf 123 Hn 52 Wn 37 — *I*Str
106.8 *IA* 45.4 *I*Hs 54.1 *I*Wsh 24.3 — *CI* 85.6 *IF* 79.9

33. Age 32, John. — St 1750 Str 1840 Sh 1445 A 780 Hs 905 Wsh 392
— Lh 204 Bh 161 Wf 162 Hf 134 Hn 58 Wn 40 — *I*Str 105.1
IA 44.6 *I*Hs 51.7 *I*Wsh 22.4 — *CI* 79.0 *IF* 82.7.
34. Age 33, Charley. — St 1682 Str 1700 Sh 1390 A 748 Hs 882 Wsh
352 — Lh 186 Bh 161 Wf 155 Hf 120 Hn 59 Wn 36 — *I*Str
101.1 *IA* 44.5 *I*Hs 52.5 *I*Wsh 21.0 — *CI* 86.6 *IF* 77.4.

II. *Females.*

35. Age 25, Lucy. — St 1650 Str 1620 Sh 1390 A 705 Hs 860 Wsh 327
— Lh 185 Bh 154 Wf 143 Hf 124 Hn 53 Wn 33 — *I*Str 98.2
IA 42.7 *I*Hs 52.1 *I*Wsh 19.8 — *CI* 83.2 *IF* 86.7.
36. Age 25, Mary. — St 1602 Str 1625 Sh 1332 A 685 Hs 817 Wsh 327
— Lh 180 Bh 146 Wf 139 Hf 111 Hn 50 Wn 27 — *I*Str 101.4
IA 42.8 *I*Hs 51.1 *I*Wsh 20.4 — *CI* 81.1 *IF* 79.9.

LOUCHEUX.

I. *Males.*

1. Age 21, Peter. — St 1570 Str 1630 Sh 1302 A 690 Hs 842 Wsh 355
— Lh 192 Bh 155 Wf 145 Hf 130 Hn 57 Wn 40 — *I*Str 103.8
IA 44.0 *I*Hs 53.6 *I*Wsh 22.6 — *CI* 80.7 *IF* 89.7.
2. Age 22, Samuel Simple. — St 1630 Str 1740 Sh 1360 A 753 Hs 830
Wsh 355 — Lh 192 Bh 156 Wf 145 Hf 118 Hn 52 Wn 38 — *I*Str
106.7 *IA* 46.2 *I*Hs 51.0 *I*Wsh 21.8 — *CI* 81.2 *IF* 81.4.
3. Age 22, Ike. — St 1690 Str 1720 Sh 1400 A 743 Hs 885 Wsh 375 —
Lh 193 Bh 158 Wf 152 Hf 122 Hn 54 Wn 39 — *I*Str 101.8 *IA*
44.0 *I*Hs 52.4 *I*Wsh 22.2 — *CI* 81.9 *IF* 80.3. (Plate VII.)
4. Age 27, Enoch. — St 1705 Str 1760 Sh 1400 A 750 Hs 910 Wsh 365
— Lh 186 Bh 154 Wf 150 Hf 125 Hn 56 Wn 40 — *I*Str 103.2
IA 43.9 *I*Hs 53.2 *I*Wsh 21.3 — *CI* 82.8 *IF* 83.4.
5. Age 30, William. — St 1730 Str 1700 Sh 1422 A 752 Hs 940 Wsh
352 — Lh 197 Bh 148 Wf 147 Hf 123 Hn 56 Wn 35 — *I*Str 98.3
IA 43.5 *I*Hs 54.3 *I*Wsh 20.3 — *CI* 75.1 *IF* 83.7.
6. Age 33, Albert Jutely. — St 1690 Str 1830 Sh 1400 A 775 Hs 890
Wsh 387 — Lh 193 Bh 145 Wf 146 Hf 116 Hn 53 Wn 38 — *I*Str
108.3 *IA* 45.9 *I*Hs 52.7 *I*Wsh 22.9 — *CI* 75.1 *IF* 79.5.
7. Age 45, Peter Rose. — St 1622 Str 1715 Sh 1305 A 705 Hs 865 Wsh
395 — Lh 207 Bh 156 Wf 155 Hf 126 Hn 52 Wn 40 — *I*Str
105.7 *IA* 43.5 *I*Hs 53.4 *I*Wsh 24.4 — *CI* 75.4 *IF* 81.3.

II. *Females.*

8. Age 35, Mrs. McDonald. — St 1537 Str 1660 Sh 1322 A 727 Hs 807
Wsh 330 — Lh 185 Bh 156 Wf 144 Hf 120 Hn 51 Wn 35 — *I*Str
108.0 *IA* 47.2 *I*Hs 52.4 *I*Wsh 21.4 — *CI* 84.3 *IF* 83.3.

LOUCHEUX HALF-BLOODS.

I. *Males.*

9. Age 21, Johnie Stuart. — St 1530 Str 1655 Sh 1260 A 710 Hs 810
Wsh 340 — Lh 182 Bh 149 Wf 144 Hf 123 Hn 48 Wn 35 — *I*Str
108.2 *IA* 46.4 *I*Hs 53.0 *I*Wsh 22.2 — *CI* 81.9 *IF* 85.4.

II. *Females.*

10. Age 13, Mary McDonald. — St 1515 Str 1557 Sh 1252 A 697 Hs 772
Wsh 310 — Lh 180 Bh 146 Wf 140 Hf 105 Hn 48 Wn 30 — *I*Str
102.8 *IA* 45.9 *I*Hs 50.8 *I*Wsh 20.4 — *CI* 81.1 *IF* 75.0.

NUNATAGMIUT.

I. *Males.*

1. Age 14, Tagakarook. — St 1485 Str 1430 Sh 1227 A 620 Hs 757 Wsh
310 — Lh 176 Bh 152 Wf 136 Hf 115 Hn 51 Wn 32 — *I*Str 96.6
IA 41.9 *I*Hs 51.1 *I*Wsh 20.9 — *CI* 86.4 *IF* 84.6.
2. Age 14, Toorarak. — St 1452 Str 1450 Sh 1180 A 628 Hs 787 Wsh
335 — Lh 176 Bh 145 Wf 136 Hf 118 Hn 51 Wn 32 — *I*Str 99.8
IA 43.3 *I*Hs 54.3 *I*Wsh 23.1 — *CI* 82.4 *IF* 86.8.
3. Age 19, Okpik. — St 1650 Str 1670 Sh 1382 A 722 Hs 817 Wsh 320
— Lh 183 Bh 151 Wf 142 Hf 124 Hn 56 Wn 34 — *I*Str 101.2
IA 43.8 *I*Hs 49.5 *I*Wsh 19.4 — *CI* 82.5 *IF* 87.3.
4. Age 20, Cheerok. — St 1700 Str 1780 Sh 1395 A 763 Hs 850 Wsh 390
— Lh 183 Bh 154 Wf 154 Hf 122 Hn 55 Wn 39 — *I*Str 104.7
IA 44.9 *I*Hs 50.1 *I*Wsh 22.9 — *CI* 84.2 *IF* 79.2.
5. Age 22, Nugaheenyuk. — St 1650 Str 1705 Sh 1375 A 735 Hs 870
Wsh 350 — Lh 183 Bh 145 Wf 144 Hf 125 Hn 56 Wn 38 — *I*Str
103.3 *IA* 44.5 *I*Hs 52.7 *I*Wsh 21.2 — *CI* 79.2 *IF* 86.8.
6. Age 24, Ouik. — St 1730 Str 1762 Sh 1430 A 730 Hs 902 Wsh 380
— Lh 189 Bh 165 Wf 152 Hf 132 Hn 56 Wn 31 — *I*Str 101.9
IA 42.2 *I*Hs 52.1 *I*Wsh 22.0 — *CI* 87.3 *IF* 86.8.
7. Age 30, Kunik. — St 1615 Str 1695 Sh 1385 A 720 Hs 852 Wsh 385
— Lh 186 Bh 154 Wf 157 Hf 115 Hn 49 Wn 41 — *I*Str 105.0
IA 44.7 *I*Hs 52.9 *I*Wsh 23.9 — *CI* 82.8 *IF* 73.2.
8. Age 35, Kagiktuk. — St 1655 Str 1720 Sh 1370 A 735 Hs 890 Wsh
395 — Lh 189 Bh 156 Wf 159 Hf 128 Hn 60 Wn 36 — *I*Str 104.0
IA 44.3 *I*Hs 53.6 *I*Wsh 23.8 — *CI* 82.5 *IF* 80.5.
9. Age 36, Kop Kana. — St 1672 Str 1710 Sh 1405 A 740 Hs 825 Wsh
392 — Lh 199 Bh 156 Wf 155 Hf 131 Hn 54 Wn 39 — *I*Str 102.3
IA 44.3 *I*Hs 59.4 *I*Wsh 23.5 — *CI* 78.4 *IF* 84.5.
10. Age 38, Nughuk. — St 1700 Str 1730 Sh 1405 A 755 Hs 900 Wsh
382 — Lh 186 Bh 153 Wf 158 Hf 122 Hn 58 Wn 34 — *I*Str 101.8
IA 44.4 *I*Hs 52.9 *I*Wsh 22.5 — *CI* 82.3 *IF* 77.2.

11. Age 40, Nowreuk. — St 1630 Str 1690 Sh 1360 A 710 Hs 840 Wsh 340—Lh 197 Bh 159 Wf 153 Hf 132 Hn 59 Wn 36—*I*Str 103.7
IA 43.6 *I*Hs 51.5 *I*Wsh 20.9—*CI* 80.7 *IF* 86.3.
12. Age 44, Neuk. — St 1725 Str 1790 Sh 1430 A 770 Hs 885 Wsh 412—Lh 199 Bh 152 Wf 162 Hf 141 Hn 60 Wn 41—*I*Str 103.8
IA 44.8 *I*Hs 51.5 *I*Wsh 24.0—*CI* 76.4 *IF* 87.0.
13. Age 45, Tooruk. — St 1740 Str 1740 Sh 1450 A 750 Hs 887 Wsh 367—Lh 182 Bh 153 Wf 164 Hf 133 Hn 56 Wn 37—*I*Str 100.0
IA 43.1 *I*Hs 51.0 *I*Wsh 21.1—*CI* 84.1 *IF* 81.1.
14. Age 50, Edgillik. — St 1660 Str 1710 Sh 1370 A 725 Hs 855 Wsh 390—Lh 186 Bh 153 Wf 155 Hf 131 Hn 56 Wn 42—*I*Str 103.0
IA 43.7 *I*Hs 51.5 *I*Wsh 23.5—*CI* 82.3 *IF* 84.5.
15. Age 60, Anatlook (Jags). — St 1742 Str 1720 Sh 1450 A 755 Hs 915 Wsh 375—Lh 191 Bh 147 Wf 150 Hf 125 Hn 56 Wn 39—*I*Str 98.9
IA 43.4 *I*Hs 52.6 *I*Wsh 21.6—*CI* 77.0 *IF* 83.3.

II. *Females.*

16. Age 27, Kappak. — St 1590 Str 1600 Sh 1325 A 685 Hs 825 Wsh 330—Lh 186 Bh 138 Wf 136 Hf 125 Hn 51 Wn 29—*I*Str 100.6
IA 43.1 *I*Hs 51.9 *I*Wsh 20.8—*CI* 74.2 *IF* 91.9.
17. Age 33, Iloonuk. — St 1550 Str 1560 Sh 1280 A 630 Hs 820 Wsh 365—Lh 178 Bh 155 Wf 155 Hf 115 Hn 50 Wn 33—*I*Str 100.6
IA 40.6 *I*Hs 52.9 *I*Wsh 23.5—*CI* 87.1 *IF* 74.2.
18. Age 33, Pa nuchuk. — St 1535 Str 1500 Sh 1275 A 640 Hs 815 Wsh 325—Lh 176 Bh 135 Wf 142 Hf 113 Hn 52 Wn 36—*I*Str 97.4
IA 41.6 *I*Hs 52.9 *I*Wsh 21.1—*CI* 76.7 *IF* 79.6.
19. Age 35, Atakok. — St 1480 Str 1540 Sh 1202 A 642 Hs 785 Wsh 320—Lh 179 Bh 140 Wf 147 Hf 122 Hn 57 Wn 37—*I*Str 104.1
IA 43.4 *I*Hs 53.1 *I*Wsh 21.6—*CI* 78.2 *IF* 83.0.
20. Age 35, Kayak. — St 1620 Str 1760 Sh 1342 A 712 Hs 835 Wsh 375—Lh 186 Bh 145 Wf 143 Hf 124 Hn 55 Wn 32—*I*Str 108.6
IA 44.0 *I*Hs 51.5 *I*Wsh 23.1—*CI* 78.0 *IF* 86.7.

KOUKPAAGMIUT.

I. *Males.*

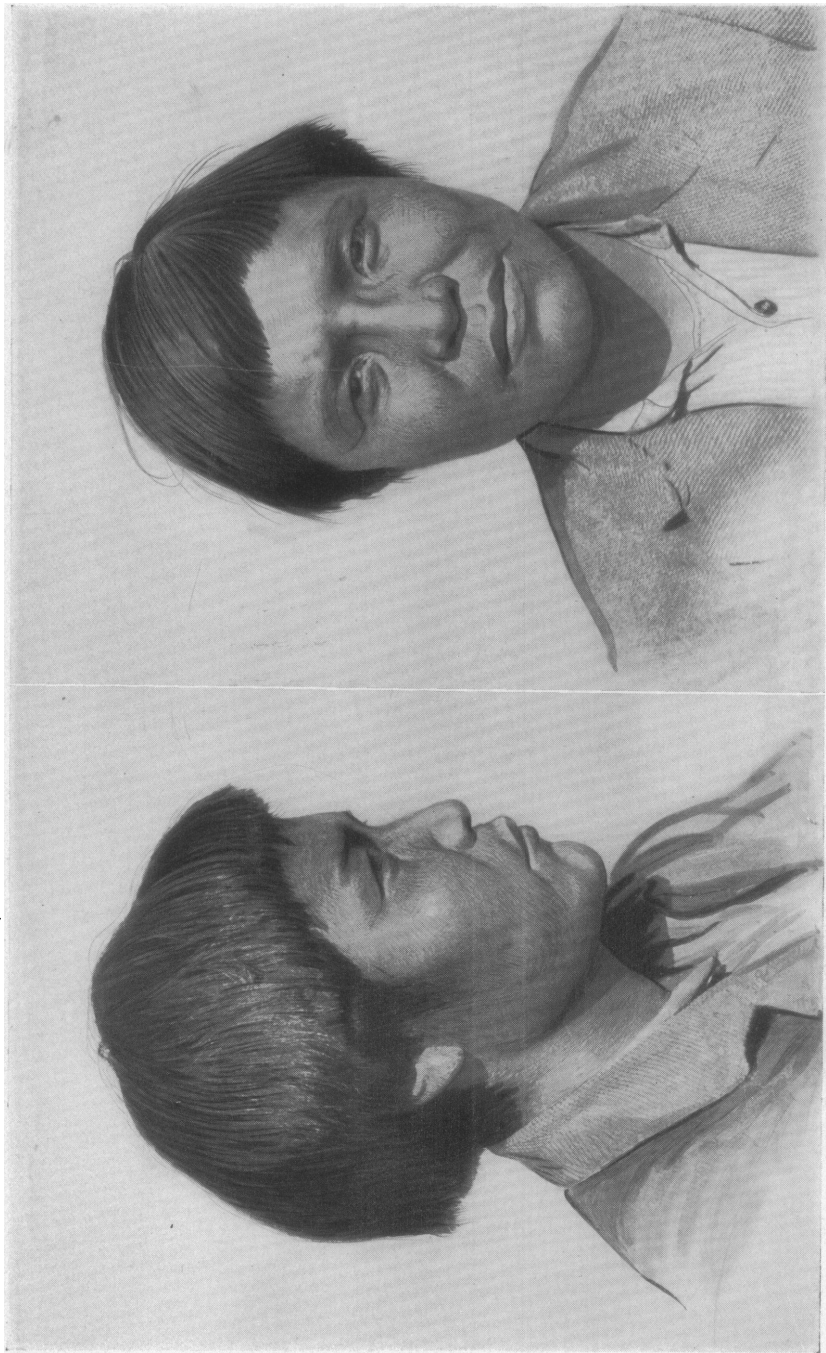
1. Age 15, Cheechuk. — St 1565 Str 1585 Sh 1285 A 690 Hs 840 Wsh 350—Lh 196 Bh 137 Wf 145 Hf 120 Hn 57 Wn 36—*I*Str 101.3
IA 44.2 *I*Hs 53.8 *I*Wsh 22.4—*CI* 69.9 *IF* 82.8.
2. Age 17, Napuktuna. — St 1605 Str 1540 Sh 1340 A 728 Hs 820 Wsh 335—Lh 189 Bh 140 Wf 134 Hf 126 Hn 55 Wn 36—*I*Str 96.3
IA 45.5 *I*Hs 51.3 *I*Wsh 20.9—*CI* 74.1 *IF* 94.0.
3. Age 20, Kaatoook. — St 1725 Str 1700 Sh 1395 A 705 Hs 932 Wsh 410—Lh 202 Bh 150 Wf 148 Hf 134 Hn 54 Wn 35—*I*Str 98.2
IA 40.8 *I*Hs 53.9 *I*Wsh 23.7—*CI* 76.7 *IF* 90.5.

4. Age 38, Noolookonua. — St 1615 Str 1655 Sh 1360 A 750 Hs 870
Wsh 360 — Lh 192 Bh 137 Wf 143 Hf 120 Hn 55 Wn 37 — *I*Str
102.5 *IA* 46.3 *I*Hs 53.7 *I*Wsh 22.2 — *CI* 71.4 *IF* 83.9.
5. Age 38, Pokik. — St 1595 Str 1690 Sh 1300 A 710 Hs 850 Wsh 380
— Lh 203 Bh 147 Wf 156 Hf 132 Hn 60 Wn 40 — *I*Str 105.9
IA 44.4 *I*Hs 53.1 *I*Wsh 23.8 — *CI* 72.4 *IF* 84.6.
6. Age 39, Kooatook. — St 1687 Str 1680 Sh 1400 A 735 Hs 925 Wsh
390 — Lh 192 Bh 150 Wf 146 Hf 120 Hn 52 Wn 36 — *I*Str 99.4
IA 43.5 *I*Hs 54.7 *I*Wsh 23.1 — *CI* 78.1 *IF* 82.2.
7. Age 40, Takutsakin. — St 1740 Str 1830 Sh 1465 A 805 Hs 912 Wsh
380 — Lh 197 Bh 144 Wf 151 Hf 131 Hn 59 Wn 37 — *I*Str 105.2
IA 46.3 *I*Hs 52.4 *I*Wsh 21.8 — *CI* 73.1 *IF* 86.8.
8. Age 40, Ok Kowyak. — St 1700 Str 1800 Sh 1450 A 765 Hs 902 Wsh
412 — Lh 200 Bh 141 Wf 154 Hf 141 Hn 61 Wn 39 — *I*Str 105.9
IA 45.0 *I*Hs 53.1 *I*Wsh 24.2 — *CI* 70.5 *IF* 91.6.
9. Age 40, Koloochook. — St 1650 Str 1680 Sh 1335 A 700 Hs 922 Wsh
370 — Lh 189 Bh 138 Wf 143 Hf 143 Hn 61 Wn 40 — *I*Str 101.8
IA 42.4 *I*Hs 55.9 *I*Wsh 22.4 — *CI* 73.0 *IF* 100.0.
10. Age 40, Kaiyoon. — St 1645 Str 1650 Sh 1342 A 722 Hs 860 Wsh
375 — Lh 193 Bh 144 Wf 149 Hf 126 Hn 50 Wn 41 — *I*Str 100.3
IA 44.0 *I*Hs 52.4 *I*Wsh 22.9 — *CI* 74.6 *IF* 84.6.
11. Age 41, Osliyook. — St 1640 Str 1680 Sh 1335 A 710 Hs 892 Wsh
400 — Lh 191 Bh 148 Wf 147 Hf 123 Hn 52 Wn 42 — *I*Str 102.4
IA 43.3 *I*Hs 54.4 *I*Wsh 24.4 — *CI* 77.5 *IF* 83.7.
12. Age 43, Toguktoo. — St 1795 Str 1802 Sh 1515 A 768 Hs 932 Wsh
400 — Lh 193 Bh 146 Wf 155 Hf 136 Hn 59 Wn 38 — *I*Str 100.4
IA 42.9 *I*Hs 52.1 *I*Wsh 22.3 — *CI* 75.6 *IF* 87.7.
13. Age 50, Killaakilook. — St 1702 Str 1765 Sh 1432 A 772 Hs 937
Wsh 400 — Lh 199 Bh 148 Wf 147 Hf 143 Hn 63 Wn 38 — *I*Str
103.7 *IA* 45.4 *I*Hs 55.1 *I*Wsh 23.5 — *CI* 74.4 *IF* 97.3.
14. Age 52, Maakilook. — St 1600 Str — Sh 1320 A 733 Hs 837 Wsh
340 — Lh 192 Bh 135 Wf 137 Hf 129 Hn 57 Wn 40 — *I*Str —
IA 45.8 *I*Hs 52.3 *I*Wsh 21.3 — *CI* 70.3 *IF* 94.2.

II. *Females.*

15. Age 23, Taabuts. — St 1497 Str 1480 Sh 1205 A 620 Hs 797 Wsh
345 — Lh 186 Bh 138 Wf 135 Hf 117 Hn 51 Wn 31 — *I*Str 98.7
IA 41.3 *I*Hs 53.1 *I*Wsh 23.0 — *CI* 74.2 *IF* 86.7.
16. Age 33, Illookotchulook. — St 1470 Str 1480 Sh 1190 A 650 Hs 790
Wsh 330 — Lh 191 Bh 140 Wf 134 Hf 118 Hn 52 Wn 33 — *I*Str
100.7 *IA* 44.2 *I*Hs 53.7 *I*Wsh 22.4 — *CI* 73.3 *IF* 88.1.
17. Age 37, Ikowik. — St 1550 Str 1520 Sh 1265 A 645 Hs 845 Wsh
330 — Lh 184 Bh 142 Wf 146 Hf 119 Hn 47 Wn 34 — *I*Str 98.1
IA 41.6 *I*Hs 54.5 *I*Wsh 21.3 — *CI* 77.2 *IF* 81.5.

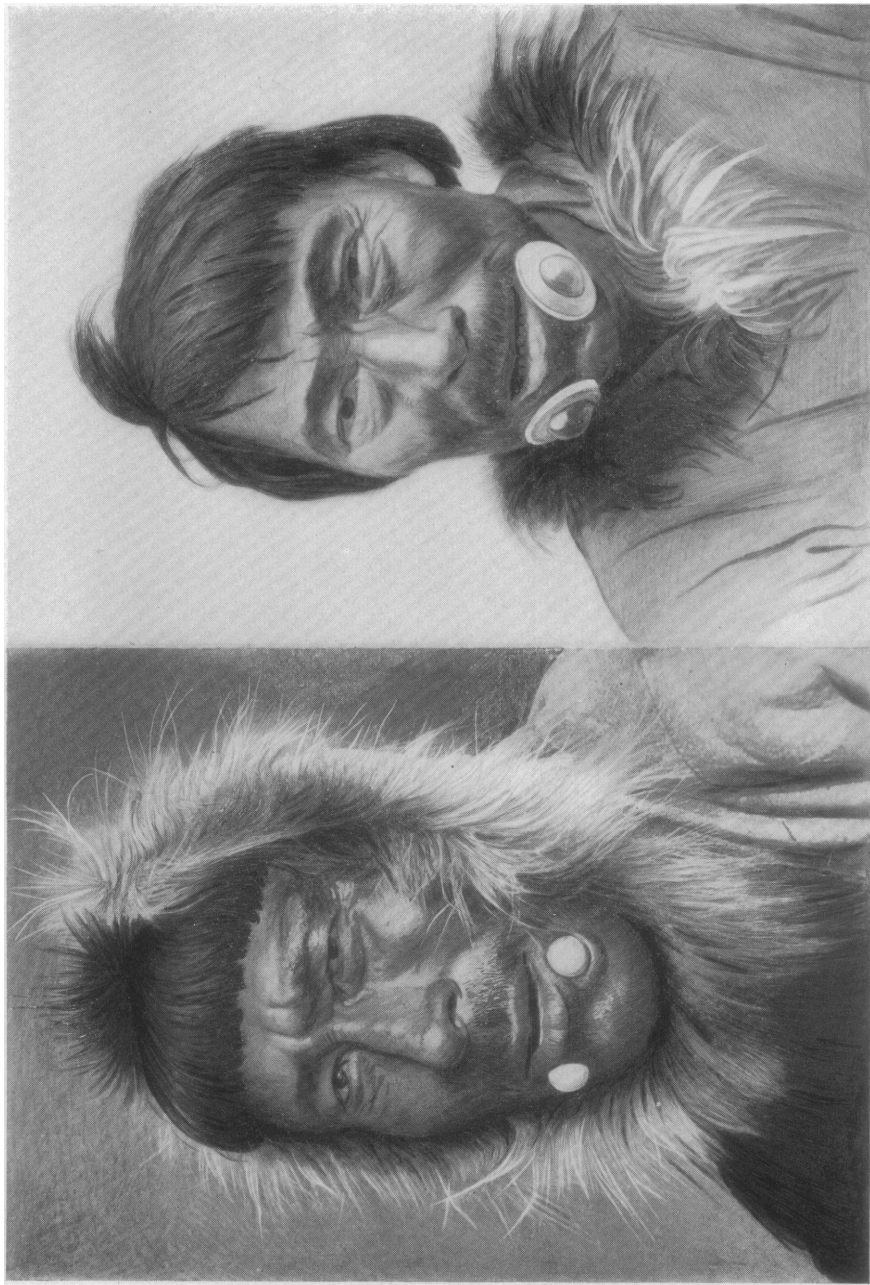
18. Age 37, Kopkwoono. — St 1480 Str 1490 Sh 1205 A 623 Hs 780
 Wsh 340 — Lh 183 Bh 140 Wf 141 Hf 126 Hn 56 Wn 33 — *I*Str
 100.7 *IA* 42.1 *I*Hs 52.7 *I*Wsh 23.0 — *CI* 76.5 *IF* 89.4.
19. Age 40, Aanoppiyook. — St 1560 Str 1555 Sh 1260 A 643 Hs 840
 Wsh 370 — Lh 196 Bh 138 Wf 136 Hf 123 Hn 52 Wn 32 — *I*Str
 99.7 *IA* 41.2 *I*Hs 53.8 *I*Wsh 23.7 — *CI* 70.4 *IF* 90.4.
20. Age 43, Igonua. — St 1532 Str 1560 Sh 1250 A 700 Hs 820 Wsh
 310 — Lh 187 Bh 151 Wf 146 Hf 122 Hn 59 Wn 36 — *I*Str 101.8
IA 45.8 *I*Hs 53.6 *I*Wsh 20.3 — *CI* 80.7 *IF* 83.6.



LOUCHEUX MAN.



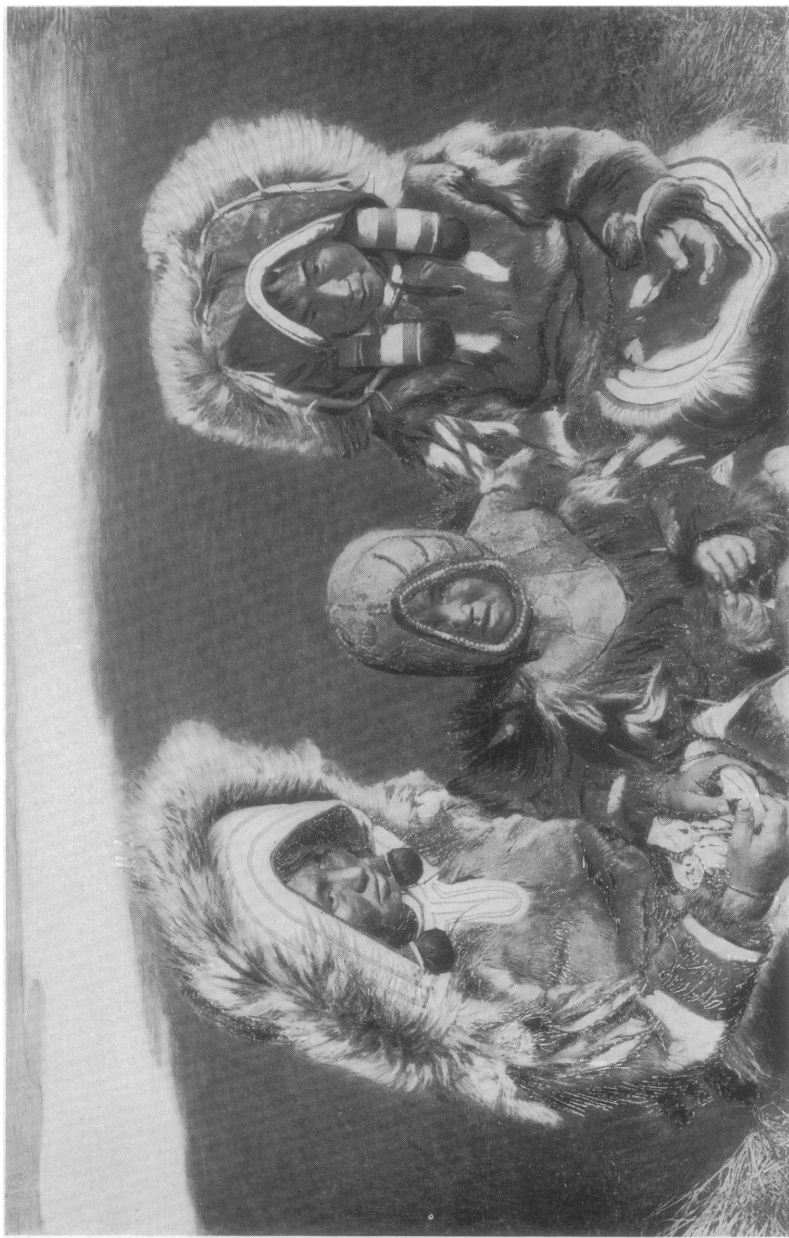
LOUCHEUX WOMAN.



KOUKRAGMIUT MEN.



KOUKPAQMIUT MEN.



KOURPAMIUT WOMEN AND CHILD.

